District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	Navajo Pipeline	OGRID 15681
Contact Name	Jason Leik	Contact Telephone (214) 871-3408
Contact email	Jason.Leik@HollyFrontier.com	Incident # (assigned by OCD) nPBS0432052991
Contact mailing address	2828 North Harwood, Suite 1300, Dallas, Texas 75201	

Location of Release Source

Latitude 32.65083 Longitude 103.13347
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Hobbs Tank 5201	Site Type TB
Date Release: Discovered July 22, 2004	API# (if applicable)

Unit Letter	Section	Township	Range	County
	22	19S	38E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: Enterprise, Inc.)

Nature and Volume of Release

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

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

Cause of Release: A leak at the 6-inch pipeline from the crude oil truck unloading rack at the 5201 storage tank.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
The spill was discovered on 7/22/04 at 14:00. Notice was given to Gary Wink of OCD by Johnny Lackey of Holly Energy Partners on 7/22/04 at 16:45 via telephone.

Initial Response

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

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

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Jason Leik
Title: Environmental Specialist - Remediation
Signature:
Date: 11/13/19
email: Jason.Leik@HollyFrontier.com
Telephone: 214-871-3408

OCD Only

Received by:
Date:

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	50 (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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: Jason Leik
Title: Environmental Specialist - Remediation

Signature:
Date: 11/13/19

email: Jason.Leik@HollyFrontier.com
Telephone: 214-871-3408

OCD Only

Received by:
Date:

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: Jason Leik Title: Environmental Specialist - Remediation

Signature: Date: 11/13/19

email: Jason.Leik@HollyFrontier.com Telephone: 214-871-3408

OCD Only

Received by: Date:

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

Signature: Date:

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
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: Jason Leik
Title: Environmental Specialist - Remediation

Signature:
Date: 7/18/19

email: Jason.Leik@HollyFrontier.com
Telephone: (214) 871-3408

OCD Only

Received by: Date:

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

Closure Approved by: Date:

Printed Name: Title:

C-141

10/11/2004

AP-113.

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 March 17, 1999

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

Release Notification and Corrective Action

Holly Energy Partners **OPERATOR** ☒ Initial Report ☐ Final Report

Name of Company Navajo Pipeline	Contact Johnny Lackey
Address 311 West Quay, Artesia, NM 88210	Telephone No. 505-748-8942
Facility Name Hobbs Tank Farm	Facility Type Crude Oil Storage

Surface Owner	Mineral Owner	Lease No. N/A

LOCATION OF RELEASE 32.6517 103.1421

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	NE 1/4 Sec 22	19S	38E					Lea

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release	Volume Recovered
Source of Release Pipeline leak	Date and Hour of Occurrence 7/22/04, unknown	Date and Hour of Discovery 7/22/04, 2:00pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Gary Wink	
By Whom? Johnny Lackey, Holly Energy Partners	Date and Hour 7/22/04, 4:45pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The 6" unloading line from the truck unloading rack to Tank 5201 developed a leak inside the tank retaining dike. The line was blocked in at the tank, line depressured and a clamp was installed at the leak. Leak was a result of external corrosion.

Describe Area Affected and Cleanup Action Taken.*
An area approximately 4 feet wide and 20 feet long and 18 feet deep was stained with crude oil. There was no free liquid. Stained soil will be dug out and disposed of at permitted disposal site and fresh dirt placed in the excavated area.

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: Johnny Lackey	OIL CONSERVATION DIVISION Approved by District Supervisor:	
Printed Name: Johnny Lackey		
Title: Safety/Environmental Supervisor	Approval Date:	Expiration Date:
Date: 10/11/04 Phone: 505-748-8942	Conditions of Approval:	Attached ☐

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	Navajo Pipeline	OGRID 15681
Contact Name	Jason Leik	Contact Telephone (214) 871-3408
Contact email	Jason.Leik@HollyFrontier.com	Incident # *(assigned by OCD)* AP-113
Contact mailing address	2828 North Harwood, Suite 1300, Dallas, Texas 75201	

Location of Release Source

Latitude 32.65083 Longitude 103.13347
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Hobbs Tank 5201	Site Type TB
Date Release: Discovered July 22, 2004	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
	22	19S	38E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name: Enterprise, Inc.*)

Nature and Volume of Release

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

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

Cause of Release: A leak at the 6-inch pipeline from the crude oil truck unloading rack at the 5201 storage tank.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? The spill was discovered on 7/22/04 at 14:00. Notice was given to Gary Wink of OCD by Johnny Lackey of Holly Energy Partners on 7/22/04 at 16:45 via telephone.	

Initial Response

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

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

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Form C-141
Page 3

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	50 (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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
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: Jason Leik Title: Environmental Specialist - Remediation

Signature: _____ Date: 7/18/19

email: Jason.Leik@HollyFrontier.com Telephone: (214) 871-3408

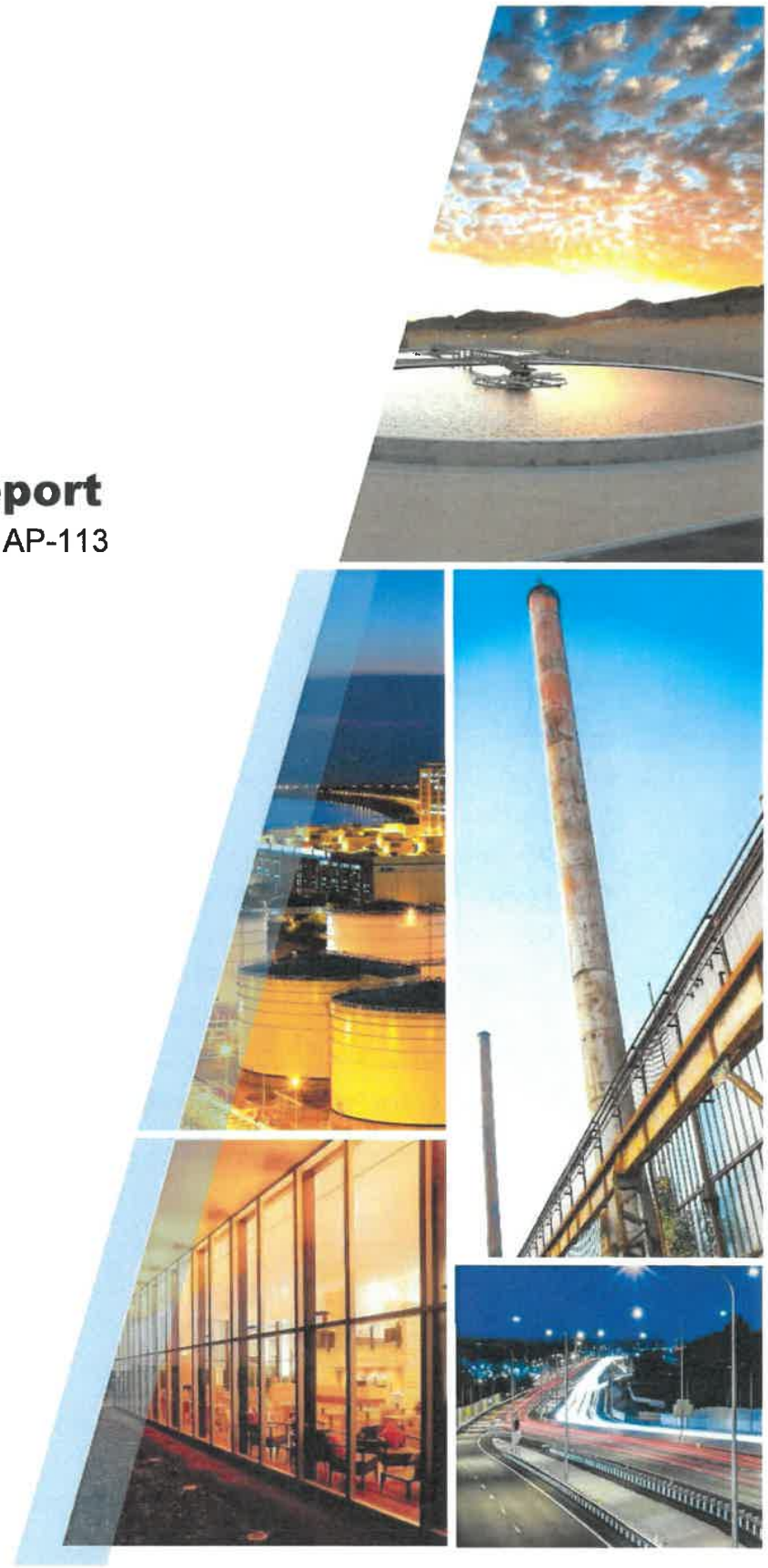
OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____



Site Closure Report

Hobbs Tank 5201 Release AP-113
Lea County, New Mexico

HollyFrontier

Table of Contents

1. Introduction 1
   - 1.1 Site Background 1
   - 1.2 Site Setting 1
   - 1.3 Regional Geology and Hydrogeology 1
   - 1.4 Site Geology and Hydrogeology 2
   - 1.5 Summary of Previous Investigations 2
   - 1.6 Site Conceptual Model 3
2. Site Activities 4
3. Groundwater Monitoring Procedures and Results 5
4. Crude Oil Recovery Status 11
5. QA/QC Results 12
6. Risk Analysis 12
7. Conclusion 14

1. Introduction 1
   - **1.1** Site Background 1
   - **1.2** Site Setting 1
   - **1.3** Regional Geology and Hydrogeology 1
   - **1.4** Site Geology and Hydrogeology 2
   - **1.5** Summary of Previous Investigations 2
   - **1.6** Site Conceptual Model 3
2. Site Activities 4
3. Groundwater Monitoring Procedures and Results 5
4. Crude Oil Recovery Status 11
5. QA/QC Results 12
6. Risk Analysis 12
7. Conclusion 14

Figure Index

Figure 1 Site Location Map

Figure 2 Hobbs, NM Area Geologic Map

Figure 3 Wells within One Mile of Hobbs Station Tank 5201

Figure 4	Site Map
Figure 5	Product Thickness Map – June 2017 to March 2019
Figure 6	Groundwater Surface Map – June 2017
Figure 7	Groundwater Surface Map – September 2017
Figure 8	Groundwater Surface Map – December 2017
Figure 9	Groundwater Surface Map – March 2018
Figure 10	Groundwater Surface Map – June 2018
Figure 11	Groundwater Surface Map – September 2018
Figure 12	Groundwater Surface Map – December 2018
Figure 13	Groundwater Surface Map – March 2019
Figure 14	Analytical Map for June 2017 to March 2019
Figure 15	Site Total Accumulated Crude Oil Thickness
Figure 16	Crude Oil Thickness for HTRW-3
Figure 17	Hydrocarbon Concentrations for HTRW-1

Tables

Table 1	Water Well Information for Hobbs Tank Farm Area
Table 2	Summary of Groundwater Hydrocarbon Results for June 2014 to March 2019
Table 3	Summary of Groundwater Inorganic Analytical Results
Table 4	Summary of Groundwater QA/QC Results for December 2017 to March 2019
Table 5	Summary of Groundwater Analytical Results for Water Well L08279, March 2019

Appendices

Appendix A	Summary of Historical Fluid Levels (August 2004 – March 2019)
Appendix B	Summary of Historical Groundwater Analytical Results and Field Parameters
Appendix C	Groundwater Laboratory Reports

1. Introduction

This Site Closure report is submitted by GHD Services, Inc. (GHD), on behalf of HollyFrontier for the Hobbs Tank 5201 Release, AP-113, (Site), located in Lea County, New Mexico (Figure 1). This closure report includes data that shows minimal quantity of oil that is remaining in the area of the release and hydrocarbon concentrations that are below state standards outside the area of the release. The C-141 notification for the release was submitted to the New Mexico Oil Conservation District (NMOCD) on July 22, 2004. Annual Status reports previously submitted have included the March 2013 Annual Status report, the Annual Status report for 2013/2014, the Annual Status report for 2014/2015, the Annual Status report for 2015/2016 and the Annual Status report for 2016/2017. This report includes the status of groundwater monitoring and remediation at the Site for the period from July 2017 to March 2019.

Section 1 of this report presents the site setting and background, previous site investigations, regional and site geology and hydrogeology, and the site conceptual model. Section 2 summarizes the site activities for this reporting period and Section 3 presents a summary of the groundwater monitoring for this reporting period. Section 4 contains the information and status of the crude oil recovery at the Site. Section 5 presents the results of the Quality Assurance and Quality Control (QA/QC) for groundwater sampling. Section 6 contains the results of the risk analysis for the Site. Section 7 presents the conclusions and recommendations for site closure for the Site.

1.1 Site Background

On July 22, 2004, a leak of an unknown volume of crude oil was discovered in a 6-inch pipeline from the crude oil truck unloading rack at the 5201 storage tank. The line was exposed and clamped and the section was replaced, immediately. Petroleum stained soil from the release was immediately excavated in an area that covered approximately 4 feet by 20 feet by 18 feet deep. Additional staining observed close to the tank was not excavated due to the proximity of the tank and fear of compromising the 1930-vintage tank's structural integrity. No fluid was observed during the excavation.

1.2 Site Setting

The Site is located approximately 3.5 miles south of Hobbs, New Mexico on County Road 61 in the NW ¼ of the NW ¼ of Section 22, Township 19 South, and Range 38 East in Lea County, New Mexico (32° 39.079' N, 103°8.530' W). The topography at the Site is relatively flat and the average elevation is 3,595 feet mean sea level (Figure 1). The Site is located on property within the HollyFrontier tank farm, which is on property owned by Enterprise Products. The surrounding area contains crude oil storage tanks, pipelines and open rangeland.

1.3 Regional Geology and Hydrogeology

The *Geologic Map of New Mexico* (2003) prepared by the New Mexico Bureau of Geology and Mineral Resources, and *Geology and Ground-Water Conditions in Southern Lea County, New Mexico* (Ground-Water Report 6) prepared on behalf of the USGS was reviewed in association with the evaluation of regional geology and hydrogeology for the Site.

The geologic map for the area of site is shown in Figure 2. The surficial geologic unit (Qep) mapped for the location is described as Quaternary aged "Eolian and piedmont deposits (Holocene to middle Pleistocene) – Interlayered eolian sands and piedmont slope deposits along the eastern flank of the Pecos River Valley. Typically capped by thin eolian deposits." This sediment ranges from zero to 20-feet in thickness in this portion of Lea County. The Quaternary sediment unconformably overlies the Tertiary age Ogallala Formation. The Ogallala Formation is comprised of sands, silts, indurated calcium carbonate, gravel and some clay.

Groundwater in the area of the site is primarily produced from the Ogallala aquifer. The Ogallala Formation unconformably overlies the Triassic age Dockum group. The Dockum group consists of red shale and sandstone and is commonly referred to as "red beds". The red beds can exceed 1,000 feet in thickness in this region and may produce small amounts of poor quality water at the bottom of the formation.

The regional groundwater flow direction in the Ogallala is toward the southeast and follows the Triassic subcrop surface. Groundwater quality is very good with total dissolved solids (TDS) concentrations typically below 1,000 mg/L. Recharge primarily occurs via infiltration from precipitation events.

1.4 Site Geology and Hydrogeology

The surface soils encountered at the Site are silty to fine sands approximately 10-feet thick. This surface soil is consistent with the surface soil description (Quaternary sediment) for this physiographic province. The soil types encountered below this surface layer at the Site are indurated (hardened) calcium carbonate intervals of variable thickness locally referred to as "caliche", fine-grained sand, sandstone with caliche and the saturated zone consisting of fractured sandstone.

Groundwater at the Site is found in fractured sandstone consistent with the Ogallala aquifer. The depth to groundwater at the Site is approximately 50 feet-below ground surface (ft-bgs). The groundwater flow is towards the east-southeast and the groundwater gradient is approximately 0.001ft/ft.

No water wells are known to have been impacted by the leak. An evaluation of water well information obtained from the New Mexico Office of the State Engineer and the USGS indicated that there are domestic, agricultural or public water supply wells within a 1-mile radius of the Site (Figure 3, Table 1).

1.5 Summary of Previous Investigations

Safety and Environmental Solutions Inc. (SES) installed six groundwater monitoring wells, one recovery well and advanced seven boreholes shortly after the release to characterize the release and recover the released crude oil in the area of the tank. Five boreholes and two monitoring wells were installed inside of the berm area in 2004. The first borehole was completed as a 2-inch monitor well (MW-1), adjacent to the leak location. Two monitoring wells, MW-2 and MW-3, were installed outside the bermed area in 2004. A 4-inch recovery well (RW-1) was installed in the area near the tank and MW-1 in 2004. In 2010, two additional monitoring wells were installed, MW-4, outside the bermed area and MW-5, up-gradient and inside the bermed area (Figure 4).

SES monitored groundwater conditions and recovered crude oil from wells MW-1 and RW-1 from 2004 to 2011 and the other monitoring wells. In 2004, crude oil was initially measured in MW-1 at approximately 6 feet thick. In the recovery well, RW-1, the initial product thickness was measured at 2.75 feet. Crude oil was not found in any other areas of the Site. Outside the tank berm area and approximately 200 feet southeast from the release point, benzene was detected in the down-gradient area in monitor well MW-2 at a concentration above the New Mexico Water Quality Control Commission (NMWQCC) standard of 10 µg/L. Benzene concentrations in this well were 26 µg/L in 2004 and 72 µg/L in 2005. Benzene has not been detected in this well or in any other monitoring wells located down-gradient since 2005.

In June 2013, four recovery wells were installed by GHD within the berm area and near the release area to delineate the crude oil and to recover crude oil (Figure 4). In September 2013, a crude oil only recovery system with remote access was installed with skimmer pumps in well RW-1 and recovery wells, HTRW-1 and HTRW-3. This system was used until March 2015 when negligible amounts of recoverable oil were remaining in the area. Enhanced fluid recovery (EFR) using a vacuum truck has been used to recover crude oil from wells MW-1, RW-1, HTRW-1 and HTRW-3. Oil absorbent socks have been used in these wells when EFR was not used during the months between EFR uses and are currently in use in wells MW-1, RW-1 and HTRW-3.

Appendix A contains information on fluid levels and crude oil thickness since 2012. Wells MW-1 and RW-1 contained oil sporadically from 2012 to March 2019. HTRW-1 contained oil sporadically from 2013 to October 2016. Wells HTRW-2 and HTRW-4 have never showed any measurable oil. HTRW-3 has shown oil since 2013 and has contained less than 0.10 feet since February 2018.

1.6 Site Conceptual Model

The Site is located in an area of multiple crude oil gathering lines and storage tanks and 2 miles west of Highway 18 and 3 miles south of Hobbs, New Mexico. The entire site is fenced and access is restricted for people and cattle. The closest residences are approximately 0.5 miles northeast of the Site (Figure 1). The closest drinking water well (L08890) is located approximately 900 feet to the southeast of the Site (Figure 3). This well was sampled for hydrocarbons following the discovery of the release and was not impacted by the release (Stage 1/Stage 2 Abatement Plan, November 2012, CRA). Another well (l08279) located approximately 1900 ft northeast from the site was sampled in March 2019 and showed no detections of any constituents above state standards (Table 5). There are no surface-water bodies within 1,000 feet of the Site. Due to the depth of groundwater (50 ft-bgs), it is unlikely that any perennial stream would exist at any time within 1,000 feet of the Site.

Groundwater at the Site is found at approximately 50 ft-bgs and the groundwater flow direction is towards the southeast at an average gradient of approximately 0.001 feet/foot (ft/ft). One monitoring well (MW-5) is located up-gradient of the release area and four monitoring wells are located down-gradient of the release (Figure 4). The dissolved phase hydrocarbon have shown concentrations in groundwater at these locations that have been below the NMWQCC standards for benzene, toluene, ethylbenzene and total xylenes (BTEX) since 2005. The impacts to groundwater, from the release, appear to be limited to the immediate area of the leak located near the tank. Well HTRW-1 has had detections of benzene above the standard varying from 1.97 µg/L to 1,620 µg/L. In

December 2018, the benzene concentration (the only constituent above state NMWQCC standards) in this well was 377 µg/L and in March 2019 the benzene concentration was 28.8 mg/L (Table 2).

The wells that are located within close proximity to the release have contained crude oil sporadically since 2012 (Appendix A). In December 2012, MW-1 had a measured thickness of 3.23 feet and nearby recovery well RW-1 had a thickness of 3.01 feet. During the most recent sampling event (March 2019), well MW-1 showed an oil thickness of 0.03 feet, well RW-1 showed a thickness of 0.02 feet and well HTRW-3 showed a thickness of 0.06 feet. The site total accumulated thickness (combination of oil thickness for all Site wells) has decreased from 6.57 feet (ft) in 2012 to 0.11 ft in 2019.

The primary chemicals of concern are hydrocarbon constituents that have dissolved from the released crude oil. The NMWQCC standards for hydrocarbons in groundwater for this Site are:

- 10 micrograms per liter (µg/L) for benzene
- 750 µg/L for toluene
- 750 µg/L for ethylbenzene
- 620 µg/L for total xylenes

The polycyclic aromatic hydrocarbons (PAHs) analyses for all sampled wells showed no detections of any PAHs above the lower method reporting limit for five consecutive sampling events conducted from March 2018 to March 2019 (Table 2).

Groundwater samples were analyzed for TDS, chloride and RCRA metals, which included arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver for all sampled wells in 2014, 2016, 2017 and 2019 (Table 3). The analyses showed total dissolved solids (TDS) above the state standard at MW-2 in December 2017, at MW-4 in December 2016 and September 2017 and at HTRW-4 in December 2016 (Table 3). Selenium was detected above the state standard in one well, MW-4, in December 2016 and March 2019 (Table 3).

There appears to be no remaining threat to the environment or to drinking water wells located in the area caused by the release and any remaining impacts. Dissolved phase hydrocarbons have only been detected in the immediate area of the release. Other constituents (PAHs) and RCRA metals that may be associated with the released oil have not been detected consistently within the berm area near the release or outside the berm area and down-gradient of the release.

The crude oil that was released has a very low mobility and does not readily desorb nor dissolve and therefore it has remained in the immediate area of the release. . Since 2004, the crude oil has only been measured in wells in the area of the release and has not migrated from the release area. Presently, the crude oil has been measured at a negligible thickness in the area of the release.

2. Site Activities

Groundwater monitoring has been conducted at the Site by GHD on a biannual basis from December 2012 to June 2017 and quarterly basis since September 2017. The groundwater monitoring has included measurement of fluid levels in all monitoring wells and the recovery wells, collection of groundwater samples for laboratory analysis for BTEX and total petroleum

hydrocarbons-gasoline range organics (TPH-GRO) and total petroleum hydrocarbons- diesel range organics (TPH-DRO) analyses since December 2014. RCRA metals, TDS and chloride analyses of groundwater samples was added in December 2016 and sampled again in 2017 and March 2019. Wells were sampled for PAH analyses on 5 occasions in March 2018, June 2018, September 2018, December 2018 and March 2019.

Enhanced Fluid Recovery (EFR) using a vacuum truck to recover crude oil has been used on wells MW-1, RW-1 and HTRW-3, in the release area, since December 2014 on a quarterly basis and from December 2016 to June 2018 on a monthly basis. Oil absorbent socks have been used in these wells since June 2018.

3. Groundwater Monitoring Procedures and Results

For this reporting period, fluid levels were measured in all monitoring wells and recovery wells at the Site in September 2017, December 2017, March 2018, June 2018, September 2018, December 2018 and March 2019. Fluid levels were also measured on a monthly basis, prior to the use of EFR in the wells located near the release. Since June 2017, groundwater samples were collected on a quarterly basis from the monitor wells MW-2, MW-3, MW-4, and MW-5, and from recovery well HTRW-1.The results for this time period are summarized below. In addition, water well L08279 (Figure 3) was sampled in March 2019. Appendix A shows fluid levels from August 2012 to March 2019. Table 2 summarizes hydrocarbon analytical results for June 2014 to March 2019 and PAH analytical results for March 2018 to March 2019. Appendix B summarizes results from August 2004 to March 2019.

Prior to purging of the wells and obtaining groundwater samples, fluid levels were measured in the wells that have contained crude oil, using an oil/water level indicator. The monitor wells were purged prior to sample acquisition at a rate of 160 ml/min or less or with disposable bailers. Groundwater samples were collected following stabilization of the field parameters. The meters used for the field parameters were calibrated prior to use. Field parameters obtained prior to sampling included temperature, specific conductance, pH, dissolved oxygen and oxidation-reduction potential (ORP) and are tabulated in Appendix B. The groundwater samples were analyzed for BTEX by Method 8260 and for TPH-GRO and TPH-DRO by Method 8015. RCRA metals were analyzed by Methods 6020 and 7420, chloride by Method E300 and TDS by Method M2540. PAHs were analyzed by Method 8270. Groundwater samples were immediately placed into the appropriate laboratory provided containers and placed in an ice-chilled cooler for transport to the DHL laboratory, Round Rock, TX under chain-of-custody procedures.

June 2017

In June 2017, crude oil was only measured in well HTRW-3 at 0.04 feet thick. Crude oil was not measured in any of the other wells. The crude oil thicknesses for June 2017 are shown in Figure 5 and detailed in Appendix A.

Water levels measured in June 2017 were generally 0.5 feet lower than water levels measured in June 2016. The groundwater flow in June (Figure 6) was towards the east with a gradient of 0.001 ft/ft (0.001 ft/ft in June 2016).

The June 2017 hydrocarbon concentrations for each sampled well are shown in Table 1, Figure 14 and in Appendix B. The June 2017 laboratory report is contained Appendix C.

The analytical results for this monitoring period are summarized as follows:

- None of the BTEX constituents were detected above the lower laboratory reporting limits in wells MW-2, MW-3, MW-4 (down-gradient wells) and MW-5 (up-gradient well);
- Benzene was detected above the NMWQCC standard in wells HTRW-1 at 774 µg/L, HTRW-2 at 342 µg/L and HTRW-4 at 564 µg/L;
- Toluene, ethyl-benzene and total xylenes were not detected above the NMWQCC standards in any of the Site wells;
- TPH-GRO were detected above the lower laboratory reporting limit in wells HTRW-1 at 1.85 mg/L, HTRW-2 at 0.901 mg/L and in HTRW-4 at 0.197 mg/L; and
- TPH-DRO were detected above the lower laboratory reporting limit in wells MW-2 at 4.98 mg/L, MW-3 at 0.358 mg/L, MW-4 at 1.50 mg/L, MW-5 at 0.162, HTRW-1 at 1.49, HTRW-2 at 0.332 mg/L and HTRW-4 at 0.736 mg/L.

Concentrations of dissolved benzene groundwater during the June 2017 monitoring period were not detected in wells above the NMWQCC standard outside the berm area (Figure 14). Within the berm area for the tank and near the point of the release, only benzene was detected above NMWQCC standard in June 2017 in recovery wells HTRW-1, HTRW-2, and HTRW-4.

A summary of the inorganic analyses results are shown in Table 2. The results of the inorganic analyses for June 2017 showed none of the RCRA metals exceeded the NMWQCC standards in any of the sampled wells (Table 2).

September 2017

In September 2017, crude oil was only measured in well HTRW-3 at 0.05 feet thick. As a result, HTRW-3 was not sampled for water quality. Wells HTRW-2 and HTRW-4 were not sampled as they are in close proximity to well HTRW-1, which was sampled. Crude oil was not measured in any of the other wells. The crude oil thicknesses for September 2017 are shown in Figure 5 and detailed in Appendix A.

The groundwater flow in September was towards the southeast with a gradient of 0.001 ft/ft (Figure 7).

The September 2017 hydrocarbon concentrations for each sampled well are shown in Table 2, Figure 14 and in Appendix B. The September 2017 laboratory report is contained Appendix C.

The analytical results for this monitoring period are summarized as follows:

- None of the BTEX constituents were detected above the lower laboratory reporting limits, as previously observed, in wells MW-2, MW-3, MW-4 (down-gradient wells) and MW-5 (up-gradient well);
- Benzene was detected above the NMWQCC standard in well HTRW-1 at 1,620 µg/L;
- Toluene, ethyl-benzene and total xylenes were not detected above the NMWQCC standards in any of the Site wells;

- TPH-GRO were detected above the lower laboratory reporting limit in well HTRW-1 at 2.88 mg/L; and
- TPH-DRO were detected above the lower laboratory reporting limit in wells MW-2 at 2.74 mg/L, MW-3 at 0.122 mg/L, MW-4 at 1.73 mg/L, MW-5 at 0.132 mg/L, and HTRW-1 at 1.23 mg/L.

Concentrations of dissolved hydrocarbons in groundwater during the September 2017 monitoring period were not detected in wells above the NMWQCC standards outside the berm area (Figure 14). Within the berm area for the tank and near the point of the release, only benzene was detected above NMWQCC standard in September 2017 in recovery well HTRW-1 (Figure 17).

A summary of the inorganic analyses results are shown in Table 3. The results of the inorganic analyses for September 2017 showed none of the RCRA metals exceeded the NMWQCC standards in any of the sampled wells and only TDS was detected above the state standard of 1,000 mg/L at 1,360 mg/L in well MW-4 (Table 3).

December 2017

In December 2017, crude oil was measured in wells MW-1 at 0.20 feet and HTRW-3 at 0.75 feet thick. Crude oil was not measured in any of the other wells. Wells HTRW-2 and HTRW-4 were not sampled as they are in close proximity to well HTRW-1, which was not sampled due to access problems. The crude oil thicknesses for December 2017 are shown in Figure 5 and detailed in Appendix A.

Water levels measured in December 2017 were generally 0.5 feet lower than water levels measured in December 2016. For the December 2017 monitoring period, groundwater flow (Figure 8) was towards the southeast with a gradient of 0.001 ft/ft (0.001 ft/ft in December 2016).

The December 2017 hydrocarbon concentrations for each sampled well are shown in Table 2, Figure 14 and in Appendix B. The December 2017 laboratory report is contained Appendix C.

The analytical results for this monitoring period are summarized as follows:

- None of the BTEX constituents were detected above the lower laboratory reporting limits in sampled wells MW-2, MW-3, MW-4 (down-gradient wells) and MW-5 (up-gradient well);
- Toluene, ethyl-benzene and total xylenes were not detected above the NMWQCC standards in any of the Site wells;
- TPH-GRO were detected above the lower laboratory reporting limit in well MW-3 at 0.073 mg/L; and
- TPH-DRO were detected above the lower laboratory reporting limit in wells MW-2 at 0.795 mg/L, MW-3 at 0.668 mg/L, MW-4 at 1.79 mg/L, and MW-5 at 0.425 mg/L.

Concentrations of dissolved hydrocarbons in groundwater during the December 2017 monitoring period continued to not be detected in wells above the NMWQCC standards outside the berm area and down-gradient of the release (Figure 14).

The results of the inorganic analyses for December 2017 showed none of the RCRA metals exceeded the NMWQCC standards in any of the sampled wells and only TDS was detected above the state standard of 1,000 mg/L at 1,440 mg/L in well MW-2 (Table 3).

March 2018

In March 2018, crude oil was not measured in any of the Site wells. The crude oil thicknesses for March 2018 are shown in Figure 5 and detailed in Appendix A. Wells HTRW-2, HTRW-3 and HTRW-4 were not sampled as they are in close proximity to well HTRW-1.

For the March 2018 monitoring period, the depth to groundwater across the Site was similar to the December 2017 sampling event. The groundwater flow in March (Figure 9) was towards the southeast with a gradient of 0.001 ft/ft (0.001 ft/ft in December 2017).

The March 2018 hydrocarbon concentrations for each sampled well are shown in Table 2, Figure 14 and in Appendix B. The March 2018 laboratory report is contained Appendix C.

The analytical results for this monitoring period are summarized as follows:

- None of the BTEX constituents were detected above the lower laboratory reporting limits in down-gradient wells MW-2, MW-3, MW-5 (up-gradient well), but benzene was detected at 3.31 µg/L in MW-4 (down-gradient well);
- Benzene was detected above the NMWQCC standard in well HTRW-1 at 102 µg/L;
- Toluene, ethyl-benzene and total xylenes were not detected above the NMWQCC standards in any of the Site wells;
- TPH-GRO were detected above the lower laboratory reporting limit in only well HTRW-1 at 0.360 mg/L;
- TPH-DRO were detected above the lower laboratory reporting limit in wells MW-2 at 1.91 mg/L, MW-3 at 0.184 mg/L, and MW-4 at 0.357 mg/L; and
- PAHs were not detected above the NMWQCC standards in any of the Site wells.

Concentrations of dissolved hydrocarbons in groundwater during the March 2018 monitoring period were not detected in wells above the NMWQCC standards outside the berm area (Figure 14). Within the berm area for the tank and near the point of the release, only benzene was detected above NMWQCC standard in March 2018 in recovery well HTRW-1 (Figure 17).

June 2018

In June 2018, crude oil was not measured in any of the Site wells. The crude oil thicknesses for June 2018 are shown in Figure 5 and detailed in Appendix A. Wells HTRW-2 and HTRW-4 were not sampled as they are in close proximity to well HTRW-1

Water levels measured in June 2018 were generally 0.5 feet lower than water levels measured in June 2017. For the June 2018 monitoring period, the groundwater flow (Figure 10) was towards the southeast with a gradient of 0.001 ft/ft (0.001 ft/ft in June 2017).

The June 2018 hydrocarbon concentrations for each sampled well are shown in Table 2, Figure 14 and in Appendix B. The June 2018 laboratory report is contained Appendix C.

The analytical results for this monitoring period are summarized as follows:

- None of the BTEX constituents were detected above the lower laboratory reporting limits in wells MW-2, MW-3, MW-4 (down-gradient wells) and MW-5 (up-gradient well);
- Benzene was detected above the NMWQCC standard in well HTRW-1 at 163 µg/L;
- Toluene, ethyl-benzene and total xylenes were not detected above the NMWQCC standards in any of the Site wells;
- TPH-GRO were detected above the lower laboratory reporting limit in wells MW-3 at 0.100 mg/L, MW-4 at 0.092 mg/L, MW-5 at 0.081 mg/L, and HTRW-1 at 1.40 mg/L;
- TPH-DRO were detected above the lower laboratory reporting limit in wells MW-2 at 1.89 mg/L, MW-3 at 0.221 mg/L, MW-4 at 0.329 mg/L, MW-5 at 0.155 mg/L, and HTRW-1 at 2.17 mg/L; and
- PAHs were not detected above the NMWQCC standards in any of the Site wells.

Concentrations of dissolved hydrocarbons in groundwater during the June 2018 monitoring period were not detected in wells above the NMWQCC standards outside the berm area (Figure 14). Within the berm area for the tank and near the point of the release, only benzene was detected above NMWQCC standard in recovery well HTRW-1. The benzene concentration detected in this well has continued to decline since 2014 (Figure 17).

September 2018

In September 2018, crude oil was only measured in well HTRW-3 at 0.10 feet thick. Crude oil was not measured in any of the other wells. The crude oil thicknesses for September 2018 are shown in Figure 5 and detailed in Appendix A.

Water levels measured in September 2018 were approximately 0.75 feet lower than water levels measured in September 2017. For the September 2018 monitoring period, the groundwater flow (Figure 11) was towards the southeast with a gradient of 0.001 ft/ft (0.001 ft/ft in September 2017).

The September 2018 hydrocarbon concentrations for each sampled well are shown in Table 2, Figure 14 and in Appendix B. The September 2018 laboratory report is contained Appendix C.

The analytical results for this monitoring period are summarized as follows:

- None of the BTEX constituents were detected above the lower laboratory reporting limits in wells MW-2, MW-3, MW-4 (down-gradient wells) and MW-5 (up-gradient well);
- Benzene was detected above the NMWQCC standard in well HTRW-1 at 11.4 µg/L;
- Toluene, ethyl-benzene and total xylenes were not detected above the NMWQCC standards in any of the Site wells;
- TPH-GRO were detected above the lower laboratory reporting limit in well HTRW-1 at 0.109 mg/L;
- TPH-DRO were detected above the lower laboratory reporting limit in wells MW-2 at 2.33 mg/L, MW-3 at 0.220 mg/L, MW-4 at 0.200 mg/L, MW-5 at 0.111 mg/L, and HTRW-1 at 0.406 mg/L; and

- PAHs were not detected above the NMWQCC standards in any of the Site wells.

Concentrations of dissolved hydrocarbons in groundwater during the September 2018 monitoring period were not detected in wells above the NMWQCC standards outside the berm area (Figure 14). Within the berm area for the tank and near the point of the release, only benzene was detected above NMWQCC standard in September 2018 in recovery well HTRW-1. The benzene concentration and other hydrocarbon constituents detected in this well have continued to decline since 2014 (Figure 17).

December 2018

In December 2018, crude oil was measured in well HTRW-3 at 0.05 feet thick. Crude oil was not measured in any of the other wells. The crude oil thicknesses for December 2018 are shown in Figure 5 and detailed in Appendix A.

Water levels measured in December 2018 were generally 0.25 feet lower than water levels measured in December 2017. For the December 2018 monitoring period, the groundwater flow (Figure 12) was towards the southeast with a gradient of 0.001 ft/ft (0.001 ft/ft in December 2017).

The December 2018 hydrocarbon concentrations for each sampled well are shown in Table 2, Figure 14 and in Appendix B. The December 2018 laboratory report is contained Appendix C.

The analytical results for this monitoring period are summarized as follows:

- None of the BTEX constituents were detected above the lower laboratory reporting limits in wells MW-2, MW-3, MW-4 (down-gradient wells) and MW-5 (up-gradient well);
- Benzene was detected above the NMWQCC standard in well HTRW-1 at 377 µg/L;
- Toluene, ethyl-benzene and total xylenes were not detected above the NMWQCC standards in any of the Site wells;
- TPH-GRO were detected above the lower laboratory reporting limit in only well HTRW-1 at 1.15 mg/L;
- TPH-DRO were detected above the lower laboratory reporting limit in wells MW-2 at 2.56 mg/L, MW-3 at 0.224 mg/L, MW-4 at 0.098 mg/L, MW-5 at 0.148 mg/L, and HTRW-1 at 0.240 mg/L; and
- PAHs were not detected above the NMWQCC standards in any of the Site wells.

Concentrations of dissolved hydrocarbons in groundwater during the December 2018 monitoring period were not detected in wells above the NMWQCC standards outside the berm area (Figure 14). Within the berm area for the tank and near the point of the release, only benzene was detected above NMWQCC standard in recovery well HTRW-1 at a concentration of 377 mg/L (Figure 17).

March 2019

In March 2019, crude oil was measured in wells RW-1 at 0.02 ft, MW-1 at 0.03 ft and HTRW-3 at 0.06 feet thick. Crude oil was not measured in any of the other wells. The crude oil thicknesses for March 2019 are shown in Figure 5 and detailed in Appendix A.

Water levels measured in March 2019 were generally 0.50 feet lower than water levels measured in March 2018. For the March 2019 monitoring period the groundwater flow (Figure 13) was towards the southeast with a gradient of 0.001 ft/ft (0.001 ft/ft in March 2018).

The March 2019 hydrocarbon concentrations for each sampled well are shown in Table 2, Figure 14 and in Appendix B. DRO was not analyzed for well MW-2, due to insufficient water in the well. The March 2019 laboratory report is contained Appendix C.

The analytical results for this monitoring period are summarized as follows:

- None of the BTEX constituents were detected above the lower laboratory reporting limits in wells MW-2, MW-3, MW-4 (down-gradient wells) and MW-5 (up-gradient well);
- Benzene was detected above the NMWQCC standard in well HTRW-1 at 28.8 µg/L;
- Toluene, ethyl-benzene and total xylenes were not detected above the NMWQCC standards in any of the Site wells;
- TPH-GRO were detected above the lower laboratory reporting limit in wells MW-2 at 0.091 mg/L, MW-4 at 0.061 mg/L, and HTRW-1 at 0.139 mg/L;
- TPH-DRO were detected above the lower laboratory reporting limit in wells MW-3 at 0.164 mg/L, MW-4 at 0.101 mg/L, MW-5 at 0.157, and HTRW-1 at 0.154 mg/L; and
- PAHs were not detected above the NMWQCC standards in any of the Site wells.

Concentrations of dissolved hydrocarbons in groundwater during the March 2019 monitoring period were not detected in wells above the NMWQCC standards outside the berm area (Figure 14). Within the berm area for the tank and near the point of the release, only benzene was detected above NMWQCC standard in recovery well HTRW-1 at a concentration of 28.8 mg/L (Figure 17).

The results of the inorganic analyses for March 2019 showed selenium exceeded the NMWQCC standard of 0.05 mg/L in well MW-4 at 0.066 mg/L, which also showed detections of selenium above the standard in 2016 (Table 3). No other wells showed any detections of selenium above the standard.

4. Crude Oil Recovery Status

The crude oil from the release has historically been found in the central portion of the Site, in the immediate area of Tank 5201 and inside the tank berm. Crude oil has not been measured in any monitoring wells located outside of this area. Crude oil was recovered from wells using a crude oil only skimmer pump system from September 2013 to December 2015. Since December 2015, EFR has been used to recover the oil and oil absorbent socks have been used for any *de minimus* remaining oil. The crude oil thickness in wells for September 2017 to March 2019 is shown in Figure 5 and detailed in Appendix A.

A *de minimus* amount of crude oil remains in the area near the release and has not recharged at a recoverable rate. The crude oil thickness has been declining in wells near the release since September 2013. The crude oil thickness in well RW-1 was measured at 2.90 feet thick in August 2013, at 0.06 feet in December 2014, at 0.13 feet in March 2015, none in 2016 and 2017,

0.02 feet in March 2019. The crude oil thickness was measured in well MW-1 at 2.57 feet in October 2013, at 1.00 feet in December 2014, at 1.32 feet in March 2015, at 0.53 in August 2015 and was measured in this well at 0.03 feet in March 2019. The crude oil thickness in HTRW-1 was last measured at 0.01 in October 2016. The crude oil thickness in HTRW-3 has declined from a maximum thickness measured at 1.70 feet in December 2015 to 0.06 feet measured in March 2019 (Figure 16). Crude oil has never been measured in wells HTRW-2 and HTRW-4 since installation of the wells in 2013 (Appendix A).

The Site total accumulated thickness of the crude oil as measured in all wells for the Site has declined from 8.50 feet in 2013 to 1.72 feet in December 2015, to 0.03 feet in June 2016, to 0.53 feet in December 2016, to 0.04 feet in June 2017 to 0.05 feet in December 2018 to 0.11 feet in March 2019. The site total accumulated thickness with time is shown in Figure 15.

From September 2013 to December 2015, the system recovered approximately 39 gallons of crude oil. From 2016 to 2018, approximately 34 gallon were recovered using EFR. Currently, there is no recoverable crude oil remaining in any of the wells and oil absorbent socks are being used in wells MW-1, RW-1 and HTRW-3. The use of EFR has been discontinued at the Site since January 2018.

5. QA/QC Results

Quality Assurance/Quality Control (QA/QC) measures were followed according to the abatement plan. A summary of the QA/QC results is presented in Table 4 for this reporting period from December 2017 to March 2019. Prior to sampling, the YSI water quality meter was calibrated with the appropriate standards.

Duplicate groundwater samples were collected in December 2017, June 2018, September 2018, December 2018 and March 2019. The duplicate samples were analyzed for BTEX, TPH-GRO, TPH-DRO, PAHs, RCRA metals, chloride and TDS. There was no difference in the duplicate results for BTEX, TPH-GRO and PAHs in any of the samples and 5 to 11% difference in the results for TPH-DRO for the samples. The RCRA metals, chloride and TDS results varied from no difference to 9%.

Each cooler containing the groundwater samples was shipped to the laboratory with a temperature blank and a laboratory prepared trip blank. The trip blank samples were analyzed for BTEX and TPH-GRO. There were no detections above the lower laboratory reporting limits for BTEX and TPH-DRO in any of the trip blank samples that were submitted (Table 4).

6. Risk Analysis

The Site is characterized as having minimal crude oil and associated hydrocarbon constituents that are confined to a small and limited area within the bermed area and adjacent to the Tank 5201, the source area surrounding the initial release. All adjacent monitoring wells show constituent concentrations below NMWQCC standards. Only recovery well HTRW-1 shows benzene levels at or above NMWQCC standards, and concentrations have declined significantly over time and post-remediation. Other wells, including the down-gradient water well L08279, have concentrations that are non-detect or well below NMWQCC standards (Tables 2 and 5). The multiple removal actions

that were conducted after the release has removed as much of the source area soil as is practical, given the location and age of the adjacent tank. There has been no release to the off-site and drinking water wells have not been impacted or appear to be threatened.

The release was a crude oil mixture whose thickness and lack of mobility limited migration of the material. The Site is located within an active tank farm and industrial area and is completely fenced. The surrounding area contains crude oil storage tanks, pipelines and open rangeland. The impacted source area soil has been removed and there are no opportunities for contact with impacted soil. Groundwater remediation has been conducted to remove and reduce contaminants that migrated to the underlying groundwater.

The Human Health Risk Assessment analysis was conducted to evaluate whether the release poses a risk to human health based on current site conditions. Human exposure potential is limited to the workers at the site. Operating under state and federal health and safety laws, they exercise due care to prevent exposure exceeding the applicable limits. As an industrial site, there are no residents present at or adjacent to the fenced and locked property. The closest residences are approximately 0.5 miles northeast of the Site (Figure 1). The site is off-limits to recreational activities such as camping or hunting.

The nearest drinking water well (L08990) is located approximately 900 feet to the south of the Site (Figure 3, Table 1). This well was sampled for hydrocarbons and was not impacted by the release. The water well (L08279) located north of the Site (Figure 3) was sampled in March 2019 and showed no detections of any constituents above state standards (Table 5).

From a human health perspective, there are no complete or potentially complete exposure pathways whereby any human receptors other than workers would be exposed to the site. The groundwater in the immediate vicinity of the release is not used as a drinking water source, and off-site groundwater as not been impacted. There are no surface water bodies present and therefore no impacts to any human use of surface water.

A weight of evidence approach was used to assess possible risk from the site. Based on:

1. A lack of sensitive or residential receptors,
2. No complete exposure pathways present for contact with the contamination,
3. No exceedances of NMWQCC standards in adjacent water wells, and
4. Successful soil and groundwater remediation.

The site poses only negligible risk and is not a threat to human health.

Ecological and environmental risks have also been demonstrated to be negligible. The site is a permitted industrial area, is small in size relative to surrounding available habitat, and there are no sensitive aquatic habitats nearby (Figure 1).

Similar to the human health analysis, the lack of sensitive receptors and incomplete exposure pathways indicate that the release will not pose a significant risk to any ecological populations.

7. Conclusion

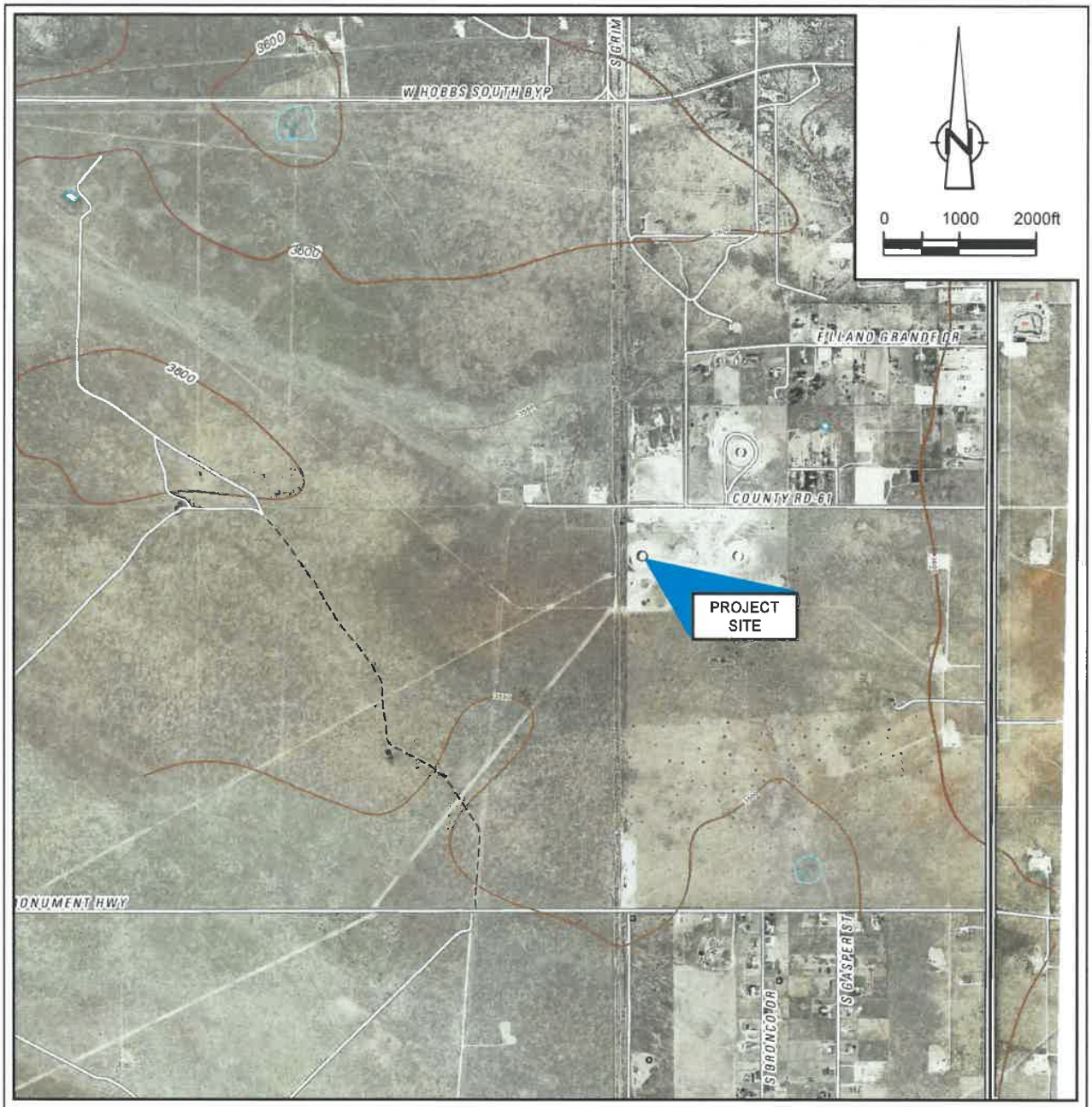
The crude oil thickness from the release has declined due to removal of the crude oil by pumping, the use of EFR and oil absorbent socks since 2004. Presently, there is only a *de minimus* amount of oil that remains in three of the Site wells, located in close proximity to the release primarily due to a low groundwater gradient of 0.001 ft/ft and the low mobility of the released oil.

The site can be closed and no further monitoring or remediation activities are necessary for this release based on the following criteria:

- There are no toxins in the area down-gradient of the site, which have impacted drinking water wells in the area (Table 5).
- There have been no detections of BTEX or PAHs above state standards outside the berm area or down-gradient of the release for more than 8 quarters and since 2011 (Table 2 and Appendix B).
- TDS has not been detected above the standard consistently in down-gradient wells (Table 3).
- Selenium have only been detected on two occasions at a concentration slightly above the standard, but was not detected in wells located near the release (Table 3).
- Other RCRA metals and chloride have not been detected above state standards (Table 3).
- The risk evaluation indicated that the site poses only a negligible risk and is not a threat to human health.
- Ecological and environmental risks have also been demonstrated to be negligible.
- The site has controlled access with fencing surrounding the site with locked gates and access to the public and animals is restricted.

The remedial strategy for site closure is based on the current NMOCD requirements. To close the Site with no further action, the crude oil would first have to be removed separately from groundwater (19.15.17.13 NMAC) to a *de minimus* amount. This requirement has been met and there has been more than 8 successive quarters of hydrocarbon concentrations that have been below state standards. At this time, GHD, on behalf of HollyFrontier, is requesting site closure and no further action at the Site. All wells will be abandoned and plugged and all equipment will be removed in October 2019.

Figures



SOURCE: USGS 7.5 MINUTE QUAD
"HOBBS WEST AND HOBBS EAST, NEW MEXICO" DATED 2010

LAT/LONG: 32.6549° NORTH, 103.1382° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

figure 1

SITE LOCATION MAP
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

078863-04(000)GN-DL001 MAY 3, 2019

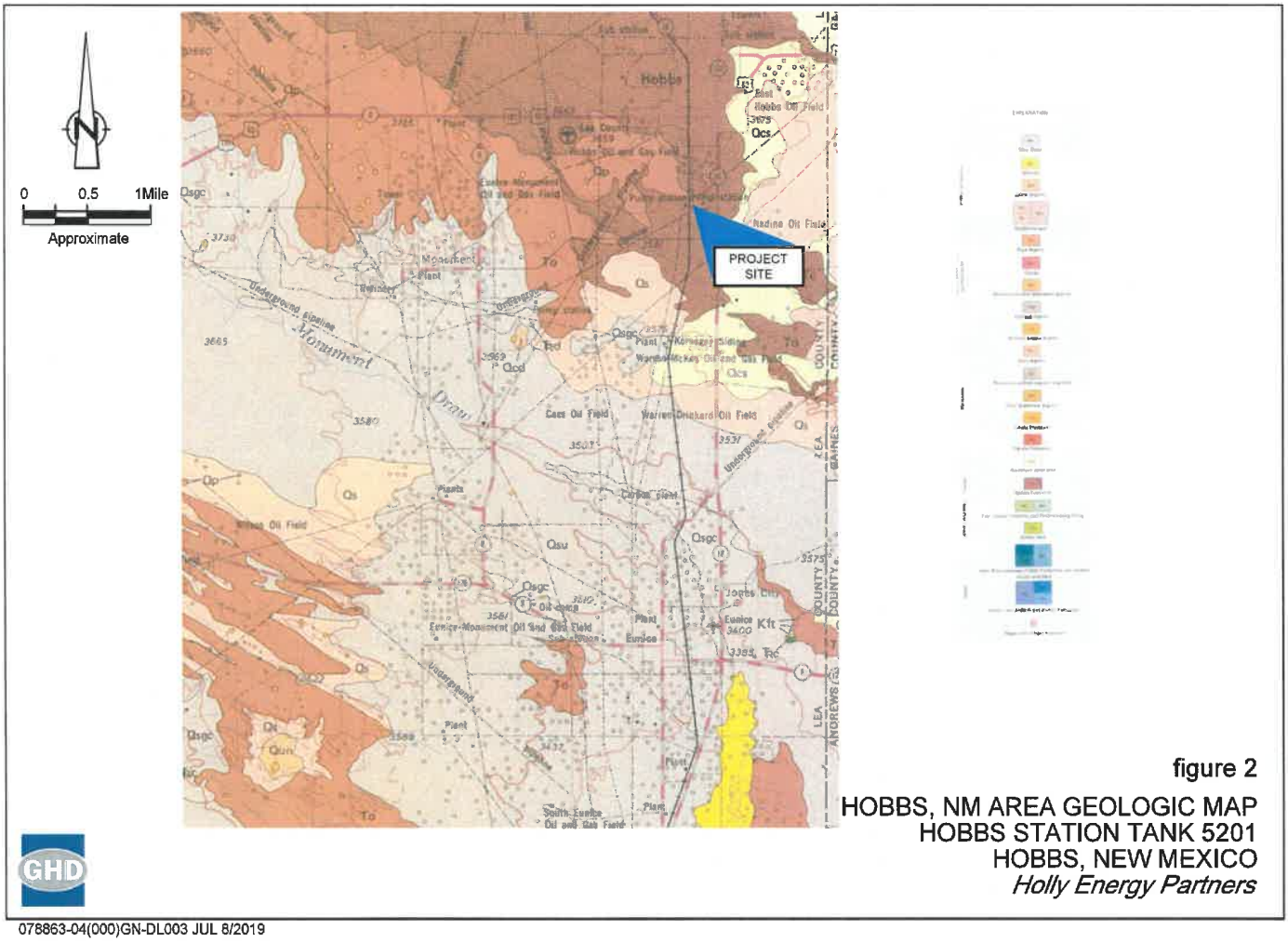
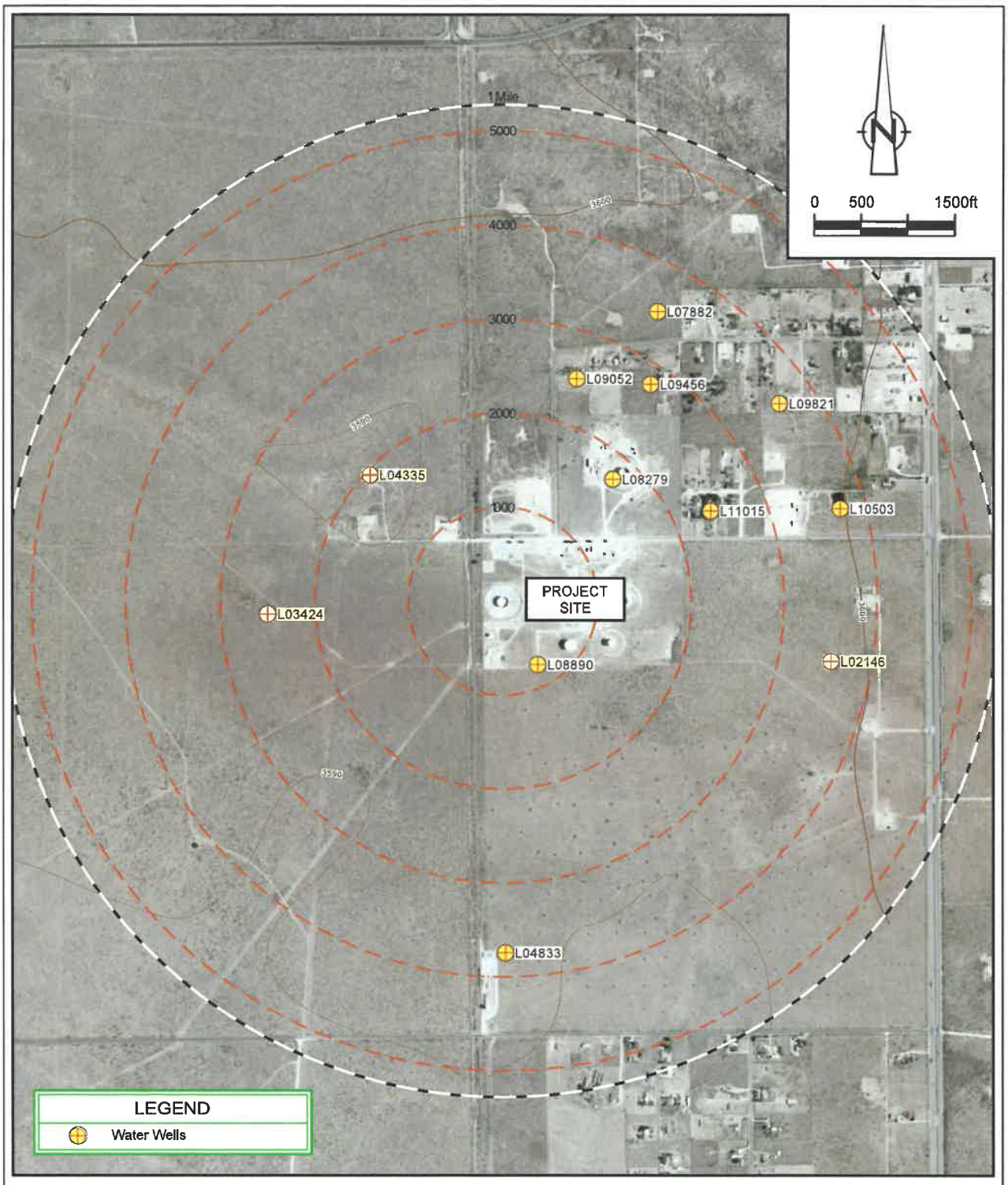


figure 2

HOBBS, NM AREA GEOLOGIC MAP
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
Holly Energy Partners

078863-04(000)GN-DL003 JUL 8/2019



NOTE:

Topographic contours taken from USGS Topo map "Hobbs West, NM" dated 2010.

figure 3

WELLS WITHIN ONE MILE OF
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

078863-04(000)GN-DL002 MAY 3, 2019

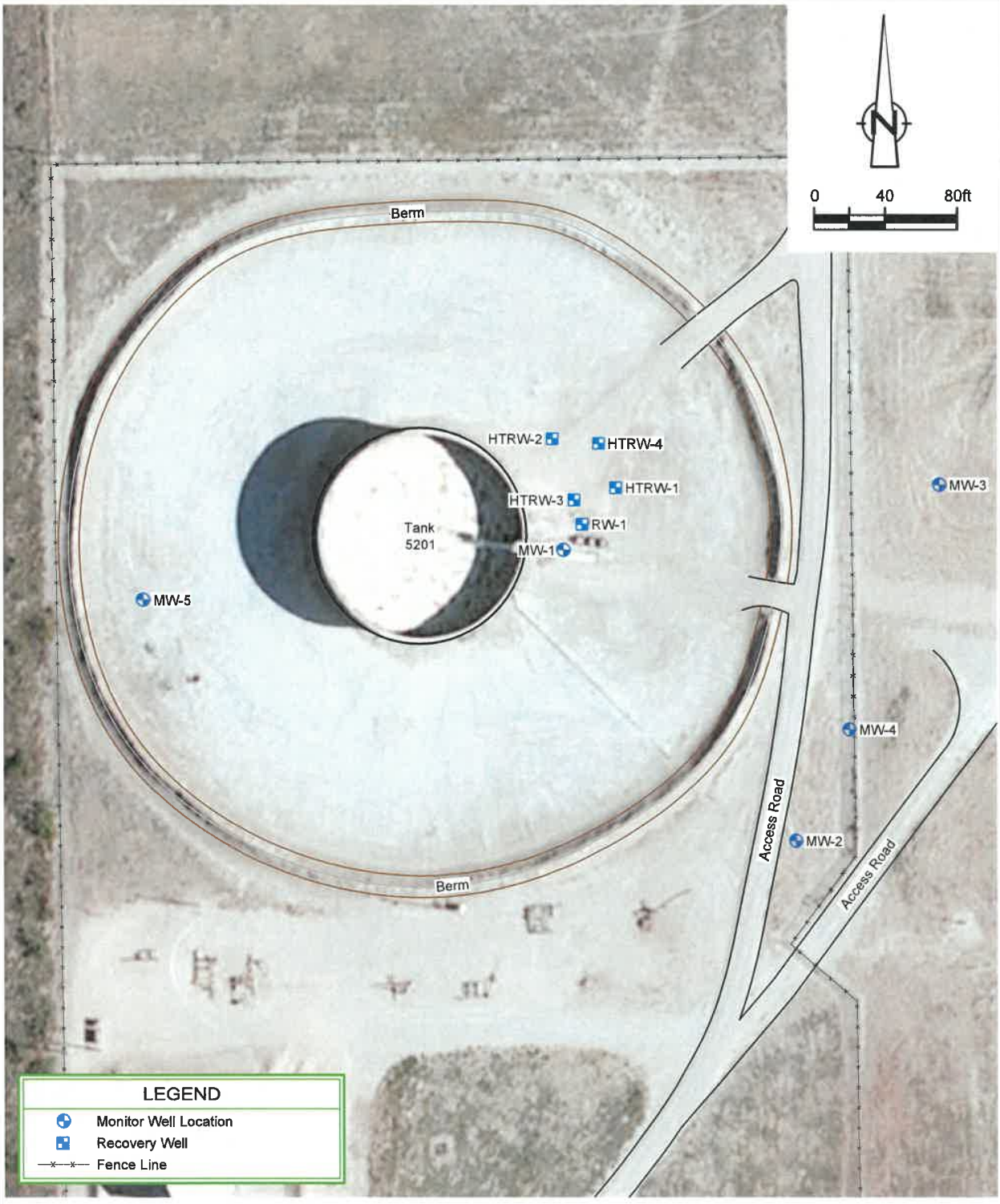
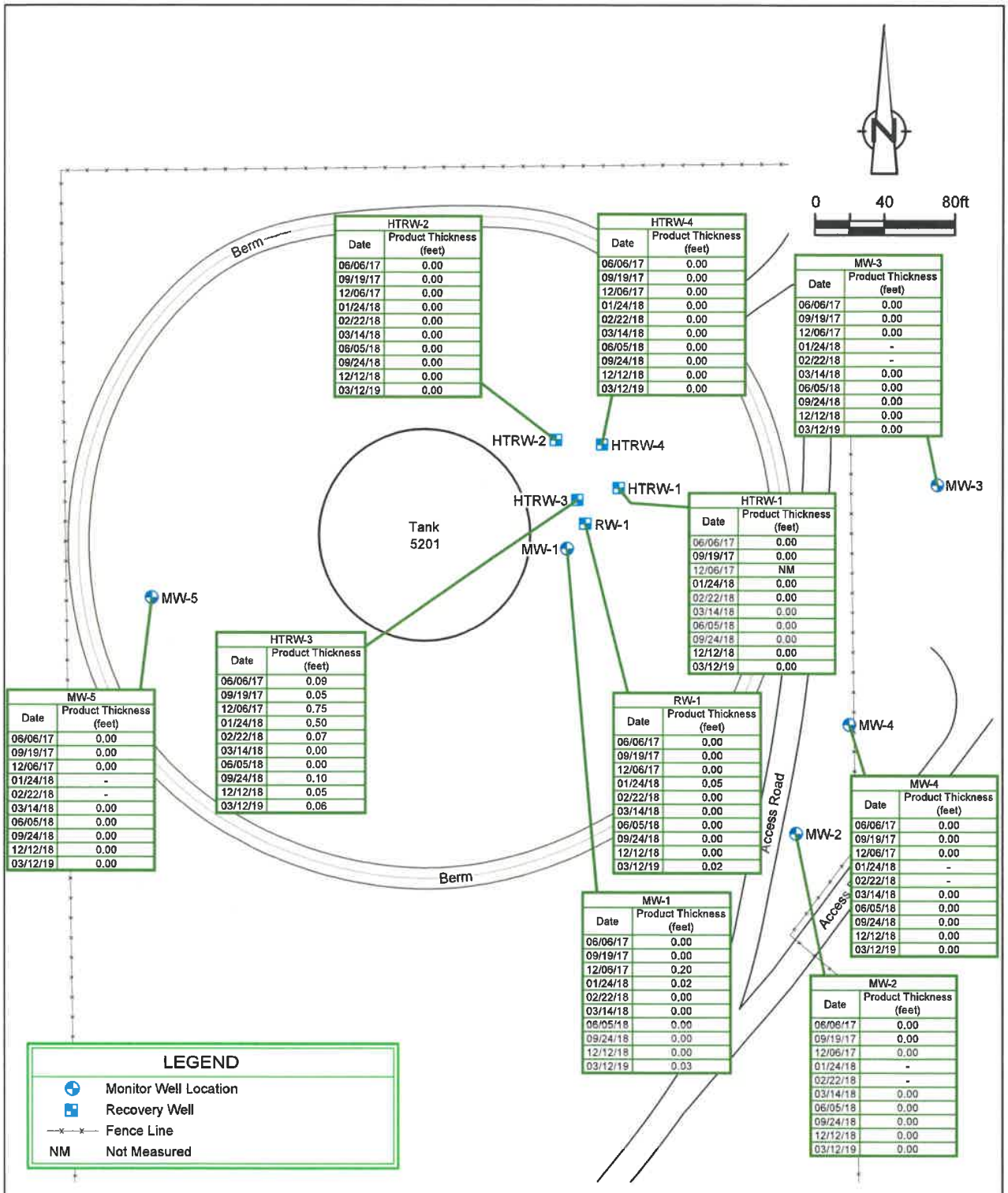


figure 4

SITE MAP
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

078863-04(000)GN-DL001 MAY 3, 2019



HTRW-2

Date	Product Thickness (feet)
06/06/17	0.00
09/19/17	0.00
12/06/17	0.00
01/24/18	0.00
02/22/18	0.00
03/14/18	0.00
06/05/18	0.00
09/24/18	0.00
12/12/18	0.00
03/12/19	0.00

HTRW-4

Date	Product Thickness (feet)
06/06/17	0.00
09/19/17	0.00
12/06/17	0.00
01/24/18	0.00
02/22/18	0.00
03/14/18	0.00
06/05/18	0.00
09/24/18	0.00
12/12/18	0.00
03/12/19	0.00

MW-3

Date	Product Thickness (feet)
06/06/17	0.00
09/19/17	0.00
12/06/17	0.00
01/24/18	-
02/22/18	-
03/14/18	0.00
06/05/18	0.00
09/24/18	0.00
12/12/18	0.00
03/12/19	0.00

HTRW-1

Date	Product Thickness (feet)
06/06/17	0.00
09/19/17	0.00
12/06/17	NM
01/24/18	0.00
02/22/18	0.00
03/14/18	0.00
06/05/18	0.00
09/24/18	0.00
12/12/18	0.00
03/12/19	0.00

HTRW-3

Date	Product Thickness (feet)
06/06/17	0.09
09/19/17	0.05
12/06/17	0.75
01/24/18	0.50
02/22/18	0.07
03/14/18	0.00
06/05/18	0.00
09/24/18	0.10
12/12/18	0.05
03/12/19	0.06

MW-5

Date	Product Thickness (feet)
06/06/17	0.00
09/19/17	0.00
12/06/17	0.00
01/24/18	-
02/22/18	-
03/14/18	0.00
06/05/18	0.00
09/24/18	0.00
12/12/18	0.00
03/12/19	0.00

RW-1

Date	Product Thickness (feet)
06/06/17	0.00
09/19/17	0.00
12/06/17	0.00
01/24/18	0.05
02/22/18	0.00
03/14/18	0.00
06/05/18	0.00
09/24/18	0.00
12/12/18	0.00
03/12/19	0.02

MW-4

Date	Product Thickness (feet)
06/06/17	0.00
09/19/17	0.00
12/06/17	0.00
01/24/18	-
02/22/18	-
03/14/18	0.00
06/05/18	0.00
09/24/18	0.00
12/12/18	0.00
03/12/19	0.00

MW-1

Date	Product Thickness (feet)
06/06/17	0.00
09/19/17	0.00
12/06/17	0.20
01/24/18	0.02
02/22/18	0.00
03/14/18	0.00
06/05/18	0.00
09/24/18	0.00
12/12/18	0.00
03/12/19	0.03

MW-2

Date	Product Thickness (feet)
06/06/17	0.00
09/19/17	0.00
12/06/17	0.00
01/24/18	-
02/22/18	-
03/14/18	0.00
06/05/18	0.00
09/24/18	0.00
12/12/18	0.00
03/12/19	0.00

figure 5

PRODUCT THICKNESS MAP - JUNE 2017 TO MARCH 2019
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

078863-04(000)GN-DL001 MAY 3, 2019

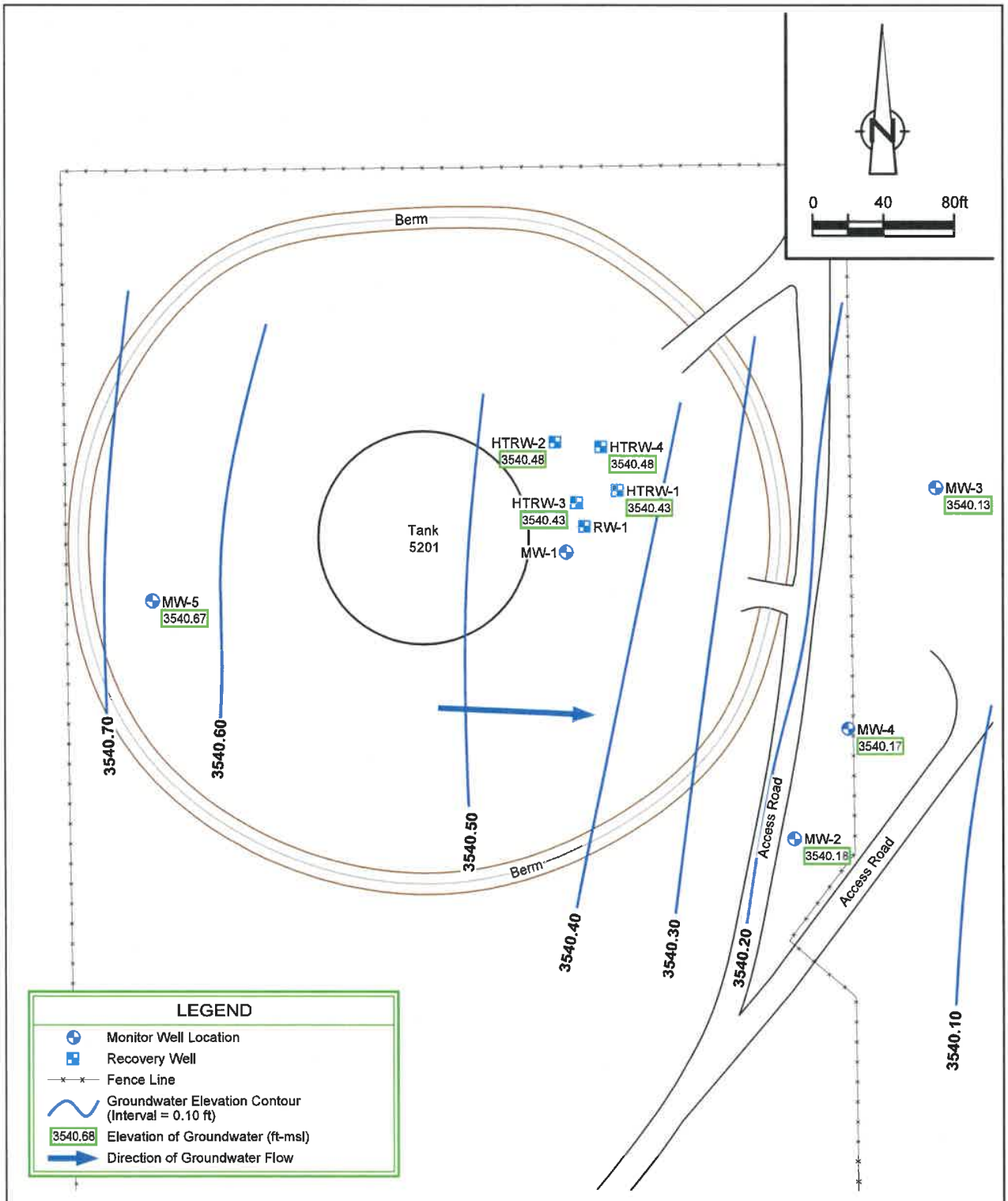


figure 6

GROUNDWATER SURFACE MAP - JUNE 2017
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
Holly Energy Partners

078863-02(000)GN-DL003_DEC & JUN 2017 OCT 11, 2017

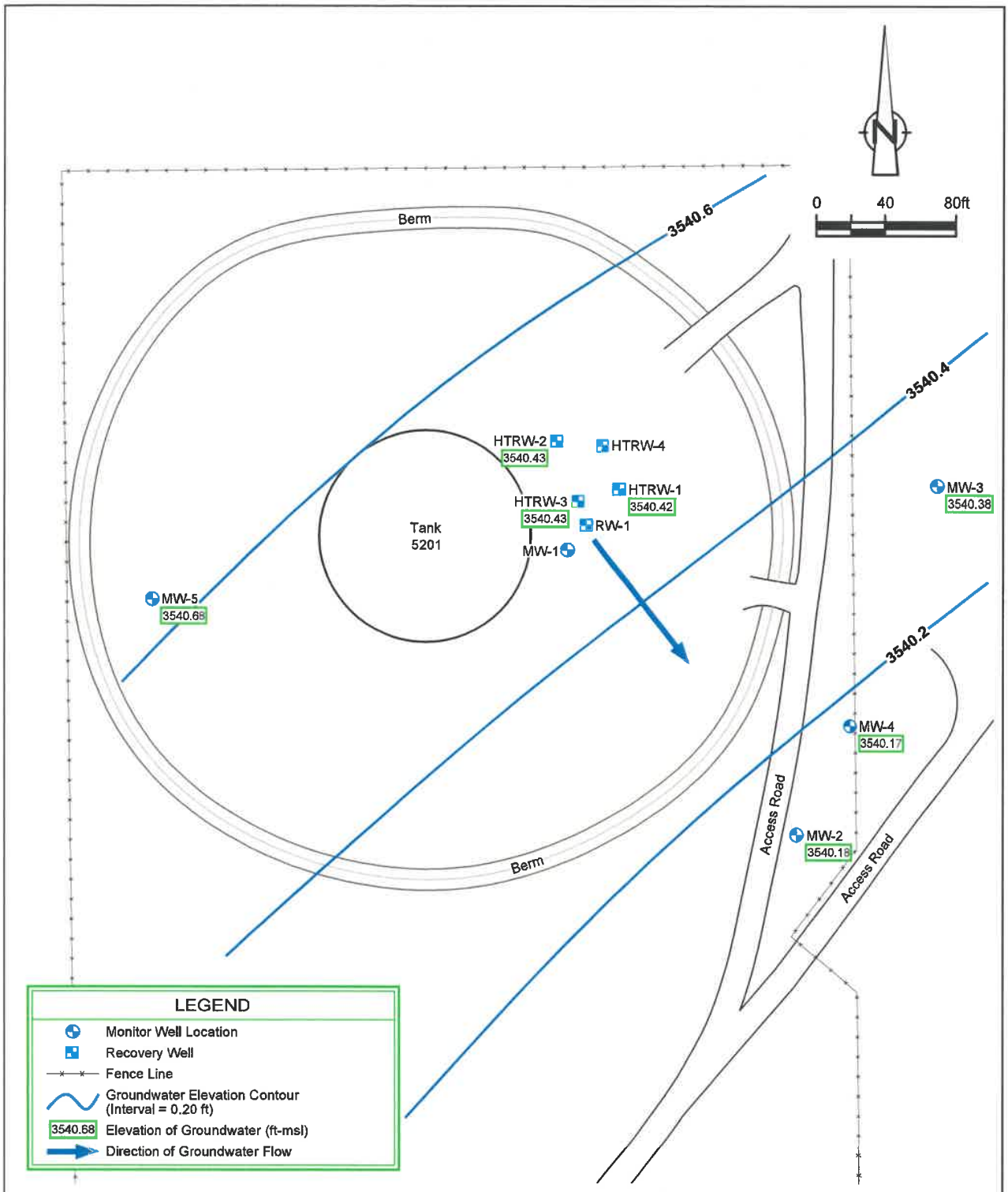


figure 7

GROUNDWATER SURFACE MAP - SEPTEMBER 2017
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

078863-04(000)GN-DL001 MAY 3, 2019

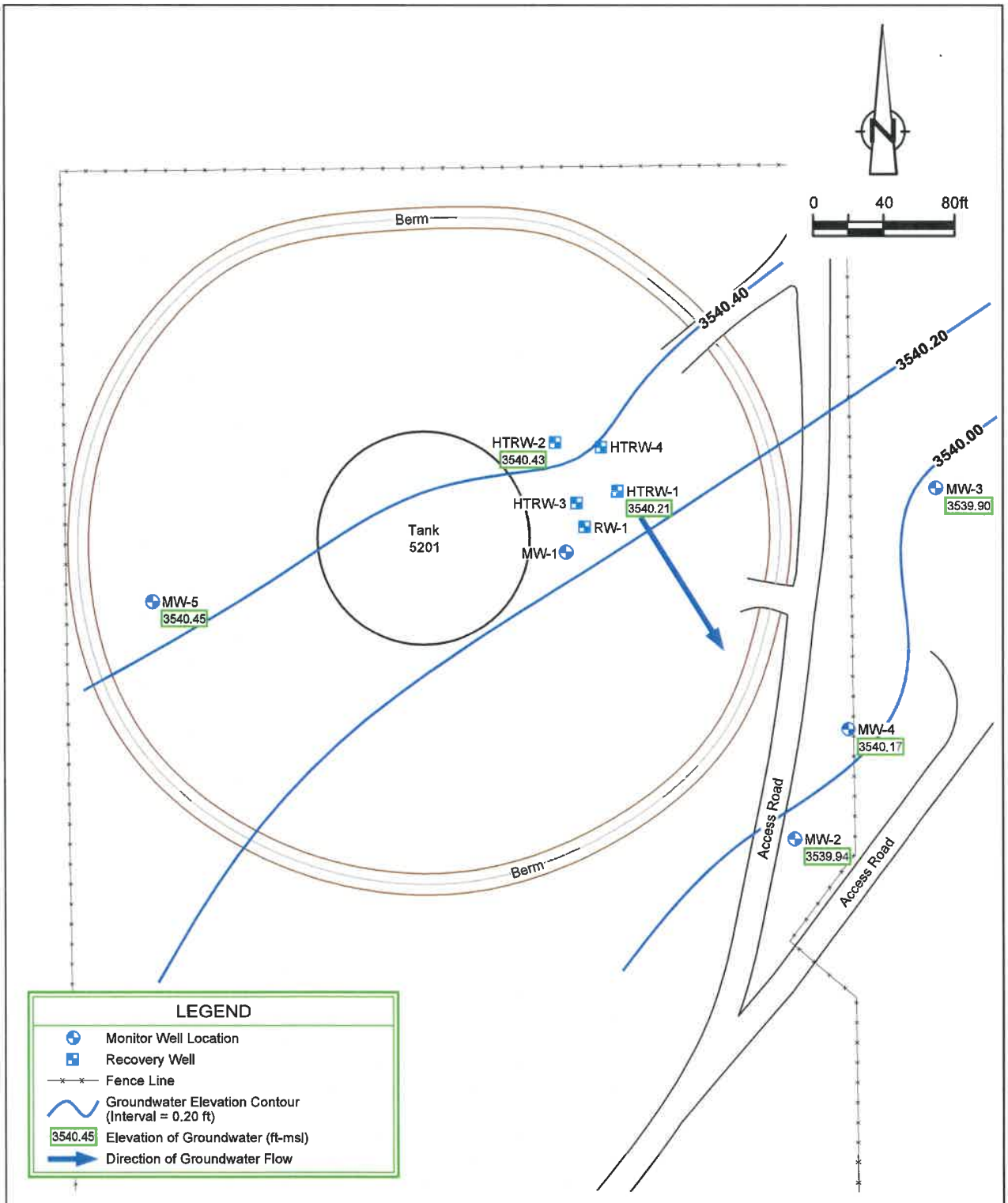


figure 8

GROUNDWATER SURFACE MAP - DECEMBER 2017
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

078863-04(000)GN-DL001 MAY 3, 2019

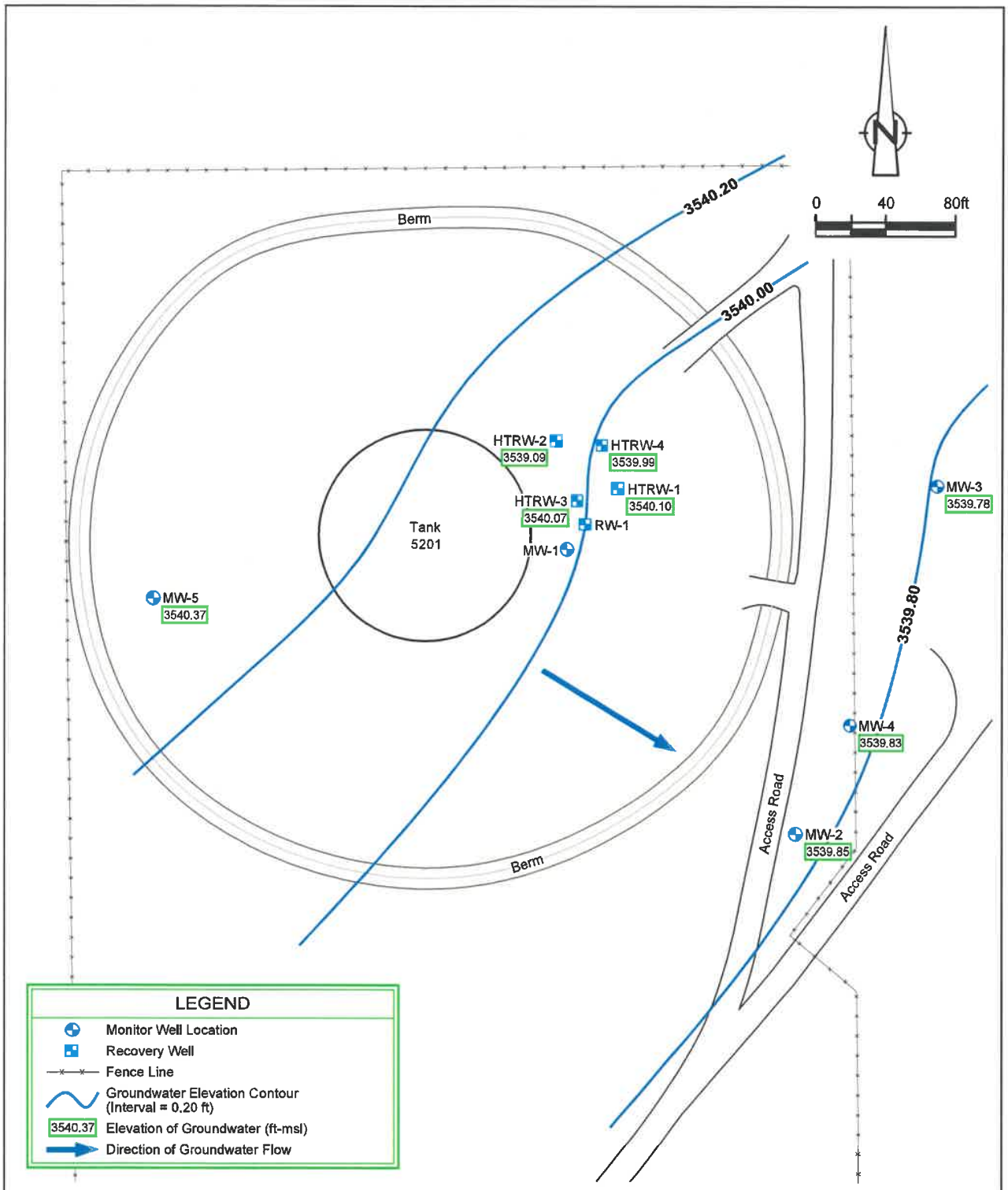


figure 9

GROUNDWATER SURFACE MAP - MARCH 2018
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

078863-04(000)GN-DL001 MAY 3, 2019

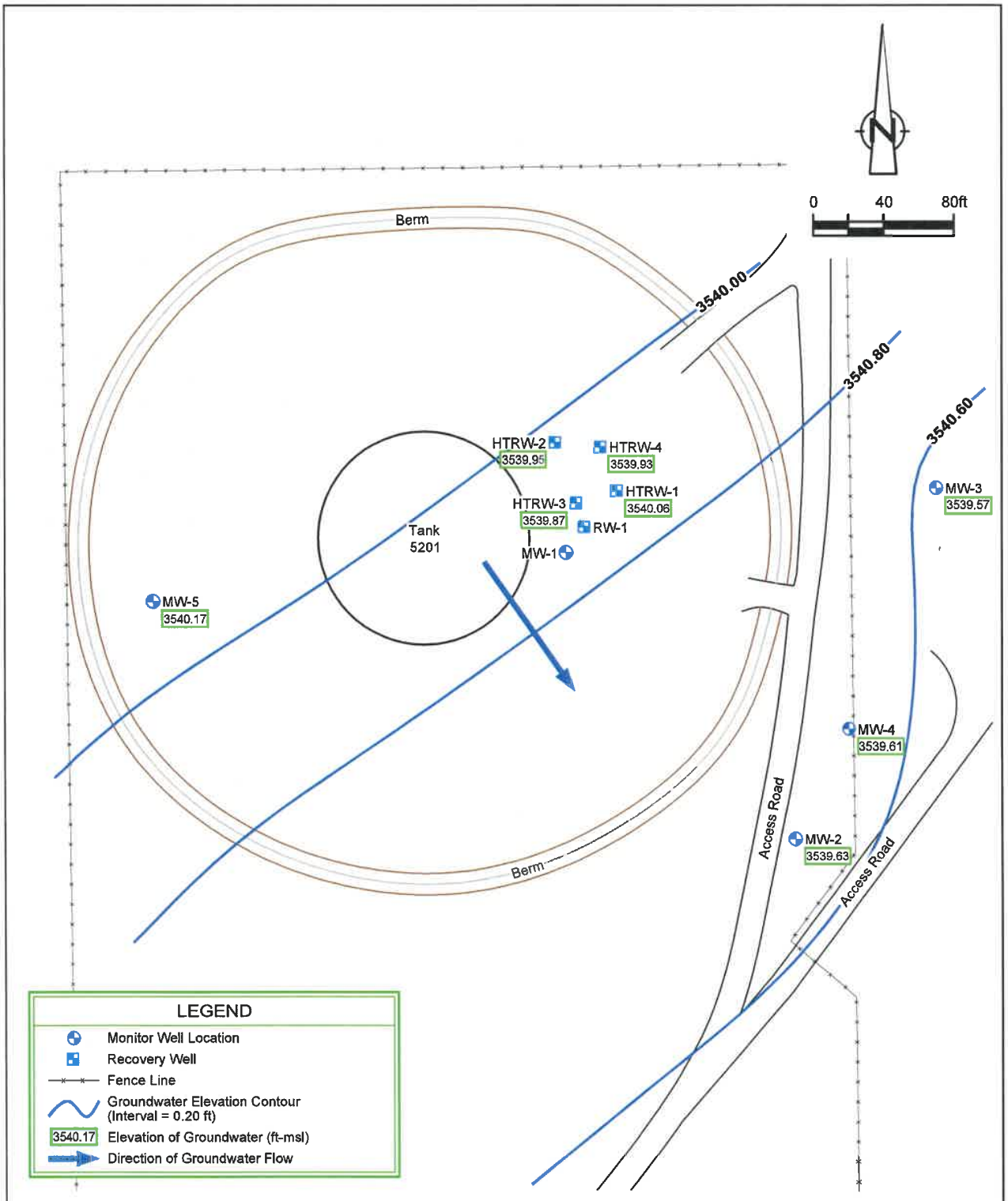


figure 10

GROUNDWATER SURFACE MAP - JUNE 2018
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

GHD

078863-04(000)GN-DL001 MAY 3, 2019

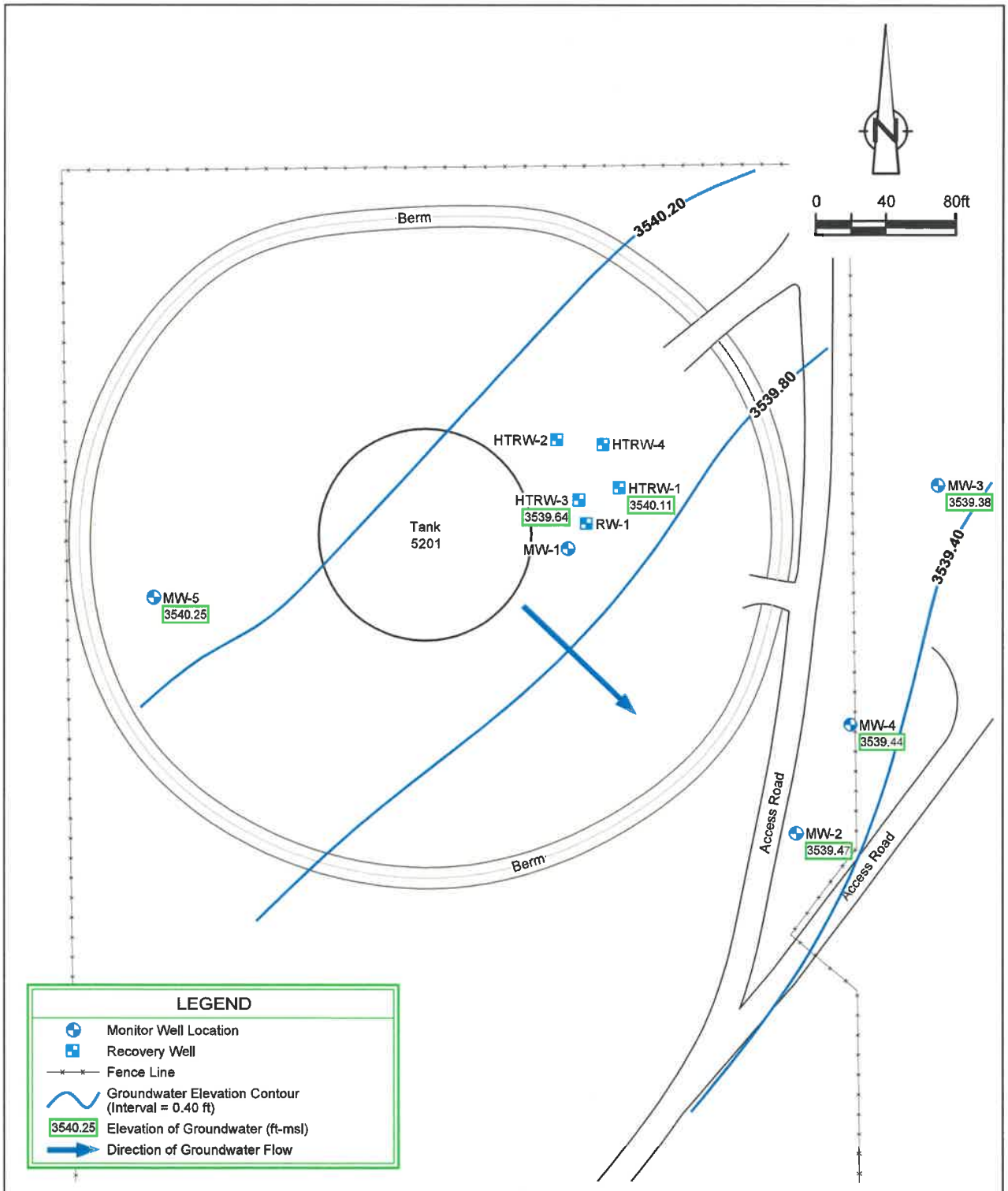


figure 11

GROUNDWATER SURFACE MAP - SEPTEMBER 2018
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

078863-04(000)GN-DL001 MAY 3, 2019

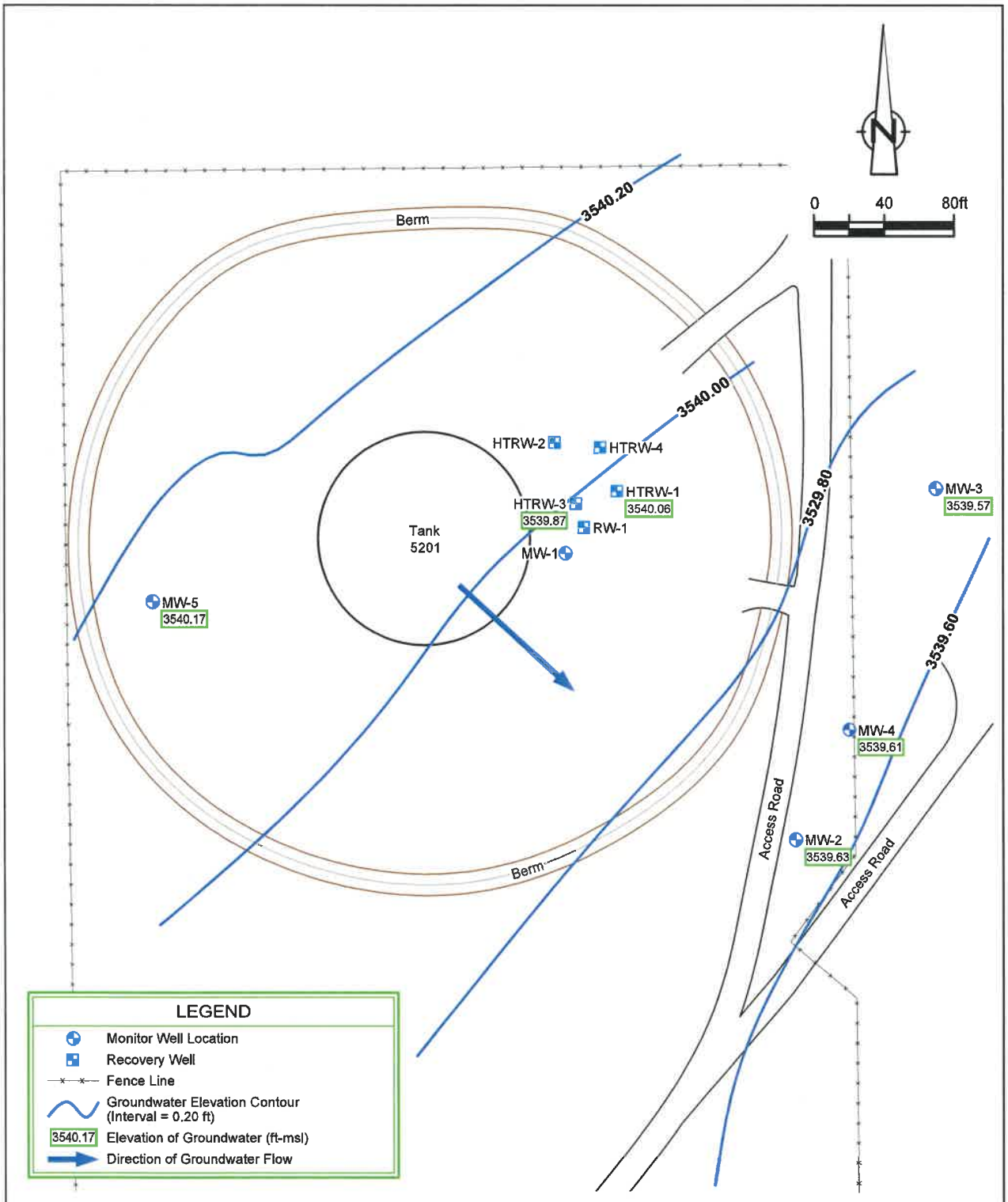


figure 12

GROUNDWATER SURFACE MAP - DECEMBER 2018
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

078863-04(000)GN-DL001 MAY 3, 2019

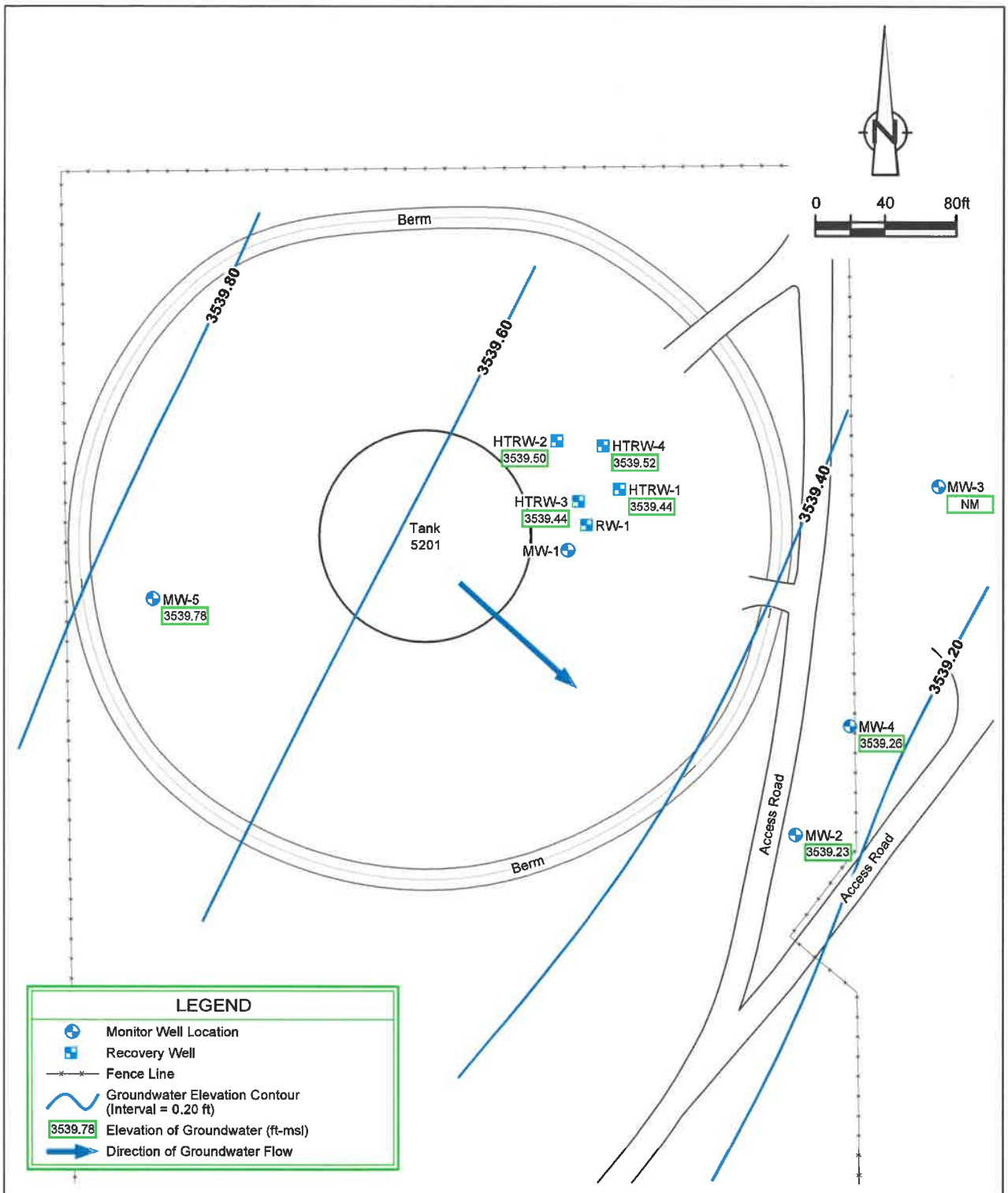
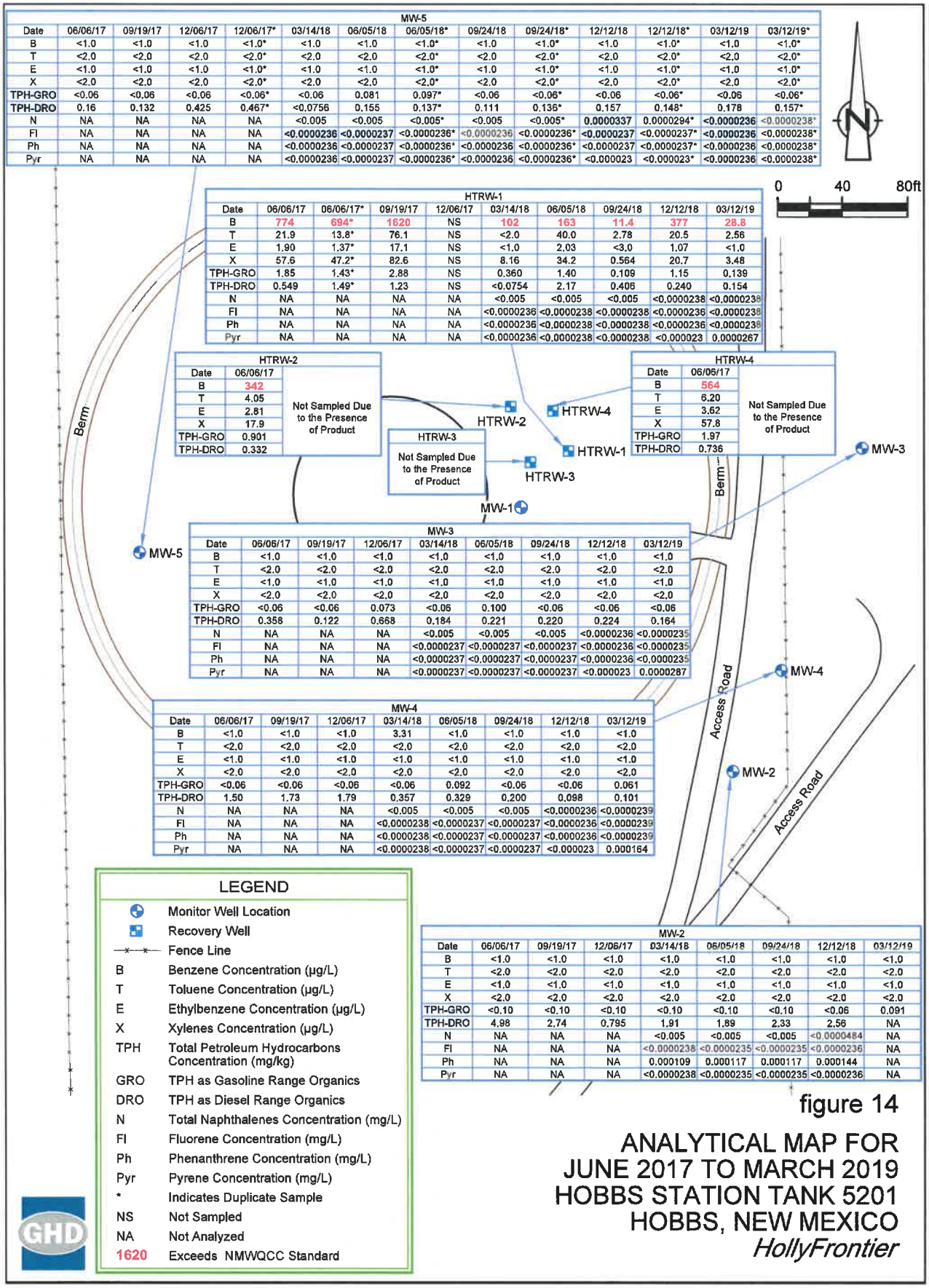


figure 13

GROUNDWATER SURFACE MAP - MARCH 2019
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

078863-04(000)GN-DL001 MAY 3, 2019



078863-04(000)GN-DL001 MAY 3, 2019

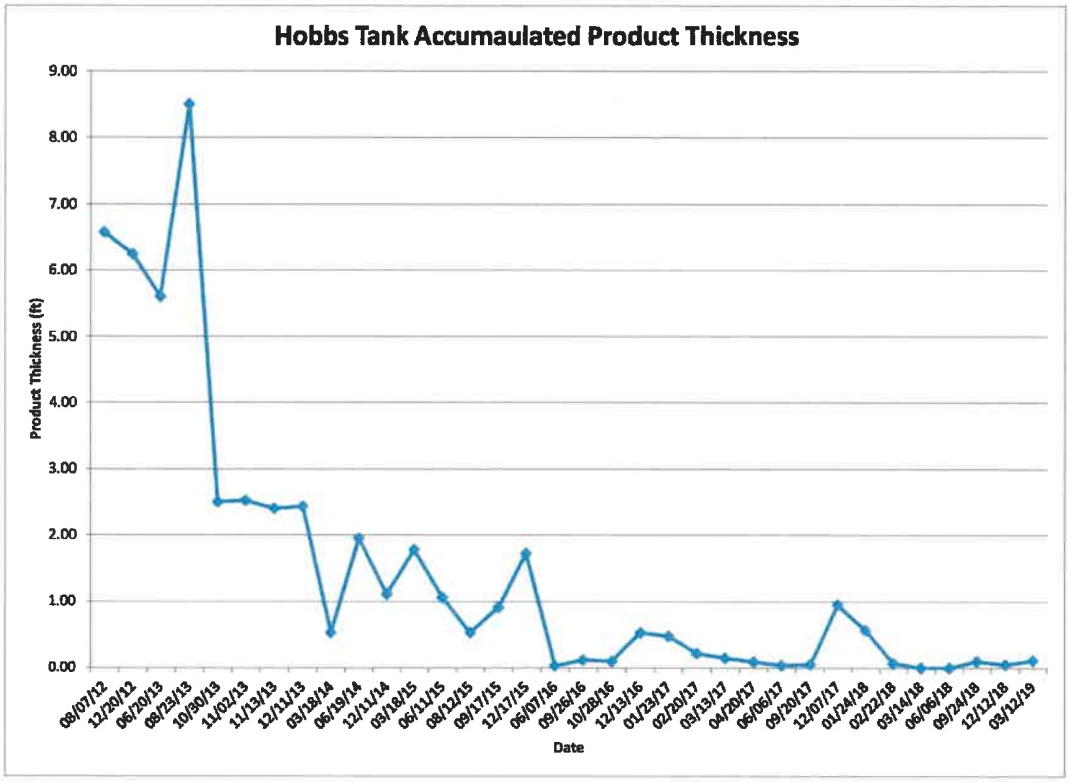


figure 15

SITE TOTAL ACCUMULATED CRUDE OIL THICKNESS
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

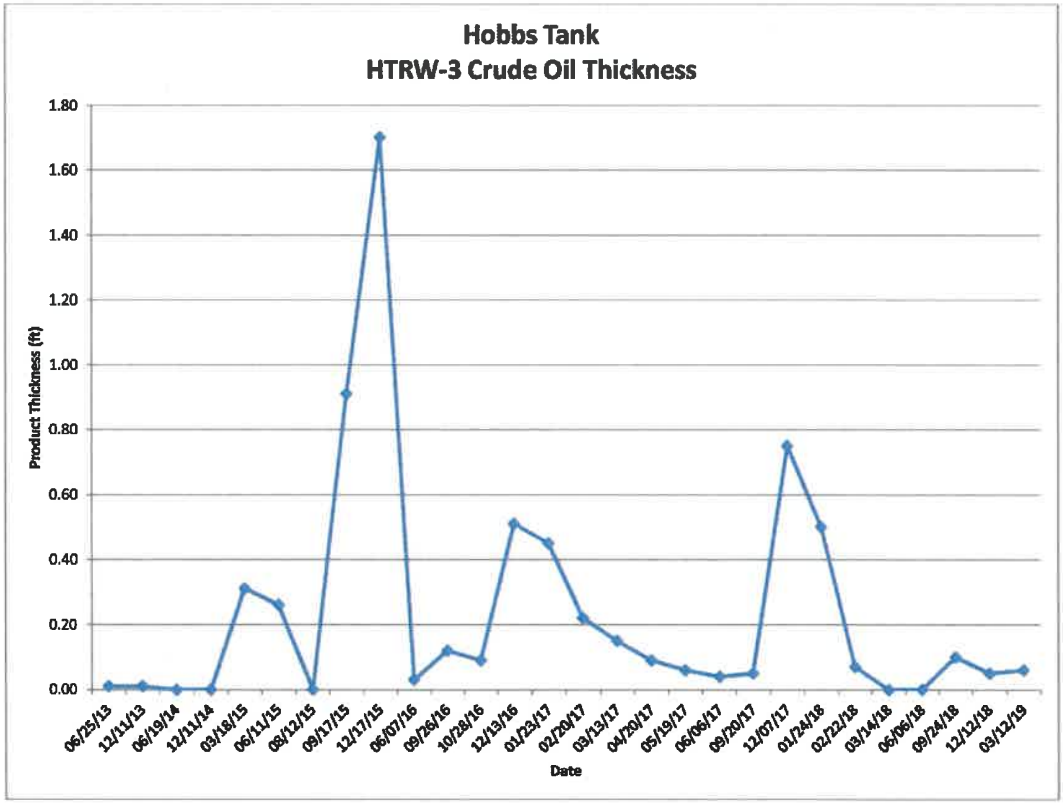


figure 16

CRUDE OIL THICKNESS FOR HTRW-3
HOBBS STATION TANK 5201
HOBBS, NEW MEXICO
HollyFrontier

078863-04(000)GN-DL001 MAY 3, 2019

Tables

Table 1

Water Well Information for the Hobbs Tank Farm area

Well #	Diversion	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Installed	Surface Elevation	Death to Water (feet)	Distance from Site (feet)	Total Well Depth (feet)
L04833		Cactus Drilling Corp.	PRO	19S	38E	22 3 3	32.64	-103.142	3/3/1962		50	3,900	115
L03424		Yates Drilling Co.	PRO	19S	38E	21 1 2	32.651	-103.151	1/26/1957		45	2,500	102
L02146		Coroce Drilling Co.	PRO	19S	38E	22 2 2	32.649	-103.132	1/12/1955		60	3,600	110
L04335		McAllister Fueling Co.	PRO	19S	38E	16 4 4	32.654	-103.147	12/7/1959		35	2,000	110
L10503	3	Augila Oil & Cattle Co.	STK	19S	38E	15 4	32.653	-103.131	7/21/1995		70	3,800	100
L11015	3	Martin Romero	DOM	19S	38E	15 3 4	32.653	-103.135	12/8/1999		45	2,400	120
L09821	3	Benny Boddy	DOM	19S	38E	15 4	32.656	-103.132	5/2/1986		51	3,600	100
L08890		unknown		19S	38E		32.649	-103.14	7/15/1982		130	900	unknown
L09456		unknown		19S	38E		32.657	-103.137	5/24/1984		74	2,900	unknown
L07882		unknown		19S	38E		32.659	-103.135	4/18/1979		32	3,500	unknown
L09052		unknown		19S	38E		32.657	-103.139	1/25/1983		58	2,600	unknown
L08279		unknown		19S	38E		32.654	-103.138	6/9/1980		58	1,900	unknown

Table 2 **Summary of Groundwater Hydrocarbon Analytical Results for June 2014 to March 2019**
HollyFrontier - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID/ MP Elevation	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total Naphthalenes (mg/L)	Fluorene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)	Product Thickness (ft)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
NMWQCC Groundwater Standards		10	750	750	620	NE	NE	0.03	NE	NE	NE			
MW-2	06/25/14	<1.0	<2.0	<1.0	1.43	<0.10	NA						49.19	3,541.66
	12/11/14	<1.0	<2.0	<1.0	<1.0	<0.10	0.534						49.40	3,541.45
	06/11/15	<1.0	<2.0	<1.0	<1.0	<0.10	0.337						49.75	3,541.10
	12/16/15	<1.0	<2.0	<1.0	<1.0	<0.10	0.678						49.91	3,540.94
	06/09/16	<1.0	<2.0	<1.0	<1.0	<0.10	5.53						50.32	3,540.53
	12/14/16	<1.0	<2.0	<1.0	<1.0	<0.10	5.53						50.34	3,540.51
	06/06/17	<1.0	<2.0	<1.0	<2.0	<0.10	4.98						50.67	3,540.18
	09/19/17	<1.0	<2.0	<1.0	<2.0	<0.10	2.74						50.67	3,540.18
	12/06/17	<1.0	<2.0	<1.0	<2.0	<0.10	0.795						50.91	3,539.94
	03/14/18	<1.0	<2.0	<1.0	<2.0	<0.10	1.91	<0.005	<0.0000238	0.000109	<0.0000238		51.00	3,539.85
	06/05/18	<1.0	<2.0	<1.0	<2.0	<0.10	1.89	<0.005	<0.0000235	0.000117	<0.0000235		51.22	3,539.63
	09/24/18	<1.0	<2.0	<1.0	<2.0	<0.10	2.33	<0.005	<0.0000235	0.000117	<0.0000235		51.38	3,539.47
	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.06	2.56	<0.0000484	<0.0000236	0.000144	<0.0000236		51.50	3,539.35
	03/12/19	<1.0	<2.0	<1.0	<2.0	0.091	NA	NA	NA	NA	NA		51.82	3,539.23
MW-3	06/24/14	<1.0	<2.0	<1.0	1.61	NA	NA						49.20	3,541.61
	12/11/14	<1.0	<2.0	<1.0	<1.0	<0.10	0.135						49.41	3,541.40
	06/11/15	<1.0	<2.0	<1.0	<1.0	<0.10	<0.10						49.78	3,541.03
	12/16/15	<1.0	<2.0	<1.0	<1.0	<0.10	<0.102						49.96	3,540.85
	06/09/16	<1.0	<2.0	<1.0	<1.0	<0.06	<0.08						50.33	3,540.48
	12/14/16	<1.0	<2.0	<1.0	<1.0	<0.06	0.262						50.38	3,540.43
	06/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	0.358						50.68	3,540.13
	09/19/17	<1.0	<2.0	<1.0	<2.0	<0.06	0.122						50.43	3,540.38
	12/06/17	<1.0	<2.0	<1.0	<2.0	0.073	0.668						50.91	3,539.90
	03/14/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.184	<0.005	<0.0000237	<0.0000237	<0.0000237		51.03	3,539.78
	06/05/18	<1.0	<2.0	<1.0	<2.0	0.100	0.221	<0.005	<0.0000237	<0.0000237	<0.0000237		51.24	3,539.57
	09/24/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.220	<0.005	<0.0000237	<0.0000237	<0.0000237		51.43	3,539.38
	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.224	<0.0000236	<0.0000236	<0.0000236	<0.0000236		51.55	3,539.26
	03/12/19	<1.0	<2.0	<1.0	<2.0	<0.06	0.164	<0.0000235	<0.0000235	<0.0000235	0.0000287			
MW-4	06/24/14	1.07	<2.0	<1.0	<1.0	NA	NA						49.18	3,541.67
	12/11/14	<1.0	<2.0	<1.0	<1.0	<0.10	1.72						49.45	3541.40
	06/11/15	<1.0	<2.0	<1.0	<1.0	<0.10	2.81						49.80	3541.05
duplicate	06/11/15	<1.0	<2.0	<1.0	<1.0	<0.10	2.51						49.80	3541.05
	12/16/15	<1.0	<2.0	<1.0	<1.0	<0.10	2.66						49.95	3540.90
	06/09/16	<1.0	<2.0	<1.0	<1.0	<0.06	3.22						50.32	3540.53
	12/14/16	<1.0	<2.0	<1.0	<1.0	<0.06	2.37						50.38	3540.47
duplicate	12/14/16	<1.0	<2.0	<1.0	<1.0	<0.06	2.02						50.38	3540.47
	06/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	1.50						50.68	3540.17
	09/19/17	<1.0	<2.0	<1.0	<2.0	<0.06	1.73						50.68	3540.17
	12/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	1.79						50.91	3539.94
	03/14/18	3.31	<2.0	<1.0	<2.0	<0.06	0.357	<0.005	<0.0000238	<0.0000238	<0.0000238		51.02	3539.83
	06/05/18	<1.0	<2.0	<1.0	<2.0	0.092	0.329	<0.005	<0.0000237	<0.0000237	<0.0000237		51.24	3539.61
	09/24/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.200	<0.005	<0.0000237	<0.0000237	<0.0000237		51.41	3539.44
	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.098	<0.0000236	<0.0000236	<0.0000236	<0.0000236		51.44	3539.41
	03/12/19	<1.0	<2.0	<1.0	<2.0	0.061	0.101	<0.0000239	<0.0000239	<0.0000239	0.000164		51.59	3539.26
MW-5	06/25/14	<1.0	<2.0	<1.0	1.13	NA	NA						50.53	3,542.22
	12/11/14	<1.0	<2.0	<1.0	<1.0	<0.10	<0.102						50.76	3,541.99
	06/11/15	<1.0	<2.0	<1.0	<1.0	<0.10	<0.10						51.12	3,541.63
	12/16/15	<1.0	<2.0	<1.0	<1.0	<0.10	0.115						51.33	3,541.42
	06/09/16	<1.0	<2.0	<1.0	<1.0	<0.06	<0.08						51.68	3,541.07
	12/14/16	<1.0	<2.0	<1.0	<1.0	<0.06	0.194						51.76	3,540.99
	06/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	0.162						52.08	3,540.67
	09/19/17	<1.0	<2.0	<1.0	<2.0	<0.06	0.132						52.07	3,540.68
	12/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	0.425						52.30	3,540.45
duplicate	12/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	0.467						52.30	3,540.45
	03/14/18	<1.0	<2.0	<1.0	<2.0	<0.06	<0.0756	<0.005	<0.0000236	<0.0000236	<0.0000236		52.38	3,540.37
	06/05/18	<1.0	<2.0	<1.0	<2.0	0.081	0.155	<0.005	<0.0000237	<0.0000237	<0.0000237		52.58	3,540.17
duplicate	06/05/18	<1.0	<2.0	<1.0	<2.0	0.097	0.137	<0.005	<0.0000236	<0.0000236	<0.0000236		52.58	3,540.17
	09/24/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.111	<0.005	<0.0000236	<0.0000236	<0.0000236		52.50	3,540.25
duplicate	09/24/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.136	<0.005	<0.0000236	<0.0000236	<0.0000236		52.50	3,540.25
	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.157	0.0000337	<0.0000237	<0.0000237	<0.0000237		52.54	3,540.21
duplicate	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.148	0.0000294	<0.0000237	<0.0000237	<0.0000237		52.54	3,540.21
	03/12/19	<1.0	<2.0	<1.0	<2.0	<0.06	0.178	<0.0000236	<0.0000236	<0.0000236	<0.0000236		52.97	3,539.78
duplicate	03/12/19	<1.0	<2.0	<1.0	<2.0	<0.06	0.157	<0.0000238	<0.0000238	<0.0000238	<0.0000238		52.97	3,539.78

Table 2 **Summary of Groundwater Hydrocarbon Analytical Results for June 2014 to March 2019**
HollyFrontier - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID/ MP Elevation	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total Naphthalenes (mg/L)	Fluorene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)	Product Thickness (ft)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
NMWQCC Groundwater Standards		10	750	750	620	NE	NE	0.03	NE	NE	NE			
HTRW-1	6/24/14	910	48.7	89.1	70.0	NA	NA					0.01	46.19	3,541.95
duplicate	6/24/14	922	49.0	88.8	69.2	NA	NA					0.00	46.19	3,541.95
	12/11/14	NSP	NSP	NSP	NSP	NSP	NSP					0.05	45.51	3,542.67
	6/11/15	NSP	NSP	NSP	NSP	NSP	NSP					0.80	47.61	3,541.11
	12/16/15	NSP	NSP	NSP	NSP	NSP	NSP					0.02	46.95	3,541.20
	6/9/16	NSP	NSP	NSP	NSP	NSP	NSP					0.00	46.34	3,541.80
	12/14/16	1.97	<0.6	<0.3	0.943	<0.06	0.432					0.00	47.44	3,540.70
	6/6/17	774	21.9	1.90	57.8	1.85	0.549					0.00	47.71	3,540.43
duplicate	6/6/17	694	13.8	1.37	47.2	1.43	1.49					0.00	47.71	3,540.43
	9/19/17	1620	76.1	17.1	82.6	2.88	1.23					0.00	47.72	3,540.42
	12/6/17	NS	NS	NS	NS	NS	NS					0.00	NM	NM
	3/14/18	102	<2.0	<1.0	8.16	0.360	<0.0754	<0.005	<0.0000236	<0.0000236	<0.0000236	0.00	48.03	3,540.10
	6/5/18	163	40.0	2.03	34.2	1.40	2.17	<0.005	<0.0000238	<0.0000238	<0.0000238	0.00	48.22	3,540.06
	9/24/18	11.4	2.78	<3.0	0.564	0.109	0.406	<0.005	<0.0000238	<0.0000238	<0.0000238	0.00	48.45	3,540.11
	12/12/18	377	20.5	1.07	20.7	1.15	0.240	<0.0000238	<0.0000236	<0.0000236	<0.0000236	0.00	48.99	3,539.15
	03/12/19	28.8	2.56	<1.0	3.48	0.139	0.154	<0.0000238	<0.0000238	<0.0000238	0.0000267	0.00	48.70	3,539.44
HTRW-2	6/24/14	748	47.6	59.2	84.0	NA	NA					0.00	45.52	3,541.99
	12/11/14	722	135	36.4	129	2.0	0.253					0.00	45.79	3,541.72
	6/11/15	875	28.7	35.3	29.3	1.24	0.354					0.00	46.05	3,541.46
	12/16/15	503	<20.0	18.9	<10.0	1.01	0.144					0.00	46.25	3,541.26
	6/9/16	863	6.35	60.6	6.87	2.03	1.05					0.00	46.66	3,540.85
	12/14/16	322	7.32	33.3	5.66	0.128	0.461					0.00	46.74	3,540.77
	6/6/17	342	4.05	2.81	17.9	0.901	0.332					0.00	47.03	3,540.48
	9/20/17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	47.08	3540.43
	12/7/17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	47.25	3540.26
	1/24/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.68	3538.83
	2/22/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	47.38	3540.13
	3/14/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.42	3539.09
	6/6/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	47.56	3539.95
	9/24/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	47.77	3539.74
	12/12/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	47.79	3539.72
	03/12/19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.01	3539.50
HTRW-3	6/24/14	3,090	1,226	450	520	NA	NA					0.00	46.79	3,541.96
	12/11/14	3,760	1,750	466	632	12.2	1.31					0.00	47.03	3,541.72
	6/11/15	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	0.28	47.61	3,541.33
	12/16/15	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	1.70	49.00	3,540.99
	6/9/16	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	0.03	47.84	3,540.93
	12/14/16	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	0.51	48.48	3,540.64
	6/6/17	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	0.04	48.35	3,540.43
	9/20/17	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	0.05	48.38	3,540.43
	12/7/17	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	0.75	49.35	3,539.95
	1/24/18	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	0.50	49.04	3,540.08
	2/22/18	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	0.07	48.75	3,540.05
	3/14/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.68	3,540.07
	6/6/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.88	3,539.87
	9/24/18	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	0.10	49.18	3,539.64
	12/12/18	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	0.05	48.13	3,540.66
	03/12/19	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	0.06	49.35	3,539.44

Table 2 **Summary of Groundwater Hydrocarbon Analytical Results for June 2014 to March 2019**
HollyFrontier - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID/ MP Elevation	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total Naphthalenes (mg/L)	Fluorene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)	Product Thickness (ft)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
NMWQCC Groundwater Standards		10	750	750	620	NE	NE	0.03	NE	NE	NE			
HTRW-4	6/24/14	1,720	698	253	436	NA	NA					0.00	46.59	3,541.98
	12/11/14	1,590	288	126	277	4.03	0.643					0.00	46.85	3541.72
	6/11/15	1,490	29.2	111	29.9	2.16	0.365					0.00	47.11	3541.46
	12/16/15	NS	NS	NS	NS	NS	NS					0.00	47.32	3541.25
	6/9/16	834	11.7	35.9	17.8	1.60	1.10					0.00	47.70	3540.87
	12/14/16	3,800	29.6	16.2	46.1	1.31	0.951					0.00	47.79	3540.78
	6/6/17	564	6.20	3.62	57.8	1.97	0.736					0.00	48.09	3540.48
	9/20/17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.19	3540.38
	12/7/17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.30	3540.27
	1/24/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.40	3540.17
	2/22/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.43	3540.14
	3/14/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.58	3539.99
	6/6/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.64	3539.93
	9/24/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.78	3539.79
	12/12/18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	48.48	3540.09
	03/12/19	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00	49.05	3539.52

Notes:
BOLD = Exceeds New Mexico Water Quality Commission (NMWQC) Standard
µg/L = microgram per liter
< = Not detected above indicated level
ft-bmp - feet-below measuring point
ft-msl - feet-mean sea level
NSP - Not Sampled Product
NS - Not Sampled
NA - Not Analyzed
NE - Not Established
BTEX = Benzene, Toluene, Ethylbenzene and Xylenes
TPH-GRO = Total Petroleum Hydrocarbons-Gasoline Range Organics
TPH-DRO = Total Petroleum Hydrocarbons-Diesel Range Organics
BTEX analyzed by Method SW8260C
TPH-GRO analyzed by Method 8015V
TPH-DRO analyzed by Method 8015D

Table 3 Summary of Groundwater Inorganic Analytical Results
HollyFrontier - Hobbs Tank 5201 - Lea County, New Mexico

Sample ID	Date Sampled	Chloride	TDS	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
NMWQCC Groundwater Standard		**250**	**1000**	**0.1**	**1**	**0.01**	**0.05**	**0.05**	**0.002**	**0.05**	**0.05**
MW-2	6/25/2014	30.6	729	0.021	0.447	<0.001	<0.006	0.0003	<0.0002	<0.006	<0.002
	12/14/2016	91.1	899	0.024	0.574	<0.0003	0.006	0.0006	<0.00008	<0.002	<0.001
	6/6/2017	NA	NA	0.027	0.627	<0.0003	0.027	0.0075	<0.00008	<0.002	<0.001
	9/19/2017	93.1	910	0.027	0.594	<0.0003	0.023	0.0040	<0.00008	<0.002	<0.001
	12/6/2017	15.6	**1440**	0.022	0.258	<0.0003	0.009	0.0114	<0.00008	0.010	<0.001
	3/12/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-3	12/14/2016	105	714	0.004	0.092	<0.0003	<0.002	<0.0003	<0.00008	<0.002	<0.001
	6/6/2017	NA	NA	0.005	0.155	0.0003	0.029	0.0029	<0.00008	<0.002	<0.001
	9/19/2017	104	793	0.003	0.110	<0.0003	0.002	0.0003	<0.00008	<0.002	<0.001
	12/6/2017	106	782	0.021	0.160	<0.0003	0.005	0.0008	<0.00008	<0.002	<0.001
	3/12/2019	125	840	0.022	0.222	<0.0003	0.007	0.0016	<0.00008	<0.002	<0.001
MW-4	12/14/2016	22.0	**1960**	0.059	0.990	<0.0003	0.026	0.0140	<0.00008	**0.069**	<0.001
duplicate	12/14/2016	23.7	**1910**	0.055	0.769	<0.0003	0.021	0.0114	<0.00008	**0.054**	<0.001
	6/6/2017	NA	NA	0.010	0.080	<0.0003	<0.002	<0.0003	<0.00008	0.002	<0.001
	9/19/2017	22.3	**1360**	0.016	0.160	<0.0003	0.005	0.0018	<0.00008	0.006	<0.001
	12/6/2017	90.6	958	0.023	0.560	0.0006	0.034	0.0480	<0.00008	<0.002	<0.001
	3/12/2019	17.4	577	0.041	0.464	<0.0003	0.032	0.0114	<0.00008	**0.066**	<0.001
MW-5	6/25/2014	44.9	545	0.007	0.132	<0.001	0.003	0.0003	<0.0002	0.004	<0.002
	12/14/2016	50.2	607	0.007	0.127	<0.0003	0.004	0.0003	<0.00008	0.004	<0.001
	6/6/2017	NA	NA	0.005	0.122	<0.0003	<0.002	<0.00008	<0.00008	0.003	<0.001
	9/19/2017	53.0	625	0.006	0.165	<0.0003	0.005	0.0013	<0.00008	0.004	<0.001
	12/6/2017	58.5	643	0.007	0.261	<0.0003	0.011	0.0017	<0.00008	0.003	<0.001
duplicate	12/6/2017	56.5	649	0.007	0.218	0.00031	0.008	0.0019	<0.00008	0.004	<0.001
	3/12/2019	81.2	694	0.011	0.284	<0.0003	0.009	0.0022	<0.00008	0.005	<0.001
duplicate	3/12/2019	83.8	709	0.008	0.306	0.00038	0.010	0.0021	<0.00008	0.004	<0.001
HTRW-1	12/14/2016	121	667	0.005	0.160	<0.0003	0.003	0.0003	<0.00008	<0.002	<0.001
	6/6/2017	NA	NA	0.004	0.134	<0.0003	<0.002	<0.0003	<0.00008	<0.002	<0.001
duplicate	6/6/2017	NA	NA	0.004	0.138	<0.0003	<0.002	<0.0003	<0.00008	<0.002	<0.001
	9/19/2017	47.4	597	0.005	0.138	<0.0003	<0.002	<0.0003	<0.00008	<0.002	<0.001
	3/12/2019	21.3	501	0.007	0.125	<0.0003	<0.002	0.0007	<0.00008	<0.002	<0.001
HTRW-2	12/14/2016	91.0	675	0.008	0.310	<0.0003	0.003	0.0004	<0.00008	<0.002	<0.001
	6/6/2017	NA	NA	0.007	0.326	<0.0003	<0.002	0.0003	<0.00008	<0.002	<0.001
HTRW-3	12/14/2016	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP
	6/6/2017	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP	NSP
HTRW-4	12/14/2016	102	**1420**	0.038	0.242	<0.0003	<0.002	<0.0003	<0.00008	<0.002	<0.001
	6/6/2017	NA	NA	0.014	0.330	<0.0003	<0.002	<0.0003	<0.00008	<0.002	<0.001

NOTES:
mg/L = milligrams per liter
< = analyte not detected above indicated value
BOLD = Exceeds NMWQCC Groundwater Cleanup Level
NA - Not Analyzed
TDS = Total Disolved Solids
Mercury analyzed by Method SW7470A
Chloride, Nitrate and Sulfate analyzed by Method E300
Bicarbonate analyzed by Method M2320B
TDS analyzed by Method M2540C
All other metals analyzed by Method SW6020A

Table 4 **Summary of Groundwater QA/QC Results for December 2017 to March 2019**
HollyFrontier - Hobbs Tank 5201 - Lea County, New Mexico

		Laboratory Analytical Results																			
Well No.	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total Naphthalenes (mg/L)	Fluorene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)	Chloride (mg/L)	TDS (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Silver (mg/L)
NMWQC Groundwater Standards		10	750	750	620	NE	NE	0.03	NE	NE	NE	250	1000	0.1	1	0.01	0.05	0.05	0.002	0.05	0.05
MW-5	12/05/17	<3.0	<6.0	<3.0	<3.0	<0.060	0.425	NA	NA	NA	NA	58.5	843	0.007	0.261	<0.0003	0.011	0.0017	<0.00008	0.003	<0.001
MW-5	12/06/17	<3.0	<6.0	<3.0	<3.0	<0.060	0.467	NA	NA	NA	NA	58.5	849	0.007	0.218	0.00031	0.008	0.0019	<0.00008	0.004	<0.001
MW-5	06/05/18	<3.0	<6.0	<3.0	<3.0	0.081	0.155	<0.005	<0.0000237	<0.0000237	<0.0000237	NA	NA	0.004	0.134	<0.0003	<0.002	<0.0003	<0.00008	<0.002	<0.001
MW-5	08/05/18	<3.0	<6.0	<3.0	<3.0	0.097	0.137	<0.005	<0.0000236	<0.0000236	<0.0000236	NA	NA	0.004	0.138	<0.0003	<0.002	<0.0003	<0.00008	<0.002	<0.001
MW-5	09/24/18	<3.0	<6.0	<3.0	<3.0	<0.060	0.111	<0.005	<0.0000236	<0.0000236	<0.0000236	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-5	09/24/18	<3.0	<6.0	<3.0	<3.0	<0.060	0.138	<0.005	<0.0000236	<0.0000236	<0.0000236	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-5	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.157	0.0000337	<0.0000237	<0.0000237	<0.0000237	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-5	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.148	0.0000294	<0.0000237	<0.0000237	<0.0000237	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-5	03/12/19	<1.0	<2.0	<1.0	<2.0	<0.06	0.178	<0.0000236	<0.0000236	<0.0000236	<0.0000236	61.2	694	0.011	0.264	<0.0003	0.009	0.002	<0.00008	0.005	<0.001
MW-5	03/12/19	<1.0	<2.0	<1.0	<2.0	<0.06	0.157	<0.0000236	<0.0000236	<0.0000236	<0.0000236	63.8	709	0.008	0.306	0.000079	0.010	0.002	<0.00008	0.004	<0.001
Trip Blank	12/06/17	<3.0	<6.0	<3.0	<3.0	<0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trip Blank	03/14/18	<3.0	<6.0	<3.0	<3.0	<0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trip Blank	06/05/18	<3.0	<6.0	<3.0	<3.0	<0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trip Blank	09/24/18	<3.0	<6.0	<3.0	<3.0	<0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trip Blank	12/12/18	<1.0	<2.0	<1.0	<1.0	<0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trip Blank	03/12/19	<1.0	<2.0	<1.0	<1.0	<0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
(µg/L) = micrograms per liter
mg/L= micrograms per liter
< = Not detected above indicated level
NE - Not Established
NA - Not Analyzed
BTEX = Benzene, Toluene, Ethylbenzene and Xylenes
BTEX analyzed by Method EPA 8260C
TPH-GRO = Total Petroleum Hydrocarbons-Gasoline Range Organics
TPH-DRO = Total Petroleum Hydrocarbons-Diesel Range Organics
TPH-GRO analyzed by Method 8015V
TPH-DRO analyzed by Method 8015D
Mercury analyzed by Method SW7470A
Chloride, Nitrate and Sulfate analyzed by Method E300
Bicarbonate analyzed by Method M2320B
TDS analyzed by Method M2540C
All other metals analyzed by Method SW6020A

Table 5 Summary of Groundwater Analytical Results for Water Well L08279, March 2019
HollyFrontier - Hobbs Tank 5201 - Lea County, New Mexico

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Total Naphthalenes (mg/L)	Fluorene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)
NMWQCC Groundwater Standards		10	750	750	620	NE	NE	0.03	NE	NE	NE
L08279	03/12/19	<1.0	<2.0	<1.0	<2.0	<0.06	<0.0788	<0.0000250	<0.0000250	<0.0000250	<0.0000250

Well ID	Sample Date	Chloride (mg/L)	TDS (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Silver (mg/L)
NMWQCC Groundwater Standards		250	1000	0.1	1	0.01	0.05	0.05	0.002	0.05	0.05
L08279	03/12/19	48.0	413	0.00977	0.0455	<0.00300	<0.002	<0.00300	<0.00008	0.00339	<0.001

Appendix A
Summary of Historical Fluid Levels

Appendix A Summary of Fluid Levels
Holly Frontier- Hobbs Tank 5201 - Lea County, New Mexico

Well ID/MP Elevation	Date	DTP (ft-bmp)	DTW (ft-bmp)	Prod. Thick (ft)	TD (ft-bmp)	Groundwater Elevation (ft-msl)	Corrected Groundwater Elevation[1] (ft-msl)	Totalizer (gals)
RW-1	08/07/12	48.06	51.01	2.95	58.19	3538.08	3,540.23	
3589.09	12/20/12	48.47	51.48	3.01		3537.61	3,539.81	
	06/20/13	48.89	51.65	2.76		3537.44	3,539.45	
	08/23/13	49.05	51.95	2.90		3537.14	3,539.26	0
	10/30/13					0.00	3,589.09	
	11/02/13							9.7
	11/13/13							9.9
	12/11/13	49.69	49.70	0.01		3539.39	3,539.40	10.0
	03/18/14		49.92	0.00		3539.17	3,539.17	11.1
	06/19/14	50.19	50.20	0.01		3538.89	3,538.90	13.1
	12/11/14	50.41	50.47	0.06		3538.62	3,538.66	
	03/18/15	50.60	50.73	0.13		3538.36	3,538.45	
	06/11/15	trace	50.75	0.00		3538.34	3538.34	
	08/12/15		50.93	0.00		3538.16	3,538.16	
	09/17/15		51.02	0.00		3538.07	3,538.07	
	12/17/15	trace	50.92	0.00		3538.17	3538.17	
	06/07/16		51.32	0.00		3537.77	3,537.77	
	09/26/16		50.98	0.00		3538.11	3,538.11	
	10/28/16		50.96	0.00		3538.13	3,538.13	
	12/13/16		51.46	0.00		3537.63	3,537.63	
	01/23/17		51.55	0.00		3537.54	3,537.54	
	02/20/17		51.65	0.00		3537.44	3,537.44	
	03/13/17		51.60	0.00		3537.49	3,537.49	
	04/20/17		51.61	0.00		3537.48	3,537.48	
	06/06/17		51.71	0.00		3537.38	3,537.38	
	09/20/17		51.79	0.00		3537.30	3,537.30	
	12/07/17		51.91	0.00		3537.18	3,537.18	
	01/24/18	51.99	52.04	0.05		3537.05	3,537.09	
	02/22/18		52.06	0.00		3537.03	3,537.03	
	03/14/18		52.06	0.00		3537.03	3,537.03	
	06/06/18		51.25	0.00		3537.84	3,537.84	
	09/24/18		52.48	0.00		3536.61	3,536.61	
	12/12/18		52.48	0.00		3536.61	3,536.61	
	03/12/19	52.64	52.66	0.02		3536.43	3,536.44	
MW-1	08/07/12	47.88	51.50	3.62	52.59	3540.55	3,543.19	
3592.05	12/20/12	48.32	51.55	3.23		3540.50	3,542.86	
	06/20/13	48.68	51.50	2.82		3540.55	3,542.61	
	10/30/13	48.96	51.53	2.57		3540.52	3,542.40	
	11/02/13	49.04	51.54	2.50		3540.51	3,542.34	
	11/13/13	49.06	51.58	2.52		3540.47	3,542.31	
	12/11/13	49.15	51.55	2.40		3540.50	3,542.25	
	06/19/14	49.65	51.59	1.94		3540.46	3,541.88	
	12/11/14	50.26	51.26	1.00		3540.79	3,541.52	
	03/18/15	50.39	51.71	1.32		3540.34	3541.30	
	06/11/15		50.66	0.00		3541.39	3541.39	
	08/12/15	50.79	51.32	0.53		3540.73	3541.12	
	09/17/15		51.12	0.00		3540.93	3540.93	
	12/17/15		50.87	0.00		3541.18	3541.18	
	06/07/16		51.22	0.00		3540.83	3540.83	
	09/26/16		50.90	0.00		3541.15	3541.15	
	10/28/16		50.92	0.00		3541.13	3541.13	
	12/13/16	51.38	51.40	0.02		3540.65	3540.66	
	01/23/17	51.49	51.52	0.03		3540.53	3540.55	
	02/20/17		51.55	0.00		3540.50	3540.50	
	03/13/17		51.58	0.00		3540.47	3540.47	
	04/20/17		51.65	0.00		3540.40	3540.40	
	06/06/17		51.72	0.00		3540.33	3540.33	
	09/20/17		51.73	0.00		3540.32	3540.32	
	12/07/17	51.83	52.03	0.20		3540.02	3540.17	
	01/24/18	51.98	52.00	0.02		3540.05	3540.06	
	02/22/18		52.52	0.00		3539.53	3539.53	
	03/14/18		52.60	0.00		3539.45	3539.45	
	06/06/18		52.20	0.00		3539.85	3539.85	
	09/24/18		52.35	0.00		3539.70	3539.70	
	12/12/18		52.37	0.00		3539.68	3539.68	
	03/12/19	52.65	52.68	0.03		3539.37	3539.39	

Appendix A Summary of Fluid Levels
Holly Frontier- Hobbs Tank 5201 - Lea County, New Mexico

Well ID/MP Elevation	Date	DTP (ft-bmp)	DTW (ft-bmp)	Prod. Thick (ft)	TD (ft-bmp)	Groundwater Elevation (ft-msl)	Corrected Groundwater Elevation[1] (ft-msl)	Totalizer (gals)
MW-2	08/07/12		47.44	0.00	52.42	3543.41		
3590.85	12/20/12		47.90	0.00		3542.95		
	06/25/13		48.27	0.00		3542.58		
	12/11/13		48.74	0.00		3542.11		
	06/19/14		49.19	0.00		3541.66		
	12/11/14		49.40	0.00		3541.45		
	03/18/15		49.63	0.00		3541.22		
	06/11/15		49.75	0.00		3541.10		
	12/16/15		49.91	0.00		3540.94		
	06/07/16		50.32	0.00		3540.53		
	12/13/16		50.34	0.00		3540.51		
	06/06/17		50.67	0.00		3540.18		
	09/20/17		50.67	0.00		3540.18		
	12/07/17		50.91	0.00		3539.94		
	03/14/18		51.00	0.00		3539.85		
	06/06/18		51.22	0.00		3539.63		
	09/24/18		51.38	0.00		3539.47		
	12/12/18		51.50	0.00		3539.35		
	03/12/19		51.62	0.00		3539.23		
MW-3	08/07/12		47.43	0.00	53.20	3543.38		
3590.81	12/20/12		47.87	0.00		3542.94		
	06/25/13		48.28	0.00		3542.53		
	12/11/13		48.73	0.00		3542.08		
	06/19/14		49.20	0.00		3541.61		
	12/11/14		49.41	0.00		3541.40		
	03/18/15		49.63	0.00		3541.18		
	06/11/15		49.78	0.00		3541.03		
	12/16/15		49.96	0.00		3540.85		
	06/07/16		50.33	0.00		3540.48		
	12/13/16		50.38	0.00		3540.43		
	06/06/17		50.68	0.00		3540.13		
	09/20/17		50.43	0.00		3540.38		
	12/07/17		50.91	0.00		3539.90		
	03/14/18		51.03	0.00		3539.78		
	06/06/18		51.24	0.00		3539.57		
	09/24/18		51.43	0.00		3539.38		
	12/12/18		51.55	0.00		3539.26		
	03/12/19		51.62	0.00		3539.19		
MW-4	08/07/12		47.44	0.00	62.58	3543.41		
3590.85	12/20/12		47.89	0.00		3542.96		
	06/25/13		48.27	0.00		3542.58		
	12/11/13		48.72	0.00		3542.13		
	06/19/14		49.18	0.00		3541.67		
	12/11/14		49.45	0.00		3541.40		
	03/18/15		49.61	0.00		3541.24		
	06/11/15		49.80	0.00		3541.05		
	12/16/15		49.95	0.00		3540.90		
	06/07/16		50.32	0.00		3540.53		
	12/13/16		50.38	0.00		3540.47		
	06/06/17		50.68	0.00		3540.17		
	09/20/17		50.68	0.00		3540.17		
	12/07/17		50.91	0.00		3539.94		
	03/14/18		51.02	0.00		3539.83		
	06/06/18		51.24	0.00		3539.61		
	09/24/18		51.41	0.00		3539.44		
	12/12/18		51.44	0.00		3539.41		
	03/12/19		51.59	0.00		3539.26		

Appendix A Summary of Fluid Levels
Holly Frontier- Hobbs Tank 5201 - Lea County, New Mexico

Well ID/MP Elevation	Date	DTP (ft-bmp)	DTW (ft-bmp)	Prod. Thick (ft)	TD (ft-bmp)	Groundwater Elevation (ft-msl)	Corrected Groundwater Elevation[1] (ft-msl)	Totalizer (gals)
MW-5	08/07/12		48.83	0.00	58.82	3543.92		
3592.75	12/20/12		49.26	0.00		3543.49		
	06/25/13		49.64	0.00		3543.11		
	12/11/13		50.09	0.00		3542.66		
	06/19/14		50.53	0.00		3542.22		
	12/11/14		50.76	0.00		3541.99		
	03/18/15		50.99	0.00		3541.76		
	06/11/15		51.12	0.00		3541.63		
	12/17/15		51.33	0.00		3541.42		
	06/07/16		51.68	0.00		3541.07		
	12/13/16		51.76	0.00		3540.99		
	06/06/17		52.08	0.00		3540.67		
	09/20/17		52.07	0.00		3540.68		
	12/07/17		52.30	0.00		3540.45		
	03/14/18		52.38	0.00		3540.37		
	06/06/18		52.58	0.00		3540.17		
	09/24/18		52.50	0.00		3540.25		
	12/12/18		52.54	0.00		3540.21		
	03/12/19		52.97	0.00		3539.78		
HTRW-1	06/25/13	45.27	45.28	0.01	60.10	3542.86	3,542.87	
3588.14	12/11/13	45.78	45.79	0.01		3542.35	3,542.36	
	06/19/14		46.19	0.00		3541.95	3,541.95	
	12/11/14	45.46	45.51	0.05		3542.63	3,542.67	
	03/18/15	46.64	46.66	0.02		3541.48	3,541.49	
	06/11/15	46.81	47.61	0.80		3540.53	3,541.11	
	08/12/15		46.91	0.00		3541.23	3,541.23	
	09/17/15		46.98	0.00		3541.16	3,541.16	
	12/17/15	46.93	46.95	0.02		3541.19	3,541.20	
	06/07/16		46.34	0.00		3541.80	3,541.80	
	09/26/16		46.97	0.00		3541.17	3,541.17	
	10/28/16	46.94	46.95	0.01		3541.19	3,541.20	
	12/13/16		47.44	0.00		3540.70	3,540.70	
	01/23/17		47.58	0.00		3540.56	3,540.56	
	02/20/17		47.68	0.00		3540.46	3,540.46	
	03/13/17		47.62	0.00		3540.52	3,540.52	
	04/20/17		47.67	0.00		3540.47	3,540.47	
	06/06/17		47.71	0.00		3540.43	3,540.43	
	09/20/17		47.72	0.00		3540.42	3,540.42	
	12/07/17		NM	NM		NM	NM	
	01/24/18		48.04	0.00		3540.10	3,540.10	
	02/22/18		48.08	0.00		3540.06	3,540.06	
	03/14/18		48.03	0.00		3540.11	3,540.11	
	06/06/18		48.22	0.00		3539.92	3,539.92	
	09/24/18		48.45	0.00		3539.69	3,539.69	
	12/12/18		48.99	0.00		3539.15	3,539.15	
	03/12/19		48.70	0.00		3539.44	3,539.44	
HTRW-2	06/25/13		44.60	0.00	60.14	3542.91		
3587.51	12/11/13		45.05	0.00		3542.46		
	06/19/14		45.52	0.00		3541.99		
	12/11/14		45.79	0.00		3541.72		
	03/18/15		45.95	0.00		3541.56		
	06/11/15		46.05	0.00		3541.46		
	08/12/15		46.22	0.00		3541.29		
	09/17/15		46.30	0.00		3541.21		
	12/17/15		46.25	0.00		3541.26		
	06/07/16		46.66	0.00		3540.85		
	09/26/16		46.20	0.00		3541.31		
	10/28/16		46.18	0.00		3541.33		
	12/13/16		46.74	0.00		3540.77		
	01/23/17		46.90	0.00		3540.61		
	02/20/17		46.88	0.00		3540.63		
	03/13/17		46.93	0.00		3540.58		
	04/20/17		46.96	0.00		3540.55		
	06/06/17		47.03	0.00		3540.48		
	09/20/17		47.08	0.00		3540.43		
	12/07/17		47.25	0.00		3540.26		
	01/24/18		48.68	0.00		3538.83		
	02/22/18		47.38	0.00		3540.13		
	03/14/18		48.42	0.00		3539.09		
	06/06/18		47.56	0.00		3539.95		
	09/24/18		47.77	0.00		3539.74		
	12/12/18		47.79	0.00		3539.72		
	03/12/19		48.01	0.00		3539.50		

Appendix A Summary of Fluid Levels
Holly Frontier- Hobbs Tank 5201 - Lea County, New Mexico

Well ID/MP Elevation	Date	DTP (ft-bmp)	DTW (ft-bmp)	Prod. Thick (ft)	TD (ft-bmp)	Groundwater Elevation (ft-msl)	Corrected Groundwater Elevation[1] (ft-msl)	Totalizer (gals)
HTRW-3	06/25/13	45.87	45.88	0.01	60.14	3542.87	3,542.88	
3588.75	12/11/13	46.32	46.33	0.01		3542.42	3,542.43	
	06/19/14		46.79	0.00		3541.96	3,541.96	
	12/11/14		47.03	0.00		3541.72	3,541.72	
	03/18/15	47.19	47.50	0.31		3541.25	3,541.48	
	06/11/15	47.35	47.61	0.26		3541.14	3,541.33	
	08/12/15		47.60	0.00		3541.15	3,541.15	
	09/17/15	47.47	48.38	0.91		3540.37	3,541.03	
	12/17/15	47.30	49.00	1.70		3539.75	3,540.99	
	06/07/16	47.81	47.84	0.03		3540.91	3,540.93	
	09/26/16	47.48	47.60	0.12		3541.15	3,541.24	
	10/28/16	47.46	47.55	0.09		3541.20	3,541.27	
	12/13/16	47.97	48.48	0.51		3540.27	3,540.64	
	01/23/17	48.10	48.55	0.45		3540.20	3,540.53	
	02/20/17	48.28	48.50	0.22		3540.25	3,540.41	
	03/13/17	48.20	48.35	0.15		3540.40	3,540.51	
	04/20/17	48.22	48.31	0.09		3540.44	3,540.51	
	05/19/17	48.24	48.30	0.06		3540.45	3,540.49	
	06/06/17	48.31	48.35	0.04		3540.40	3,540.43	
	09/20/17	48.31	48.36	0.05		3540.39	3,540.43	
	12/07/17	48.60	49.35	0.75		3539.40	3,539.95	
	01/24/18	48.54	49.04	0.50		3539.71	3,540.08	
	02/22/18	48.68	48.75	0.07		3540.00	3,540.05	
	03/14/18		48.68	0.00		3540.07	3,540.07	
	06/06/18		48.88	0.00		3539.87	3,539.87	
	09/24/18	49.08	49.18	0.10		3539.57	3,539.64	
	12/12/18	48.08	48.13	0.05		3540.62	3,540.66	
	03/12/19	49.29	49.35	0.06		3539.40	3,539.44	
HTRW-4	06/25/13		45.68	0.00	60.16	3542.89		
3588.57	12/11/13		46.13	0.00		3542.44		
	06/19/14		46.59	0.00		3541.98		
	12/11/14		46.85	0.00		3541.72		
	03/18/15		47.03	0.00		3541.54		
	06/11/15		47.11	0.00		3541.46		
	08/12/15		47.31	0.00		3541.26		
	09/17/15		47.35	0.00		3541.22		
	12/17/15		47.32	0.00		3541.25		
	06/07/16		47.70	0.00		3540.87		
	09/26/16		47.58	0.00		3540.99		
	10/28/16		47.55	0.00		3541.02		
	12/13/16		47.79	0.00		3540.78		
	01/23/17		47.95	0.00		3540.62		
	02/20/17		47.97	0.00		3540.60		
	03/13/17		47.98	0.00		3540.59		
	04/20/17		48.03	0.00		3540.54		
	06/06/17		48.09	0.00		3540.48		
	09/20/17		48.19	0.00		3540.38		
	12/07/17		48.30	0.00		3540.27		
	01/24/18		48.40	0.00		3540.17		
	02/22/18		48.43	0.00		3540.14		
	03/14/18		48.58	0.00		3539.99		
	06/06/18		48.64	0.00		3539.93		
	09/24/18		48.78	0.00		3539.79		
	12/12/18		48.48	0.00		3540.09		
	03/12/19		49.05	0.00		3539.52		

Notes:
DTP - depth to product
DTW - depth to water
TD - total depth
ft - feet
ft-bmp - feet-below measuring point
ft-msl - feet-mean sea level
gals - gallons
[1] groundwater elevation corrected for 0.73 specific gavity

Appendix B
Summary of Historical Groundwater Analytical Results and Field Parameters

Appendix B Summary of Historical Groundwater Analytical Results and Field Parameters
Holly Frontier - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID/ MP Elevation	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Product Thickness (feet)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)
NMWQCC Groundwater Standard		10	750	750	620	NE	NE								
MW-2	08/23/04	26	4	5	14	NA	NA		43.45	3,547.40					
3590.85	01/11/05	72	<2	<2	15	NA	NA		43.02	3,547.83					
	03/08/06	<2	<2	<2	<6	NA	NA		43.44	3,547.41					
	07/11/06	7.0	<2	<2	16	NA	NA		43.69	3,547.16					
	09/07/06	4.2	1.9	<0.5	3.2	NA	NA		43.64	3,547.21					
	12/19/06	2.1	1.0	0.9	4.3	NA	NA		43.83	3,547.02					
	03/13/07	<0.5	0.6	1.2	2.3	NA	NA		44.04	3,546.81					
	06/21/07	0.8	0.7	<0.5	3.8	NA	NA		44.11	3,546.74					
	09/21/07	1.4	1.1	<0.5	3.2	NA	NA		43.87	3,546.98					
	12/07/07	1.4	1.0	0.9	3.5	NA	NA		44.17	3,546.68					
	03/04/08	1.4	0.8	1.6	3.3	NA	NA		44.27	3,546.58					
	06/03/08	1.7	0.9	1.5	2.1	NA	NA		44.42	3,546.43					
	09/23/08	1.2	<0.5	0.6	3.8	NA	NA		44.69	3,546.16					
	12/18/08	1.0	0.8	<0.5	1.2	NA	NA		45.82	3,545.03					
	03/19/09	0.9	0.7	<0.5	2.9	NA	NA		44.98	3,545.87					
	06/23/09	1.2	<1.0	<1.0	<2.0	NA	NA		45.12	3,545.73					
	09/08/09	<1.0	<1.0	<1.0	<2.0	NA	NA		45.29	3,545.56					
	12/17/09	<1.0	<1.0	<1.0	<2.0	NA	NA		45.56	3,545.35					
	03/09/10	<1.0	<1.0	<1.0	<1.5	NA	NA		45.70	3,545.15					
	06/16/10	<1.0	<1.0	<1.0	2.5	NA	NA		45.85	3,545.00					
	09/01/10	1.0	<1.0	<1.0	<2.0	NA	NA		45.82	3,545.03					
	12/06/10	1.6	<1.0	<1.0	<2.0	NA	NA		46.05	3,544.80					
	03/18/11	1.3	<1.0	14	2.9	NA	NA		46.18	3,544.67					
	06/23/11	1.1	<1.0	26	3.2	NA	NA		46.40	3,544.45					
	10/07/11	1.2	<1.0	14	<2.0	NA	NA		46.75	3,544.10					
	12/08/11	1.4	<1.0	5.7	3.6	NA	NA		46.91	3,543.94					
	08/07/12	<1.0	< 5.0	< 5.0	< 15	NA	NA		47.44	3,543.41	30.34	1.615	0.05	5.46	-125.8
	12/20/12	<1.0	<2.0	<1.0	<2.0	NA	NA		47.90	3,542.95	17.51	1.094	0.74	6.88	-254.0
	06/25/13	<1.0	<2.0	<1.0	<2.0	NA	NA		48.27	3,542.58	22.10	1.249	0.30	5.76	-60.6
	12/11/13	1.02	<2.0	<1.0	<2.0	NA	NA		48.74	3,542.11	21.11	1.27	1.51	7.14	-117.0
	06/25/14	<1.0	<2.0	<1.0	1.43	NA	NA		49.19	3,541.66	19.94	1.078	1.19	6.69	-66.5
	12/11/14	<1.0	<2.0	<1.0	<1.0	<0.50	0.534		49.40	3,541.45	18.67	1.192	0.58	6.60	-102.3
	06/11/15	<1.0	<2.0	<1.0	<1.0	<0.10	0.337		49.75	3,541.10	35.49	1.265	2.20	6.75	-100.1
	12/16/15	<1.0	<2.0	<1.0	<1.0	0.141	0.678		49.91	3,540.94	18.56	1.274	0.75	6.94	-76.7
	06/09/16	<1.0	<2.0	<1.0	<1.0	<0.06	5.53		50.32	3,540.53	20.52	4.885	2.80	6.63	29.0
	12/14/16	<1.0	<2.0	<1.0	<1.0	0.097	5.53		50.34	3,540.51	18.90	2.171	2.37	7.61	-72.8
	06/06/17	<1.0	<2.0	<1.0	<2.0	0.105	4.98		50.67	3,540.18	22.15	1.549	1.85	6.85	-55.9
	09/19/17	<1.0	<2.0	<1.0	<2.0	0.093	2.74		50.67	3,540.18	22.80	1.627	0.96	6.71	-71.3
	12/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	0.795		50.91	3,539.94	19.01	2.887	1.21	7.01	-44.3
	03/14/18	<1.0	<2.0	<1.0	<2.0	0.101	1.91		51.00	3,539.85	21.11	1.403	0.98	6.87	-13.3
	06/05/18	<1.0	<2.0	<1.0	<2.0	0.140	1.89		51.22	3,539.63	22.85	1.787	1.07	6.93	-56.2
	09/24/18	<1.0	<2.0	<1.0	<2.0	<0.06	2.33		51.38	3,539.47	22.55	2.011	1.57	7.16	-33.6
	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.06	2.56		51.50	3,539.35	19.83	2.334	1.33	7.22	-39.0
	03/12/19	<1.0	<2.0	<1.0	<2.0	0.091	NA		51.62	3,539.23	20.04	1.906	1.04	7.07	-80.8

Appendix B Summary of Historical Groundwater Analytical Results and Field Parameters
Holly Frontier - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID/ MP Elevation	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Product Thickness (feet)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)
NMWQCC Groundwater Standard		10	750	750	620	NE	NE								
MW-3	06/23/04	<2	<2	<2	<6	NA	NA		43.50	3,547.31					
3590.81	01/11/05	<2	<2	<2	<6	NA	NA		42.93	3,547.88					
	03/08/06	<2	<2	<2	<6	NA	NA		43.35	3,547.46					
	07/11/06	<2	<2	<2	<6	NA	NA		43.63	3,547.18					
	09/07/06	<0.5	<0.5	<0.5	<1	NA	NA		43.61	3,547.20					
	12/19/06	<0.5	<0.5	<0.5	<1	NA	NA		43.76	3,547.05					
	03/13/07	<0.5	<0.5	<0.5	<1.0	NA	NA		43.97	3,546.84					
	06/21/07	<0.5	<0.5	<0.5	<1.0	NA	NA		44.03	3,546.78					
	09/21/07	<0.5	<0.5	<0.5	<1.0	NA	NA		43.83	3,546.98					
	12/07/07	<0.5	<0.5	<0.5	<1.0	NA	NA		44.11	3,546.70					
	03/04/08	<0.5	<0.5	<0.5	<1.0	NA	NA		44.32	3,546.49					
	06/03/08	<0.5	<0.5	<0.5	<1.0	NA	NA		44.35	3,546.46					
	09/23/08	<0.5	<0.5	<0.5	<1.0	NA	NA		44.65	3,546.16					
	12/18/08	<0.5	<0.5	<0.5	<1.0	NA	NA		44.77	3,546.04					
	03/16/09	<0.5	<0.5	<0.5	<1.0	NA	NA		44.92	3,545.89					
	06/23/09	<1.0	<1.0	<1.0	<2.0	NA	NA		45.08	3,545.73					
	09/08/09	<1.0	<1.0	<1.0	<2.0	NA	NA		45.24	3,545.57					
	12/17/09	<1.0	<1.0	<1.0	<2.0	NA	NA		45.44	3,545.37					
	03/09/10	<1.0	<1.0	<1.0	<1.5	NA	NA		45.66	3,545.15					
	06/16/10	<1.0	<1.0	<1.0	<2.0	NA	NA		45.80	3,545.01					
	09/01/10	<1.0	<1.0	<1.0	<2.0	NA	NA		45.80	3,545.01					
	12/06/10	<1.0	<1.0	<1.0	<2.0	NA	NA		46.00	3,544.81					
	03/18/11	<1.0	<1.0	<1.0	<2.0	NA	NA		46.14	3,544.67					
	06/23/11	<1.0	<1.0	<1.0	<2.0	NA	NA		46.38	3,544.43					
	10/07/11	<1.0	<1.0	<1.0	<2.0	NA	NA		46.72	3,544.09					
	12/08/11	<1.0	<1.0	<1.0	<2.0	NA	NA		46.87	3,543.94					
	06/07/12	< 5.0	< 5.0	< 5.0	< 15	NA	NA		47.43	3,543.38	30.29	1.875	0.72	5.80	109.3
	12/20/12	<1.0	<2.0	<1.0	<2.0	NA	NA		47.87	3,542.94	17.39	1.108	1.28	6.87	-269.0
duplicate	12/20/12	<1.0	<2.0	<1.0	<2.0	NA	NA		47.87	3,542.94	17.39	1.108	1.28	6.87	-269.0
	06/25/13	<1.0	<2.0	<1.0	<2.0	NA	NA		48.28	3,542.53	20.80	1.453	1.98	6.80	204.9
	12/11/13	<1.0	<2.0	<1.0	<2.0	NA	NA		48.73	3,542.08	19.80	1.540	4.40	6.76	152.0
duplicate	12/11/13	<1.0	<2.0	<1.0	<2.0	NA	NA		48.73	3,542.08	19.80	1.540	4.40	6.76	152.0
	06/24/14	<1.0	<2.0	<1.0	1.61	NA	NA		49.20	3,541.61	22.28	1.242	2.94	6.78	0.2
	12/11/14	<1.0	<2.0	<1.0	<1.0	<0.10	0.135		49.41	3,541.40	17.74	1.196	2.51	6.66	69.0
	06/11/15	<1.0	<2.0	<1.0	<1.0	<0.10	<0.10		49.78	3,541.03	24.41	1.240	1.10	6.63	27.7
	12/16/15	<1.0	<2.0	<1.0	<1.0	<0.10	<0.102		49.96	3,540.85	18.75	1.229	2.22	6.86	126.0
	06/09/16	<1.0	<2.0	<1.0	<1.0	<0.08	<0.08		50.33	3,540.48	25.68	1.227	2.17	7.79	36.8
	12/14/16	<1.0	<2.0	<1.0	<1.0	<0.08	0.262		50.38	3,540.43	19.92	1.767	2.18	7.61	48.7
	06/06/17	<1.0	<2.0	<1.0	<2.0	<0.08	0.358		50.68	3,540.13	23.66	1.109	3.80	6.93	64.5
	09/19/17	<1.0	<2.0	<1.0	<2.0	<0.08	0.122		50.43	3,540.38	19.70	1.213	1.87	6.66	137.8
	12/06/17	<1.0	<2.0	<1.0	<2.0	0.073	0.668		50.91	3,539.90	17.60	1.102	1.62	6.79	76.5
	03/14/18	<1.0	<2.0	<1.0	<2.0	<0.05	0.184		51.03	3,539.78	20.30	1,206	1.97	7.01	89.3
	06/05/18	<1.0	<2.0	<1.0	<2.0	0.100	0.221		51.24	3,539.57	24.89	1.369	2.69	6.92	111.2
	09/24/18	<1.0	<2.0	<1.0	<2.0	<0.05	0.220		51.43	3,539.38	22.96	1.308	2.07	7.18	102.3
	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.05	0.224		51.55	3,539.26	20.13	1.198	1.85	6.88	91.2
	03/12/19	<1.0	<2.0	<1.0	<2.0	<0.05	0.164		51.52	3,539.19	20.65	1.306	1.98	7.12	110.0

Appendix B Summary of Historical Groundwater Analytical Results and Field Parameters
Holly Frontier - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID/ MP Elevation	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Product Thickness (feet)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)
NMWQCC Groundwater Standard		10	750	750	620	NE	NE								
MW-4	06/18/10	<1.0	<1.0	<1.0	<2.0	NA	NA		45.82	3,545.03					
3590.85	09/01/10	3.3	<1.0	<1.0	<2.0	NA	NA		45.81	3,545.04					
	12/06/10	<1.0	<1.0	<1.0	<2.0	NA	NA		46.01	3,544.84					
	03/16/11	<1.0	<1.0	<1.0	<2.0	NA	NA		46.16	3,544.69					
	06/23/11	<1.0	<1.0	<1.0	<2.0	NA	NA		46.40	3,544.45					
	10/07/11	<1.0	<1.0	<1.0	<2.0	NA	NA		46.74	3,544.11					
	12/08/11	<1.0	<1.0	<1.0	<2.0	NA	NA		46.88	3,543.97					
	06/07/12	< 5.0	< 5.0	< 5.0	< 15	NA	NA		47.44	3,543.41	28.73	1.457	0.12	6.45	1.3
	12/20/12	<1.0	<2.0	<1.0	<2.0	NA	NA		47.89	3,542.96	18.18	1.149	0.61	6.83	-238.0
	06/25/13	<1.0	<2.0	<1.0	<2.0	NA	NA		48.27	3,542.58	21.30	1.306	0.14	6.70	129.8
	12/11/13	<1.0	<2.0	<1.0	<2.0	NA	NA		48.72	3,542.13	20.75	1.32	1.26	7.20	-2.0
	06/24/14	1.07	<2.0	<1.0	<1.0	NA	NA		49.18	3,541.67	22.22	1.168	1.07	6.75	-13.3
	12/11/14	<1.0	<2.0	<1.0	<1.0	<0.10	1.72		49.45	3,541.40	18.59	8.387	0.15	6.35	64.5
	06/11/15	<1.0	<2.0	<1.0	<1.0	<0.10	2.81		49.80	3,541.05	28.13	8.394	3.14	6.61	44.8
duplicate	06/11/15	<1.0	<2.0	<1.0	<1.0	<0.10	2.51		49.80	3,541.05	28.13	8.394	3.14	6.61	44.8
	12/16/15	<1.0	<2.0	<1.0	<1.0	<0.10	2.68		49.95	3,540.90	18.80	8.176	0.60	6.91	85.2
	06/09/16	<1.0	<2.0	<1.0	<1.0	<0.06	3.22		50.32	3,540.53	27.40	2.949	2.59	6.99	1.6
	12/14/16	<1.0	<2.0	<1.0	<1.0	<0.06	2.37		50.28	3,540.47	19.14	4.317	2.29	7.74	53.1
duplicate	12/14/16	<1.0	<2.0	<1.0	<1.0	<0.06	2.02		50.38	3,540.47	19.14	4.317	2.29	7.74	53.1
	06/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	1.50		50.68	3,540.17	22.60	1.66	0.42	6.98	71.8
	09/19/17	<1.0	<2.0	<1.0	<2.0	<0.06	1.73		50.68	3,540.17	21.70	2.014	1.94	6.91	23.5
	12/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	1.79		50.91	3,539.94	18.10	1.751	0.89	7.16	11.3
	03/14/18	3.31	<2.0	<1.0	<2.0	<0.06	0.357		51.02	3,539.83	20.60	2.342	1.23	6.77	55.4
	06/05/18	<1.0	<2.0	<1.0	<2.0	0.062	0.329		51.24	3,539.61	24.50	2.867	2.85	6.82	68.8
	09/24/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.200		51.41	3,539.44	23.65	2.436	1.86	7.04	75.8
	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.098		51.44	3,539.41	19.26	1.982	1.21	6.94	29.2
	03/12/19	<1.0	<2.0	<1.0	<2.0	0.081	0.101		51.59	3,539.26	20.88	2.467	1.77	7.06	56.0
MW-5	03/16/11	<1.0	<1.0	<1.0	<2.0	NA	NA		47.81	3,545.14					
3592.75	06/23/11	<1.0	<1.0	<1.0	<2.0	NA	NA		47.83	3,544.92					
	10/07/11	<1.0	<1.0	<1.0	<2.0	NA	NA		48.17	3,544.58					
	12/08/11	<1.0	<1.0	<1.0	<2.0	NA	NA		48.31	3,544.44					
	06/07/12	< 5.0	< 5.0	< 5.0	< 15	NA	NA		48.83	3,543.92	27.30	0.775	4.84	6.01	115.9
	12/20/12	<1.0	<2.0	<1.0	<2.0	NA	NA		49.26	3,543.49	17.49	0.633	4.70	7.04	-187.0
	06/25/13	<1.0	<2.0	<1.0	<2.0	NA	NA		49.64	3,543.11	22.20	0.848	4.60	6.63	161.1
	12/11/13	<1.0	<2.0	<1.0	<2.0	NA	NA		50.09	3,542.66	19.35	0.801	4.79	7.37	86.0
	06/25/14	<1.0	<2.0	<1.0	1.13	NA	NA		50.53	3,542.22	20.39	0.782	3.54	6.91	39.2
	12/11/14	<1.0	<2.0	<1.0	<1.0	<0.10	<0.102		50.76	3,541.99	18.61	0.888	6.35	6.11	103.6
	06/11/15	<1.0	<2.0	<1.0	<1.0	<0.10	<0.10		51.12	3,541.63	29.58	0.882	6.83	6.72	40.4
	12/16/15	<1.0	<2.0	<1.0	<1.0	<0.10	0.115		51.33	3,541.42	17.09	0.910	5.79	7.16	129.1
	06/09/16	<1.0	<2.0	<1.0	<1.0	<0.06	<0.06		51.68	3,541.07	26.69	1.099	6.03	6.55	59.9
	12/14/16	<1.0	<2.0	<1.0	<1.0	<0.06	0.194		51.76	3,540.99	19.03	1.361	5.93	7.72	79.5
	06/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	0.162		52.08	3,540.67	19.10	0.905	5.75	6.78	127.2
	09/19/17	<1.0	<2.0	<1.0	<2.0	<0.06	0.132		52.07	3,540.68	20.70	1.001	4.04	6.81	59.8
	12/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	0.425		52.30	3,540.45	17.90	0.768	3.92	7.08	33.2
duplicate	12/06/17	<1.0	<2.0	<1.0	<2.0	<0.06	0.467		52.30	3,540.45	17.90	0.768	3.92	7.08	33.2
	03/14/18	<1.0	<2.0	<1.0	<2.0	<0.06	<0.0756		52.38	3,540.37	20.10	0.901	4.11	6.76	65.4
	06/05/18	<1.0	<2.0	<1.0	<2.0	0.081	0.155		52.58	3,540.17	25.60	1.162	4.76	6.96	123.0
duplicate	06/05/18	<1.0	<2.0	<1.0	<2.0	0.087	0.137		52.58	3,540.17	25.60	1.162	4.76	6.96	123.0
	09/24/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.111		52.50	3,540.25	24.66	0.913	3.88	7.24	102.2
duplicate	09/24/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.136		52.50	3,540.25	24.66	0.913	3.88	7.24	102.2
	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.157		52.54	3,540.21	18.87	1.012	4.23	7.11	55.6
duplicate	12/12/18	<1.0	<2.0	<1.0	<2.0	<0.06	0.148		52.54	3,540.21	18.87	1.012	4.23	7.11	55.6
	03/12/19	<1.0	<2.0	<1.0	<2.0	<0.06	0.178		52.97	3,539.78	20.18	1.123	3.85	7.02	68.0
duplicate	03/12/19	<1.0	<2.0	<1.0	<2.0	<0.06	0.157		52.97	3,539.78	20.18	1.123	3.65	7.02	68.0

Appendix B Summary of Historical Groundwater Analytical Results and Field Parameters
Holly Frontier - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID/ MP Elevation	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Product Thickness (feet)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)
NMWQCC Groundwater Standard		10	750	750	620	NE	NE								
HTRW-1	06/25/13	NSP	NSP	NSP	NSP	NA	NA	0.00	45.28	3,542.87					
3588.14	12/11/13	NSP	NSP	NSP	NSP	NA	NA	0.01	45.79	3,542.36					
	6/24/14	910	48.7	89.1	70.0	NA	NA	0.01	46.19	3,541.95	21.90	1.533	1.37	6.77	-108.5
duplicate	6/24/14	922	49.0	88.6	69.2	NA	NA	0.00	46.19	3,541.95	21.90	1.533	1.37	6.77	-108.5
	12/11/14	NSP	NSP	NSP	NSP	NSP	NSP	0.05	45.51	3,542.67	NSP	NSP	NSP	NSP	NSP
	06/11/15	NSP	NSP	NSP	NSP	NSP	NSP	0.80	47.61	3,541.11	NSP	NSP	NSP	NSP	NSP
	12/16/15	NSP	NSP	NSP	NSP	NSP	NSP	0.02	48.05	3,541.20	NSP	NSP	NSP	NSP	NSP
	06/09/16	NSP	NSP	NSP	NSP	NSP	NSP	0.00	48.34	3,541.80	NM	NM	NM	NM	NM
	12/14/16	1.97	<0.6	<0.3	0.943	<0.06	0.432	0.00	47.44	3,540.70	19.34	1.72	2.34	7.58	60.6
	06/06/17	774	21.9	1.90	57.6	1.85	0.549	0.00	47.71	3,540.43	21.12	1.014	1.71	6.91	71.7
duplicate	06/06/17	684	13.8	1.37	47.2	1.43	1.49	0.00	47.71	3,540.43	21.12	1.014	1.71	6.91	71.7
	09/19/17	1620	76.1	17.1	62.6	2.88	1.23	0.00	47.72	3,540.42	21.7	0.993	1.7	6.93	-45.4
	12/06/17	NS	NS	NS	NS	NS	NS	0.00	NM	NM	18.9	1.001	2.01	6.92	33.2
	03/14/18	102	<2.0	<1.0	8.16	0.360	<0.0754	0.00	48.03	3,540.10	20.6	0.992	1.92	7.23	-11.5
	06/05/18	163	40.9	2.03	34.2	1.40	2.17	0.00	48.22	3,540.06	22.1	0.989	1.87	6.89	22.3
	09/24/18	11.4	2.78	<3.0	0.564	0.109	0.406	0.00	48.45	3,540.11	21.6	1.106	1.98	6.92	11.6
	12/12/18	377	20.5	1.07	20.7	1.15	0.240	0.00	48.99	3,539.15	19.03	0.979	2.12	7.01	22.9
	03/12/19	38.8	2.6	<3.0	3.48	0.14	0.154	0.00	48.70	3,539.44	20.8	0.979	2.04	7.18	10.6
HTRW-2	6/25/13	62.3	21.4	4.4	13.0	NA	NA	0.00	44.60	3,542.91	21.70	1.233	2.60	6.81	180.2
3587.51	12/11/13	530	35.9	12.4	33.4	NA	NA	0.00	45.05	3,542.46	20.08	1.43	1.07	7.34	-2.00
	6/24/14	748	47.6	59.2	84.0	NA	NA	0.00	45.52	3,541.99	19.88	1.536	0.66	6.86	-128.9
	12/11/14	722	135	36.4	129	2.0	0.253	0.00	45.79	3,541.72	17.13	1.444	0.41	6.67	-89.1
	06/11/15	875	28.7	35.3	29.3	1.24	0.354	0.00	46.05	3,541.46	21.95	1.937	2.82	6.06	-43.3
	12/16/15	503	<20.0	18.9	<10.0	1.01	0.144	0.00	46.25	3,541.26	17.01	1.523	0.69	7.07	-59.4
	06/09/16	863	6.35	60.6	6.87	2.03	1.06	0.00	46.66	3,540.85	NM	NM	NM	NM	NM
	12/14/16	322	7.32	33.3	5.65	0.128	0.461	0.00	46.74	3,540.77	18.65	1.732	1.39	7.73	10.1
	06/06/17	342	4.05	2.81	17.9	0.901	0.332	0.00	47.03	3,540.48	18.81	1.035	4.62	6.75	107.4
	09/19/17	NS	NS	NS	NS	NS	NS	0.00	47.08	3,540.43	NS	NS	NS	NS	NS
	12/06/17	NS	NS	NS	NS	NS	NS	0.00	47.25	3,540.26	NS	NS	NS	NS	NS
	03/14/18	NS	NS	NS	NS	NS	NS	0.00	48.42	3,539.09	NS	NS	NS	NS	NS
	06/05/18	NS	NS	NS	NS	NS	NS	0.00	47.66	3,539.85	NS	NS	NS	NS	NS
	09/24/18	NS	NS	NS	NS	NS	NS	0.00	47.77	3,539.74	NS	NS	NS	NS	NS
	12/12/18	NS	NS	NS	NS	NS	NS	0.00	47.79	3,539.72	NS	NS	NS	NS	NS
	03/12/19	NS	NS	NS	NS	NS	NS	0.00	48.01	3,539.50	NS	NS	NS	NS	NS
HTRW-3	6/25/13	NSP	NSP	NSP	NSP	NA	NA	0.01	45.88	3,542.88					
3588.75	12/11/13	NSP	NSP	NSP	NSP	NA	NA	0.01	46.33	3,542.43					
	6/24/14	3090	1220	450	520	NA	NA	0.00	46.79	3,541.96	21.17	1.56	0.75	6.70	-160.1
	12/11/14	3760	1750	466	632	12.2	1.31	0.00	47.03	3,541.72	17.26	1.684	0.33	6.59	-209.1
	06/11/15	NSP	NSP	NSP	NSP	NSP	NSP	0.26	47.61	3,541.33	NSP	NSP	NSP	NSP	NSP
	12/16/15	NSP	NSP	NSP	NSP	NSP	NSP	1.70	49.00	3,540.99	NSP	NSP	NSP	NSP	NSP
	06/09/16	NSP	NSP	NSP	NSP	NSP	NSP	0.03	47.84	3,540.83	NSP	NSP	NSP	NSP	NSP
	12/14/16	NSP	NSP	NSP	NSP	NSP	NSP	0.51	48.48	3,540.64	NSP	NSP	NSP	NSP	NSP
	06/06/17	NSP	NSP	NSP	NSP	NSP	NSP	0.04	48.35	3,540.43	NSP	NSP	NSP	NSP	NSP
	09/19/17	NSP	NSP	NSP	NSP	NSP	NSP	0.05	48.36	3,540.43	NSP	NSP	NSP	NSP	NSP
	12/06/17	NSP	NSP	NSP	NSP	NSP	NSP	0.75	49.35	3,539.95	NSP	NSP	NSP	NSP	NSP
	03/14/18	NSP	NSP	NSP	NSP	NSP	NSP	0.00	48.68	3,540.07	NSP	NSP	NSP	NSP	NSP
	06/05/18	NSP	NSP	NSP	NSP	NSP	NSP	0.00	48.88	3,539.87	NSP	NSP	NSP	NSP	NSP
	09/24/18	NSP	NSP	NSP	NSP	NSP	NSP	0.10	49.18	3,539.64	NSP	NSP	NSP	NSP	NSP
	12/12/18	NSP	NSP	NSP	NSP	NSP	NSP	0.05	48.13	3,540.66	NSP	NSP	NSP	NSP	NSP
	03/12/19	NSP	NSP	NSP	NSP	NSP	NSP	0.06	49.35	3,539.44	NSP	NSP	NSP	NSP	NSP

Appendix B Summary of Historical Groundwater Analytical Results and Field Parameters
Holly Frontier - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID/ MP Elevation	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Product Thickness (feet)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)
NMWQCC Groundwater Standard		10	750	750	620	NE	NE								
HTRW-4	6/25/13	87.4	49.4	32.5	52.8	NA	NA	0.00	45.68	3,542.89	22.30	0.96	2.04	6.87	190.9
3588.57	12/11/13	951	157	58.1	219	NA	NA	0.00	46.13	3,542.44	20.41	1.44	0.95	7.5	-144
	6/24/14	1720	606	253	436	NA	NA	0.00	46.59	3,541.98	21.9	1.751	1.16	7.01	-98.1
	12/11/14	1590	286	126	277	4.03	0.643	0.00	46.85	3,541.72	16.54	1.581	0.15	6.81	-180.5
	06/11/15	1490	29.2	111	29.9	2.16	0.365	0.00	47.11	3,541.46	23.87	1.486	0.68	6.92	-183.2
	12/16/15	NS	NS	NS	NS	NS	NS	0.00	47.32	3,541.25	NS	NS	NS	NS	NS
	06/09/16	834	11.7	35.9	17.8	1.60	1.10	0.00	47.70	3,540.87	22.27	1.559	1.93	6.78	-117
	12/14/16	3800	29.6	16.2	46.1	1.31	0.951	0.00	47.79	3,540.78	19.01	1.937	1.48	7.96	-74.01
	06/06/17	564	6.20	3.62	57.8	1.97	0.736	0.00	48.09	3,540.48	18.93	1.092	1.77	6.97	-50.9
	09/19/17	NS	NS	NS	NS	NS	NS	0.00	48.19	3,540.38	NS	NS	NS	NS	NS
	12/06/17	NS	NS	NS	NS	NS	NS	0.00	48.30	3,540.27	NS	NS	NS	NS	NS
	03/14/18	NS	NS	NS	NS	NS	NS	0.00	48.58	3,539.99	NS	NS	NS	NS	NS
	06/05/18	NS	NS	NS	NS	NS	NS	0.00	48.64	3,539.93	NS	NS	NS	NS	NS
	09/24/18	NS	NS	NS	NS	NS	NS	0.00	48.78	3,539.79	NS	NS	NS	NS	NS
	12/12/18	NS	NS	NS	NS	NS	NS	0.00	48.48	3,540.09	NS	NS	NS	NS	NS
	03/12/19	NS	NS	NS	NS	NS	NS	0.00	49.05	3,539.52	NS	NS	NS	NS	NS

Notes:
BOLD = Exceeds New Mexico Water Quality Commission (NMWQC) Standard
µg/L = microgram per liter
mg/L= micrograms per liter
< = Not detected above laboratory reporting limit
ft-bmp - feet-below measuring point
ft-msl - feet-mean sea level
deg-C - degrees-Celcius
mS/cm - milliSiemens per centimeter
mV - millivolts
NSP - Not Sampled Product
MP - Measuring Point
NS - Not Sampled
NA- Not analyzed
NE - Not Established
BTEX = Benzene, Toluene, Ethylbenzene and Xylenes
TPH-GRO = Total Petroleum Hydrocarbons-Gasoline Range Organics
TPH-DRO = Total Petroleum Hydrocarbons-Diesel Range Organics
BTEX analyzed by Method 8260C
TPH-GRO analyzed by Method 8015V
TPH-DRO analyzed by Method 8015D

Appendix C
Groundwater Laboratory Reports (on disk)

June 14, 2017

Justin Covey
GHD
2135 South Loop 250 West
Midland, Texas 79703
TEL: (432) 686-0086
FAX (432) 686-0186

Order No.: 1706060

RE: Hobbs Tank

Dear Justin Covey:

DHL Analytical, Inc. received 9 sample(s) on 6/7/2017 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative and all estimated uncertainties of results are within method specifications.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-17-19

Table of Contents

Miscellaneous Documents 3
CaseNarrative 1706060 6
Analytical Report 1706060 7
AnalyticalQCSummaryReport 1706060 16

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 75562
CHAIN-OF-CUSTODY

CLIENT: GHD
ADDRESS: 14998 W 6th Ave #500
PHONE: 720-974-0942 FAX/E-MAIL: Brad.Stephenson@GHD.com
DATA REPORTED TO: Brad Stephenson
ADDITIONAL REPORT COPIES TO: Justin.Covey@ghd.com

DATE: 06/06/2017 PAGE 1 OF 1
PO #: DHL WORK ORDER #: 1706060
PROJECT LOCATION OR NAME: Hobbs Tank
CLENT PROJECT #: 07886 3 COLLECTOR: David Bonga

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT
P=PAINT SL=SLUDGE O=OTHER SO=SOLID

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION HCl	HNO3	H2SO4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
MW-4	01	06/06/17	1055	W		9	8	1		X		5 3 1	
MW-2	02		1120										
MW-3	03		1247										
MW-5	04		1303										
HTRW-2	05		1337										
HTRW-4	06		1357										
HTRW-1	07		1410										
DUP-1	08		—										
TRIP BLANK	09	✓	—			2						8260	
TEMP BLANK		—	—	✓		1							

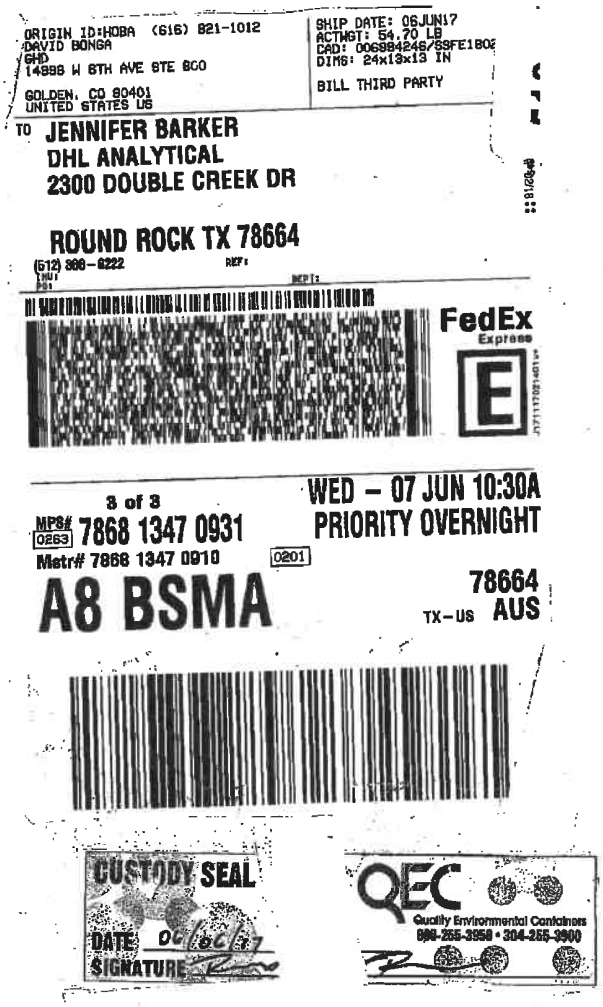
RELINQUISHED BY: (Signature) DATE/TIME 06/06/17 1600 RECEIVED BY: (Signature) Fed Ex
RELINQUISHED BY: (Signature) DATE/TIME 6/6/17 905 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 2.6 2.8 THERM #: 20
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED


ORIGIN ID:HOBA (616) 821-1012
DAVID BONGA
GHD
14898 W 6TH AVE STE 800
GOLDEN, CO 80401
UNITED STATES US
SHIP DATE: 06JUN17
ACTWGT: 48.80 LB
CAD: 006884245/SSFE1802
DIMS: 24x13x13 IN
BILL THIRD PARTY
TO JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR
ROUND ROCK TX 78664
(512) 388-8222
REF:
FedEx Express
2 of 3
MPS# 0263 7868 1347 0920
Mstr# 7868 1347 0910
0201
WED - 07 JUN 10:30A
PRIORITY OVERNIGHT
A8 BSMA
78664
TX-US AUS
CUSTODY SEAL
DATE 06/06/17
SIGNATURE
QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900


ORIGIN ID:HOBA (616) 821-1012
DAVID BONGA
GHD
14898 W 6TH AVE STE 800
GOLDEN, CO 80401
UNITED STATES US
SHIP DATE: 06JUN17
ACTWGT: 54.70 LB
CAD: 006884245/SSFE1802
DIMS: 24x13x13 IN
BILL THIRD PARTY
TO JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK DR
ROUND ROCK TX 78664
(512) 388-8222
REF:
FedEx Express
3 of 3
MPS# 0263 7868 1347 0931
Mstr# 7868 1347 0910
0201
WED - 07 JUN 10:30A
PRIORITY OVERNIGHT
A8 BSMA
78664
TX-US AUS
CUSTODY SEAL
DATE 06/06/17
SIGNATURE
QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name GHD Date Received: 6/7/2017

Work Order Number 1706060 Received by JB

Checklist completed by: Signature 6/7/2017 Date Reviewed by Initials 6/7/2017 Date

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	2.8 °C, 2.4
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☐ LOT # 8086
	Adjusted? NO		Checked by
Water - ph>9 (S) or ph>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Page 1 of 1

DHL Analytical, Inc. **Date:** *14-Jun-17*

CLIENT: GHD
Project: Hobbs Tank
Lab Order: 1706060

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition, M8015D and M8015V.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives except where noted in the following. For Volatiles analysis by method SW8260C the matrix spike recovery was slightly above control limits for all compounds. These are flagged accordingly in the enclosed QC summary report. The "S" flag denotes spike recovery was outside control limits. The LCS was within control limits for these compounds. No further corrective actions were taken.

For DRO analysis by method M8015D the surrogate recoveries for four samples were above control limits for Octacosane. These are flagged acccordingly. The remaining surrogate was within control limits. No further corrective actions were taken.

DHL Analytical, Inc.

Date: *14-Jun-17*

CLIENT:	GHD	**Client Sample ID:**	MW-4
Project:	Hobbs Tank	**Lab ID:**	1706060-01
Project No:	078863	**Collection Date:**	06/06/17 10:55 AM
Lab Order:	1706060	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	1.50	0.0784	0.0980		mg/L	1	06/12/17 11:35 AM
Surr: Isopropylbenzene	65.4	0	47-142		%REC	1	06/12/17 11:35 AM
Surr: Octacosane	118	0	51-124		%REC	1	06/12/17 11:35 AM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AV**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	06/08/17 03:32 PM
Surr: Tetrachlorethene	100	0	74-138		%REC	1	06/08/17 03:32 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **CVD**
Arsenic	0.0101	0.00200	0.00500		mg/L	1	06/08/17 05:08 PM
Barium	0.0803	0.00300	0.0100		mg/L	1	06/08/17 05:08 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 05:08 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 05:08 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 05:08 PM
Selenium	0.00213	0.00200	0.00500	J	mg/L	1	06/08/17 05:08 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	06/08/17 05:08 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/08/17 02:51 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **BTJ**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 09:08 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 09:08 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	06/07/17 09:08 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 09:08 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	06/07/17 09:08 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	1	06/07/17 09:08 PM
Surr: 4-Bromofluorobenzene	101	0	76-119		%REC	1	06/07/17 09:08 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	06/07/17 09:08 PM
Surr: Toluene-d8	96.2	0	81-120		%REC	1	06/07/17 09:08 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Jun-17*

CLIENT:	GHD	**Client Sample ID:**	MW-2
Project:	Hobbs Tank	**Lab ID:**	1706060-02
Project No:	078863	**Collection Date:**	06/06/17 11:20 AM
Lab Order:	1706060	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	4.98	0.811	1.01		mg/L	10	06/12/17 01:32 PM
Surr: Isopropylbenzene	55.8	0	47-142		%REC	10	06/12/17 01:32 PM
Surr: Octacosane	134	0	51-124	S	%REC	10	06/12/17 01:32 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AV**
Gasoline Range Organics	0.105	0.0600	0.100		mg/L	1	06/08/17 08:22 PM
Surr: Tetrachlorethene	115	0	74-138		%REC	1	06/08/17 08:22 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **CVD**
Arsenic	0.0274	0.00200	0.00500		mg/L	1	06/08/17 05:10 PM
Barium	0.627	0.00300	0.0100		mg/L	1	06/08/17 05:10 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 05:10 PM
Chromium	0.0269	0.00200	0.00500		mg/L	1	06/08/17 05:10 PM
Lead	0.00753	0.000300	0.00100		mg/L	1	06/08/17 05:10 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 05:10 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	06/08/17 05:10 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/08/17 02:53 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **BTJ**
Benzene	0.000327	0.000300	0.00100	J	mg/L	1	06/07/17 09:32 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 09:32 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	06/07/17 09:32 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 09:32 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	06/07/17 09:32 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	1	06/07/17 09:32 PM
Surr: 4-Bromofluorobenzene	98.9	0	76-119		%REC	1	06/07/17 09:32 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	06/07/17 09:32 PM
Surr: Toluene-d8	97.0	0	81-120		%REC	1	06/07/17 09:32 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Jun-17*

CLIENT:	GHD	**Client Sample ID:**	MW-3
Project:	Hobbs Tank	**Lab ID:**	1706060-03
Project No:	078863	**Collection Date:**	06/06/17 12:42 PM
Lab Order:	1706060	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.358	0.0781	0.0977		mg/L	1	06/12/17 11:44 AM
Surr: Isopropylbenzene	48.7	0	47-142		%REC	1	06/12/17 11:44 AM
Surr: Octacosane	136	0	51-124	S	%REC	1	06/12/17 11:44 AM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AV**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	06/08/17 03:56 PM
Surr: Tetrachlorethene	111	0	74-138		%REC	1	06/08/17 03:56 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **CVD**
Arsenic	0.00503	0.00200	0.00500		mg/L	1	06/08/17 05:12 PM
Barium	0.155	0.00300	0.0100		mg/L	1	06/08/17 05:12 PM
Cadmium	0.000325	0.000300	0.00100	J	mg/L	1	06/08/17 05:12 PM
Chromium	0.0292	0.00200	0.00500		mg/L	1	06/08/17 05:12 PM
Lead	0.00286	0.000300	0.00100		mg/L	1	06/08/17 05:12 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 05:12 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	06/08/17 05:12 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/08/17 02:55 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **BTJ**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 09:56 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 09:56 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	06/07/17 09:56 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 09:56 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	06/07/17 09:56 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	1	06/07/17 09:56 PM
Surr: 4-Bromofluorobenzene	101	0	76-119		%REC	1	06/07/17 09:56 PM
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	06/07/17 09:56 PM
Surr: Toluene-d8	96.7	0	81-120		%REC	1	06/07/17 09:56 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Jun-17*

CLIENT:	GHD	**Client Sample ID:**	MW-5
Project:	Hobbs Tank	**Lab ID:**	1706060-04
Project No:	078863	**Collection Date:**	06/06/17 01:03 PM
Lab Order:	1706060	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.162	0.0816	0.102		mg/L	1	06/12/17 11:53 AM
Surr: Isopropylbenzene	56.6	0	47-142		%REC	1	06/12/17 11:53 AM
Surr: Octacosane	114	0	51-124		%REC	1	06/12/17 11:53 AM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AV**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	06/08/17 04:20 PM
Surr: Tetrachlorethene	102	0	74-138		%REC	1	06/08/17 04:20 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **CVD**
Arsenic	0.00507	0.00200	0.00500		mg/L	1	06/08/17 05:13 PM
Barium	0.122	0.00300	0.0100		mg/L	1	06/08/17 05:13 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 05:13 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 05:13 PM
Lead	0.000392	0.000300	0.00100	J	mg/L	1	06/08/17 05:13 PM
Selenium	0.00254	0.00200	0.00500	J	mg/L	1	06/08/17 05:13 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	06/08/17 05:13 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/08/17 03:07 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **BTJ**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 10:20 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 10:20 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	06/07/17 10:20 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 10:20 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	06/07/17 10:20 PM
Surr: 1,2-Dichloroethane-d4	103	0	72-119		%REC	1	06/07/17 10:20 PM
Surr: 4-Bromofluorobenzene	101	0	76-119		%REC	1	06/07/17 10:20 PM
Surr: Dibromofluoromethane	103	0	85-115		%REC	1	06/07/17 10:20 PM
Surr: Toluene-d8	96.8	0	81-120		%REC	1	06/07/17 10:20 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Jun-17*

CLIENT:	GHD	**Client Sample ID:**	HTRW-2
Project:	Hobbs Tank	**Lab ID:**	1706060-05
Project No:	078863	**Collection Date:**	06/06/17 01:37 PM
Lab Order:	1706060	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.332	0.0815	0.102		mg/L	1	06/12/17 12:02 PM
Surr: Isopropylbenzene	54.2	0	47-142		%REC	1	06/12/17 12:02 PM
Surr: Octacosane	116	0	51-124		%REC	1	06/12/17 12:02 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AV**
Gasoline Range Organics	0.901	0.0600	0.100		mg/L	1	06/08/17 08:47 PM
Surr: Tetrachlorethene	101	0	74-138		%REC	1	06/08/17 08:47 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **CVD**
Arsenic	0.00656	0.00200	0.00500		mg/L	1	06/08/17 04:15 PM
Barium	0.326	0.00300	0.0100		mg/L	1	06/08/17 04:15 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 04:15 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 04:15 PM
Lead	0.000345	0.000300	0.00100	J	mg/L	1	06/08/17 04:15 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 04:15 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	06/08/17 04:15 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/08/17 03:09 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	0.342	0.00150	0.00500		mg/L	5	06/08/17 03:22 PM
Ethylbenzene	0.00281	0.000300	0.00100		mg/L	1	06/07/17 10:45 PM
m,p-Xylene	0.00850	0.000600	0.00200		mg/L	1	06/07/17 10:45 PM
o-Xylene	0.00935	0.000300	0.00100		mg/L	1	06/07/17 10:45 PM
Toluene	0.00405	0.000600	0.00200		mg/L	1	06/07/17 10:45 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	1	06/07/17 10:45 PM
Surr: 1,2-Dichloroethane-d4	95.5	0	72-119		%REC	5	06/08/17 03:22 PM
Surr: 4-Bromofluorobenzene	101	0	76-119		%REC	1	06/07/17 10:45 PM
Surr: 4-Bromofluorobenzene	116	0	76-119		%REC	5	06/08/17 03:22 PM
Surr: Dibromofluoromethane	103	0	85-115		%REC	1	06/07/17 10:45 PM
Surr: Dibromofluoromethane	96.1	0	85-115		%REC	5	06/08/17 03:22 PM
Surr: Toluene-d8	96.2	0	81-120		%REC	1	06/07/17 10:45 PM
Surr: Toluene-d8	109	0	81-120		%REC	5	06/08/17 03:22 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Jun-17*

CLIENT:	GHD	**Client Sample ID:**	HTRW-4
Project:	Hobbs Tank	**Lab ID:**	1706060-06
Project No:	078863	**Collection Date:**	06/06/17 01:57 PM
Lab Order:	1706060	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.736	0.0788	0.0985		mg/L	1	06/12/17 12:11 PM
Surr: Isopropylbenzene	47.5	0	47-142		%REC	1	06/12/17 12:11 PM
Surr: Octacosane	109	0	51-124		%REC	1	06/12/17 12:11 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AV**
Gasoline Range Organics	1.97	0.0600	0.100		mg/L	1	06/08/17 10:24 PM
Surr: Tetrachlorethene	94.9	0	74-138		%REC	1	06/08/17 10:24 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **CVD**
Arsenic	0.0136	0.00200	0.00500		mg/L	1	06/08/17 04:56 PM
Barium	0.330	0.00300	0.0100		mg/L	1	06/08/17 04:56 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 04:56 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 04:56 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 04:56 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 04:56 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	06/08/17 04:56 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/08/17 03:11 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **BTJ**
Benzene	0.564	0.00300	0.0100		mg/L	10	06/07/17 06:46 PM
Ethylbenzene	0.00362	0.000300	0.00100		mg/L	1	06/08/17 04:39 PM
m,p-Xylene	0.0360	0.000600	0.00200		mg/L	1	06/08/17 04:39 PM
o-Xylene	0.0218	0.000300	0.00100		mg/L	1	06/08/17 04:39 PM
Toluene	0.00620	0.000600	0.00200		mg/L	1	06/08/17 04:39 PM
Surr: 1,2-Dichloroethane-d4	98.9	0	72-119		%REC	1	06/08/17 04:39 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	10	06/07/17 06:46 PM
Surr: 4-Bromofluorobenzene	101	0	76-119		%REC	10	06/07/17 06:46 PM
Surr: 4-Bromofluorobenzene	111	0	76-119		%REC	1	06/08/17 04:39 PM
Surr: Dibromofluoromethane	103	0	85-115		%REC	10	06/07/17 06:46 PM
Surr: Dibromofluoromethane	99.4	0	85-115		%REC	1	06/08/17 04:39 PM
Surr: Toluene-d8	107	0	81-120		%REC	1	06/08/17 04:39 PM
Surr: Toluene-d8	97.8	0	81-120		%REC	10	06/07/17 06:46 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Jun-17*

CLIENT:	GHD	**Client Sample ID:**	HTRW-1
Project:	Hobbs Tank	**Lab ID:**	1706060-07
Project No:	078863	**Collection Date:**	06/06/17 02:10 PM
Lab Order:	1706060	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.549	0.0802	0.100		mg/L	1	06/12/17 12:20 PM
Surr: Isopropylbenzene	79.4	0	47-142		%REC	1	06/12/17 12:20 PM
Surr: Octacosane	248	0	51-124	S	%REC	1	06/12/17 12:20 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AV**
Gasoline Range Organics	1.85	0.0600	0.100		mg/L	1	06/08/17 04:44 PM
Surr: Tetrachlorethene	96.8	0	74-138		%REC	1	06/08/17 04:44 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **CVD**
Arsenic	0.00384	0.00200	0.00500	J	mg/L	1	06/08/17 04:17 PM
Barium	0.134	0.00300	0.0100		mg/L	1	06/08/17 04:17 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 04:17 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 04:17 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 04:17 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 04:17 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	06/08/17 04:17 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/08/17 03:13 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	0.774	0.00300	0.0100		mg/L	10	06/08/17 03:47 PM
Ethylbenzene	0.00190	0.000300	0.00100		mg/L	1	06/07/17 11:09 PM
m,p-Xylene	0.0262	0.000600	0.00200		mg/L	1	06/07/17 11:09 PM
o-Xylene	0.0314	0.000300	0.00100		mg/L	1	06/07/17 11:09 PM
Toluene	0.0219	0.000600	0.00200		mg/L	1	06/07/17 11:09 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	1	06/07/17 11:09 PM
Surr: 1,2-Dichloroethane-d4	97.0	0	72-119		%REC	10	06/08/17 03:47 PM
Surr: 4-Bromofluorobenzene	103	0	76-119		%REC	1	06/07/17 11:09 PM
Surr: 4-Bromofluorobenzene	114	0	76-119		%REC	10	06/08/17 03:47 PM
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	06/07/17 11:09 PM
Surr: Dibromofluoromethane	96.8	0	85-115		%REC	10	06/08/17 03:47 PM
Surr: Toluene-d8	99.2	0	81-120		%REC	1	06/07/17 11:09 PM
Surr: Toluene-d8	108	0	81-120		%REC	10	06/08/17 03:47 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Jun-17*

CLIENT:	GHD	**Client Sample ID:**	DUP-1
Project:	Hobbs Tank	**Lab ID:**	1706060-08
Project No:	078863	**Collection Date:**	06/06/17
Lab Order:	1706060	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	1.49	0.807	1.01		mg/L	10	06/12/17 01:41 PM
Surr: Isopropylbenzene	53.2	0	47-142		%REC	10	06/12/17 01:41 PM
Surr: Octacosane	137	0	51-124	S	%REC	10	06/12/17 01:41 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AV**
Gasoline Range Organics	1.43	0.0600	0.100		mg/L	1	06/08/17 07:58 PM
Surr: Tetrachlorethene	96.7	0	74-138		%REC	1	06/08/17 07:58 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **CVD**
Arsenic	0.00397	0.00200	0.00500	J	mg/L	1	06/08/17 04:18 PM
Barium	0.138	0.00300	0.0100		mg/L	1	06/08/17 04:18 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 04:18 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 04:18 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 04:18 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/08/17 04:18 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	06/08/17 04:18 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/08/17 03:16 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	0.694	0.00300	0.0100		mg/L	10	06/08/17 04:13 PM
Ethylbenzene	0.00137	0.000300	0.00100		mg/L	1	06/07/17 11:59 PM
m,p-Xylene	0.0210	0.000600	0.00200		mg/L	1	06/07/17 11:59 PM
o-Xylene	0.0262	0.000300	0.00100		mg/L	1	06/07/17 11:59 PM
Toluene	0.0138	0.000600	0.00200		mg/L	1	06/07/17 11:59 PM
Surr: 1,2-Dichloroethane-d4	103	0	72-119		%REC	1	06/07/17 11:59 PM
Surr: 1,2-Dichloroethane-d4	96.9	0	72-119		%REC	10	06/08/17 04:13 PM
Surr: 4-Bromofluorobenzene	103	0	76-119		%REC	1	06/07/17 11:59 PM
Surr: 4-Bromofluorobenzene	114	0	76-119		%REC	10	06/08/17 04:13 PM
Surr: Dibromofluoromethane	101	0	85-115		%REC	1	06/07/17 11:59 PM
Surr: Dibromofluoromethane	96.5	0	85-115		%REC	10	06/08/17 04:13 PM
Surr: Toluene-d8	96.8	0	81-120		%REC	1	06/07/17 11:59 PM
Surr: Toluene-d8	107	0	81-120		%REC	10	06/08/17 04:13 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Jun-17*

CLIENT:	GHD	**Client Sample ID:**	TRIP BLANK
Project:	Hobbs Tank	**Lab ID:**	1706060-09
Project No:	078863	**Collection Date:**	06/06/17
Lab Order:	1706060	**Matrix:**	TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	06/08/17 02:56 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 11:34 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	06/07/17 11:34 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	06/07/17 11:34 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	06/07/17 11:34 PM
Surr: 1,2-Dichloroethane-d4	95.8	0	72-119		%REC	1	06/08/17 02:56 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	1	06/07/17 11:34 PM
Surr: 4-Bromofluorobenzene	109	0	76-119		%REC	1	06/08/17 02:56 PM
Surr: 4-Bromofluorobenzene	100	0	76-119		%REC	1	06/07/17 11:34 PM
Surr: Dibromofluoromethane	98.1	0	85-115		%REC	1	06/08/17 02:56 PM
Surr: Dibromofluoromethane	101	0	85-115		%REC	1	06/07/17 11:34 PM
Surr: Toluene-d8	110	0	81-120		%REC	1	06/08/17 02:56 PM
Surr: Toluene-d8	96.6	0	81-120		%REC	1	06/07/17 11:34 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc. **Date:** *14-Jun-17*

CLIENT: GHD
Work Order: 1706060
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_170612A

The QC data in batch 80812 applies to the following samples: 1706060-01D, 1706060-02D, 1706060-03D, 1706060-04D, 1706060-05D, 1706060-06D, 1706060-07D, 1706060-08D

Sample ID **LCS-80812** Batch ID: **80812** TestNo: **M8015D** Units: **mg/L**
SampType: **LCS** Run ID: **GC15_170612A** Analysis Date: **6/12/2017 10:08:38 AM** Prep Date: **6/8/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.02	0.100	1.250	0	81.6	50	114			
Surr: Isopropylbenzene	0.0877		0.1000		87.7	47	142			
Surr: Octacosane	0.102		0.1000		102	51	124			

Sample ID **LCSD-80812** Batch ID: **80812** TestNo: **M8015D** Units: **mg/L**
SampType: **LCSD** Run ID: **GC15_170612A** Analysis Date: **6/12/2017 10:23:28 AM** Prep Date: **6/8/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.07	0.100	1.250	0	85.9	50	114	5.09	30	
Surr: Isopropylbenzene	0.0909		0.1000		90.9	47	142	0	0	
Surr: Octacosane	0.106		0.1000		106	51	124	0	0	

Sample ID **MB-80812** Batch ID: **80812** TestNo: **M8015D** Units: **mg/L**
SampType: **MBLK** Run ID: **GC15_170612A** Analysis Date: **6/12/2017 10:50:26 AM** Prep Date: **6/8/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	<0.0800	0.100								
Surr: Isopropylbenzene	0.0642		0.1000		64.2	47	142			
Surr: Octacosane	0.104		0.1000		104	51	124			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1706060
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_170608A

The QC data in batch 80814 applies to the following samples: 1706060-01B, 1706060-02B, 1706060-03B, 1706060-04B, 1706060-05B, 1706060-06B, 1706060-07B, 1706060-08B

Sample ID	LCS-80814	Batch ID:	80814	TestNo:	M8015V	Units:	mg/L
SampType:	LCS	Run ID:	GC4_170608A	Analysis Date:	6/8/2017 11:19:02 AM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.66	0.100	2.500	0	107	67	136			
Surr: Tetrachlorethene	0.377		0.4000		94.2	74	138			

Sample ID	MB-80814	Batch ID:	80814	TestNo:	M8015V	Units:	mg/L
SampType:	MBLK	Run ID:	GC4_170608A	Analysis Date:	6/8/2017 12:30:54 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	<0.0600	0.100								
Surr: Tetrachlorethene	0.418		0.4000		104	74	138			

Sample ID	1706060-06BMS	Batch ID:	80814	TestNo:	M8015V	Units:	mg/L
SampType:	MS	Run ID:	GC4_170608A	Analysis Date:	6/8/2017 10:49:16 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.77	0.100	2.500	1.972	112	67	136			
Surr: Tetrachlorethene	0.373		0.4000		93.2	74	138			

Sample ID	1706060-06BMSD	Batch ID:	80814	TestNo:	M8015V	Units:	mg/L
SampType:	MSD	Run ID:	GC4_170608A	Analysis Date:	6/8/2017 11:13:43 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.57	0.100	2.500	1.972	104	67	136	4.25	30	
Surr: Tetrachlorethene	0.362		0.4000		90.6	74	138	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1706060
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_170608C

The QC data in batch 80809 applies to the following samples: 1706060-01C, 1706060-02C, 1706060-03C , 1706060-04C, 1706060-05C, 1706060-06C, 1706060-07C, 1706060-08C

Sample ID	MB-80809	Batch ID:	80809	TestNo:	SW7470A	Units:	mg/L
SampType:	MBLK	Run ID:	CETAC2_HG_170608	Analysis Date:	6/8/2017 2:38:39 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID	LCS-80809	Batch ID:	80809	TestNo:	SW7470A	Units:	mg/L
SampType:	LCS	Run ID:	CETAC2_HG_170608	Analysis Date:	6/8/2017 2:40:55 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00213	0.000200	0.00200	0	106	85	115			

Sample ID	LCSD-80809	Batch ID:	80809	TestNo:	SW7470A	Units:	mg/L
SampType:	LCSD	Run ID:	CETAC2_HG_170608	Analysis Date:	6/8/2017 2:43:11 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00212	0.000200	0.00200	0	106	85	115	0.471	15	

Sample ID	1706060-03C SD	Batch ID:	80809	TestNo:	SW7470A	Units:	mg/L
SampType:	SD	Run ID:	CETAC2_HG_170608	Analysis Date:	6/8/2017 2:58:03 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.000400	0.00100	0	0				0	10	

Sample ID	1706060-03C PDS	Batch ID:	80809	TestNo:	SW7470A	Units:	mg/L
SampType:	PDS	Run ID:	CETAC2_HG_170608	Analysis Date:	6/8/2017 3:00:19 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00234	0.000200	0.00250	0	93.6	85	115			

Sample ID	1706060-03C MS	Batch ID:	80809	TestNo:	SW7470A	Units:	mg/L
SampType:	MS	Run ID:	CETAC2_HG_170608	Analysis Date:	6/8/2017 3:02:35 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00217	0.000200	0.00200	0	108	80	120			

Sample ID	1706060-03C MSD	Batch ID:	80809	TestNo:	SW7470A	Units:	mg/L
SampType:	MSD	Run ID:	CETAC2_HG_170608	Analysis Date:	6/8/2017 3:04:51 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00224	0.000200	0.00200	0	112	80	120	3.17	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1706060
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_170608F

The QC data in batch 80808 applies to the following samples: 1706060-01C, 1706060-02C, 1706060-03C, 1706060-04C, 1706060-05C, 1706060-06C, 1706060-07C, 1706060-08C

Sample ID **MB-80808** Batch ID: **80808** TestNo: **SW6020A** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS5_170608F** Analysis Date: **6/8/2017 4:48:00 PM** Prep Date: **6/8/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Cadmium	<0.000300	0.00100								
Chromium	<0.00200	0.00500								
Lead	<0.000300	0.00100								
Selenium	<0.00200	0.00500								
Silver	<0.00100	0.00200								

Sample ID **LCS-80808** Batch ID: **80808** TestNo: **SW6020A** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS5_170608F** Analysis Date: **6/8/2017 4:50:00 PM** Prep Date: **6/8/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.207	0.00500	0.200	0	104	80	120			
Barium	0.201	0.0100	0.200	0	100	80	120			
Cadmium	0.202	0.00100	0.200	0	101	80	120			
Chromium	0.206	0.00500	0.200	0	103	80	120			
Lead	0.199	0.00100	0.200	0	99.6	80	120			
Selenium	0.209	0.00500	0.200	0	104	80	120			
Silver	0.194	0.00200	0.200	0	97.2	80	120			

Sample ID **LCSD-80808** Batch ID: **80808** TestNo: **SW6020A** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_170608F** Analysis Date: **6/8/2017 4:54:00 PM** Prep Date: **6/8/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.206	0.00500	0.200	0	103	80	120	0.657	15	
Barium	0.200	0.0100	0.200	0	99.9	80	120	0.424	15	
Cadmium	0.201	0.00100	0.200	0	101	80	120	0.347	15	
Chromium	0.206	0.00500	0.200	0	103	80	120	0.071	15	
Lead	0.201	0.00100	0.200	0	100	80	120	0.781	15	
Selenium	0.209	0.00500	0.200	0	105	80	120	0.250	15	
Silver	0.195	0.00200	0.200	0	97.5	80	120	0.310	15	

Sample ID **1706060-06C SD** Batch ID: **80808** TestNo: **SW6020A** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS5_170608F** Analysis Date: **6/8/2017 4:58:00 PM** Prep Date: **6/8/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0139	0.0250	0	0.0136				2.51	10	
Barium	0.326	0.0500	0	0.330				1.22	10	
Cadmium	<0.00150	0.00500	0	0				0	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1706060
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_170608F

Sample ID	1706060-06C SD	Batch ID:	80808	TestNo:	SW6020A	Units:	mg/L
SampType:	SD	Run ID:	ICP-MS5_170608F	Analysis Date:	6/8/2017 4:58:00 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	<0.0100	0.0250	0	0				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Silver	<0.00500	0.0100	0	0				0	10	

Sample ID	1706060-06C PDS	Batch ID:	80808	TestNo:	SW6020A	Units:	mg/L
SampType:	PDS	Run ID:	ICP-MS5_170608F	Analysis Date:	6/8/2017 5:15:00 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.215	0.00500	0.200	0.0136	101	80	120			
Barium	0.517	0.0100	0.200	0.330	93.4	80	120			
Cadmium	0.204	0.00100	0.200	0	102	80	120			
Chromium	0.212	0.00500	0.200	0	106	80	120			
Lead	0.202	0.00100	0.200	0	101	80	120			
Selenium	0.195	0.00500	0.200	0	97.7	80	120			
Silver	0.198	0.00200	0.200	0	99.0	80	120			

Sample ID	1706060-06C MS	Batch ID:	80808	TestNo:	SW6020A	Units:	mg/L
SampType:	MS	Run ID:	ICP-MS5_170608F	Analysis Date:	6/8/2017 5:17:00 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.215	0.00500	0.200	0.0136	101	80	120			
Barium	0.526	0.0100	0.200	0.330	98.2	80	120			
Cadmium	0.202	0.00100	0.200	0	101	80	120			
Chromium	0.205	0.00500	0.200	0	102	80	120			
Lead	0.203	0.00100	0.200	0	102	80	120			
Selenium	0.195	0.00500	0.200	0	97.6	80	120			
Silver	0.197	0.00200	0.200	0	98.3	80	120			

Sample ID	1706060-06C MSD	Batch ID:	80808	TestNo:	SW6020A	Units:	mg/L
SampType:	MSD	Run ID:	ICP-MS5_170608F	Analysis Date:	6/8/2017 5:19:00 PM	Prep Date:	6/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.213	0.00500	0.200	0.0136	100	80	120	0.905	15	
Barium	0.522	0.0100	0.200	0.330	96.1	80	120	0.813	15	
Cadmium	0.203	0.00100	0.200	0	101	80	120	0.206	15	
Chromium	0.205	0.00500	0.200	0	103	80	120	0.164	15	
Lead	0.202	0.00100	0.200	0	101	80	120	0.573	15	
Selenium	0.193	0.00500	0.200	0	96.6	80	120	1.04	15	
Silver	0.198	0.00200	0.200	0	98.9	80	120	0.618	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1706060
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_170607C

The QC data in batch 80806 applies to the following samples: 1706060-01A, 1706060-02A, 1706060-03A, 1706060-04A, 1706060-05A, 1706060-06A, 1706060-07A, 1706060-08A, 1706060-09A

Sample ID **LCS-80806** Batch ID: **80806** TestNo: **SW8260C** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS5_170607C** Analysis Date: **6/7/2017 4:05:00 PM** Prep Date: **6/7/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0244	0.00100	0.0232	0	105	81	122			
Ethylbenzene	0.0240	0.00100	0.0232	0	104	80	120			
m,p-Xylene	0.0491	0.00200	0.0464	0	106	80	120			
o-Xylene	0.0237	0.00100	0.0232	0	102	80	120			
Toluene	0.0249	0.00200	0.0232	0	107	80	120			
Surr: 1,2-Dichloroethane-d4	213		200.0		107	72	119			
Surr: 4-Bromofluorobenzene	203		200.0		101	76	119			
Surr: Dibromofluoromethane	211		200.0		106	85	115			
Surr: Toluene-d8	197		200.0		98.4	81	120			

Sample ID **MB-80806** Batch ID: **80806** TestNo: **SW8260C** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS5_170607C** Analysis Date: **6/7/2017 4:50:00 PM** Prep Date: **6/7/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	<0.000300	0.00100								
Ethylbenzene	<0.000300	0.00100								
m,p-Xylene	<0.000600	0.00200								
o-Xylene	<0.000300	0.00100								
Toluene	<0.000600	0.00200								
Surr: 1,2-Dichloroethane-d4	206		200.0		103	72	119			
Surr: 4-Bromofluorobenzene	202		200.0		101	76	119			
Surr: Dibromofluoromethane	208		200.0		104	85	115			
Surr: Toluene-d8	196		200.0		97.8	81	120			

Sample ID **1706060-06AMS** Batch ID: **80806** TestNo: **SW8260C** Units: **mg/L**
SampType: **MS** Run ID: **GCMS5_170607C** Analysis Date: **6/7/2017 6:00:00 PM** Prep Date: **6/7/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.14	0.0100	0.464	0.564	123	81	122			S
Ethylbenzene	0.580	0.0100	0.464	0.00347	124	80	120			S
m,p-Xylene	1.21	0.0200	0.928	0.0424	126	80	120			S
o-Xylene	0.612	0.0100	0.464	0.0243	127	80	120			S
Toluene	0.602	0.0200	0.464	0.00952	128	80	120			S
Surr: 1,2-Dichloroethane-d4	2010		2000		101	72	119			
Surr: 4-Bromofluorobenzene	2000		2000		99.8	76	119			
Surr: Dibromofluoromethane	2110		2000		105	85	115			
Surr: Toluene-d8	1980		2000		98.8	81	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1706060
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_170607C

Sample ID	1706060-06AMSD	Batch ID:	80806	TestNo:	SW8260C	Units:	mg/L
SampType:	MSD	Run ID:	GCMS5_170607C	Analysis Date:	6/7/2017 6:23:00 PM	Prep Date:	6/7/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.09	0.0100	0.464	0.564	114	81	120	4.06	20	
Ethylbenzene	0.540	0.0100	0.464	0.00347	116	80	120	7.19	20	
m,p-Xylene	1.11	0.0200	0.928	0.0424	115	80	120	8.93	20	
o-Xylene	0.565	0.0100	0.464	0.0243	116	80	120	8.03	20	
Toluene	0.555	0.0200	0.464	0.00952	118	80	120	8.18	20	
Surr: 1,2-Dichloroethane-d4	2010		2000		101	72	119	0	0	
Surr: 4-Bromofluorobenzene	2000		2000		100	76	119	0	0	
Surr: Dibromofluoromethane	2110		2000		106	85	115	0	0	
Surr: Toluene-d8	2000		2000		100	81	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1706060
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS7_170608A

The QC data in batch 80806 applies to the following samples: 1706060-01A, 1706060-02A, 1706060-03A, 1706060-04A, 1706060-05A, 1706060-06A, 1706060-07A, 1706060-08A, 1706060-09A

Sample ID	SB-170608	Batch ID:	80806	TestNo:	SW8260C	Units:	mg/L
SampType:	SBLK	Run ID:	GCMS7_170608A	Analysis Date:	6/8/2017 2:31:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	<0.000300	0.00100	0							
Ethylbenzene	<0.000300	0.00100	0							
m,p-Xylene	<0.000600	0.00200	0							
o-Xylene	<0.000300	0.00100	0							
Toluene	<0.000600	0.00200	0							
Surr: 1,2-Dichloroethane-d4	193		0							
Surr: 4-Bromofluorobenzene	221		0							
Surr: Dibromofluoromethane	194		0							
Surr: Toluene-d8	218		0							

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

DHL ANALYTICAL

October 02, 2017

Justin Covey
GHD
2135 South Loop 250 West
Midland, Texas 79703
TEL: 720.974.0943
FAX (432) 686-0186

Order No.: 1709236

RE: Hobbs Tank

Dear Justin Covey:

DHL Analytical, Inc. received 6 sample(s) on 9/22/2017 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative and all estimated uncertainties of results are within method specifications.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-17-19

ACCREDITED IN ACCORDANCE WITH nelac

Table of Contents

Miscellaneous Documents 3
CaseNarrative 1709236 6
Analytical Report 1709236 7
AnalyticalQCSummaryReport 1709236 13

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 77875

CHAIN-OF-CUSTODY

CLIENT: Holly Energy Partners
ADDRESS:
PHONE: 303/941-6156 FAX/E-MAIL:
DATA REPORTED TO: Brad.Stephenson@GHD.com
ADDITIONAL REPORT COPIES TO:

DATE: 9/20/17 PAGE ____ OF ____
PO #: DHL WORK ORDER #: 1709236
PROJECT LOCATION OR NAME: Hobbs Tank
CLENT PROJECT #: COLLECTOR:

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR O=OTHER
L=LIQUID SO=SOLID
SE=SEDIMENT

ANALYSES: BTEX ☑ MTBE ☐ (METHOD 8021) / TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ / GRO (METHOD 8015) ☑ DRO (METHOD 8105) ☐ / VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐ / SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐ / 8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ / 8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐ / 8321 HERB ☐ T PHOS. AMMONIA ☐ / METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ / RCRA ☑ TX11 ☐ ☐ / PH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐ / CHLORIDE ☑ ANIONS ____ ☐ / TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ / TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ / RCI ☐ FLASHPOINT ☐ DGAS ☐ / TDS ☑ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO₃	H₂SO₄ ☐ NaOH ☐	ICE	UNPRESERVED	BTEX	GRO/DRO	RCRA	CHLORIDE	TDS	FIELD NOTES
MW-3	01	9/19/17	1200	W		10	/	/				X	X	X	X	X	
MW-2	02	↓	1300	W		10						X	X	X	X	X	
MW-4	03	↓	1400	W		10						X	X	X	X	X	
MW-5	04	↓	1445	W		10						X	X	X	X	X	
HTRW-1	05	9/19/17	1530	W		10						X	X	X	X	X	
TRIP	06	9/19/17	—	—		1						X	X — no DRO				

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
		Fed Ex
Fed Ex	9/23/17 11:20	[signature]

☐ DHL DISPOSAL @ $5.00 each ☐ Return

3

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ ______

LABORATORY USE ONLY:
RECEIVING TEMP: 22.4 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☑ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

Page 3 of 4

FROM: (303) 941-6156
Brad Stephenson
GHD
14998 W 6th Ave
Ste 800
GOLDEN CO 80401
US

CAD: 5905539/INET3920
DIMMED: 23 X 13 X 15 IN

TO John DuPont
DHL ANALYTICAL
2300 DOUBLE CREEK DRIVE

ROUND ROCK TX 78664 (US)
(512) 388-8222 REF:
INV:
PO: DEPT:

549J1/FF19/104C

RMA:

FedEx Ground

G

J172017082801uv

RETURN

TRK# 7907 1047 6481

78664

9622 0137 0 (000 000 0000) 0 00 7907 1047 6481

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name GHD | Date Received: 9/22/2017

Work Order Number 1709236 | Received by EL

Checklist completed by: [signature] Signature | 9/22/2017 Date | Reviewed by [initials] Initials | 9/22/2017 Date

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☐	No ☑	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☐	No ☑	22.4 °C
Water - VOA vials have zero headspace?	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☑ LOT # 3086
	Adjusted? no		Checked by EL
Water - ph>9 (S) or ph>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by

Any No response must be detailed in the comments section below.

Client contacted GHD Date contacted: 9/22/17 Person contacted Brad Stephenson

Contacted by: John DuPont Regarding: Temp, no signature, voa headspace, & Breakage

Comments: Samples arrived out of temp, CoC arrived w/o "Relinquished by" signature & on voa for sample MW-5 arrived broken,

Corrective Action Per client proceed w/ analysis & flag data

Page 1 of 1

DHL Analytical, Inc. **Date:** *02-Oct-17*

CLIENT: GHD
Project: Hobbs Tank
Lab Order: 1709236

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition, EPA and Standard Methods.

One volatile vial for Sample MW-5 was broken in transit. There was sufficient sample volume to proceed with the requested analysis.

The Chain of Custody was received without a relinquish signature. The client was notified and asked the laboratory to proceed with the requested analysis.

The samples were submitted outside of the method specified temperature for Volatile Organics, DRO, GRO and Total Dissolved Solids Analyses. These results were "C" flagged in the Analytical Data Report.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives except where noted in the following. For DRO Analysis, the recovery of surrogate Octacosane for four samples was above the method control limits. These are flagged accordingly in the Analytical Data Report. The remaining surrogate for these samples was within method control limits. No further corrective action was taken.

For Volatile Organics Analysis, the recovery of Benzene for the Matrix Spike (1709236-05 MS) was slightly below the method control limits. This is flagged accordingly in the QC Summary Report. This analyte was within method control limits in the associated LCS. No further corrective action was taken.

DHL Analytical, Inc.

Date: *02-Oct-17*

CLIENT: GHD
Project: Hobbs Tank
Project No:
Lab Order: 1709236

Client Sample ID: MW-3
Lab ID: 1709236-01
Collection Date: 09/19/17 12:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.122	0.0771	0.0964	C	mg/L	1	09/27/17 12:02 PM
Surr: Isopropylbenzene	83.7	0	47-142		%REC	1	09/27/17 12:02 PM
Surr: Octacosane	125	0	51-124	S	%REC	1	09/27/17 12:02 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100	C	mg/L	1	09/28/17 01:38 PM
Surr: Tetrachlorethene	113	0	74-138		%REC	1	09/28/17 01:38 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **SP**
Arsenic	0.00342	0.00200	0.00500	J	mg/L	1	09/28/17 01:44 PM
Barium	0.110	0.00300	0.0100		mg/L	1	09/28/17 01:44 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/28/17 01:44 PM
Chromium	0.00235	0.00200	0.00500	J	mg/L	1	09/28/17 01:44 PM
Lead	0.000311	0.000300	0.00100	J	mg/L	1	09/28/17 01:44 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	09/28/17 01:44 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	09/28/17 01:44 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	09/26/17 11:10 AM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 02:02 PM
Ethylbenzene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 02:02 PM
m,p-Xylene	<0.000600	0.000600	0.00200	C	mg/L	1	09/25/17 02:02 PM
o-Xylene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 02:02 PM
Toluene	<0.000600	0.000600	0.00200	C	mg/L	1	09/25/17 02:02 PM
Surr: 1,2-Dichloroethane-d4	109	0	72-119		%REC	1	09/25/17 02:02 PM
Surr: 4-Bromofluorobenzene	99.8	0	76-119		%REC	1	09/25/17 02:02 PM
Surr: Dibromofluoromethane	106	0	85-115		%REC	1	09/25/17 02:02 PM
Surr: Toluene-d8	95.0	0	81-120		%REC	1	09/25/17 02:02 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **JL**
Chloride	104	3.00	10.0		mg/L	10	09/26/17 02:26 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JW**
Total Dissolved Solids (Residue, Filterable)	793	10.0	10.0	C	mg/L	1	09/26/17 09:22 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *02-Oct-17*

CLIENT: GHD
Project: Hobbs Tank
Project No:
Lab Order: 1709236

Client Sample ID: MW-2
Lab ID: 1709236-02
Collection Date: 09/19/17 01:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	2.74	0.0792	0.0990	C	mg/L	1	09/27/17 12:11 PM
Surr: Isopropylbenzene	81.5	0	47-142		%REC	1	09/27/17 12:11 PM
Surr: Octacosane	74.1	0	51-124		%REC	1	09/27/17 12:11 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	0.0929	0.0600	0.100	JC	mg/L	1	09/28/17 02:02 PM
Surr: Tetrachlorethene	120	0	74-138		%REC	1	09/28/17 02:02 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **SP**
Arsenic	0.0274	0.00200	0.00500		mg/L	1	09/28/17 01:46 PM
Barium	0.594	0.00300	0.0100		mg/L	1	09/28/17 01:46 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/28/17 01:46 PM
Chromium	0.0227	0.00200	0.00500		mg/L	1	09/28/17 01:46 PM
Lead	0.00400	0.000300	0.00100		mg/L	1	09/28/17 01:46 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	09/28/17 01:46 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	09/28/17 01:46 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	09/26/17 11:12 AM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 02:25 PM
Ethylbenzene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 02:25 PM
m,p-Xylene	<0.000600	0.000600	0.00200	C	mg/L	1	09/25/17 02:25 PM
o-Xylene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 02:25 PM
Toluene	<0.000600	0.000600	0.00200	C	mg/L	1	09/25/17 02:25 PM
Surr: 1,2-Dichloroethane-d4	109	0	72-119		%REC	1	09/25/17 02:25 PM
Surr: 4-Bromofluorobenzene	98.3	0	76-119		%REC	1	09/25/17 02:25 PM
Surr: Dibromofluoromethane	106	0	85-115		%REC	1	09/25/17 02:25 PM
Surr: Toluene-d8	94.5	0	81-120		%REC	1	09/25/17 02:25 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **JL**
Chloride	93.1	3.00	10.0		mg/L	10	09/26/17 03:38 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JW**
Total Dissolved Solids (Residue, Filterable)	910	50.0	50.0	C	mg/L	1	09/26/17 09:22 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *02-Oct-17*

CLIENT:	GHD	**Client Sample ID:**	MW-4
Project:	Hobbs Tank	**Lab ID:**	1709236-03
Project No:		**Collection Date:**	09/19/17 02:00 PM
Lab Order:	1709236	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	1.73	0.0780	0.0975	C	mg/L	1	09/27/17 12:20 PM
Surr: Isopropylbenzene	72.2	0	47-142		%REC	1	09/27/17 12:20 PM
Surr: Octacosane	226	0	51-124	S	%REC	1	09/27/17 12:20 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100	C	mg/L	1	09/28/17 02:26 PM
Surr: Tetrachlorethene	114	0	74-138		%REC	1	09/28/17 02:26 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **SP**
Arsenic	0.0159	0.00200	0.00500		mg/L	1	09/28/17 01:49 PM
Barium	0.160	0.00300	0.0100		mg/L	1	09/28/17 01:49 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/28/17 01:49 PM
Chromium	0.00463	0.00200	0.00500	J	mg/L	1	09/28/17 01:49 PM
Lead	0.00176	0.000300	0.00100		mg/L	1	09/28/17 01:49 PM
Selenium	0.00596	0.00200	0.00500		mg/L	1	09/28/17 01:49 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	09/28/17 01:49 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	09/26/17 11:15 AM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 02:49 PM
Ethylbenzene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 02:49 PM
m,p-Xylene	<0.000600	0.000600	0.00200	C	mg/L	1	09/25/17 02:49 PM
o-Xylene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 02:49 PM
Toluene	<0.000600	0.000600	0.00200	C	mg/L	1	09/25/17 02:49 PM
Surr: 1,2-Dichloroethane-d4	110	0	72-119		%REC	1	09/25/17 02:49 PM
Surr: 4-Bromofluorobenzene	98.8	0	76-119		%REC	1	09/25/17 02:49 PM
Surr: Dibromofluoromethane	108	0	85-115		%REC	1	09/25/17 02:49 PM
Surr: Toluene-d8	94.2	0	81-120		%REC	1	09/25/17 02:49 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **JL**
Chloride	22.3	3.00	10.0		mg/L	10	09/26/17 03:50 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JW**
Total Dissolved Solids (Residue, Filterable)	1360	50.0	50.0	C	mg/L	1	09/26/17 09:22 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *02-Oct-17*

CLIENT:	GHD	**Client Sample ID:**	MW-5
Project:	Hobbs Tank	**Lab ID:**	1709236-04
Project No:		**Collection Date:**	09/19/17 02:45 PM
Lab Order:	1709236	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.132	0.0782	0.0978	C	mg/L	1	09/27/17 12:29 PM
Surr: Isopropylbenzene	74.6	0	47-142		%REC	1	09/27/17 12:29 PM
Surr: Octacosane	132	0	51-124	S	%REC	1	09/27/17 12:29 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100	C	mg/L	1	09/28/17 02:50 PM
Surr: Tetrachlorethene	120	0	74-138		%REC	1	09/28/17 02:50 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **SP**
Arsenic	0.00584	0.00200	0.00500		mg/L	1	09/28/17 01:51 PM
Barium	0.165	0.00300	0.0100		mg/L	1	09/28/17 01:51 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/28/17 01:51 PM
Chromium	0.00478	0.00200	0.00500	J	mg/L	1	09/28/17 01:51 PM
Lead	0.00127	0.000300	0.00100		mg/L	1	09/28/17 01:51 PM
Selenium	0.00446	0.00200	0.00500	J	mg/L	1	09/28/17 01:51 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	09/28/17 01:51 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	09/26/17 11:17 AM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 03:13 PM
Ethylbenzene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 03:13 PM
m,p-Xylene	<0.000600	0.000600	0.00200	C	mg/L	1	09/25/17 03:13 PM
o-Xylene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 03:13 PM
Toluene	<0.000600	0.000600	0.00200	C	mg/L	1	09/25/17 03:13 PM
Surr: 1,2-Dichloroethane-d4	108	0	72-119		%REC	1	09/25/17 03:13 PM
Surr: 4-Bromofluorobenzene	99.6	0	76-119		%REC	1	09/25/17 03:13 PM
Surr: Dibromofluoromethane	107	0	85-115		%REC	1	09/25/17 03:13 PM
Surr: Toluene-d8	94.0	0	81-120		%REC	1	09/25/17 03:13 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **JL**
Chloride	53.0	3.00	10.0		mg/L	10	09/26/17 04:02 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JW**
Total Dissolved Solids (Residue, Filterable)	625	10.0	10.0	C	mg/L	1	09/26/17 09:22 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *02-Oct-17*

CLIENT:	GHD	**Client Sample ID:**	HTRW-1
Project:	Hobbs Tank	**Lab ID:**	1709236-05
Project No:		**Collection Date:**	09/19/17 03:30 PM
Lab Order:	1709236	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	1.23	0.0777	0.0971	C	mg/L	1	09/27/17 12:38 PM
Surr: Isopropylbenzene	83.6	0	47-142		%REC	1	09/27/17 12:38 PM
Surr: Octacosane	135	0	51-124	S	%REC	1	09/27/17 12:38 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	2.88	0.0600	0.100	C	mg/L	1	09/28/17 03:13 PM
Surr: Tetrachlorethene	102	0	74-138		%REC	1	09/28/17 03:13 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **SP**
Arsenic	0.00540	0.00200	0.00500		mg/L	1	09/28/17 01:53 PM
Barium	0.138	0.00300	0.0100		mg/L	1	09/28/17 01:53 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/28/17 01:53 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	09/28/17 01:53 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/28/17 01:53 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	09/28/17 01:53 PM
Silver	<0.00100	0.00100	0.00200		mg/L	1	09/28/17 01:53 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	09/26/17 11:19 AM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	1.62	0.00300	0.0100	C	mg/L	10	09/25/17 03:36 PM
Ethylbenzene	0.0171	0.00300	0.0100	C	mg/L	10	09/25/17 03:36 PM
m,p-Xylene	0.0473	0.00600	0.0200	C	mg/L	10	09/25/17 03:36 PM
o-Xylene	0.0353	0.00300	0.0100	C	mg/L	10	09/25/17 03:36 PM
Toluene	0.0761	0.00600	0.0200	C	mg/L	10	09/25/17 03:36 PM
Surr: 1,2-Dichloroethane-d4	108	0	72-119		%REC	10	09/25/17 03:36 PM
Surr: 4-Bromofluorobenzene	101	0	76-119		%REC	10	09/25/17 03:36 PM
Surr: Dibromofluoromethane	108	0	85-115		%REC	10	09/25/17 03:36 PM
Surr: Toluene-d8	94.6	0	81-120		%REC	10	09/25/17 03:36 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **JL**
Chloride	47.4	3.00	10.0		mg/L	10	09/27/17 04:26 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JW**
Total Dissolved Solids (Residue, Filterable)	597	10.0	10.0	C	mg/L	1	09/26/17 09:22 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *02-Oct-17*

CLIENT:	GHD	**Client Sample ID:**	TRIP
Project:	Hobbs Tank	**Lab ID:**	1709236-06
Project No:		**Collection Date:**	09/19/17
Lab Order:	1709236	**Matrix:**	TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100	C	mg/L	1	09/28/17 04:02 PM
Surr: Tetrachlorethene	113	0	74-138		%REC	1	09/28/17 04:02 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 01:38 PM
Ethylbenzene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 01:38 PM
m,p-Xylene	<0.000600	0.000600	0.00200	C	mg/L	1	09/25/17 01:38 PM
o-Xylene	<0.000300	0.000300	0.00100	C	mg/L	1	09/25/17 01:38 PM
Toluene	<0.000600	0.000600	0.00200	C	mg/L	1	09/25/17 01:38 PM
Surr: 1,2-Dichloroethane-d4	110	0	72-119		%REC	1	09/25/17 01:38 PM
Surr: 4-Bromofluorobenzene	99.8	0	76-119		%REC	1	09/25/17 01:38 PM
Surr: Dibromofluoromethane	106	0	85-115		%REC	1	09/25/17 01:38 PM
Surr: Toluene-d8	95.2	0	81-120		%REC	1	09/25/17 01:38 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc. **Date:** *02-Oct-17*

CLIENT: GHD
Work Order: 1709236
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_170927A

The QC data in batch 82539 applies to the following samples: 1709236-01E, 1709236-02E, 1709236-03E, 1709236-04E, 1709236-05E

Sample ID **LCS-82539** Batch ID: **82539** TestNo: **M8015D** Units: **mg/L**
SampType: **LCS** Run ID: **GC15_170927A** Analysis Date: **9/27/2017 11:35:26 AM** Prep Date: **9/26/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.18	0.100	1.250	0	94.4	50	114			
Surr: Isopropylbenzene	0.0745		0.1000		74.5	47	142			
Surr: Octacosane	0.101		0.1000		101	51	124			

Sample ID **LCSD-82539** Batch ID: **82539** TestNo: **M8015D** Units: **mg/L**
SampType: **LCSD** Run ID: **GC15_170927A** Analysis Date: **9/27/2017 11:44:26 AM** Prep Date: **9/26/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.19	0.100	1.250	0	95.0	50	114	0.682	30	
Surr: Isopropylbenzene	0.0728		0.1000		72.8	47	142	0	0	
Surr: Octacosane	0.102		0.1000		102	51	124	0	0	

Sample ID **MB-82539** Batch ID: **82539** TestNo: **M8015D** Units: **mg/L**
SampType: **MBLK** Run ID: **GC15_170927A** Analysis Date: **9/27/2017 11:53:26 AM** Prep Date: **9/26/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	<0.0800	0.100								
Surr: Isopropylbenzene	0.0633		0.1000		63.3	47	142			
Surr: Octacosane	0.0988		0.1000		98.8	51	124			

Qualifiers:	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1709236
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_170928A

The QC data in batch 82584 applies to the following samples: 1709236-01B, 1709236-02B, 1709236-03B, 1709236-04B, 1709236-05B, 1709236-06B

Sample ID **LCS-82584**	Batch ID: **82584**	TestNo: **M8015V**	Units: **mg/L**
SampType: **LCS**	Run ID: **GC4_170928A**	Analysis Date: **9/28/2017 11:24:23 AM**	Prep Date: **9/28/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.15	0.100	2.500	0	86.0	67	136			
Surr: Tetrachlorethene	0.428		0.4000		107	74	138			

Sample ID **MB-82584**	Batch ID: **82584**	TestNo: **M8015V**	Units: **mg/L**
SampType: **MBLK**	Run ID: **GC4_170928A**	Analysis Date: **9/28/2017 12:51:47 PM**	Prep Date: **9/28/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	<0.0600	0.100								
Surr: Tetrachlorethene	0.451		0.4000		113	74	138			

Sample ID **1709236-01BMS**	Batch ID: **82584**	TestNo: **M8015V**	Units: **mg/L**
SampType: **MS**	Run ID: **GC4_170928A**	Analysis Date: **9/28/2017 4:26:35 PM**	Prep Date: **9/28/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.42	0.100	2.500	0	96.9	67	136			
Surr: Tetrachlorethene	0.463		0.4000		116	74	138			

Sample ID **1709236-01BMSD**	Batch ID: **82584**	TestNo: **M8015V**	Units: **mg/L**
SampType: **MSD**	Run ID: **GC4_170928A**	Analysis Date: **9/28/2017 4:50:25 PM**	Prep Date: **9/28/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.24	0.100	2.500	0	89.6	67	136	7.86	30	
Surr: Tetrachlorethene	0.455		0.4000		114	74	138	0	0	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1709236
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_170926B

The QC data in batch 82527 applies to the following samples: 1709236-01C, 1709236-02C, 1709236-03C, 1709236-04C, 1709236-05C

Sample ID	MB-82527	Batch ID:	82527	TestNo:	SW7470A	Units:	mg/L
SampType:	MBLK	Run ID:	CETAC2_HG_170926	Analysis Date:	9/26/2017 10:27:15 AM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID	LCS-82527	Batch ID:	82527	TestNo:	SW7470A	Units:	mg/L
SampType:	LCS	Run ID:	CETAC2_HG_170926	Analysis Date:	9/26/2017 10:29:31 AM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00204	0.000200	0.00200	0	102	85	115			

Sample ID	LCSD-82527	Batch ID:	82527	TestNo:	SW7470A	Units:	mg/L
SampType:	LCSD	Run ID:	CETAC2_HG_170926	Analysis Date:	9/26/2017 10:31:47 AM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00203	0.000200	0.00200	0	102	85	115	0.491	15	

Sample ID	1709184-01A SD	Batch ID:	82527	TestNo:	SW7470A	Units:	mg/L
SampType:	SD	Run ID:	CETAC2_HG_170926	Analysis Date:	9/26/2017 10:36:19 AM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.00200	0.00500	0	0				0	10	

Sample ID	1709184-01A PDS	Batch ID:	82527	TestNo:	SW7470A	Units:	mg/L
SampType:	PDS	Run ID:	CETAC2_HG_170926	Analysis Date:	9/26/2017 10:38:35 AM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0124	0.00100	0.0125	0	99.2	85	115			

Sample ID	1709184-01A MS	Batch ID:	82527	TestNo:	SW7470A	Units:	mg/L
SampType:	MS	Run ID:	CETAC2_HG_170926	Analysis Date:	9/26/2017 10:40:51 AM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0100	0.00100	0.0100	0	100	80	120			

Sample ID	1709184-01A MSD	Batch ID:	82527	TestNo:	SW7470A	Units:	mg/L
SampType:	MSD	Run ID:	CETAC2_HG_170926	Analysis Date:	9/26/2017 10:43:07 AM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00985	0.00100	0.0100	0	98.5	80	120	1.51	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1709236
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_170928A

The QC data in batch 82544 applies to the following samples: 1709236-01C, 1709236-02C, 1709236-03C, 1709236-04C, 1709236-05C

Sample ID **MB-82544** Batch ID: **82544** TestNo: **SW6020A** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS5_170928A** Analysis Date: **9/28/2017 12:30:00 PM** Prep Date: **9/26/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Cadmium	<0.000300	0.00100								
Chromium	<0.00200	0.00500								
Lead	<0.000300	0.00100								
Selenium	<0.00200	0.00500								
Silver	<0.00100	0.00200								

Sample ID **LCS-82544** Batch ID: **82544** TestNo: **SW6020A** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS5_170928A** Analysis Date: **9/28/2017 12:33:00 PM** Prep Date: **9/26/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.204	0.00500	0.200	0	102	80	120			
Barium	0.209	0.0100	0.200	0	104	80	120			
Cadmium	0.204	0.00100	0.200	0	102	80	120			
Chromium	0.200	0.00500	0.200	0	100	80	120			
Lead	0.204	0.00100	0.200	0	102	80	120			
Selenium	0.211	0.00500	0.200	0	106	80	120			
Silver	0.200	0.00200	0.200	0	100	80	120			

Sample ID **LCSD-82544** Batch ID: **82544** TestNo: **SW6020A** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_170928A** Analysis Date: **9/28/2017 12:35:00 PM** Prep Date: **9/26/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.207	0.00500	0.200	0	104	80	120	1.65	15	
Barium	0.208	0.0100	0.200	0	104	80	120	0.311	15	
Cadmium	0.206	0.00100	0.200	0	103	80	120	1.11	15	
Chromium	0.201	0.00500	0.200	0	101	80	120	0.526	15	
Lead	0.205	0.00100	0.200	0	103	80	120	0.586	15	
Selenium	0.212	0.00500	0.200	0	106	80	120	0.013	15	
Silver	0.201	0.00200	0.200	0	101	80	120	0.502	15	

Sample ID **1709221-02A SD** Batch ID: **82544** TestNo: **SW6020A** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS5_170928A** Analysis Date: **9/28/2017 1:07:00 PM** Prep Date: **9/26/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.0310	0.0500	0	0.0290				6.68	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0.00638				0	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1709236
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_170928A

Sample ID	1709221-02A SD	Batch ID:	82544	TestNo:	SW6020A	Units:	mg/L
SampType:	SD	Run ID:	ICP-MS5_170928A	Analysis Date:	9/28/2017 1:07:00 PM	Prep Date:	9/26/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	<0.00150	0.00500	0	0				0	10	
Selenium	<0.0100	0.0250	0	0.00321				0	10	
Silver	<0.00500	0.0100	0	0				0	10	

Sample ID	1709221-02A PDS	Batch ID:	82544	TestNo:	SW6020A	Units:	mg/L
SampType:	PDS	Run ID:	ICP-MS5_170928A	Analysis Date:	9/28/2017 1:25:00 PM	Prep Date:	9/26/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.195	0.00500	0.200	0	97.5	80	120			
Barium	0.221	0.0100	0.200	0.0290	96.1	80	120			
Cadmium	0.191	0.00100	0.200	0	95.6	80	120			
Chromium	0.191	0.00500	0.200	0.00638	92.3	80	120			
Lead	0.205	0.00100	0.200	0	103	80	120			
Selenium	0.191	0.00500	0.200	0.00321	93.8	80	120			
Silver	0.183	0.00200	0.200	0	91.4	80	120			

Sample ID	1709221-02A MS	Batch ID:	82544	TestNo:	SW6020A	Units:	mg/L
SampType:	MS	Run ID:	ICP-MS5_170928A	Analysis Date:	9/28/2017 1:27:00 PM	Prep Date:	9/26/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.197	0.00500	0.200	0	98.3	80	120			
Barium	0.229	0.0100	0.200	0.0290	100	80	120			
Cadmium	0.194	0.00100	0.200	0	97.2	80	120			
Chromium	0.191	0.00500	0.200	0.00638	92.1	80	120			
Lead	0.207	0.00100	0.200	0	104	80	120			
Selenium	0.196	0.00500	0.200	0.00321	96.4	80	120			
Silver	0.187	0.00200	0.200	0	93.7	80	120			

Sample ID	1709221-02A MSD	Batch ID:	82544	TestNo:	SW6020A	Units:	mg/L
SampType:	MSD	Run ID:	ICP-MS5_170928A	Analysis Date:	9/28/2017 1:30:00 PM	Prep Date:	9/26/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.199	0.00500	0.200	0	99.3	80	120	1.05	15	
Barium	0.235	0.0100	0.200	0.0290	103	80	120	2.28	15	
Cadmium	0.197	0.00100	0.200	0	98.3	80	120	1.09	15	
Chromium	0.197	0.00500	0.200	0.00638	95.1	80	120	3.04	15	
Lead	0.208	0.00100	0.200	0	104	80	120	0.092	15	
Selenium	0.201	0.00500	0.200	0.00321	98.9	80	120	2.53	15	
Silver	0.192	0.00200	0.200	0	96.0	80	120	2.41	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1709236
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_170925A

The QC data in batch 82533 applies to the following samples: 1709236-01A, 1709236-02A, 1709236-03A, 1709236-04A, 1709236-05A, 1709236-06A

Sample ID **LCS-82533** Batch ID: **82533** TestNo: **SW8260C** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS5_170925A** Analysis Date: **9/25/2017 12:51:00 PM** Prep Date: **9/25/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0250	0.00100	0.0232	0	108	81	122			
Ethylbenzene	0.0240	0.00100	0.0232	0	103	80	120			
m,p-Xylene	0.0487	0.00200	0.0464	0	105	80	120			
o-Xylene	0.0244	0.00100	0.0232	0	105	80	120			
Toluene	0.0252	0.00200	0.0232	0	108	80	120			
Surr: 1,2-Dichloroethane-d4	227		200.0		113	72	119			
Surr: 4-Bromofluorobenzene	201		200.0		101	76	119			
Surr: Dibromofluoromethane	213		200.0		107	85	115			
Surr: Toluene-d8	192		200.0		96.2	81	120			

Sample ID **MB-82533** Batch ID: **82533** TestNo: **SW8260C** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS5_170925A** Analysis Date: **9/25/2017 1:14:00 PM** Prep Date: **9/25/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	<0.000300	0.00100								
Ethylbenzene	<0.000300	0.00100								
m,p-Xylene	<0.000600	0.00200								
o-Xylene	<0.000300	0.00100								
Toluene	<0.000600	0.00200								
Surr: 1,2-Dichloroethane-d4	218		200.0		109	72	119			
Surr: 4-Bromofluorobenzene	200		200.0		100	76	119			
Surr: Dibromofluoromethane	211		200.0		105	85	115			
Surr: Toluene-d8	190		200.0		95.0	81	120			

Sample ID **1709236-05AMS** Batch ID: **82533** TestNo: **SW8260C** Units: **mg/L**
SampType: **MS** Run ID: **GCMS5_170925A** Analysis Date: **9/25/2017 4:03:00 PM** Prep Date: **9/25/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.81	0.0100	0.232	1.62	79.3	81	122			S
Ethylbenzene	0.219	0.0100	0.232	0.0171	87.1	80	120			
m,p-Xylene	0.456	0.0200	0.464	0.0473	88.1	80	120			
o-Xylene	0.242	0.0100	0.232	0.0353	88.9	80	120			
Toluene	0.290	0.0200	0.232	0.0761	92.2	80	120			
Surr: 1,2-Dichloroethane-d4	2260		2000		113	72	119			
Surr: 4-Bromofluorobenzene	2000		2000		99.8	76	119			
Surr: Dibromofluoromethane	2200		2000		110	85	115			
Surr: Toluene-d8	1920		2000		96.0	81	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1709236
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_170925A

Sample ID	1709236-05AMSD	Batch ID:	82533	TestNo:	SW8260C	Units:	mg/L
SampType:	MSD	Run ID:	GCMS5_170925A	Analysis Date:	9/25/2017 4:26:00 PM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.86	0.0100	0.232	1.62	103	81	120	3.00	20	
Ethylbenzene	0.264	0.0100	0.232	0.0171	107	80	120	18.7	20	
m,p-Xylene	0.541	0.0200	0.464	0.0473	106	80	120	17.1	20	
o-Xylene	0.285	0.0100	0.232	0.0353	108	80	120	16.4	20	
Toluene	0.340	0.0200	0.232	0.0761	114	80	120	16.0	20	
Surr: 1,2-Dichloroethane-d4	2260		2000		113	72	119	0	0	
Surr: 4-Bromofluorobenzene	2040		2000		102	76	119	0	0	
Surr: Dibromofluoromethane	2220		2000		111	85	115	0	0	
Surr: Toluene-d8	1930		2000		96.5	81	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1709236
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_170926A

The QC data in batch 82541 applies to the following samples: 1709236-01D, 1709236-02D, 1709236-03D, 1709236-04D

Sample ID	MB-82541	Batch ID:	82541	TestNo:	E300	Units:	mg/L
SampType:	MBLK	Run ID:	IC4_170926A	Analysis Date:	9/26/2017 10:24:51 AM	Prep Date:	9/26/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								

Sample ID	LCS-82541	Batch ID:	82541	TestNo:	E300	Units:	mg/L
SampType:	LCS	Run ID:	IC4_170926A	Analysis Date:	9/26/2017 10:36:51 AM	Prep Date:	9/26/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.83	1.00	10.00	0	98.3	90	110			

Sample ID	LCSD-82541	Batch ID:	82541	TestNo:	E300	Units:	mg/L
SampType:	LCSD	Run ID:	IC4_170926A	Analysis Date:	9/26/2017 10:48:51 AM	Prep Date:	9/26/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.79	1.00	10.00	0	97.9	90	110	0.362	20	

Sample ID	1709236-01DMS	Batch ID:	82541	TestNo:	E300	Units:	mg/L
SampType:	MS	Run ID:	IC4_170926A	Analysis Date:	9/26/2017 2:38:21 PM	Prep Date:	9/26/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	315	10.0	200.0	104.2	106	90	110			

Sample ID	1709236-01DMSD	Batch ID:	82541	TestNo:	E300	Units:	mg/L
SampType:	MSD	Run ID:	IC4_170926A	Analysis Date:	9/26/2017 2:50:21 PM	Prep Date:	9/26/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	315	10.0	200.0	104.2	105	90	110	0.288	20	

Sample ID	1709237-07BMS	Batch ID:	82541	TestNo:	E300	Units:	mg/L
SampType:	MS	Run ID:	IC4_170926A	Analysis Date:	9/26/2017 5:38:21 PM	Prep Date:	9/26/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	218	10.0	200.0	16.46	101	90	110			

Sample ID	1709237-07BMSD	Batch ID:	82541	TestNo:	E300	Units:	mg/L
SampType:	MSD	Run ID:	IC4_170926A	Analysis Date:	9/26/2017 5:50:21 PM	Prep Date:	9/26/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	228	10.0	200.0	16.46	106	90	110	4.30	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1709236
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_170927B

The QC data in batch 82568 applies to the following samples: 1709236-05D

Sample ID	MB-82568	Batch ID:	82568	TestNo:	E300	Units:	mg/L
SampType:	MBLK	Run ID:	IC4_170927B	Analysis Date:	9/27/2017 10:28:51 AM	Prep Date:	9/27/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								

Sample ID	LCS-82568	Batch ID:	82568	TestNo:	E300	Units:	mg/L
SampType:	LCS	Run ID:	IC4_170927B	Analysis Date:	9/27/2017 10:40:51 AM	Prep Date:	9/27/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.78	1.00	10.00	0	97.8	90	110			

Sample ID	LCSD-82568	Batch ID:	82568	TestNo:	E300	Units:	mg/L
SampType:	LCSD	Run ID:	IC4_170927B	Analysis Date:	9/27/2017 10:52:51 AM	Prep Date:	9/27/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.74	1.00	10.00	0	97.4	90	110	0.413	20	

Sample ID	1709205-13BMS	Batch ID:	82568	TestNo:	E300	Units:	mg/L
SampType:	MS	Run ID:	IC4_170927B	Analysis Date:	9/27/2017 3:26:28 PM	Prep Date:	9/27/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	22100	1000	20000	929.5	106	90	110			

Sample ID	1709205-13BMSD	Batch ID:	82568	TestNo:	E300	Units:	mg/L
SampType:	MSD	Run ID:	IC4_170927B	Analysis Date:	9/27/2017 3:38:28 PM	Prep Date:	9/27/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	21900	1000	20000	929.5	105	90	110	1.29	20	

Sample ID	1709212-01BMS	Batch ID:	82568	TestNo:	E300	Units:	mg/L
SampType:	MS	Run ID:	IC4_170927B	Analysis Date:	9/27/2017 4:02:28 PM	Prep Date:	9/27/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	28800	1000	20000	7772	105	90	110			

Sample ID	1709212-01BMSD	Batch ID:	82568	TestNo:	E300	Units:	mg/L
SampType:	MSD	Run ID:	IC4_170927B	Analysis Date:	9/27/2017 4:14:28 PM	Prep Date:	9/27/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	29000	1000	20000	7772	106	90	110	0.589	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1709236
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: WC_170925B

The QC data in batch 82536 applies to the following samples: 1709236-01D, 1709236-02D, 1709236-03D, 1709236-04D, 1709236-05D

Sample ID	MB-82536	Batch ID:	82536	TestNo:	M2540C	Units:	mg/L
SampType:	MBLK	Run ID:	WC_170925B	Analysis Date:	9/26/2017 9:22:00 AM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	<10.0	10.0								

Sample ID	LCS-82536	Batch ID:	82536	TestNo:	M2540C	Units:	mg/L
SampType:	LCS	Run ID:	WC_170925B	Analysis Date:	9/26/2017 9:22:00 AM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	780	10.0	745.6	0	105	90	113			

Sample ID	1709205-08B-DUP	Batch ID:	82536	TestNo:	M2540C	Units:	mg/L
SampType:	DUP	Run ID:	WC_170925B	Analysis Date:	9/26/2017 9:22:00 AM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	5310	50.0	0	5525				3.97	5	

Sample ID	1709192-03D-DUP	Batch ID:	82536	TestNo:	M2540C	Units:	mg/L
SampType:	DUP	Run ID:	WC_170925B	Analysis Date:	9/26/2017 9:22:00 AM	Prep Date:	9/25/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	37900	50.0	0	37920				0.119	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

December 14, 2017

Brad Stephenson
GHD
2135 South Loop 250 West
Midland, Texas 79703
TEL: (720) 974-0935
FAX (432) 686-0186

Order No.: 1712081

RE: Hobbs Tank

Dear Brad Stephenson:

DHL Analytical, Inc. received 6 sample(s) on 12/7/2017 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative and all estimated uncertainties of results are within method specifications.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-17-19

Table of Contents

Miscellaneous Documents 3
CaseNarrative 1712081 6
Analytical Report 1712081 7
AnalyticalQCSummaryReport 1712081 13

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 84476

CHAIN-OF-CUSTODY

CLIENT: Holly
ADDRESS:
PHONE: FAX/E-MAIL:
DATA REPORTED TO: BRAD.STEPHENSON@GHD.COM
ADDITIONAL REPORT COPIES TO:

DATE: 12/6/17 PAGE 1 OF 1
PO #: DHL WORK ORDER #: 1712081
PROJECT LOCATION OR NAME: HOBBS TANK
CLENT PROJECT #: 078863 COLLECTOR: BSTEPHENSON

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT P=PAINT SL=SLUDGE O=OTHER SO=SOLID

PRESERVATION: HCl | HNO3 | H2SO4 | NaOH ☐ | ICE | UNPRESERVED

ANALYSES: BTEX ☑ MTBE ☐ 1MEthod 8021 | TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ | GRO (METHOD 8015) ☐ DRO (METHOD 8015) ☐ | VOC- 8260 ☐ VOC- 624 ☐ VOC- 8260/5035 ☐ | SVOC- 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐ | 8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ | 8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐ | 8321 HERB ☐ T PHOS ☐ AMMONIA ☐ | METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ | RCRA ☑ TX 11 ☐ | PH ☐ HEX CHROM ☐ ANIONS | CHLORIDES ☑ ALKALINITY ☐ COD ☐ | TCLP SVOC ☐ VOC ☐ PEST ☐ HERB ☐ | TCLP METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ | RCI ☐ FLASHPOINT ☐ OGAS ☐ | TDS ☑ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO3	H2SO4	NaOH	ICE	UNPRESERVED	FIELD NOTES
MW-2	01	12/6/17	1300	W		10						X	
MW-3	02		1215	W		10						X	
MW-4	03		1335	W		10						X	
MW-5	04		1330	W		10						X	
MW-50	05	12/6/17	1330	W		10						X	
TRIP	06	12/6/17	—	W		2						X	

RELINQUISHED BY: (Signature) DATE/TIME 12/6/17 1630 RECEIVED BY: (Signature) to FedEx
RELINQUISHED BY: (Signature) FedEx DATE/TIME 12/7/17 10:06 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

3

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☐
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 2.0 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☐ INTACT ☒ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

ORIGIN ID:HOBA (303) 941-6156
BRAD STEPHENSON

14998 W 6TH AVE STE 800

GOLDEN, CO 80401
UNITED STATES US

SHIP DATE: 06DEC17
ACTWGT: 52.40 LB
CAD: 006994246/SSFE1822
DIMS: 15x15x15 IN

BILL THIRD PARTY

TO DHL ANALYTICAL
DHL ANALYTICAL
2300 DOUBLE CREEK DR
REF #078802
ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx
Express

1 of 3
TRK# 0201 7888 0007 7640
MASTER

THU - 07 DEC 10:30A
PRIORITY OVERNIGHT

A8 BSMA

78664
TX-US AUS

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name GHD Date Received: 12/7/2017

Work Order Number 1712081 Received by EL

Checklist completed by: _____ 12/7/2017 Reviewed by _____ 12/7/2017
Signature Date Initials Date

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☐	No ☑	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	2.0 °C
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☐ LOT # 11837
	Adjusted? No		Checked by GVD
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: MW-5 has 2 broken voas for BTEX. We are using 2 voas for GRO and 2 voas for BTEX. MW-3 arrived with 1 broken GRO voa.

Corrective Action _____

Page 1 of 1

DHL Analytical, Inc. **Date:** *14-Dec-17*

CLIENT: GHD
Project: Hobbs Tank
Lab Order: 1712081

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition, EPA and Standard Methods.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives except where noted in the following. For DRO Analysis, the recovery of surrogate Octacosane for four Samples was above the method control limits. These are flagged accordingly in the QC Summary Report. The remaining surrogate for these samples was within method control limits. No further corrective action was taken.

For Metals Analysis, the RPD of Barium for the Post Digestion Spike (1712052-04 SD) was marginally above the method control limit. This is flagged accordingly in the QC Summary Report. This analyte was within method control limits in the associated Post Digestion Spike. No further corrective action was taken.

DHL Analytical, Inc.

Date: *14-Dec-17*

CLIENT:	GHD	**Client Sample ID:**	MW-2
Project:	Hobbs Tank	**Lab ID:**	1712081-01
Project No:	078863	**Collection Date:**	12/06/17 01:00 PM
Lab Order:	1712081	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.795	0.0762	0.0953		mg/L	1	12/13/17 04:48 PM
Surr: Isopropylbenzene	63.1	0	47-142		%REC	1	12/13/17 04:48 PM
Surr: Octacosane	138	0	51-124	S	%REC	1	12/13/17 04:48 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AJH**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	12/11/17 04:20 PM
Surr: Tetrachlorethene	93.0	0	74-138		%REC	1	12/11/17 04:20 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **SP**
Arsenic	0.0221	0.00200	0.00500		mg/L	1	12/11/17 11:07 AM
Barium	0.258	0.00300	0.0100		mg/L	1	12/11/17 11:07 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	12/11/17 11:07 AM
Chromium	0.00918	0.00200	0.00500		mg/L	1	12/11/17 11:07 AM
Lead	0.0114	0.000300	0.00100		mg/L	1	12/11/17 11:07 AM
Selenium	0.00973	0.00200	0.00500		mg/L	1	12/11/17 11:07 AM
Silver	<0.00100	0.00100	0.00200		mg/L	1	12/11/17 11:07 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/12/17 09:58 AM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 05:15 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 05:15 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 05:15 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 05:15 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 05:15 PM
Surr: 1,2-Dichloroethane-d4	106	0	72-119		%REC	1	12/07/17 05:15 PM
Surr: 4-Bromofluorobenzene	97.1	0	76-119		%REC	1	12/07/17 05:15 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	12/07/17 05:15 PM
Surr: Toluene-d8	97.6	0	81-120		%REC	1	12/07/17 05:15 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **JL**
Chloride	15.6	3.00	10.0		mg/L	10	12/08/17 03:49 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JW**
Total Dissolved Solids (Residue, Filterable)	1440	50.0	50.0		mg/L	1	12/11/17 09:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Dec-17*

CLIENT:	GHD	**Client Sample ID:**	MW-3
Project:	Hobbs Tank	**Lab ID:**	1712081-02
Project No:	078863	**Collection Date:**	12/06/17 12:15 PM
Lab Order:	1712081	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.668	0.0755	0.0944		mg/L	1	12/13/17 04:58 PM
Surr: Isopropylbenzene	62.5	0	47-142		%REC	1	12/13/17 04:58 PM
Surr: Octacosane	118	0	51-124		%REC	1	12/13/17 04:58 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AJH**
Gasoline Range Organics	0.0728	0.0600	0.100	J	mg/L	1	12/11/17 05:32 PM
Surr: Tetrachlorethene	93.6	0	74-138		%REC	1	12/11/17 05:32 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **SP**
Arsenic	0.0214	0.00200	0.00500		mg/L	1	12/11/17 11:34 AM
Barium	0.160	0.00300	0.0100		mg/L	1	12/11/17 11:34 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	12/11/17 11:34 AM
Chromium	0.00471	0.00200	0.00500	J	mg/L	1	12/11/17 11:34 AM
Lead	0.000817	0.000300	0.00100	J	mg/L	1	12/11/17 11:34 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	12/11/17 11:34 AM
Silver	<0.00100	0.00100	0.00200		mg/L	1	12/11/17 11:34 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/12/17 10:05 AM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 05:38 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 05:38 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 05:38 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 05:38 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 05:38 PM
Surr: 1,2-Dichloroethane-d4	105	0	72-119		%REC	1	12/07/17 05:38 PM
Surr: 4-Bromofluorobenzene	97.1	0	76-119		%REC	1	12/07/17 05:38 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	12/07/17 05:38 PM
Surr: Toluene-d8	97.5	0	81-120		%REC	1	12/07/17 05:38 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **JL**
Chloride	106	3.00	10.0		mg/L	10	12/08/17 04:01 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JW**
Total Dissolved Solids (Residue, Filterable)	782	10.0	10.0		mg/L	1	12/11/17 09:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Dec-17*

CLIENT:	GHD	**Client Sample ID:**	MW-4
Project:	Hobbs Tank	**Lab ID:**	1712081-03
Project No:	078863	**Collection Date:**	12/06/17 12:35 PM
Lab Order:	1712081	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	1.79	0.0770	0.0962		mg/L	1	12/13/17 05:07 PM
Surr: Isopropylbenzene	58.9	0	47-142		%REC	1	12/13/17 05:07 PM
Surr: Octacosane	137	0	51-124	S	%REC	1	12/13/17 05:07 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AJH**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	12/11/17 05:56 PM
Surr: Tetrachlorethene	97.7	0	74-138		%REC	1	12/11/17 05:56 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **SP**
Arsenic	0.0234	0.00200	0.00500		mg/L	1	12/11/17 11:36 AM
Barium	0.560	0.00300	0.0100		mg/L	1	12/11/17 11:36 AM
Cadmium	0.000570	0.000300	0.00100	J	mg/L	1	12/11/17 11:36 AM
Chromium	0.0343	0.00200	0.00500		mg/L	1	12/11/17 11:36 AM
Lead	0.0480	0.000300	0.00100		mg/L	1	12/11/17 11:36 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	12/11/17 11:36 AM
Silver	<0.00100	0.00100	0.00200		mg/L	1	12/11/17 11:36 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/12/17 10:07 AM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 06:02 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 06:02 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 06:02 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 06:02 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 06:02 PM
Surr: 1,2-Dichloroethane-d4	106	0	72-119		%REC	1	12/07/17 06:02 PM
Surr: 4-Bromofluorobenzene	95.9	0	76-119		%REC	1	12/07/17 06:02 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	12/07/17 06:02 PM
Surr: Toluene-d8	96.3	0	81-120		%REC	1	12/07/17 06:02 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **JL**
Chloride	90.6	3.00	10.0		mg/L	10	12/08/17 04:13 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JW**
Total Dissolved Solids (Residue, Filterable)	958	10.0	10.0		mg/L	1	12/11/17 09:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Dec-17*

CLIENT:	GHD	**Client Sample ID:**	MW-5
Project:	Hobbs Tank	**Lab ID:**	1712081-04
Project No:	078863	**Collection Date:**	12/06/17 01:30 PM
Lab Order:	1712081	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.425	0.0756	0.0945		mg/L	1	12/13/17 05:16 PM
Surr: Isopropylbenzene	52.4	0	47-142		%REC	1	12/13/17 05:16 PM
Surr: Octacosane	179	0	51-124	S	%REC	1	12/13/17 05:16 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AJH**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	12/11/17 06:20 PM
Surr: Tetrachlorethene	93.9	0	74-138		%REC	1	12/11/17 06:20 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **SP**
Arsenic	0.00706	0.00200	0.00500		mg/L	1	12/11/17 11:38 AM
Barium	0.261	0.00300	0.0100		mg/L	1	12/11/17 11:38 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	12/11/17 11:38 AM
Chromium	0.0110	0.00200	0.00500		mg/L	1	12/11/17 11:38 AM
Lead	0.00170	0.000300	0.00100		mg/L	1	12/11/17 11:38 AM
Selenium	0.00341	0.00200	0.00500	J	mg/L	1	12/11/17 11:38 AM
Silver	<0.00100	0.00100	0.00200		mg/L	1	12/11/17 11:38 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/12/17 10:09 AM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 06:26 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 06:26 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 06:26 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 06:26 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 06:26 PM
Surr: 1,2-Dichloroethane-d4	106	0	72-119		%REC	1	12/07/17 06:26 PM
Surr: 4-Bromofluorobenzene	98.3	0	76-119		%REC	1	12/07/17 06:26 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	12/07/17 06:26 PM
Surr: Toluene-d8	97.8	0	81-120		%REC	1	12/07/17 06:26 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **JL**
Chloride	58.5	3.00	10.0		mg/L	10	12/08/17 04:25 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JW**
Total Dissolved Solids (Residue, Filterable)	643	10.0	10.0		mg/L	1	12/11/17 09:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Dec-17*

CLIENT:	GHD	**Client Sample ID:**	MW-5D
Project:	Hobbs Tank	**Lab ID:**	1712081-05
Project No:	078863	**Collection Date:**	12/06/17 01:30 PM
Lab Order:	1712081	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.467	0.0758	0.0947		mg/L	1	12/13/17 05:25 PM
Surr: Isopropylbenzene	62.7	0	47-142		%REC	1	12/13/17 05:25 PM
Surr: Octacosane	183	0	51-124	S	%REC	1	12/13/17 05:25 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AJH**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	12/11/17 06:43 PM
Surr: Tetrachlorethene	95.6	0	74-138		%REC	1	12/11/17 06:43 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **SP**
Arsenic	0.00725	0.00200	0.00500		mg/L	1	12/11/17 11:40 AM
Barium	0.218	0.00300	0.0100		mg/L	1	12/11/17 11:40 AM
Cadmium	0.000310	0.000300	0.00100	J	mg/L	1	12/11/17 11:40 AM
Chromium	0.00765	0.00200	0.00500		mg/L	1	12/11/17 11:40 AM
Lead	0.00192	0.000300	0.00100		mg/L	1	12/11/17 11:40 AM
Selenium	0.00367	0.00200	0.00500	J	mg/L	1	12/11/17 11:40 AM
Silver	<0.00100	0.00100	0.00200		mg/L	1	12/11/17 11:40 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **AH**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/12/17 10:12 AM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 06:49 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 06:49 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 06:49 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 06:49 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 06:49 PM
Surr: 1,2-Dichloroethane-d4	107	0	72-119		%REC	1	12/07/17 06:49 PM
Surr: 4-Bromofluorobenzene	97.8	0	76-119		%REC	1	12/07/17 06:49 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	12/07/17 06:49 PM
Surr: Toluene-d8	97.3	0	81-120		%REC	1	12/07/17 06:49 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **JL**
Chloride	56.5	3.00	10.0		mg/L	10	12/08/17 04:37 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JW**
Total Dissolved Solids (Residue, Filterable)	649	10.0	10.0		mg/L	1	12/13/17 09:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *14-Dec-17*

CLIENT:	GHD	**Client Sample ID:**	TRIP
Project:	Hobbs Tank	**Lab ID:**	1712081-06
Project No:	078863	**Collection Date:**	12/06/17
Lab Order:	1712081	**Matrix:**	TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AJH**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	12/11/17 07:07 PM
Surr: Tetrachlorethene	107	0	74-138		%REC	1	12/11/17 07:07 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 04:05 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 04:05 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 04:05 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/07/17 04:05 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/07/17 04:05 PM
Surr: 1,2-Dichloroethane-d4	104	0	72-119		%REC	1	12/07/17 04:05 PM
Surr: 4-Bromofluorobenzene	98.8	0	76-119		%REC	1	12/07/17 04:05 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	12/07/17 04:05 PM
Surr: Toluene-d8	98.3	0	81-120		%REC	1	12/07/17 04:05 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc. **Date:** *14-Dec-17*

CLIENT: GHD
Work Order: 1712081
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_171213A

The QC data in batch 83562 applies to the following samples: 1712081-01E, 1712081-02E, 1712081-03E, 1712081-04E, 1712081-05E

Sample ID **LCS-83562**	Batch ID: **83562**	TestNo: **M8015D**	Units: **mg/L**
SampType: **LCS**	Run ID: **GC15_171213A**	Analysis Date: **12/13/2017 3:59:29 PM**	Prep Date: **12/12/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	0.954	0.100	1.250	0	76.3	50	114			
Surr: Isopropylbenzene	0.0645		0.1000		64.5	47	142			
Surr: Octacosane	0.0951		0.1000		95.1	51	124			

Sample ID **LCSD-83562**	Batch ID: **83562**	TestNo: **M8015D**	Units: **mg/L**
SampType: **LCSD**	Run ID: **GC15_171213A**	Analysis Date: **12/13/2017 4:08:28 PM**	Prep Date: **12/12/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	0.974	0.100	1.250	0	77.9	50	114	2.05	30	
Surr: Isopropylbenzene	0.0640		0.1000		64.0	47	142	0	0	
Surr: Octacosane	0.0954		0.1000		95.4	51	124	0	0	

Sample ID **MB-83562**	Batch ID: **83562**	TestNo: **M8015D**	Units: **mg/L**
SampType: **MBLK**	Run ID: **GC15_171213A**	Analysis Date: **12/13/2017 4:17:28 PM**	Prep Date: **12/12/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	<0.0800	0.100								
Surr: Isopropylbenzene	0.0557		0.1000		55.7	47	142			
Surr: Octacosane	0.0936		0.1000		93.6	51	124			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1712081
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_171211A

The QC data in batch 83544 applies to the following samples: 1712081-01B, 1712081-02B, 1712081-03B, 1712081-04B, 1712081-05B, 1712081-06B

Sample ID MB-83544	Batch ID: 83544	TestNo: M8015V	Units: mg/L
SampType: MBLK	Run ID: GC4_171211A	Analysis Date: 12/11/2017 2:18:36 PM	Prep Date: 12/11/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	<0.0600	0.100								
Surr: Tetrachlorethene	0.371		0.4000		92.8	74	138			

Sample ID LCS-83544	Batch ID: 83544	TestNo: M8015V	Units: mg/L
SampType: LCS	Run ID: GC4_171211A	Analysis Date: 12/11/2017 2:50:32 PM	Prep Date: 12/11/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.51	0.100	2.500	0	100	67	136			
Surr: Tetrachlorethene	0.391		0.4000		97.8	74	138			

Sample ID 1712081-01BMS	Batch ID: 83544	TestNo: M8015V	Units: mg/L
SampType: MS	Run ID: GC4_171211A	Analysis Date: 12/11/2017 4:44:12 PM	Prep Date: 12/11/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.34	0.100	2.500	0	93.7	67	136			
Surr: Tetrachlorethene	0.375		0.4000		93.8	74	138			

Sample ID 1712081-01BMSD	Batch ID: 83544	TestNo: M8015V	Units: mg/L
SampType: MSD	Run ID: GC4_171211A	Analysis Date: 12/11/2017 5:08:15 PM	Prep Date: 12/11/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.66	0.100	2.500	0	106	67	136	12.6	30	
Surr: Tetrachlorethene	0.398		0.4000		99.5	74	138	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1712081
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_171212A

The QC data in batch 83550 applies to the following samples: 1712081-01C, 1712081-02C, 1712081-03C, 1712081-04C, 1712081-05C

Sample ID	MB-83550	Batch ID:	83550	TestNo:	SW7470A	Units:	mg/L
SampType:	MBLK	Run ID:	CETAC2_HG_171212A	Analysis Date:	12/12/2017 9:22:11 AM	Prep Date:	12/11/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID	LCS-83550	Batch ID:	83550	TestNo:	SW7470A	Units:	mg/L
SampType:	LCS	Run ID:	CETAC2_HG_171212A	Analysis Date:	12/12/2017 9:24:27 AM	Prep Date:	12/11/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00204	0.000200	0.00200	0	102	85	115			

Sample ID	LCSD-83550	Batch ID:	83550	TestNo:	SW7470A	Units:	mg/L
SampType:	LCSD	Run ID:	CETAC2_HG_171212A	Analysis Date:	12/12/2017 9:26:43 AM	Prep Date:	12/11/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00206	0.000200	0.00200	0	103	85	115	0.976	15	

Sample ID	1712037-01C SD	Batch ID:	83550	TestNo:	SW7470A	Units:	mg/L
SampType:	SD	Run ID:	CETAC2_HG_171212A	Analysis Date:	12/12/2017 9:31:16 AM	Prep Date:	12/11/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.000400	0.00100	0	0				0	10	

Sample ID	1712037-01C PDS	Batch ID:	83550	TestNo:	SW7470A	Units:	mg/L
SampType:	PDS	Run ID:	CETAC2_HG_171212A	Analysis Date:	12/12/2017 9:33:31 AM	Prep Date:	12/11/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00238	0.000200	0.00250	0	95.2	85	115			

Sample ID	1712037-01C MS	Batch ID:	83550	TestNo:	SW7470A	Units:	mg/L
SampType:	MS	Run ID:	CETAC2_HG_171212A	Analysis Date:	12/12/2017 9:35:47 AM	Prep Date:	12/11/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00203	0.000200	0.00200	0	102	80	120			

Sample ID	1712037-01C MSD	Batch ID:	83550	TestNo:	SW7470A	Units:	mg/L
SampType:	MSD	Run ID:	CETAC2_HG_171212A	Analysis Date:	12/12/2017 9:38:02 AM	Prep Date:	12/11/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00204	0.000200	0.00200	0	102	80	120	0.491	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1712081
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_171211A

The QC data in batch 83526 applies to the following samples: 1712081-01C, 1712081-02C, 1712081-03C, 1712081-04C, 1712081-05C

Sample ID **MB-83526** Batch ID: **83526** TestNo: **SW6020A** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS4_171211A** Analysis Date: **12/11/2017 10:39:00 A** Prep Date: **12/8/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Cadmium	<0.000300	0.00100								
Chromium	<0.00200	0.00500								
Lead	<0.000300	0.00100								
Selenium	<0.00200	0.00500								
Silver	<0.00100	0.00200								

Sample ID **LCS-83526** Batch ID: **83526** TestNo: **SW6020A** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS4_171211A** Analysis Date: **12/11/2017 10:41:00 A** Prep Date: **12/8/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.207	0.00500	0.200	0	104	80	120			
Barium	0.205	0.0100	0.200	0	103	80	120			
Cadmium	0.208	0.00100	0.200	0	104	80	120			
Chromium	0.203	0.00500	0.200	0	102	80	120			
Lead	0.202	0.00100	0.200	0	101	80	120			
Selenium	0.210	0.00500	0.200	0	105	80	120			
Silver	0.205	0.00200	0.200	0	102	80	120			

Sample ID **LCSD-83526** Batch ID: **83526** TestNo: **SW6020A** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS4_171211A** Analysis Date: **12/11/2017 10:43:00 A** Prep Date: **12/8/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.207	0.00500	0.200	0	103	80	120	0.237	15	
Barium	0.203	0.0100	0.200	0	102	80	120	1.02	15	
Cadmium	0.207	0.00100	0.200	0	103	80	120	0.554	15	
Chromium	0.203	0.00500	0.200	0	101	80	120	0.199	15	
Lead	0.201	0.00100	0.200	0	101	80	120	0.218	15	
Selenium	0.207	0.00500	0.200	0	104	80	120	0.980	15	
Silver	0.204	0.00200	0.200	0	102	80	120	0.432	15	

Sample ID **1712052-04A SD** Batch ID: **83526** TestNo: **SW6020A** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS4_171211A** Analysis Date: **12/11/2017 10:49:00 A** Prep Date: **12/8/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.0728	0.0500	0	0.0813				10.9	10	R
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1712081
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_171211A

Sample ID	1712052-04A SD	Batch ID:	83526	TestNo:	SW6020A	Units:	mg/L
SampType:	SD	Run ID:	ICP-MS4_171211A	Analysis Date:	12/11/2017 10:49:00 A	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	<0.00150	0.00500	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Silver	<0.00500	0.0100	0	0				0	10	

Sample ID	1712052-04A PDS	Batch ID:	83526	TestNo:	SW6020A	Units:	mg/L
SampType:	PDS	Run ID:	ICP-MS4_171211A	Analysis Date:	12/11/2017 11:09:00 A	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.224	0.00500	0.200	0	112	80	120			
Barium	0.303	0.0100	0.200	0.0813	111	80	120			
Cadmium	0.222	0.00100	0.200	0	111	80	120			
Chromium	0.223	0.00500	0.200	0	112	80	120			
Lead	0.216	0.00100	0.200	0	108	80	120			
Selenium	0.223	0.00500	0.200	0	111	80	120			
Silver	0.215	0.00200	0.200	0	107	80	120			

Sample ID	1712052-04A MS	Batch ID:	83526	TestNo:	SW6020A	Units:	mg/L
SampType:	MS	Run ID:	ICP-MS4_171211A	Analysis Date:	12/11/2017 11:11:00 A	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.218	0.00500	0.200	0	109	80	120			
Barium	0.297	0.0100	0.200	0.0813	108	80	120			
Cadmium	0.212	0.00100	0.200	0	106	80	120			
Chromium	0.207	0.00500	0.200	0	104	80	120			
Lead	0.209	0.00100	0.200	0	104	80	120			
Selenium	0.214	0.00500	0.200	0	107	80	120			
Silver	0.206	0.00200	0.200	0	103	80	120			

Sample ID	1712052-04A MSD	Batch ID:	83526	TestNo:	SW6020A	Units:	mg/L
SampType:	MSD	Run ID:	ICP-MS4_171211A	Analysis Date:	12/11/2017 11:12:00 A	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.216	0.00500	0.200	0	108	80	120	0.583	15	
Barium	0.297	0.0100	0.200	0.0813	108	80	120	0.116	15	
Cadmium	0.213	0.00100	0.200	0	106	80	120	0.162	15	
Chromium	0.209	0.00500	0.200	0	104	80	120	0.828	15	
Lead	0.208	0.00100	0.200	0	104	80	120	0.241	15	
Selenium	0.212	0.00500	0.200	0	106	80	120	1.04	15	
Silver	0.206	0.00200	0.200	0	103	80	120	0.110	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1712081
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_171207A

The QC data in batch 83518 applies to the following samples: 1712081-01A, 1712081-02A, 1712081-03A, 1712081-04A, 1712081-05A, 1712081-06A

Sample ID **LCS-83518** Batch ID: **83518** TestNo: **SW8260C** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS5_171207A** Analysis Date: **12/7/2017 3:17:00 PM** Prep Date: **12/7/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0237	0.00100	0.0232	0	102	81	122			
Ethylbenzene	0.0243	0.00100	0.0232	0	105	80	120			
m,p-Xylene	0.0486	0.00200	0.0464	0	105	80	120			
o-Xylene	0.0244	0.00100	0.0232	0	105	80	120			
Toluene	0.0239	0.00200	0.0232	0	103	80	120			
Surr: 1,2-Dichloroethane-d4	216		200.0		108	72	119			
Surr: 4-Bromofluorobenzene	191		200.0		95.7	76	119			
Surr: Dibromofluoromethane	210		200.0		105	85	115			
Surr: Toluene-d8	195		200.0		97.4	81	120			

Sample ID **MB-83518** Batch ID: **83518** TestNo: **SW8260C** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS5_171207A** Analysis Date: **12/7/2017 3:41:00 PM** Prep Date: **12/7/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	<0.000300	0.00100								
Ethylbenzene	<0.000300	0.00100								
m,p-Xylene	<0.000600	0.00200								
o-Xylene	<0.000300	0.00100								
Toluene	<0.000600	0.00200								
Surr: 1,2-Dichloroethane-d4	208		200.0		104	72	119			
Surr: 4-Bromofluorobenzene	195		200.0		97.3	76	119			
Surr: Dibromofluoromethane	207		200.0		103	85	115			
Surr: Toluene-d8	196		200.0		97.9	81	120			

Sample ID **1712083-06AMS** Batch ID: **83518** TestNo: **SW8260C** Units: **mg/L**
SampType: **MS** Run ID: **GCMS5_171207A** Analysis Date: **12/7/2017 11:34:00 PM** Prep Date: **12/7/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0235	0.00100	0.0232	0	101	81	122			
Ethylbenzene	0.0235	0.00100	0.0232	0	101	80	120			
m,p-Xylene	0.0474	0.00200	0.0464	0	102	80	120			
o-Xylene	0.0236	0.00100	0.0232	0	102	80	120			
Toluene	0.0234	0.00200	0.0232	0	101	80	120			
Surr: 1,2-Dichloroethane-d4	214		200.0		107	72	119			
Surr: 4-Bromofluorobenzene	194		200.0		97.2	76	119			
Surr: Dibromofluoromethane	211		200.0		105	85	115			
Surr: Toluene-d8	194		200.0		97.0	81	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1712081
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_171207A

Sample ID **1712083-06AMSD** Batch ID: **83518** TestNo: **SW8260C** Units: **mg/L**
SampType: **MSD** Run ID: **GCMS5_171207A** Analysis Date: **12/7/2017 11:57:00 PM** Prep Date: **12/7/2017**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0233	0.00100	0.0232	0	100	81	120	0.838	20	
Ethylbenzene	0.0237	0.00100	0.0232	0	102	80	120	0.483	20	
m,p-Xylene	0.0468	0.00200	0.0464	0	101	80	120	1.31	20	
o-Xylene	0.0237	0.00100	0.0232	0	102	80	120	0.317	20	
Toluene	0.0232	0.00200	0.0232	0	100	80	120	0.630	20	
Surr: 1,2-Dichloroethane-d4	213		200.0		107	72	119	0	0	
Surr: 4-Bromofluorobenzene	191		200.0		95.5	76	119	0	0	
Surr: Dibromofluoromethane	209		200.0		105	85	115	0	0	
Surr: Toluene-d8	195		200.0		97.4	81	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1712081
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_171208A

The QC data in batch 83524 applies to the following samples: 1712081-01D, 1712081-02D, 1712081-03D, 1712081-04D, 1712081-05D

Sample ID	MB-83524	Batch ID:	83524	TestNo:	E300	Units:	mg/L
SampType:	MBLK	Run ID:	IC4_171208A	Analysis Date:	12/8/2017 10:26:26 AM	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								

Sample ID	LCS-83524	Batch ID:	83524	TestNo:	E300	Units:	mg/L
SampType:	LCS	Run ID:	IC4_171208A	Analysis Date:	12/8/2017 10:38:26 AM	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.84	1.00	10.00	0	98.4	90	110			

Sample ID	LCSD-83524	Batch ID:	83524	TestNo:	E300	Units:	mg/L
SampType:	LCSD	Run ID:	IC4_171208A	Analysis Date:	12/8/2017 10:50:26 AM	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.96	1.00	10.00	0	99.6	90	110	1.26	20	

Sample ID	1712028-21DMS	Batch ID:	83524	TestNo:	E300	Units:	mg/L
SampType:	MS	Run ID:	IC4_171208A	Analysis Date:	12/8/2017 3:13:54 PM	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4230	100	2000	2211	101	90	110			

Sample ID	1712028-21DMSD	Batch ID:	83524	TestNo:	E300	Units:	mg/L
SampType:	MSD	Run ID:	IC4_171208A	Analysis Date:	12/8/2017 3:25:53 PM	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4210	100	2000	2211	100	90	110	0.464	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1712081
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: WC_171208D

The QC data in batch 83534 applies to the following samples: 1712081-01D, 1712081-02D, 1712081-03D, 1712081-04D

Sample ID	MB-83534	Batch ID:	83534	TestNo:	M2540C	Units:	mg/L
SampType:	MBLK	Run ID:	WC_171208D	Analysis Date:	12/11/2017 9:00:00 AM	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	<10.0	10.0								

Sample ID	LCS-83534	Batch ID:	83534	TestNo:	M2540C	Units:	mg/L
SampType:	LCS	Run ID:	WC_171208D	Analysis Date:	12/11/2017 9:00:00 AM	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	734	10.0	745.6	0	98.4	90	113			

Sample ID	1712052-04C-DUP	Batch ID:	83534	TestNo:	M2540C	Units:	mg/L
SampType:	DUP	Run ID:	WC_171208D	Analysis Date:	12/11/2017 9:00:00 AM	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	229	10.0	0	234.0				2.16	5	

Sample ID	1712081-01D-DUP	Batch ID:	83534	TestNo:	M2540C	Units:	mg/L
SampType:	DUP	Run ID:	WC_171208D	Analysis Date:	12/11/2017 9:00:00 AM	Prep Date:	12/8/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1500	50.0	0	1440				3.75	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1712081
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: WC_171212C

The QC data in batch 83572 applies to the following samples: 1712081-05D

Sample ID	MB-83572	Batch ID:	83572	TestNo:	M2540C	Units:	mg/L
SampType:	MBLK	Run ID:	WC_171212C	Analysis Date:	12/13/2017 9:00:00 AM	Prep Date:	12/12/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	<10.0	10.0								

Sample ID	LCS-83572	Batch ID:	83572	TestNo:	M2540C	Units:	mg/L
SampType:	LCS	Run ID:	WC_171212C	Analysis Date:	12/13/2017 9:00:00 AM	Prep Date:	12/12/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	733	10.0	745.6	0	98.3	90	113			

Sample ID	1712092-01B-DUP	Batch ID:	83572	TestNo:	M2540C	Units:	mg/L
SampType:	DUP	Run ID:	WC_171212C	Analysis Date:	12/13/2017 9:00:00 AM	Prep Date:	12/12/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3560	50.0	0	3535				0.705	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

DHL ANALYTICAL

May 22, 2018

Brad Stephenson
GHD
14998 W 6th Ave #800
Golden, CO 80401
TEL: (720) 974-0935
FAX (432) 686-0186

Order No.: 1803141

RE: Hobbs Tank

Dear Brad Stephenson:

DHL Analytical, Inc. received 6 sample(s) on 3/15/2018 for the analyses presented in the following report.

Revision Number 1 for Work Order 1803141: This revision consists of extending the target analyte list for Volatiles Analysis, per the client's request. Please replace the original Data Report with this revision.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-18-20

ACCREDITED IN ACCORDANCE WITH nelac

Table of Contents

Miscellaneous Documents 3
CaseNarrative 1803141 6
Analytical Report 1803141 7
AnalyticalQCSummaryReport 1803141 19

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 78415

CHAIN-OF-CUSTODY

CLIENT: GHD
ADDRESS: 6 CLOVER, CO
PHONE: 303 941-6156 FAX/E-MAIL: BRAD.STEPHENSON@GHD.COM
DATA REPORTED TO: BRAD STEPHENSON, JEFFERY CLOUD
ADDITIONAL REPORT COPIES TO:

DATE: ~~3/14~~ 3/14/18 PAGE 1 OF 1
PO #: DHL WORK ORDER #: 1803141
PROJECT LOCATION OR NAME: HOBBS TANK
CLENT PROJECT #: 078863 COLLECTOR: BS

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT P=PAINT SL=SLUDGE O=OTHER SO=SOLID

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
MW-2	01	3/14/18	1030	W		9						X X X	
MW-3	02		0900	W		9						X X X	
MW-4	03		0932	W		9						X X X	
MW-5	04	↓	1105	W		9						X X X	
HTRW-1	05	3/14/18	1205	W		9						X X X	
TRIP	06	3/14/18		W		1						X X	

ANALYSES: BTEX ☐ [METHOD 8021] ☐ TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ GRO (METHOD 8015) ☐ DRO (METHOD 8015) ☐ VOC 8260/5035 ☐ VOC 624 ☐ VOC 8260/5035 ☐ SVOC 8270/625 PAH ☐ SVOC 625 ☐ 8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ 8082 PCB ☐ 8270 PCB ☐ 8321 HERB ☐ TPHCS ☐ AMMONIA ☐ METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ PH ☐ HEX CHROM ☐ TA1T ☐ CHLORIDE ☐ ANIONS ☐ ALKALINITY ☐ COD ☐ TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ RCI ☐ FLASHPOINT ☐ DG/AS ☐ TDS ☐ TSS ☐ %MOISTURE ☐ CYANIDE ☐

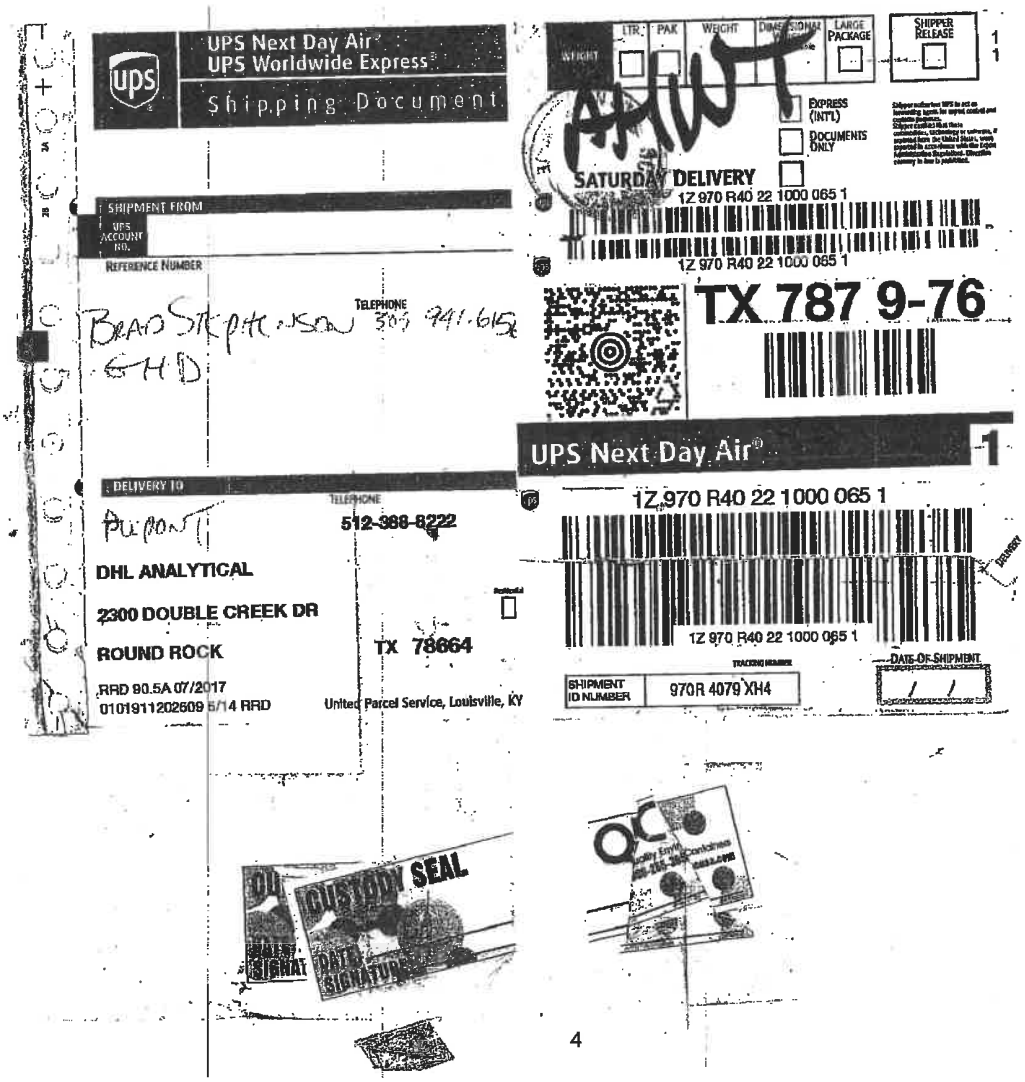
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
	3/14/18	U.P.S.
U.P.S.	3/15/18 10:28	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☐
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 8.9 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☐ INTACT ☒ NOT USED
CARRIER: ☐ LONE STAR ☐ FEDEX ☒ UPS ☐ OTHER
☐ COURIER DELIVERY 0.1 Ice
☐ HAND DELIVERED

3


UPS Next Day Air
UPS Worldwide Express
Shipping Document
SATURDAY DELIVERY
1Z 970 R40 22 1000 065 1
TX 787 9-76
SHIPMENT FROM
REFERENCE NUMBER
BRAD STEPHENSON 309 941-615
GHD
DELIVERY TO
PUMONTI
512-388-8222
DHL ANALYTICAL
2300 DOUBLE CREEK DR
ROUND ROCK
TX 78664
RRD 90.5A 07/2017
0101911202609 5/14 RRD
United Parcel Service, Louisville, KY
UPS Next Day Air
1Z 970 R40 22 1000 065 1
SHIPMENT ID NUMBER
970R 4079 XH4
DATE OF SHIPMENT
CUSTODY SEAL
DATE
SIGNATURE

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name GHD Date Received: 3/15/2018

Work Order Number 1803141 Received by EL

Checklist completed by: [signature] 3/15/2018 (Signature / Date) Reviewed by [initials] 3/15/2018 (Initials / Date)

Carrier name UPS Blue

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	EL 3/15/18
Container/Temp Blank temperature in compliance?	Yes ☑	No ☑	8.9 °C on Ice
Water - VOA vials have zero headspace?	Yes ☐	No ☑	No VOA vials submitted ☐
Water - pH<2 acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by

Any No response must be detailed in the comments section below.

Client contacted ~~Yes~~ GHD EL 3/15/18 Date contacted: 3/15/18 Person contacted Brad S & Jeff C.

Contacted by: John DuPont Regarding: headspace

Comments: Samples "MW-2" & "MW-4" received w/ all VOAs having headspace > 6 m.m. diameter.

Corrective Action Proceed w/ analysis & flag data

Page 1 of 1

DHL Analytical, Inc. **Date:** *22-May-18*

CLIENT: GHD
Project: Hobbs Tank
Lab Order: 1803141

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition and Standard Methods.

All of the volatiles vials of two samples were received with observed headspace of >6mm. The results of these samples were "C" flagged in the Analytical Data Report. These are detailed in the Sample Receipt Checklist.

The compound 1-Methylnaphthalene is not NELAC Certified.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives except where noted in the following. For PAH Analysis, the recovery of surrogate 2-Fluorobiphenyl for two samples was below the method control limits. These are flagged accordingly in the Analytical Data Report. The remaining surrogate for these samples was within method control limits. No further corrective action was taken.

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	MW-2
Project:	Hobbs Tank	**Lab ID:**	1803141-01
Project No:	078863	**Collection Date:**	03/14/18 10:30 AM
Lab Order:	1803141	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	1.91	0.0759	0.0949		mg/L	1	03/20/18 04:10 PM
Surr: Isopropylbenzene	68.1	0	47-142		%REC	1	03/20/18 04:10 PM
Surr: Octacosane	109	0	51-124		%REC	1	03/20/18 04:10 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AJH**
Gasoline Range Organics	0.101	0.0600	0.100		mg/L	1	03/16/18 03:32 PM
Surr: Tetrachlorethene	105	0	74-138		%REC	1	03/16/18 03:32 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000238	0.0000238	0.0000476	N	mg/L	1	03/19/18 12:14 PM
2-Methylnaphthalene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/19/18 12:14 PM
3,4-Benzofluoranthene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/19/18 12:14 PM
Anthracene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/19/18 12:14 PM
Benzo[a]pyrene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/19/18 12:14 PM
Benzo[k]fluoranthene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/19/18 12:14 PM
Fluoranthene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/19/18 12:14 PM
Fluorene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/19/18 12:14 PM
Naphthalene	0.0000443	0.0000238	0.0000476	J	mg/L	1	03/19/18 12:14 PM
Phenanthrene	0.000109	0.0000238	0.0000476		mg/L	1	03/19/18 12:14 PM
Pyrene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/19/18 12:14 PM
Surr: 2-Fluorobiphenyl	50.0	0	48-120		%REC	1	03/19/18 12:14 PM
Surr: 4-Terphenyl-d14	63.0	0	51-135		%REC	1	03/19/18 12:14 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Acrolein	<0.00500	0.00500	0.0150	C	mg/L	1	03/15/18 06:46 PM
Acrylonitrile	<0.00100	0.00100	0.00300	C	mg/L	1	03/15/18 06:46 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	MW-2
Project:	Hobbs Tank	**Lab ID:**	1803141-01
Project No:	078863	**Collection Date:**	03/14/18 10:30 AM
Lab Order:	1803141	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Bromobenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Bromochloromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Bromodichloromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Bromoform	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Bromomethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Chlorobenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Chloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Chloroform	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Chloromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Dibromochloromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Ethylbenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
m,p-Xylene	<0.000600	0.000600	0.00200	C	mg/L	1	03/15/18 06:46 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Methylene chloride	<0.00250	0.00250	0.00250	C	mg/L	1	03/15/18 06:46 PM
Naphthalene	<0.00500	0.00500	0.0150	C	mg/L	1	03/15/18 06:46 PM
o-Xylene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Tetrachloroethene	<0.000600	0.000600	0.00200	C	mg/L	1	03/15/18 06:46 PM
Toluene	<0.000600	0.000600	0.00200	C	mg/L	1	03/15/18 06:46 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Trichloroethene	<0.000600	0.000600	0.00200	C	mg/L	1	03/15/18 06:46 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Vinyl chloride	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Total Xylenes	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 06:46 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	1	03/15/18 06:46 PM
Surr: 4-Bromofluorobenzene	104	0	76-119		%REC	1	03/15/18 06:46 PM
Surr: Dibromofluoromethane	96.7	0	85-115		%REC	1	03/15/18 06:46 PM
Surr: Toluene-d8	97.6	0	81-120		%REC	1	03/15/18 06:46 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	MW-3
Project:	Hobbs Tank	**Lab ID:**	1803141-02
Project No:	078863	**Collection Date:**	03/14/18 09:00 AM
Lab Order:	1803141	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.184	0.0754	0.0942		mg/L	1	03/20/18 12:29 PM
Surr: Isopropylbenzene	62.6	0	47-142		%REC	1	03/20/18 12:29 PM
Surr: Octacosane	90.5	0	51-124		%REC	1	03/20/18 12:29 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AJH**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	03/16/18 03:56 PM
Surr: Tetrachlorethene	87.1	0	74-138		%REC	1	03/16/18 03:56 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000237	0.0000237	0.0000474	N	mg/L	1	03/17/18 01:51 PM
2-Methylnaphthalene	<0.0000237	0.0000237	0.0000474		mg/L	1	03/17/18 01:51 PM
3,4-Benzofluoranthene	<0.0000237	0.0000237	0.0000474		mg/L	1	03/17/18 01:51 PM
Anthracene	<0.0000237	0.0000237	0.0000474		mg/L	1	03/17/18 01:51 PM
Benzo[a]pyrene	<0.0000237	0.0000237	0.0000474		mg/L	1	03/17/18 01:51 PM
Benzo[k]fluoranthene	<0.0000237	0.0000237	0.0000474		mg/L	1	03/17/18 01:51 PM
Fluoranthene	<0.0000237	0.0000237	0.0000474		mg/L	1	03/17/18 01:51 PM
Fluorene	<0.0000237	0.0000237	0.0000474		mg/L	1	03/17/18 01:51 PM
Naphthalene	<0.0000237	0.0000237	0.0000474		mg/L	1	03/17/18 01:51 PM
Phenanthrene	<0.0000237	0.0000237	0.0000474		mg/L	1	03/17/18 01:51 PM
Pyrene	<0.0000237	0.0000237	0.0000474		mg/L	1	03/17/18 01:51 PM
Surr: 2-Fluorobiphenyl	42.1	0	48-120	S	%REC	1	03/17/18 01:51 PM
Surr: 4-Terphenyl-d14	54.9	0	51-135		%REC	1	03/17/18 01:51 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Acrolein	<0.00500	0.00500	0.0150		mg/L	1	03/15/18 07:09 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/15/18 07:09 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	MW-3
Project:	Hobbs Tank	**Lab ID:**	1803141-02
Project No:	078863	**Collection Date:**	03/14/18 09:00 AM
Lab Order:	1803141	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Bromobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Bromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Bromodichloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Bromoform	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Dibromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 07:09 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/15/18 07:09 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	03/15/18 07:09 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 07:09 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 07:09 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 07:09 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Total Xylenes	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:09 PM
Surr: 1,2-Dichloroethane-d4	101	0	72-119		%REC	1	03/15/18 07:09 PM
Surr: 4-Bromofluorobenzene	104	0	76-119		%REC	1	03/15/18 07:09 PM
Surr: Dibromofluoromethane	97.7	0	85-115		%REC	1	03/15/18 07:09 PM
Surr: Toluene-d8	97.9	0	81-120		%REC	1	03/15/18 07:09 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	MW-4
Project:	Hobbs Tank	**Lab ID:**	1803141-03
Project No:	078863	**Collection Date:**	03/14/18 09:30 AM
Lab Order:	1803141	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	0.357	0.0757	0.0947		mg/L	1	03/20/18 12:38 PM
Surr: Isopropylbenzene	64.8	0	47-142		%REC	1	03/20/18 12:38 PM
Surr: Octacosane	102	0	51-124		%REC	1	03/20/18 12:38 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AJH**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	03/16/18 04:20 PM
Surr: Tetrachlorethene	99.0	0	74-138		%REC	1	03/16/18 04:20 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000238	0.0000238	0.0000476	N	mg/L	1	03/17/18 02:20 PM
2-Methylnaphthalene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/17/18 02:20 PM
3,4-Benzofluoranthene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/17/18 02:20 PM
Anthracene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/17/18 02:20 PM
Benzo[a]pyrene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/17/18 02:20 PM
Benzo[k]fluoranthene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/17/18 02:20 PM
Fluoranthene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/17/18 02:20 PM
Fluorene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/17/18 02:20 PM
Naphthalene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/17/18 02:20 PM
Phenanthrene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/17/18 02:20 PM
Pyrene	<0.0000238	0.0000238	0.0000476		mg/L	1	03/17/18 02:20 PM
Surr: 2-Fluorobiphenyl	50.4	0	48-120		%REC	1	03/17/18 02:20 PM
Surr: 4-Terphenyl-d14	66.2	0	51-135		%REC	1	03/17/18 02:20 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Acrolein	<0.00500	0.00500	0.0150	C	mg/L	1	03/15/18 07:32 PM
Acrylonitrile	<0.00100	0.00100	0.00300	C	mg/L	1	03/15/18 07:32 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	MW-4
Project:	Hobbs Tank	**Lab ID:**	1803141-03
Project No:	078863	**Collection Date:**	03/14/18 09:30 AM
Lab Order:	1803141	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	0.000331	0.000300	0.00100	JC	mg/L	1	03/15/18 07:32 PM
Bromobenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Bromochloromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Bromodichloromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Bromoform	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Bromomethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Chlorobenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Chloroethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Chloroform	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Chloromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Dibromochloromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Ethylbenzene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
m,p-Xylene	<0.000600	0.000600	0.00200	C	mg/L	1	03/15/18 07:32 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Methylene chloride	<0.00250	0.00250	0.00250	C	mg/L	1	03/15/18 07:32 PM
Naphthalene	<0.00500	0.00500	0.0150	C	mg/L	1	03/15/18 07:32 PM
o-Xylene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Tetrachloroethene	<0.000600	0.000600	0.00200	C	mg/L	1	03/15/18 07:32 PM
Toluene	<0.000600	0.000600	0.00200	C	mg/L	1	03/15/18 07:32 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Trichloroethene	<0.000600	0.000600	0.00200	C	mg/L	1	03/15/18 07:32 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Vinyl chloride	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Total Xylenes	<0.000300	0.000300	0.00100	C	mg/L	1	03/15/18 07:32 PM
Surr: 1,2-Dichloroethane-d4	99.6	0	72-119		%REC	1	03/15/18 07:32 PM
Surr: 4-Bromofluorobenzene	104	0	76-119		%REC	1	03/15/18 07:32 PM
Surr: Dibromofluoromethane	96.7	0	85-115		%REC	1	03/15/18 07:32 PM
Surr: Toluene-d8	99.5	0	81-120		%REC	1	03/15/18 07:32 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	MW-5
Project:	Hobbs Tank	**Lab ID:**	1803141-04
Project No:	078863	**Collection Date:**	03/14/18 11:05 AM
Lab Order:	1803141	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	<0.0756	0.0756	0.0944		mg/L	1	03/20/18 12:47 PM
Surr: Isopropylbenzene	63.3	0	47-142		%REC	1	03/20/18 12:47 PM
Surr: Octacosane	112	0	51-124		%REC	1	03/20/18 12:47 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AJH**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	03/16/18 04:44 PM
Surr: Tetrachlorethene	91.9	0	74-138		%REC	1	03/16/18 04:44 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000236	0.0000236	0.0000472	N	mg/L	1	03/17/18 02:50 PM
2-Methylnaphthalene	<0.0000236	0.0000236	0.0000472		mg/L	1	03/17/18 02:50 PM
3,4-Benzofluoranthene	<0.0000236	0.0000236	0.0000472		mg/L	1	03/17/18 02:50 PM
Anthracene	<0.0000236	0.0000236	0.0000472		mg/L	1	03/17/18 02:50 PM
Benzo[a]pyrene	<0.0000236	0.0000236	0.0000472		mg/L	1	03/17/18 02:50 PM
Benzo[k]fluoranthene	<0.0000236	0.0000236	0.0000472		mg/L	1	03/17/18 02:50 PM
Fluoranthene	<0.0000236	0.0000236	0.0000472		mg/L	1	03/17/18 02:50 PM
Fluorene	<0.0000236	0.0000236	0.0000472		mg/L	1	03/17/18 02:50 PM
Naphthalene	<0.0000236	0.0000236	0.0000472		mg/L	1	03/17/18 02:50 PM
Phenanthrene	<0.0000236	0.0000236	0.0000472		mg/L	1	03/17/18 02:50 PM
Pyrene	<0.0000236	0.0000236	0.0000472		mg/L	1	03/17/18 02:50 PM
Surr: 2-Fluorobiphenyl	55.8	0	48-120		%REC	1	03/17/18 02:50 PM
Surr: 4-Terphenyl-d14	70.0	0	51-135		%REC	1	03/17/18 02:50 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Acrolein	<0.00500	0.00500	0.0150		mg/L	1	03/15/18 07:55 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/15/18 07:55 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	MW-5
Project:	Hobbs Tank	**Lab ID:**	1803141-04
Project No:	078863	**Collection Date:**	03/14/18 11:05 AM
Lab Order:	1803141	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Bromobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Bromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Bromodichloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Bromoform	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Dibromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 07:55 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/15/18 07:55 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	03/15/18 07:55 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 07:55 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 07:55 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 07:55 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Total Xylenes	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 07:55 PM
Surr: 1,2-Dichloroethane-d4	100	0	72-119		%REC	1	03/15/18 07:55 PM
Surr: 4-Bromofluorobenzene	107	0	76-119		%REC	1	03/15/18 07:55 PM
Surr: Dibromofluoromethane	96.1	0	85-115		%REC	1	03/15/18 07:55 PM
Surr: Toluene-d8	98.6	0	81-120		%REC	1	03/15/18 07:55 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	HTRW-1
Project:	Hobbs Tank	**Lab ID:**	1803141-05
Project No:	078863	**Collection Date:**	03/14/18 12:05 PM
Lab Order:	1803141	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **DB**
TPH-DRO C10-C28	<0.0754	0.0754	0.0943		mg/L	1	03/20/18 12:56 PM
Surr: Isopropylbenzene	61.6	0	47-142		%REC	1	03/20/18 12:56 PM
Surr: Octacosane	101	0	51-124		%REC	1	03/20/18 12:56 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **AJH**
Gasoline Range Organics	0.360	0.0600	0.100		mg/L	1	03/16/18 05:08 PM
Surr: Tetrachlorethene	99.2	0	74-138		%REC	1	03/16/18 05:08 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000236	0.0000236	0.0000473	N	mg/L	1	03/17/18 03:20 PM
2-Methylnaphthalene	<0.0000236	0.0000236	0.0000473		mg/L	1	03/17/18 03:20 PM
3,4-Benzofluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	03/17/18 03:20 PM
Anthracene	<0.0000236	0.0000236	0.0000473		mg/L	1	03/17/18 03:20 PM
Benzo[a]pyrene	<0.0000236	0.0000236	0.0000473		mg/L	1	03/17/18 03:20 PM
Benzo[k]fluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	03/17/18 03:20 PM
Fluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	03/17/18 03:20 PM
Fluorene	<0.0000236	0.0000236	0.0000473		mg/L	1	03/17/18 03:20 PM
Naphthalene	<0.0000236	0.0000236	0.0000473		mg/L	1	03/17/18 03:20 PM
Phenanthrene	<0.0000236	0.0000236	0.0000473		mg/L	1	03/17/18 03:20 PM
Pyrene	<0.0000236	0.0000236	0.0000473		mg/L	1	03/17/18 03:20 PM
Surr: 2-Fluorobiphenyl	47.1	0	48-120	S	%REC	1	03/17/18 03:20 PM
Surr: 4-Terphenyl-d14	62.4	0	51-135		%REC	1	03/17/18 03:20 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,1,2,2-Tetrachloroethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,1,2-Trichloroethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,1-Dichloroethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,1-Dichloroethene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,1-Dichloropropene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,2-Dibromoethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,2-Dichlorobenzene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,2-Dichloroethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,2-Dichloropropane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,3-Dichlorobenzene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,3-Dichloropropane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
1,4-Dichlorobenzene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
2,2-Dichloropropane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Acrolein	<0.0500	0.0500	0.150		mg/L	10	03/15/18 08:42 PM
Acrylonitrile	<0.0100	0.0100	0.0300		mg/L	10	03/15/18 08:42 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	HTRW-1
Project:	Hobbs Tank	**Lab ID:**	1803141-05
Project No:	078863	**Collection Date:**	03/14/18 12:05 PM
Lab Order:	1803141	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	0.102	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Bromobenzene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Bromochloromethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Bromodichloromethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Bromoform	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Bromomethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Carbon tetrachloride	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Chlorobenzene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Chloroethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Chloroform	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Chloromethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
cis-1,2-Dichloroethene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
cis-1,3-Dichloropropene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Dibromochloromethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Dichlorodifluoromethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Ethylbenzene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
m,p-Xylene	<0.00600	0.00600	0.0200		mg/L	10	03/15/18 08:42 PM
Methyl tert-butyl ether	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Methylene chloride	<0.0250	0.0250	0.0250		mg/L	10	03/15/18 08:42 PM
Naphthalene	<0.0500	0.0500	0.150		mg/L	10	03/15/18 08:42 PM
o-Xylene	0.00816	0.00300	0.0100	J	mg/L	10	03/15/18 08:42 PM
Tetrachloroethene	<0.00600	0.00600	0.0200		mg/L	10	03/15/18 08:42 PM
Toluene	<0.00600	0.00600	0.0200		mg/L	10	03/15/18 08:42 PM
trans-1,2-Dichloroethene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
trans-1,3-Dichloropropene	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Trichloroethene	<0.00600	0.00600	0.0200		mg/L	10	03/15/18 08:42 PM
Trichlorofluoromethane	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Vinyl chloride	<0.00300	0.00300	0.0100		mg/L	10	03/15/18 08:42 PM
Total Xylenes	0.00816	0.00300	0.0100	J	mg/L	10	03/15/18 08:42 PM
Surr: 1,2-Dichloroethane-d4	100	0	72-119		%REC	10	03/15/18 08:42 PM
Surr: 4-Bromofluorobenzene	106	0	76-119		%REC	10	03/15/18 08:42 PM
Surr: Dibromofluoromethane	96.4	0	85-115		%REC	10	03/15/18 08:42 PM
Surr: Toluene-d8	98.0	0	81-120		%REC	10	03/15/18 08:42 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	Trip
Project:	Hobbs Tank	**Lab ID:**	1803141-06
Project No:	078863	**Collection Date:**	03/14/18
Lab Order:	1803141	**Matrix:**	TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Acrolein	<0.00500	0.00500	0.0150		mg/L	1	03/15/18 06:23 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	03/15/18 06:23 PM
Benzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Bromobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Bromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Bromodichloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Bromoform	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Dibromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 06:23 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	03/15/18 06:23 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	03/15/18 06:23 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 06:23 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *22-May-18*

CLIENT:	GHD	**Client Sample ID:**	Trip
Project:	Hobbs Tank	**Lab ID:**	1803141-06
Project No:	078863	**Collection Date:**	03/14/18
Lab Order:	1803141	**Matrix:**	TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Toluene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 06:23 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	03/15/18 06:23 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Total Xylenes	<0.000300	0.000300	0.00100		mg/L	1	03/15/18 06:23 PM
Surr: 1,2-Dichloroethane-d4	101	0	72-119		%REC	1	03/15/18 06:23 PM
Surr: 4-Bromofluorobenzene	106	0	76-119		%REC	1	03/15/18 06:23 PM
Surr: Dibromofluoromethane	97.2	0	85-115		%REC	1	03/15/18 06:23 PM
Surr: Toluene-d8	98.0	0	81-120		%REC	1	03/15/18 06:23 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc. **Date:** *22-May-18*

CLIENT: GHD
Work Order: 1803141
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_180320B

The QC data in batch 84774 applies to the following samples: 1803141-01C, 1803141-02C, 1803141-03C, 1803141-04C, 1803141-05C

Sample ID **LCS-84774** Batch ID: **84774** TestNo: **M8015D** Units: **mg/L**
SampType: **LCS** Run ID: **GC15_180320B** Analysis Date: **3/20/2018 11:52:49 AM** Prep Date: **3/19/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.02	0.100	1.250	0	81.9	50	114			
Surr: Isopropylbenzene	0.0668		0.1000		66.8	47	142			
Surr: Octacosane	0.0897		0.1000		89.7	51	124			

Sample ID **LCSD-84774** Batch ID: **84774** TestNo: **M8015D** Units: **mg/L**
SampType: **LCSD** Run ID: **GC15_180320B** Analysis Date: **3/20/2018 12:01:48 PM** Prep Date: **3/19/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	0.976	0.100	1.250	0	78.1	50	114	4.78	30	
Surr: Isopropylbenzene	0.0622		0.1000		62.2	47	142	0	0	
Surr: Octacosane	0.0863		0.1000		86.3	51	124	0	0	

Sample ID **MB-84774** Batch ID: **84774** TestNo: **M8015D** Units: **mg/L**
SampType: **MBLK** Run ID: **GC15_180320B** Analysis Date: **3/20/2018 12:10:47 PM** Prep Date: **3/19/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	<0.0800	0.100								
Surr: Isopropylbenzene	0.0563		0.1000		56.3	47	142			
Surr: Octacosane	0.0813		0.1000		81.3	51	124			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1803141
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_180316A

The QC data in batch 84735 applies to the following samples: 1803141-01B, 1803141-02B, 1803141-03B, 1803141-04B, 1803141-05B

Sample ID	MB-84735	Batch ID:	84735	TestNo:	M8015V	Units:	mg/L
SampType:	MBLK	Run ID:	GC4_180316A	Analysis Date:	3/16/2018 12:58:33 PM	Prep Date:	3/16/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	<0.0600	0.100								
Surr: Tetrachlorethene	0.367		0.4000		91.8	74	138			

Sample ID	LCS-84735	Batch ID:	84735	TestNo:	M8015V	Units:	mg/L
SampType:	LCS	Run ID:	GC4_180316A	Analysis Date:	3/16/2018 1:41:54 PM	Prep Date:	3/16/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.24	0.100	2.500	0	89.7	67	136			
Surr: Tetrachlorethene	0.354		0.4000		88.5	74	138			

Sample ID	1803141-01BMS	Batch ID:	84735	TestNo:	M8015V	Units:	mg/L
SampType:	MS	Run ID:	GC4_180316A	Analysis Date:	3/16/2018 5:47:02 PM	Prep Date:	3/16/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.53	0.100	2.500	0.1013	97.0	67	136			
Surr: Tetrachlorethene	0.328		0.4000		82.0	74	138			

Sample ID	1803141-01BMSD	Batch ID:	84735	TestNo:	M8015V	Units:	mg/L
SampType:	MSD	Run ID:	GC4_180316A	Analysis Date:	3/16/2018 6:10:45 PM	Prep Date:	3/16/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.72	0.100	2.500	0.1013	105	67	136	7.22	30	
Surr: Tetrachlorethene	0.341		0.4000		85.2	74	138	0	0	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1803141
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_180317A

The QC data in batch 84753 applies to the following samples: 1803141-01D, 1803141-02D, 1803141-03D, 1803141-04D, 1803141-05D

Sample ID **LCS-84753** Batch ID: **84753** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS6_180317A** Analysis Date: **3/17/2018 11:53:00 AM** Prep Date: **3/17/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	0.00231	0.0000500	0.00400	0	57.7	46	120			N
2-Methylnaphthalene	0.00231	0.0000500	0.00400	0	57.6	46	120			
3,4-Benzofluoranthene	0.00286	0.0000500	0.00400	0	71.4	45	124			
Anthracene	0.00257	0.0000500	0.00400	0	64.2	54	120			
Benzo[a]pyrene	0.00296	0.0000500	0.00400	0	73.9	53	120			
Benzo[k]fluoranthene	0.00278	0.0000500	0.00400	0	69.6	45	124			
Fluoranthene	0.00274	0.0000500	0.00400	0	68.6	54	120			
Fluorene	0.00254	0.0000500	0.00400	0	63.6	50	120			
Naphthalene	0.00222	0.0000500	0.00400	0	55.6	39	120			
Phenanthrene	0.00266	0.0000500	0.00400	0	66.5	51	120			
Pyrene	0.00263	0.0000500	0.00400	0	65.8	49	128			
Surr: 2-Fluorobiphenyl	4.64		8.000		58.0	48	120			
Surr: 4-Terphenyl-d14	5.87		8.000		73.4	51	135			

Sample ID **LCSD-84753** Batch ID: **84753** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **LCSD** Run ID: **GCMS6_180317A** Analysis Date: **3/17/2018 12:23:00 PM** Prep Date: **3/17/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	0.00231	0.0000500	0.00400	0	57.7	46	120	0.004	20	N
2-Methylnaphthalene	0.00231	0.0000500	0.00400	0	57.9	46	120	0.382	20	
3,4-Benzofluoranthene	0.00255	0.0000500	0.00400	0	63.7	45	124	11.4	20	
Anthracene	0.00247	0.0000500	0.00400	0	61.8	54	120	3.84	20	
Benzo[a]pyrene	0.00276	0.0000500	0.00400	0	69.0	53	120	6.93	20	
Benzo[k]fluoranthene	0.00254	0.0000500	0.00400	0	63.4	45	124	9.26	20	
Fluoranthene	0.00261	0.0000500	0.00400	0	65.2	54	120	5.04	20	
Fluorene	0.00249	0.0000500	0.00400	0	62.2	50	120	2.21	20	
Naphthalene	0.00219	0.0000500	0.00400	0	54.8	39	120	1.38	20	
Phenanthrene	0.00258	0.0000500	0.00400	0	64.4	51	120	3.22	20	
Pyrene	0.00255	0.0000500	0.00400	0	63.7	49	128	3.29	20	
Surr: 2-Fluorobiphenyl	4.44		8.000		55.5	48	120	0	0	
Surr: 4-Terphenyl-d14	5.55		8.000		69.4	51	135	0	0	

Sample ID **MB-84753** Batch ID: **84753** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS6_180317A** Analysis Date: **3/17/2018 1:21:00 PM** Prep Date: **3/17/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	<0.0000250	0.0000500								N
2-Methylnaphthalene	<0.0000250	0.0000500								
3,4-Benzofluoranthene	<0.0000250	0.0000500								
Anthracene	<0.0000250	0.0000500								

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1803141
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_180317A

Sample ID	MB-84753	Batch ID:	84753	TestNo:	SW8270D-LL	Units:	mg/L
SampType:	MBLK	Run ID:	GCMS6_180317A	Analysis Date:	3/17/2018 1:21:00 PM	Prep Date:	3/17/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo[a]pyrene	<0.0000250	0.0000500								
Benzo[k]fluoranthene	<0.0000250	0.0000500								
Fluoranthene	<0.0000250	0.0000500								
Fluorene	<0.0000250	0.0000500								
Naphthalene	<0.0000250	0.0000500								
Phenanthrene	<0.0000250	0.0000500								
Pyrene	<0.0000250	0.0000500								
Surr: 2-Fluorobiphenyl	4.54		8.000		56.7	48	120			
Surr: 4-Terphenyl-d14	6.52		8.000		81.5	51	135			

Sample ID	SB-180319	Batch ID:	84753	TestNo:	SW8270D-LL	Units:	mg/L
SampType:	SBLK	Run ID:	GCMS6_180317A	Analysis Date:	3/19/2018 11:44:00 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	<0.0125	0.0250	0							N
2-Methylnaphthalene	<0.0125	0.0250	0							
3,4-Benzofluoranthene	<0.0125	0.0250	0							
Anthracene	<0.0125	0.0250	0							
Benzo[a]pyrene	<0.0125	0.0250	0							
Benzo[k]fluoranthene	<0.0125	0.0250	0							
Fluoranthene	<0.0125	0.0250	0							
Fluorene	<0.0125	0.0250	0							
Naphthalene	<0.0125	0.0250	0							
Phenanthrene	<0.0125	0.0250	0							
Pyrene	<0.0125	0.0250	0							
Surr: 2-Fluorobiphenyl	0.350		0							
Surr: 4-Terphenyl-d14	6.10		0							

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1803141
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_180315C

The QC data in batch 84749 applies to the following samples: 1803141-01A, 1803141-02A, 1803141-03A, 1803141-04A, 1803141-05A, 1803141-06A

Sample ID **LCS-84749**	Batch ID: **84749**	TestNo: **SW8260C**		Units: **mg/L**	
SampType: **LCS**	Run ID: **GCMS5_180315C**	Analysis Date: **3/15/2018 3:41:00 PM**		Prep Date: **3/15/2018**	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.0227	0.00100	0.0232	0	97.7	67	132			
1,1,2,2-Tetrachloroethane	0.0208	0.00100	0.0232	0	89.8	63	128			
1,1,2-Trichloroethane	0.0225	0.00100	0.0232	0	96.8	75	125			
1,1-Dichloroethane	0.0222	0.00100	0.0232	0	95.8	69	133			
1,1-Dichloroethene	0.0206	0.00100	0.0232	0	88.8	68	130			
1,1-Dichloropropene	0.0219	0.00100	0.0232	0	94.5	73	132			
1,2-Dibromoethane	0.0212	0.00100	0.0232	0	91.4	80	121			
1,2-Dichlorobenzene	0.0218	0.00100	0.0232	0	94.2	75	122			
1,2-Dichloroethane	0.0225	0.00100	0.0232	0	96.8	69	132			
1,2-Dichloropropane	0.0230	0.00100	0.0232	0	99.1	75	125			
1,3-Dichlorobenzene	0.0215	0.00100	0.0232	0	92.6	75	124			
1,3-Dichloropropane	0.0218	0.00100	0.0232	0	93.9	73	126			
1,4-Dichlorobenzene	0.0209	0.00100	0.0232	0	89.9	74	123			
2,2-Dichloropropane	0.0220	0.00100	0.0232	0	94.8	69	137			
Acrolein	0.0589	0.0150	0.0580	0	102	40	160			
Acrylonitrile	0.0427	0.00300	0.0464	0	92.0	50	150			
Benzene	0.0216	0.00100	0.0232	0	93.1	81	122			
Bromobenzene	0.0211	0.00100	0.0232	0	90.7	76	124			
Bromochloromethane	0.0225	0.00100	0.0232	0	97.1	65	129			
Bromodichloromethane	0.0233	0.00100	0.0232	0	100	76	121			
Bromoform	0.0214	0.00100	0.0232	0	92.2	69	128			
Bromomethane	0.0199	0.00100	0.0232	0	85.7	53	141			
Carbon tetrachloride	0.0234	0.00100	0.0232	0	101	66	138			
Chlorobenzene	0.0210	0.00100	0.0232	0	90.5	81	122			
Chloroethane	0.0183	0.00100	0.0232	0	79.0	58	133			
Chloroform	0.0226	0.00100	0.0232	0	97.6	69	128			
Chloromethane	0.0219	0.00100	0.0232	0	94.2	56	131			
cis-1,2-Dichloroethene	0.0222	0.00100	0.0232	0	95.5	72	126			
cis-1,3-Dichloropropene	0.0217	0.00100	0.0232	0	93.5	69	131			
Dibromochloromethane	0.0215	0.00100	0.0232	0	92.6	66	133			
Dichlorodifluoromethane	0.0224	0.00100	0.0232	0	96.4	53	153			
Ethylbenzene	0.0212	0.00100	0.0232	0	91.3	80	120			
m,p-Xylene	0.0426	0.00200	0.0464	0	91.7	80	120			
Methyl tert-butyl ether	0.0232	0.00100	0.0232	0	99.9	68	123			
Methylene chloride	0.0220	0.00250	0.0232	0	94.7	63	137			
Naphthalene	0.0237	0.0150	0.0232	0	102	54	138			
o-Xylene	0.0232	0.00100	0.0232	0	100	80	120			
Tetrachloroethene	0.0212	0.00200	0.0232	0	91.5	66	128			
Toluene	0.0216	0.00200	0.0232	0	93.0	80	120			
trans-1,2-Dichloroethene	0.0232	0.00100	0.0232	0	100	63	137			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1803141
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_180315C

Sample ID	LCS-84749	Batch ID:	84749	TestNo:	SW8260C	Units:	mg/L
SampType:	LCS	Run ID:	GCMS5_180315C	Analysis Date:	3/15/2018 3:41:00 PM	Prep Date:	3/15/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	0.0215	0.00100	0.0232	0	92.8	59	135			
Trichloroethene	0.0219	0.00100	0.0232	0	94.2	70	127			
Trichlorofluoromethane	0.0226	0.00100	0.0232	0	97.4	57	129			
Vinyl chloride	0.0193	0.00100	0.0232	0	83.2	50	134			
Total Xylenes	0.0658	0.00100	0.0696	0	94.5	80	120			
Surr: 1,2-Dichloroethane-d4	198		200.0		99.1	72	119			
Surr: 4-Bromofluorobenzene	210		200.0		105	76	119			
Surr: Dibromofluoromethane	198		200.0		99.0	85	115			
Surr: Toluene-d8	195		200.0		97.3	81	120			

Sample ID	MB-84749	Batch ID:	84749	TestNo:	SW8260C	Units:	mg/L
SampType:	MBLK	Run ID:	GCMS5_180315C	Analysis Date:	3/15/2018 4:27:00 PM	Prep Date:	3/15/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	<0.000300	0.00100								
1,1,2,2-Tetrachloroethane	<0.000300	0.00100								
1,1,2-Trichloroethane	<0.000300	0.00100								
1,1-Dichloroethane	<0.000300	0.00100								
1,1-Dichloroethene	<0.000300	0.00100								
1,1-Dichloropropene	<0.000300	0.00100								
1,2-Dibromoethane	<0.000300	0.00100								
1,2-Dichlorobenzene	<0.000300	0.00100								
1,2-Dichloroethane	<0.000300	0.00100								
1,2-Dichloropropane	<0.000300	0.00100								
1,3-Dichlorobenzene	<0.000300	0.00100								
1,3-Dichloropropane	<0.000300	0.00100								
1,4-Dichlorobenzene	<0.000300	0.00100								
2,2-Dichloropropane	<0.000300	0.00100								
Acrolein	<0.00500	0.0150								
Acrylonitrile	<0.00100	0.00300								
Benzene	<0.000300	0.00100								
Bromobenzene	<0.000300	0.00100								
Bromochloromethane	<0.000300	0.00100								
Bromodichloromethane	<0.000300	0.00100								
Bromoform	<0.000300	0.00100								
Bromomethane	<0.000300	0.00100								
Carbon tetrachloride	<0.000300	0.00100								
Chlorobenzene	<0.000300	0.00100								
Chloroethane	<0.000300	0.00100								
Chloroform	<0.000300	0.00100								
Chloromethane	<0.000300	0.00100								

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1803141
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_180315C

Sample ID **MB-84749**	Batch ID: **84749**	TestNo: **SW8260C**	Units: **mg/L**
SampType: **MBLK**	Run ID: **GCMS5_180315C**	Analysis Date: **3/15/2018 4:27:00 PM**	Prep Date: **3/15/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	<0.000300	0.00100								
cis-1,3-Dichloropropene	<0.000300	0.00100								
Dibromochloromethane	<0.000300	0.00100								
Dichlorodifluoromethane	<0.000300	0.00100								
Ethylbenzene	<0.000300	0.00100								
m,p-Xylene	<0.000600	0.00200								
Methyl tert-butyl ether	<0.000300	0.00100								
Methylene chloride	<0.00250	0.00250								
Naphthalene	<0.00500	0.0150								
o-Xylene	<0.000300	0.00100								
Tetrachloroethene	<0.000600	0.00200								
Toluene	<0.000600	0.00200								
trans-1,2-Dichloroethene	<0.000300	0.00100								
trans-1,3-Dichloropropene	<0.000300	0.00100								
Trichloroethene	<0.000600	0.00100								
Trichlorofluoromethane	<0.000300	0.00100								
Vinyl chloride	<0.000300	0.00100								
Total Xylenes	<0.000300	0.00100								
Surr: 1,2-Dichloroethane-d4	198		200.0		99.2	72	119			
Surr: 4-Bromofluorobenzene	209		200.0		105	76	119			
Surr: Dibromofluoromethane	192		200.0		96.1	85	115			
Surr: Toluene-d8	197		200.0		98.7	81	120			

Sample ID **1803141-05AMS**	Batch ID: **84749**	TestNo: **SW8260C**	Units: **mg/L**
SampType: **MS**	Run ID: **GCMS5_180315C**	Analysis Date: **3/15/2018 9:05:00 PM**	Prep Date: **3/15/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.225	0.0100	0.232	0	97.0	67	132			
1,1,2,2-Tetrachloroethane	0.205	0.0100	0.232	0	88.5	63	128			
1,1,2-Trichloroethane	0.225	0.0100	0.232	0	96.8	75	125			
1,1-Dichloroethane	0.226	0.0100	0.232	0	97.2	69	133			
1,1-Dichloroethene	0.205	0.0100	0.232	0	88.3	68	130			
1,1-Dichloropropene	0.218	0.0100	0.232	0	93.9	73	132			
1,2-Dibromoethane	0.213	0.0100	0.232	0	91.9	80	121			
1,2-Dichlorobenzene	0.215	0.0100	0.232	0	92.5	75	122			
1,2-Dichloroethane	0.228	0.0100	0.232	0	98.5	69	132			
1,2-Dichloropropane	0.228	0.0100	0.232	0	98.3	75	125			
1,3-Dichlorobenzene	0.209	0.0100	0.232	0	89.9	75	124			
1,3-Dichloropropane	0.217	0.0100	0.232	0	93.3	73	126			
1,4-Dichlorobenzene	0.202	0.0100	0.232	0	87.2	74	123			
2,2-Dichloropropane	0.202	0.0100	0.232	0	86.9	69	137			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1803141
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_180315C

Sample ID 1803141-05AMS	Batch ID: 84749	TestNo: SW8260C	Units: mg/L
SampType: MS	Run ID: GCMS5_180315C	Analysis Date: 3/15/2018 9:05:00 PM	Prep Date: 3/15/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acrylonitrile	0.413	0.0300	0.464	0	89.0	50	150			
Benzene	0.326	0.0100	0.232	0.102	96.7	81	122			
Bromobenzene	0.207	0.0100	0.232	0	89.2	76	124			
Bromochloromethane	0.218	0.0100	0.232	0	94.1	65	129			
Bromodichloromethane	0.235	0.0100	0.232	0	101	76	121			
Bromoform	0.207	0.0100	0.232	0	89.2	69	128			
Carbon tetrachloride	0.226	0.0100	0.232	0	97.4	66	138			
Chlorobenzene	0.209	0.0100	0.232	0	89.9	81	122			
Chloroform	0.220	0.0100	0.232	0	94.7	69	128			
cis-1,2-Dichloroethene	0.220	0.0100	0.232	0	94.8	72	126			
cis-1,3-Dichloropropene	0.206	0.0100	0.232	0	88.7	69	131			
Dibromochloromethane	0.212	0.0100	0.232	0	91.3	66	133			
Ethylbenzene	0.212	0.0100	0.232	0	91.3	80	120			
m,p-Xylene	0.430	0.0200	0.464	0	92.6	80	120			
Methyl tert-butyl ether	0.221	0.0100	0.232	0	95.1	68	123			
Methylene chloride	0.221	0.0250	0.232	0	95.2	63	137			
Naphthalene	0.215	0.150	0.232	0	92.5	54	138			
o-Xylene	0.245	0.0100	0.232	0.00816	102	80	120			
Tetrachloroethene	0.208	0.0200	0.232	0	89.5	66	128			
Toluene	0.222	0.0200	0.232	0	95.6	80	120			
trans-1,2-Dichloroethene	0.231	0.0100	0.232	0	99.5	63	137			
trans-1,3-Dichloropropene	0.207	0.0100	0.232	0	89.4	59	135			
Trichloroethene	0.214	0.0100	0.232	0	92.1	70	127			
Total Xylenes	0.675	0.0100	0.696	0.00816	95.8	80	120			
Surr: 1,2-Dichloroethane-d4	2130		2000		106	72	119			
Surr: 4-Bromofluorobenzene	2080		2000		104	76	119			
Surr: Dibromofluoromethane	2010		2000		100	85	115			
Surr: Toluene-d8	1970		2000		98.3	81	120			

Sample ID 1803141-05AMSD	Batch ID: 84749	TestNo: SW8260C	Units: mg/L
SampType: MSD	Run ID: GCMS5_180315C	Analysis Date: 3/15/2018 9:28:00 PM	Prep Date: 3/15/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.227	0.0100	0.232	0	97.8	67	132	0.818	20	
1,1,2,2-Tetrachloroethane	0.216	0.0100	0.232	0	93.0	63	128	4.87	20	
1,1,2-Trichloroethane	0.233	0.0100	0.232	0	100	75	125	3.56	20	
1,1-Dichloroethane	0.227	0.0100	0.232	0	97.7	69	133	0.482	20	
1,1-Dichloroethene	0.213	0.0100	0.232	0	91.6	68	130	3.66	20	
1,1-Dichloropropene	0.218	0.0100	0.232	0	93.9	73	132	0.059	20	
1,2-Dibromoethane	0.221	0.0100	0.232	0	95.3	80	121	3.67	20	
1,2-Dichlorobenzene	0.219	0.0100	0.232	0	94.4	75	125	2.03	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1803141
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_180315C

Sample ID **1803141-05AMSD** Batch ID: **84749** TestNo: **SW8260C** Units: **mg/L**
SampType: **MSD** Run ID: **GCMS5_180315C** Analysis Date: **3/15/2018 9:28:00 PM** Prep Date: **3/15/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dichloroethane	0.232	0.0100	0.232	0	99.9	68	132	1.43	20	
1,2-Dichloropropane	0.232	0.0100	0.232	0	100	75	125	1.85	20	
1,3-Dichlorobenzene	0.214	0.0100	0.232	0	92.2	75	124	2.55	20	
1,3-Dichloropropane	0.227	0.0100	0.232	0	97.9	73	126	4.81	20	
1,4-Dichlorobenzene	0.208	0.0100	0.232	0	89.8	74	123	2.93	20	
2,2-Dichloropropane	0.203	0.0100	0.232	0	87.3	69	137	0.435	20	
Acrylonitrile	0.426	0.0300	0.464	0	91.9	50	150	3.21	20	
Benzene	0.331	0.0100	0.232	0.102	98.8	81	120	1.52	20	
Bromobenzene	0.211	0.0100	0.232	0	90.8	76	124	1.83	20	
Bromochloromethane	0.229	0.0100	0.232	0	98.5	65	129	4.56	20	
Bromodichloromethane	0.240	0.0100	0.232	0	103	76	121	2.13	20	
Bromoform	0.220	0.0100	0.232	0	94.9	69	128	6.26	20	
Carbon tetrachloride	0.233	0.0100	0.232	0	100	66	138	2.86	20	
Chlorobenzene	0.216	0.0100	0.232	0	93.3	81	122	3.67	20	
Chloroform	0.225	0.0100	0.232	0	97.2	69	128	2.62	20	
cis-1,2-Dichloroethene	0.223	0.0100	0.232	0	95.9	72	126	1.21	20	
cis-1,3-Dichloropropene	0.214	0.0100	0.232	0	92.1	69	131	3.78	20	
Dibromochloromethane	0.224	0.0100	0.232	0	96.5	66	133	5.55	20	
Ethylbenzene	0.217	0.0100	0.232	0	93.5	80	120	2.39	20	
m,p-Xylene	0.439	0.0200	0.464	0	94.7	80	120	2.22	20	
Methyl tert-butyl ether	0.236	0.0100	0.232	0	102	68	123	6.87	20	
Methylene chloride	0.227	0.0250	0.232	0	98.0	63	137	2.84	20	
Naphthalene	0.235	0.150	0.232	0	101	54	138	8.99	20	
o-Xylene	0.252	0.0100	0.232	0.00816	105	80	120	2.91	20	
Tetrachloroethene	0.215	0.0200	0.232	0	92.6	66	128	3.46	20	
Toluene	0.227	0.0200	0.232	0	97.9	80	120	2.35	20	
trans-1,2-Dichloroethene	0.235	0.0100	0.232	0	101	63	137	1.89	20	
trans-1,3-Dichloropropene	0.218	0.0100	0.232	0	93.9	59	135	4.94	20	
Trichloroethene	0.218	0.0100	0.232	0	93.9	70	127	1.95	20	
Total Xylenes	0.692	0.0100	0.696	0.00816	98.2	80	120	2.47	20	
Surr: 1,2-Dichloroethane-d4	2120		2000		106	72	119	0	0	
Surr: 4-Bromofluorobenzene	2050		2000		103	76	119	0	0	
Surr: Dibromofluoromethane	1990		2000		99.7	85	115	0	0	
Surr: Toluene-d8	1990		2000		99.6	81	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

October 02, 2018

Brad Stephenson
GHD
14998 W 6th Ave #800
Golden, CO 80401
TEL: (720) 974-0935
FAX (432) 686-0186

Order No.: 1809184

RE: Hobbs Tank

Dear Brad Stephenson:

DHL Analytical, Inc. received 7 sample(s) on 9/26/2018 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative and all estimated uncertainties of results are within method specifications.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-18-21

Table of Contents

Miscellaneous Documents 3
CaseNarrative 1809184 7
Analytical Report 1809184 8
AnalyticalQCSummaryReport 1809184 22

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 76930 CHAIN-OF-CUSTODY

CLIENT: GHD / HEP
ADDRESS:
PHONE: 3039416150 FAX/E-MAIL: BRAD.STEPHENSON@GHD.com
DATA REPORTED TO:
ADDITIONAL REPORT COPIES TO:

DATE: 9/24/18 PAGE 1 OF 1
PO #: [redacted] DHL WORK ORDER #: 1809184
PROJECT LOCATION OR NAME: HOBBS TANK
CLIENT PROJECT #: 078863 COLLECTOR: B. STEPHENSON

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT P=PAINT SL=SLUDGE O=OTHER SO=SOLID

PRESERVATION: HCl, HNO3, H2SO4, NaOH ☐, ICE, UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ (METHOD 8021) TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ GRO (METHOD 8015) ☐ DRO (METHOD 8015) ☐ VOC 624 ☐ VOC (METHOD 8260/5035) ☐ SVOC 625 ☐ SVOC 8270 ☐ TOTAL PAH ☐ 8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ 8270 PCB ☐ 8270 O-P PEST ☐ 8151 HERB ☐ 8082 PCB ☐ TPHOS ☐ AMMONIA ☐ METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ RCRA ☐ TX11 ☐ PH ☐ HEX. CHROM ☐ ALKALINITY ☐ COD ☐ CHLORIDE ☐ ANIONS ☐ HERB ☐ TCLP-SVOC ☐ TCLP-VOC ☐ PEST ☐ TCLP-METALS ☐ RCRA ☐ TX11 ☐ Pb ☐ RCI ☐ FLASHPOINT ☐ BOAS ☐ TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO3	H2SO4	NaOH	ICE	UNPRESERVED	FIELD NOTES
MW-2	01	9/24/18	1055	W		9							NOT ENOUGH VOLUME
MW-3	02		0950			9							BUBBLES
MW-4	03		1030			9							from
MW-5	04		1130			9							HCl
MW-50	05		1130			9							REACTION
HTRW-1	06	9/24/18	1150	W		9							
TRIP	07					2							

GHD

RELINQUISHED BY: (Signature) DATE/TIME 9/25/18 RECEIVED BY: (Signature) FedEx
RELINQUISHED BY: (Signature) FedEx DATE/TIME 9/26/18 0950 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

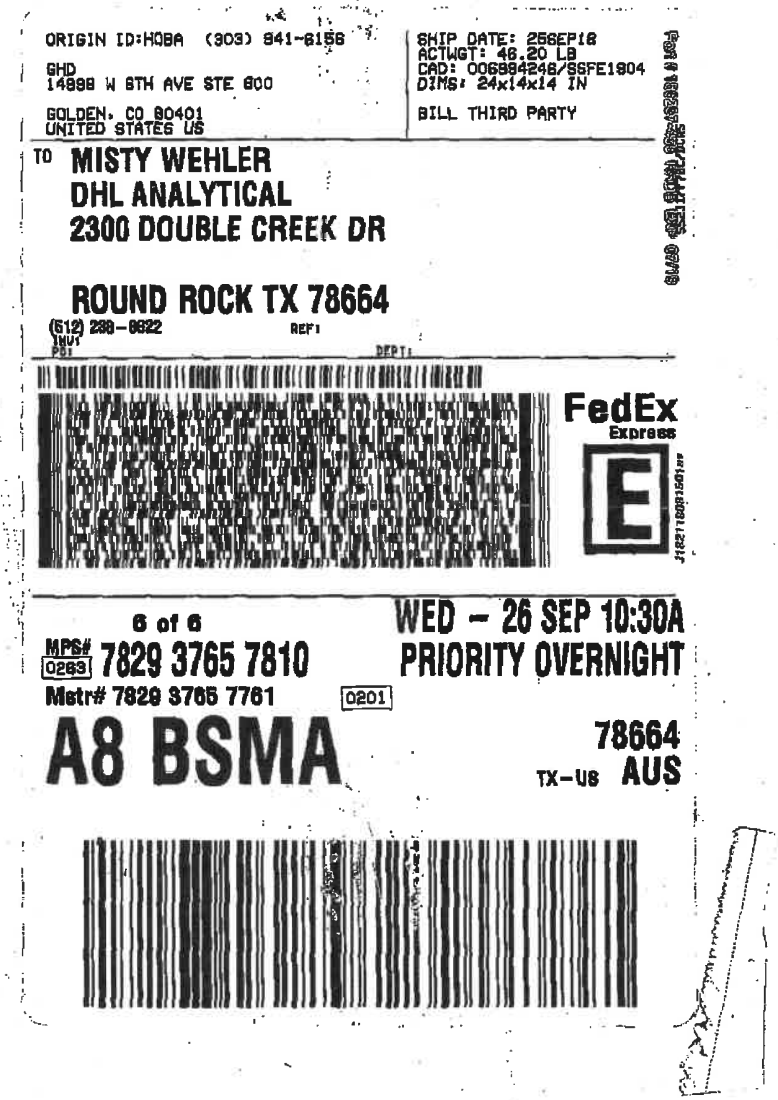
☐ DHL DISPOSAL @ $5.00 each ☐ Return

3

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☐
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 5.3, 5.2 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☐ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☐ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

DHL CHAIN OF CUSTODY REVISED 2010



ORIGIN ID:HOBA (303) 941-8158
GHD
14898 W 6TH AVE STE 800
GOLDEN, CO 80401
UNITED STATES US

SHIP DATE: 25SEP18
ACTWGT: 46.20 LB
CAD: 006884248/SSFE1904
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO MISTY WEHLER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 238-0822 REF:
INV:
PO:
DEPT:

FedEx Express

6 of 6
MPS# 0283 7829 3765 7810
Mstr# 7829 3765 7761 0201

WED - 26 SEP 10:30A
PRIORITY OVERNIGHT

A8 BSMA

78664
TX-US AUS

ORIGIN ID:HOBA (303) 941-6158
SHD
14998 W 6TH AVE STE 800
GOLDEN, CO 80401
UNITED STATES US

SHIP DATE: 25SEP18
ACTWGT: 44.30 LB
CAD: 006894246/SSFE1904
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO MISTY WEHLER
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(612) 238-8822 REF:
INV:
PO: DEPT:

FedEx Express

1 of 6
TRK# 0201 7829 3765 7761
MASTER

WED - 26 SEP 10:30A
PRIORITY OVERNIGHT

A8 BSMA

78664
TX-US AUS

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name GHD Date Received: 9/26/2018

Work Order Number 1809184 Received by JMW

Checklist completed by: [signature] 9/26/2018 (Signature / Date) Reviewed by DL 9/26/2018 (Initials / Date)

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	5.3 °C /5.2°C
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH<2 acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: Some vials received w/ small bubbles

Corrective Action Headspace <6mm in diameter, ~~proceed~~ Proceed w/ analysis 9/26/18

Page 1 of 1

DHL Analytical, Inc. **Date:** *02-Oct-18*

CLIENT: GHD
Project: Hobbs Tank
Lab Order: 1809184

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition and Standard Methods.

For PAH analysis an MS/MSD was not performed due to insufficient sample volume. An LCS/LCSD was performed instead.

For DRO analysis an MS/MSD was not performed due to insufficient sample volume. An LCS/LCSD was performed instead.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives except where noted in the following. For Volatiles analysis by method SW8260C the matrix spike duplicate recovery was slightly below control limits for Bromomethane. In addition, the matrix spike and matrix spike duplicate had the RPD above control limits for Bromomethane. This is flagged accordingly in the enclosed QC summary report. The "S" flag denotes spike recovery was outside control limits and the "R" flag denotes the RPD was outside control limits. The LCS was within control limits for this compound. No further corrective actions were taken.

For PAH analysis by method SW8270D-LL the surrogate recoveries for four samples were slightly below control limits for 2-Fluorobiphenyl. These are flagged accordingly. The remaining surrogate was within control limits. No further corrective actions were taken.

For DRO analysis by method M8015D the surrogate recovery for sample MW-3 was above control limits for Octacosane. This is flagged accordingly. The remaining surrogate was within control limits. No further corrective actions were taken.

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	MW-2
Project:	Hobbs Tank	**Lab ID:**	1809184-01
Project No:	078863	**Collection Date:**	09/24/18 10:55 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	2.33	0.314	0.392		mg/L	1	10/01/18 02:47 PM
Surr: Isopropylbenzene	75.7	0	47-142		%REC	1	10/01/18 02:47 PM
Surr: Octacosane	84.4	0	51-124		%REC	1	10/01/18 02:47 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/27/18 04:33 PM
Surr: Tetrachlorethene	96.6	0	74-138		%REC	1	09/27/18 04:33 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000236	0.0000236	0.0000473	N	mg/L	1	09/27/18 10:02 PM
2-Methylnaphthalene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 10:02 PM
3,4-Benzofluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 10:02 PM
Anthracene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 10:02 PM
Benzo[a]pyrene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 10:02 PM
Benzo[k]fluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 10:02 PM
Fluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 10:02 PM
Fluorene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 10:02 PM
Naphthalene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 10:02 PM
Phenanthrene	0.0000713	0.0000236	0.0000473		mg/L	1	09/27/18 10:02 PM
Pyrene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 10:02 PM
Surr: 2-Fluorobiphenyl	57.9	0	48-120		%REC	1	09/27/18 10:02 PM
Surr: 4-Terphenyl-d14	70.4	0	51-135		%REC	1	09/27/18 10:02 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Acrolein	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 05:34 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/26/18 05:34 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	MW-2
Project:	Hobbs Tank	**Lab ID:**	1809184-01
Project No:	078863	**Collection Date:**	09/24/18 10:55 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Bromobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Bromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Bromodichloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Bromoform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Dibromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 05:34 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/26/18 05:34 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 05:34 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 05:34 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 05:34 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 05:34 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Total Xylenes	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:34 PM
Surr: 1,2-Dichloroethane-d4	86.4	0	72-119		%REC	1	09/26/18 05:34 PM
Surr: 4-Bromofluorobenzene	102	0	76-119		%REC	1	09/26/18 05:34 PM
Surr: Dibromofluoromethane	93.7	0	85-115		%REC	1	09/26/18 05:34 PM
Surr: Toluene-d8	96.0	0	81-120		%REC	1	09/26/18 05:34 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	MW-3
Project:	Hobbs Tank	**Lab ID:**	1809184-02
Project No:	078863	**Collection Date:**	09/24/18 09:50 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	0.220	0.0753	0.0942		mg/L	1	10/01/18 02:56 PM
Surr: Isopropylbenzene	68.0	0	47-142		%REC	1	10/01/18 02:56 PM
Surr: Octacosane	159	0	51-124	S	%REC	1	10/01/18 02:56 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/27/18 04:57 PM
Surr: Tetrachlorethene	90.5	0	74-138		%REC	1	09/27/18 04:57 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000236	0.0000236	0.0000471	N	mg/L	1	09/27/18 03:08 PM
2-Methylnaphthalene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 03:08 PM
3,4-Benzofluoranthene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 03:08 PM
Anthracene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 03:08 PM
Benzo[a]pyrene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 03:08 PM
Benzo[k]fluoranthene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 03:08 PM
Fluoranthene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 03:08 PM
Fluorene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 03:08 PM
Naphthalene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 03:08 PM
Phenanthrene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 03:08 PM
Pyrene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 03:08 PM
Surr: 2-Fluorobiphenyl	56.5	0	48-120		%REC	1	09/27/18 03:08 PM
Surr: 4-Terphenyl-d14	73.3	0	51-135		%REC	1	09/27/18 03:08 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Acrolein	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 05:58 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/26/18 05:58 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	MW-3
Project:	Hobbs Tank	**Lab ID:**	1809184-02
Project No:	078863	**Collection Date:**	09/24/18 09:50 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Bromobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Bromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Bromodichloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Bromoform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Dibromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 05:58 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/26/18 05:58 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 05:58 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 05:58 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 05:58 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 05:58 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Total Xylenes	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:58 PM
Surr: 1,2-Dichloroethane-d4	86.1	0	72-119		%REC	1	09/26/18 05:58 PM
Surr: 4-Bromofluorobenzene	101	0	76-119		%REC	1	09/26/18 05:58 PM
Surr: Dibromofluoromethane	94.5	0	85-115		%REC	1	09/26/18 05:58 PM
Surr: Toluene-d8	96.5	0	81-120		%REC	1	09/26/18 05:58 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	MW-4
Project:	Hobbs Tank	**Lab ID:**	1809184-03
Project No:	078863	**Collection Date:**	09/24/18 10:30 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	0.200	0.0756	0.0945		mg/L	1	10/01/18 03:05 PM
Surr: Isopropylbenzene	64.7	0	47-142		%REC	1	10/01/18 03:05 PM
Surr: Octacosane	87.9	0	51-124		%REC	1	10/01/18 03:05 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/28/18 11:35 AM
Surr: Tetrachlorethene	121	0	74-138		%REC	1	09/28/18 11:35 AM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000235	0.0000235	0.0000470	N	mg/L	1	09/27/18 03:38 PM
2-Methylnaphthalene	<0.0000235	0.0000235	0.0000470		mg/L	1	09/27/18 03:38 PM
3,4-Benzofluoranthene	<0.0000235	0.0000235	0.0000470		mg/L	1	09/27/18 03:38 PM
Anthracene	<0.0000235	0.0000235	0.0000470		mg/L	1	09/27/18 03:38 PM
Benzo[a]pyrene	<0.0000235	0.0000235	0.0000470		mg/L	1	09/27/18 03:38 PM
Benzo[k]fluoranthene	<0.0000235	0.0000235	0.0000470		mg/L	1	09/27/18 03:38 PM
Fluoranthene	<0.0000235	0.0000235	0.0000470		mg/L	1	09/27/18 03:38 PM
Fluorene	<0.0000235	0.0000235	0.0000470		mg/L	1	09/27/18 03:38 PM
Naphthalene	<0.0000235	0.0000235	0.0000470		mg/L	1	09/27/18 03:38 PM
Phenanthrene	<0.0000235	0.0000235	0.0000470		mg/L	1	09/27/18 03:38 PM
Pyrene	<0.0000235	0.0000235	0.0000470		mg/L	1	09/27/18 03:38 PM
Surr: 2-Fluorobiphenyl	42.1	0	48-120	S	%REC	1	09/27/18 03:38 PM
Surr: 4-Terphenyl-d14	54.0	0	51-135		%REC	1	09/27/18 03:38 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Acrolein	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 06:23 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/26/18 06:23 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	MW-4
Project:	Hobbs Tank	**Lab ID:**	1809184-03
Project No:	078863	**Collection Date:**	09/24/18 10:30 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Bromobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Bromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Bromodichloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Bromoform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Dibromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 06:23 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/26/18 06:23 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 06:23 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 06:23 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 06:23 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 06:23 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Total Xylenes	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:23 PM
Surr: 1,2-Dichloroethane-d4	86.5	0	72-119		%REC	1	09/26/18 06:23 PM
Surr: 4-Bromofluorobenzene	102	0	76-119		%REC	1	09/26/18 06:23 PM
Surr: Dibromofluoromethane	94.8	0	85-115		%REC	1	09/26/18 06:23 PM
Surr: Toluene-d8	95.9	0	81-120		%REC	1	09/26/18 06:23 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	MW-5
Project:	Hobbs Tank	**Lab ID:**	1809184-04
Project No:	078863	**Collection Date:**	09/24/18 11:30 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	0.111	0.0757	0.0946		mg/L	1	10/01/18 03:14 PM
Surr: Isopropylbenzene	62.5	0	47-142		%REC	1	10/01/18 03:14 PM
Surr: Octacosane	95.7	0	51-124		%REC	1	10/01/18 03:14 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/27/18 05:45 PM
Surr: Tetrachlorethene	76.3	0	74-138		%REC	1	09/27/18 05:45 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000236	0.0000236	0.0000471	N	mg/L	1	09/27/18 04:07 PM
2-Methylnaphthalene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 04:07 PM
3,4-Benzofluoranthene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 04:07 PM
Anthracene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 04:07 PM
Benzo[a]pyrene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 04:07 PM
Benzo[k]fluoranthene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 04:07 PM
Fluoranthene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 04:07 PM
Fluorene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 04:07 PM
Naphthalene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 04:07 PM
Phenanthrene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 04:07 PM
Pyrene	<0.0000236	0.0000236	0.0000471		mg/L	1	09/27/18 04:07 PM
Surr: 2-Fluorobiphenyl	42.3	0	48-120	S	%REC	1	09/27/18 04:07 PM
Surr: 4-Terphenyl-d14	53.9	0	51-135		%REC	1	09/27/18 04:07 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Acrolein	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 06:47 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/26/18 06:47 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	MW-5
Project:	Hobbs Tank	**Lab ID:**	1809184-04
Project No:	078863	**Collection Date:**	09/24/18 11:30 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Bromobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Bromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Bromodichloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Bromoform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Dibromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 06:47 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/26/18 06:47 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 06:47 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 06:47 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 06:47 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 06:47 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Total Xylenes	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 06:47 PM
Surr: 1,2-Dichloroethane-d4	86.4	0	72-119		%REC	1	09/26/18 06:47 PM
Surr: 4-Bromofluorobenzene	103	0	76-119		%REC	1	09/26/18 06:47 PM
Surr: Dibromofluoromethane	94.1	0	85-115		%REC	1	09/26/18 06:47 PM
Surr: Toluene-d8	96.6	0	81-120		%REC	1	09/26/18 06:47 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	MW-5D
Project:	Hobbs Tank	**Lab ID:**	1809184-05
Project No:	078863	**Collection Date:**	09/24/18 11:30 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	0.136	0.0757	0.0946		mg/L	1	10/01/18 03:23 PM
Surr: Isopropylbenzene	64.3	0	47-142		%REC	1	10/01/18 03:23 PM
Surr: Octacosane	99.4	0	51-124		%REC	1	10/01/18 03:23 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/27/18 06:09 PM
Surr: Tetrachlorethene	125	0	74-138		%REC	1	09/27/18 06:09 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000236	0.0000236	0.0000473	N	mg/L	1	09/27/18 04:37 PM
2-Methylnaphthalene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 04:37 PM
3,4-Benzofluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 04:37 PM
Anthracene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 04:37 PM
Benzo[a]pyrene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 04:37 PM
Benzo[k]fluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 04:37 PM
Fluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 04:37 PM
Fluorene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 04:37 PM
Naphthalene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 04:37 PM
Phenanthrene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 04:37 PM
Pyrene	<0.0000236	0.0000236	0.0000473		mg/L	1	09/27/18 04:37 PM
Surr: 2-Fluorobiphenyl	46.8	0	48-120	S	%REC	1	09/27/18 04:37 PM
Surr: 4-Terphenyl-d14	59.6	0	51-135		%REC	1	09/27/18 04:37 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Acrolein	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 07:12 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/26/18 07:12 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	MW-5D
Project:	Hobbs Tank	**Lab ID:**	1809184-05
Project No:	078863	**Collection Date:**	09/24/18 11:30 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Bromobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Bromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Bromodichloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Bromoform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Dibromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 07:12 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/26/18 07:12 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 07:12 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 07:12 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 07:12 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 07:12 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Total Xylenes	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:12 PM
Surr: 1,2-Dichloroethane-d4	85.1	0	72-119		%REC	1	09/26/18 07:12 PM
Surr: 4-Bromofluorobenzene	104	0	76-119		%REC	1	09/26/18 07:12 PM
Surr: Dibromofluoromethane	94.2	0	85-115		%REC	1	09/26/18 07:12 PM
Surr: Toluene-d8	97.7	0	81-120		%REC	1	09/26/18 07:12 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	HTRW-1
Project:	Hobbs Tank	**Lab ID:**	1809184-06
Project No:	078863	**Collection Date:**	09/24/18 11:50 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	0.406	0.0766	0.0957		mg/L	1	10/01/18 03:32 PM
Surr: Isopropylbenzene	64.5	0	47-142		%REC	1	10/01/18 03:32 PM
Surr: Octacosane	104	0	51-124		%REC	1	10/01/18 03:32 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	0.109	0.0600	0.100		mg/L	1	09/28/18 11:59 AM
Surr: Tetrachlorethene	115	0	74-138		%REC	1	09/28/18 11:59 AM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000238	0.0000238	0.0000476	N	mg/L	1	09/27/18 10:31 PM
2-Methylnaphthalene	<0.0000238	0.0000238	0.0000476		mg/L	1	09/27/18 10:31 PM
3,4-Benzofluoranthene	<0.0000238	0.0000238	0.0000476		mg/L	1	09/27/18 10:31 PM
Anthracene	<0.0000238	0.0000238	0.0000476		mg/L	1	09/27/18 10:31 PM
Benzo[a]pyrene	<0.0000238	0.0000238	0.0000476		mg/L	1	09/27/18 10:31 PM
Benzo[k]fluoranthene	<0.0000238	0.0000238	0.0000476		mg/L	1	09/27/18 10:31 PM
Fluoranthene	<0.0000238	0.0000238	0.0000476		mg/L	1	09/27/18 10:31 PM
Fluorene	<0.0000238	0.0000238	0.0000476		mg/L	1	09/27/18 10:31 PM
Naphthalene	<0.0000238	0.0000238	0.0000476		mg/L	1	09/27/18 10:31 PM
Phenanthrene	<0.0000238	0.0000238	0.0000476		mg/L	1	09/27/18 10:31 PM
Pyrene	<0.0000238	0.0000238	0.0000476		mg/L	1	09/27/18 10:31 PM
Surr: 2-Fluorobiphenyl	44.0	0	48-120	S	%REC	1	09/27/18 10:31 PM
Surr: 4-Terphenyl-d14	66.0	0	51-135		%REC	1	09/27/18 10:31 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Acrolein	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 05:09 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/26/18 05:09 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	HTRW-1
Project:	Hobbs Tank	**Lab ID:**	1809184-06
Project No:	078863	**Collection Date:**	09/24/18 11:50 AM
Lab Order:	1809184	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	0.0114	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Bromobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Bromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Bromodichloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Bromoform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Dibromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 05:09 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/26/18 05:09 PM
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 05:09 PM
o-Xylene	0.000564	0.000300	0.00100	J	mg/L	1	09/26/18 05:09 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 05:09 PM
Toluene	0.00278	0.000600	0.00200		mg/L	1	09/26/18 05:09 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 05:09 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 05:09 PM
Total Xylenes	0.000564	0.000300	0.00100	J	mg/L	1	09/26/18 05:09 PM
Surr: 1,2-Dichloroethane-d4	88.4	0	72-119		%REC	1	09/26/18 05:09 PM
Surr: 4-Bromofluorobenzene	105	0	76-119		%REC	1	09/26/18 05:09 PM
Surr: Dibromofluoromethane	95.6	0	85-115		%REC	1	09/26/18 05:09 PM
Surr: Toluene-d8	97.2	0	81-120		%REC	1	09/26/18 05:09 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	Trip
Project:	Hobbs Tank	**Lab ID:**	1809184-07
Project No:	078863	**Collection Date:**	09/24/18
Lab Order:	1809184	**Matrix:**	TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/27/18 02:56 PM
Surr: Tetrachlorethene	114	0	74-138		%REC	1	09/27/18 02:56 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
1,1,1-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,1,2,2-Tetrachloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,1,2-Trichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,1-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,1-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,1-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,2-Dibromoethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,3-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
2,2-Dichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Acrolein	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 07:37 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/26/18 07:37 PM
Benzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Bromobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Bromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Bromodichloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Bromoform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Carbon tetrachloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Chlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
cis-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
cis-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Dibromochloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Dichlorodifluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 07:37 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/26/18 07:37 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *02-Oct-18*

CLIENT:	GHD	**Client Sample ID:**	Trip
Project:	Hobbs Tank	**Lab ID:**	1809184-07
Project No:	078863	**Collection Date:**	09/24/18
Lab Order:	1809184	**Matrix:**	TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Naphthalene	<0.00500	0.00500	0.0150		mg/L	1	09/26/18 07:37 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 07:37 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 07:37 PM
trans-1,2-Dichloroethene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
trans-1,3-Dichloropropene	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/26/18 07:37 PM
Trichlorofluoromethane	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Vinyl chloride	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Total Xylenes	<0.000300	0.000300	0.00100		mg/L	1	09/26/18 07:37 PM
Surr: 1,2-Dichloroethane-d4	86.1	0	72-119		%REC	1	09/26/18 07:37 PM
Surr: 4-Bromofluorobenzene	104	0	76-119		%REC	1	09/26/18 07:37 PM
Surr: Dibromofluoromethane	94.2	0	85-115		%REC	1	09/26/18 07:37 PM
Surr: Toluene-d8	97.0	0	81-120		%REC	1	09/26/18 07:37 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
	DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
	S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc. **Date:** *02-Oct-18*

CLIENT: GHD
Work Order: 1809184
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_181001A

The QC data in batch 87590 applies to the following samples: 1809184-01C, 1809184-02C, 1809184-03C, 1809184-04C, 1809184-05C, 1809184-06C

Sample ID **LCS-87590** Batch ID: **87590** TestNo: **M8015D** Units: **mg/L**
SampType: **LCS** Run ID: **GC15_181001A** Analysis Date: **10/1/2018 1:25:13 PM** Prep Date: **9/28/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	0.988	0.100	1.250	0	79.0	50	114			
Surr: Isopropylbenzene	0.0677		0.1000		67.7	47	142			
Surr: Octacosane	0.0793		0.1000		79.3	51	124			

Sample ID **LCSD-87590** Batch ID: **87590** TestNo: **M8015D** Units: **mg/L**
SampType: **LCSD** Run ID: **GC15_181001A** Analysis Date: **10/1/2018 1:34:17 PM** Prep Date: **9/28/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.01	0.100	1.250	0	80.7	50	114	2.08	30	
Surr: Isopropylbenzene	0.0718		0.1000		71.8	47	142	0	0	
Surr: Octacosane	0.0785		0.1000		78.5	51	124	0	0	

Sample ID **MB-87590** Batch ID: **87590** TestNo: **M8015D** Units: **mg/L**
SampType: **MBLK** Run ID: **GC15_181001A** Analysis Date: **10/1/2018 2:10:33 PM** Prep Date: **9/28/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	<0.0800	0.100								
Surr: Isopropylbenzene	0.0643		0.1000		64.3	47	142			
Surr: Octacosane	0.0680		0.1000		68.0	51	124			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1809184
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_180927A

The QC data in batch 87578 applies to the following samples: 1809184-01B, 1809184-02B, 1809184-03B, 1809184-04B, 1809184-05B, 1809184-06B, 1809184-07B

Sample ID	LCS-87578	Batch ID:	87578	TestNo:	M8015V	Units:	mg/L
SampType:	LCS	Run ID:	GC4_180927A	Analysis Date:	9/27/2018 12:57:56 PM	Prep Date:	9/27/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.46	0.100	2.500	0	98.6	67	136			
Surr: Tetrachlorethene	0.382		0.4000		95.4	74	138			

Sample ID	LCSD-87578	Batch ID:	87578	TestNo:	M8015V	Units:	mg/L
SampType:	LCSD	Run ID:	GC4_180927A	Analysis Date:	9/27/2018 1:21:48 PM	Prep Date:	9/27/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.44	0.100	2.500	0	97.6	67	136	0.971	30	
Surr: Tetrachlorethene	0.393		0.4000		98.4	74	138	0	0	

Sample ID	MB-87578	Batch ID:	87578	TestNo:	M8015V	Units:	mg/L
SampType:	MBLK	Run ID:	GC4_180927A	Analysis Date:	9/27/2018 2:32:59 PM	Prep Date:	9/27/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	<0.0600	0.100								
Surr: Tetrachlorethene	0.420		0.4000		105	74	138			

Sample ID	1809186-06BMS	Batch ID:	87578	TestNo:	M8015V	Units:	mg/L
SampType:	MS	Run ID:	GC4_180927A	Analysis Date:	9/28/2018 12:09:38 AM	Prep Date:	9/27/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.06	0.100	2.500	0.06966	79.5	67	136			
Surr: Tetrachlorethene	0.377		0.4000		94.4	74	138			

Sample ID	1809186-06BMSD	Batch ID:	87578	TestNo:	M8015V	Units:	mg/L
SampType:	MSD	Run ID:	GC4_180927A	Analysis Date:	9/28/2018 12:33:39 AM	Prep Date:	9/27/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.64	0.100	2.500	0.06966	103	67	136	24.9	30	
Surr: Tetrachlorethene	0.431		0.4000		108	74	138	0	0	

Sample ID	SB-180928	Batch ID:	87578	TestNo:	M8015V	Units:	mg/L
SampType:	SBLK	Run ID:	GC4_180927A	Analysis Date:	9/28/2018 10:47:35 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	<0.0600	0.100	0							
Surr: Tetrachlorethene	0.436		0.4000		109	74	138			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1809184
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_180927A

The QC data in batch 87560 applies to the following samples: 1809184-01D, 1809184-02D, 1809184-03D, 1809184-04D, 1809184-05D, 1809184-06D

Sample ID	LCS-87560	Batch ID:	87560	TestNo:	SW8270D-LL	Units:	mg/L
SampType:	LCS	Run ID:	GCMS6_180927A	Analysis Date:	9/27/2018 1:11:00 PM	Prep Date:	9/27/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	0.00210	0.0000500	0.00400	0	52.5	46	120			N
2-Methylnaphthalene	0.00206	0.0000500	0.00400	0	51.5	46	120			
3,4-Benzofluoranthene	0.00301	0.0000500	0.00400	0	75.4	45	124			
Anthracene	0.00266	0.0000500	0.00400	0	66.4	54	120			
Benzo[a]pyrene	0.00306	0.0000500	0.00400	0	76.6	53	120			
Benzo[k]fluoranthene	0.00315	0.0000500	0.00400	0	78.7	45	124			
Fluoranthene	0.00294	0.0000500	0.00400	0	73.4	54	120			
Fluorene	0.00237	0.0000500	0.00400	0	59.3	50	120			
Naphthalene	0.00200	0.0000500	0.00400	0	50.1	39	120			
Phenanthrene	0.00270	0.0000500	0.00400	0	67.5	51	120			
Pyrene	0.00293	0.0000500	0.00400	0	73.3	49	128			
Surr: 2-Fluorobiphenyl	4.13		8.000		51.6	48	120			
Surr: 4-Terphenyl-d14	5.55		8.000		69.4	51	135			

Sample ID	LCSD-87560	Batch ID:	87560	TestNo:	SW8270D-LL	Units:	mg/L
SampType:	LCSD	Run ID:	GCMS6_180927A	Analysis Date:	9/27/2018 1:40:00 PM	Prep Date:	9/27/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	0.00223	0.0000500	0.00400	0	55.9	46	120	6.29	20	N
2-Methylnaphthalene	0.00219	0.0000500	0.00400	0	54.9	46	120	6.38	20	
3,4-Benzofluoranthene	0.00303	0.0000500	0.00400	0	75.8	45	124	0.556	20	
Anthracene	0.00261	0.0000500	0.00400	0	65.3	54	120	1.63	20	
Benzo[a]pyrene	0.00305	0.0000500	0.00400	0	76.3	53	120	0.431	20	
Benzo[k]fluoranthene	0.00319	0.0000500	0.00400	0	79.8	45	124	1.36	20	
Fluoranthene	0.00291	0.0000500	0.00400	0	72.7	54	120	1.04	20	
Fluorene	0.00243	0.0000500	0.00400	0	60.9	50	120	2.67	20	
Naphthalene	0.00215	0.0000500	0.00400	0	53.7	39	120	7.00	20	
Phenanthrene	0.00271	0.0000500	0.00400	0	67.7	51	120	0.230	20	
Pyrene	0.00290	0.0000500	0.00400	0	72.5	49	128	1.10	20	
Surr: 2-Fluorobiphenyl	5.09		8.000		63.6	48	120	0	0	
Surr: 4-Terphenyl-d14	6.58		8.000		82.2	51	135	0	0	

Sample ID	MB-87560	Batch ID:	87560	TestNo:	SW8270D-LL	Units:	mg/L
SampType:	MBLK	Run ID:	GCMS6_180927A	Analysis Date:	9/27/2018 2:39:00 PM	Prep Date:	9/27/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	<0.0000250	0.0000500								N
2-Methylnaphthalene	<0.0000250	0.0000500								
3,4-Benzofluoranthene	<0.0000250	0.0000500								
Anthracene	<0.0000250	0.0000500								

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1809184
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_180927A

Sample ID	MB-87560	Batch ID:	87560	TestNo:	SW8270D-LL	Units:	mg/L
SampType:	MBLK	Run ID:	GCMS6_180927A	Analysis Date:	9/27/2018 2:39:00 PM	Prep Date:	9/27/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo[a]pyrene	<0.0000250	0.0000500								
Benzo[k]fluoranthene	<0.0000250	0.0000500								
Fluoranthene	<0.0000250	0.0000500								
Fluorene	<0.0000250	0.0000500								
Naphthalene	<0.0000250	0.0000500								
Phenanthrene	<0.0000250	0.0000500								
Pyrene	<0.0000250	0.0000500								
Surr: 2-Fluorobiphenyl	4.55		8.000		56.9	48	120			
Surr: 4-Terphenyl-d14	6.19		8.000		77.4	51	135			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1809184
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_180926B

The QC data in batch 87553 applies to the following samples: 1809184-01A, 1809184-02A, 1809184-03A, 1809184-04A, 1809184-05A, 1809184-06A, 1809184-07A

Sample ID **LCS-87553** Batch ID: **87553** TestNo: **SW8260C** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS5_180926B** Analysis Date: **9/26/2018 3:07:00 PM** Prep Date: **9/26/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.0259	0.00100	0.0232	0	112	67	132			
1,1,2,2-Tetrachloroethane	0.0222	0.00100	0.0232	0	95.8	63	128			
1,1,2-Trichloroethane	0.0261	0.00100	0.0232	0	113	75	125			
1,1-Dichloroethane	0.0257	0.00100	0.0232	0	111	69	133			
1,1-Dichloroethene	0.0257	0.00100	0.0232	0	111	68	130			
1,1-Dichloropropene	0.0263	0.00100	0.0232	0	113	73	132			
1,2-Dibromoethane	0.0245	0.00100	0.0232	0	106	80	121			
1,2-Dichlorobenzene	0.0240	0.00100	0.0232	0	104	75	122			
1,2-Dichloroethane	0.0233	0.00100	0.0232	0	100	69	132			
1,2-Dichloropropane	0.0261	0.00100	0.0232	0	112	75	125			
1,3-Dichlorobenzene	0.0247	0.00100	0.0232	0	106	75	124			
1,3-Dichloropropane	0.0237	0.00100	0.0232	0	102	73	126			
1,4-Dichlorobenzene	0.0239	0.00100	0.0232	0	103	74	123			
2,2-Dichloropropane	0.0271	0.00100	0.0232	0	117	69	137			
Acrolein	0.0553	0.0150	0.0580	0	95.3	40	160			
Acrylonitrile	0.0507	0.00300	0.0464	0	109	50	150			
Benzene	0.0262	0.00100	0.0232	0	113	81	122			
Bromobenzene	0.0247	0.00100	0.0232	0	107	76	124			
Bromochloromethane	0.0264	0.00100	0.0232	0	114	65	129			
Bromodichloromethane	0.0250	0.00100	0.0232	0	108	76	121			
Bromoform	0.0232	0.00100	0.0232	0	100	69	128			
Bromomethane	0.0291	0.00100	0.0232	0	125	53	141			
Carbon tetrachloride	0.0256	0.00100	0.0232	0	110	66	138			
Chlorobenzene	0.0244	0.00100	0.0232	0	105	81	122			
Chloroethane	0.0262	0.00100	0.0232	0	113	58	133			
Chloroform	0.0253	0.00100	0.0232	0	109	69	128			
Chloromethane	0.0285	0.00100	0.0232	0	123	56	131			
cis-1,2-Dichloroethene	0.0255	0.00100	0.0232	0	110	72	126			
cis-1,3-Dichloropropene	0.0258	0.00100	0.0232	0	111	69	131			
Dibromochloromethane	0.0241	0.00100	0.0232	0	104	66	133			
Dichlorodifluoromethane	0.0303	0.00100	0.0232	0	131	53	153			
Ethylbenzene	0.0256	0.00100	0.0232	0	111	80	120			
m,p-Xylene	0.0515	0.00200	0.0464	0	111	80	120			
Methyl tert-butyl ether	0.0242	0.00100	0.0232	0	104	68	123			
Methylene chloride	0.0259	0.00250	0.0232	0	112	63	137			
Naphthalene	0.0237	0.0150	0.0232	0	102	54	138			
o-Xylene	0.0260	0.00100	0.0232	0	112	80	120			
Tetrachloroethene	0.0259	0.00200	0.0232	0	111	66	128			
Toluene	0.0268	0.00200	0.0232	0	115	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1809184
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_180926B

Sample ID	LCS-87553	Batch ID:	87553	TestNo:	SW8260C	Units:	mg/L
SampType:	LCS	Run ID:	GCMS5_180926B	Analysis Date:	9/26/2018 3:07:00 PM	Prep Date:	9/26/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	0.0258	0.00100	0.0232	0	111	63	137			
trans-1,3-Dichloropropene	0.0255	0.00100	0.0232	0	110	59	135			
Trichloroethene	0.0285	0.00100	0.0232	0	123	70	127			
Trichlorofluoromethane	0.0276	0.00100	0.0232	0	119	57	129			
Vinyl chloride	0.0280	0.00100	0.0232	0	121	50	134			
Total Xylenes	0.0775	0.00100	0.0696	0	111	80	120			
Surr: 1,2-Dichloroethane-d4	176		200.0		88.2	72	119			
Surr: 4-Bromofluorobenzene	200		200.0		100	76	119			
Surr: Dibromofluoromethane	198		200.0		99.2	85	115			
Surr: Toluene-d8	193		200.0		96.3	81	120			

Sample ID	1809184-01AMS	Batch ID:	87553	TestNo:	SW8260C	Units:	mg/L
SampType:	MS	Run ID:	GCMS5_180926B	Analysis Date:	9/26/2018 3:31:00 PM	Prep Date:	9/26/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.0227	0.00100	0.0232	0	97.9	67	132			
1,1,2,2-Tetrachloroethane	0.0214	0.00100	0.0232	0	92.3	63	128			
1,1,2-Trichloroethane	0.0232	0.00100	0.0232	0	99.9	75	125			
1,1-Dichloroethane	0.0223	0.00100	0.0232	0	95.9	69	133			
1,1-Dichloroethene	0.0232	0.00100	0.0232	0	99.9	68	130			
1,1-Dichloropropene	0.0231	0.00100	0.0232	0	99.6	73	132			
1,2-Dibromoethane	0.0215	0.00100	0.0232	0	92.7	80	121			
1,2-Dichlorobenzene	0.0218	0.00100	0.0232	0	93.8	75	122			
1,2-Dichloroethane	0.0203	0.00100	0.0232	0	87.6	69	132			
1,2-Dichloropropane	0.0225	0.00100	0.0232	0	97.1	75	125			
1,3-Dichlorobenzene	0.0217	0.00100	0.0232	0	93.6	75	124			
1,3-Dichloropropane	0.0210	0.00100	0.0232	0	90.7	73	126			
1,4-Dichlorobenzene	0.0212	0.00100	0.0232	0	91.4	74	123			
2,2-Dichloropropane	0.0242	0.00100	0.0232	0	104	69	137			
Acrolein	0.0537	0.0150	0.0580	0	92.6	40	160			
Acrylonitrile	0.0437	0.00300	0.0464	0	94.2	50	150			
Benzene	0.0232	0.00100	0.0232	0	100	81	122			
Bromobenzene	0.0217	0.00100	0.0232	0	93.4	76	124			
Bromochloromethane	0.0234	0.00100	0.0232	0	101	65	129			
Bromodichloromethane	0.0217	0.00100	0.0232	0	93.7	76	121			
Bromoform	0.0200	0.00100	0.0232	0	86.2	69	128			
Bromomethane	0.0197	0.00100	0.0232	0	84.8	53	141			
Carbon tetrachloride	0.0226	0.00100	0.0232	0	97.3	66	138			
Chlorobenzene	0.0216	0.00100	0.0232	0	92.9	81	122			
Chloroethane	0.0226	0.00100	0.0232	0	97.2	58	133			
Chloroform	0.0215	0.00100	0.0232	0	92.8	69	128			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1809184
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_180926B

Sample ID 1809184-01AMS	Batch ID: 87553	TestNo: SW8260C	Units: mg/L
SampType: MS	Run ID: GCMS5_180926B	Analysis Date: 9/26/2018 3:31:00 PM	Prep Date: 9/26/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloromethane	0.0242	0.00100	0.0232	0	104	56	131			
cis-1,2-Dichloroethene	0.0221	0.00100	0.0232	0	95.3	72	126			
cis-1,3-Dichloropropene	0.0225	0.00100	0.0232	0	97.1	69	131			
Dibromochloromethane	0.0208	0.00100	0.0232	0	89.7	66	133			
Dichlorodifluoromethane	0.0271	0.00100	0.0232	0	117	53	153			
Ethylbenzene	0.0224	0.00100	0.0232	0	96.5	80	120			
m,p-Xylene	0.0449	0.00200	0.0464	0	96.7	80	120			
Methyl tert-butyl ether	0.0221	0.00100	0.0232	0	95.1	68	123			
Methylene chloride	0.0224	0.00250	0.0232	0	96.3	63	137			
Naphthalene	0.0238	0.0150	0.0232	0	103	54	138			
o-Xylene	0.0227	0.00100	0.0232	0	97.8	80	120			
Tetrachloroethene	0.0227	0.00200	0.0232	0	97.8	66	128			
Toluene	0.0233	0.00200	0.0232	0	101	80	120			
trans-1,2-Dichloroethene	0.0231	0.00100	0.0232	0	99.7	63	137			
trans-1,3-Dichloropropene	0.0231	0.00100	0.0232	0	99.5	59	135			
Trichloroethene	0.0241	0.00100	0.0232	0	104	70	127			
Trichlorofluoromethane	0.0244	0.00100	0.0232	0	105	57	129			
Vinyl chloride	0.0250	0.00100	0.0232	0	108	50	134			
Total Xylenes	0.0676	0.00100	0.0696	0	97.1	80	120			
Surr: 1,2-Dichloroethane-d4	177		200.0		88.3	72	119			
Surr: 4-Bromofluorobenzene	203		200.0		101	76	119			
Surr: Dibromofluoromethane	197		200.0		98.4	85	115			
Surr: Toluene-d8	191		200.0		95.4	81	120			

Sample ID 1809184-01AMSD	Batch ID: 87553	TestNo: SW8260C	Units: mg/L
SampType: MSD	Run ID: GCMS5_180926B	Analysis Date: 9/26/2018 3:56:00 PM	Prep Date: 9/26/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	0.0219	0.00100	0.0232	0	94.3	67	132	3.68	20	
1,1,2,2-Tetrachloroethane	0.0211	0.00100	0.0232	0	91.2	63	128	1.22	20	
1,1,2-Trichloroethane	0.0228	0.00100	0.0232	0	98.2	75	125	1.71	20	
1,1-Dichloroethane	0.0218	0.00100	0.0232	0	94.1	69	133	1.90	20	
1,1-Dichloroethene	0.0222	0.00100	0.0232	0	95.8	68	130	4.13	20	
1,1-Dichloropropene	0.0226	0.00100	0.0232	0	97.6	73	132	2.03	20	
1,2-Dibromoethane	0.0213	0.00100	0.0232	0	91.8	80	121	0.958	20	
1,2-Dichlorobenzene	0.0213	0.00100	0.0232	0	91.9	75	125	2.11	20	
1,2-Dichloroethane	0.0196	0.00100	0.0232	0	84.5	68	132	3.52	20	
1,2-Dichloropropane	0.0223	0.00100	0.0232	0	96.2	75	125	0.932	20	
1,3-Dichlorobenzene	0.0212	0.00100	0.0232	0	91.3	75	124	2.54	20	
1,3-Dichloropropane	0.0207	0.00100	0.0232	0	89.0	73	126	1.83	20	
1,4-Dichlorobenzene	0.0208	0.00100	0.0232	0	89.8	74	123	1.68	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1809184
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_180926B

Sample ID 1809184-01AMSD	Batch ID: 87553	TestNo: SW8260C	Units: mg/L
SampType: MSD	Run ID: GCMS5_180926B	Analysis Date: 9/26/2018 3:56:00 PM	Prep Date: 9/26/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,2-Dichloropropane	0.0234	0.00100	0.0232	0	101	69	137	3.58	20	
Acrolein	0.0544	0.0150	0.0580	0	93.8	40	160	1.31	20	
Acrylonitrile	0.0440	0.00300	0.0464	0	94.9	50	150	0.759	20	
Benzene	0.0230	0.00100	0.0232	0	98.9	81	120	1.07	20	
Bromobenzene	0.0215	0.00100	0.0232	0	92.5	76	124	1.02	20	
Bromochloromethane	0.0234	0.00100	0.0232	0	101	65	129	0.209	20	
Bromodichloromethane	0.0212	0.00100	0.0232	0	91.2	76	121	2.64	20	
Bromoform	0.0196	0.00100	0.0232	0	84.6	69	128	1.88	20	
Bromomethane	0.0113	0.00100	0.0232	0	48.8	53	141	53.8	20	SR
Carbon tetrachloride	0.0210	0.00100	0.0232	0	90.4	66	138	7.31	20	
Chlorobenzene	0.0211	0.00100	0.0232	0	91.1	81	122	1.91	20	
Chloroethane	0.0210	0.00100	0.0232	0	90.4	58	133	7.27	20	
Chloroform	0.0212	0.00100	0.0232	0	91.2	69	128	1.68	20	
Chloromethane	0.0228	0.00100	0.0232	0	98.4	56	131	5.83	20	
cis-1,2-Dichloroethene	0.0222	0.00100	0.0232	0	95.7	72	126	0.438	20	
cis-1,3-Dichloropropene	0.0219	0.00100	0.0232	0	94.3	69	131	2.93	20	
Dibromochloromethane	0.0204	0.00100	0.0232	0	88.0	66	133	1.93	20	
Dichlorodifluoromethane	0.0259	0.00100	0.0232	0	112	53	153	4.63	20	
Ethylbenzene	0.0218	0.00100	0.0232	0	94.0	80	120	2.68	20	
m,p-Xylene	0.0440	0.00200	0.0464	0	94.8	80	120	2.01	20	
Methyl tert-butyl ether	0.0218	0.00100	0.0232	0	94.1	68	123	1.05	20	
Methylene chloride	0.0220	0.00250	0.0232	0	94.6	63	137	1.77	20	
Naphthalene	0.0248	0.0150	0.0232	0	107	54	138	3.80	20	
o-Xylene	0.0226	0.00100	0.0232	0	97.6	80	120	0.190	20	
Tetrachloroethene	0.0223	0.00200	0.0232	0	96.2	66	128	1.66	20	
Toluene	0.0232	0.00200	0.0232	0	99.9	80	120	0.615	20	
trans-1,2-Dichloroethene	0.0225	0.00100	0.0232	0	96.8	63	137	2.86	20	
trans-1,3-Dichloropropene	0.0227	0.00100	0.0232	0	97.8	59	135	1.76	20	
Trichloroethene	0.0240	0.00100	0.0232	0	103	70	127	0.724	20	
Trichlorofluoromethane	0.0231	0.00100	0.0232	0	99.6	57	129	5.25	20	
Vinyl chloride	0.0239	0.00100	0.0232	0	103	50	134	4.52	20	
Total Xylenes	0.0666	0.00100	0.0696	0	95.7	80	120	1.39	20	
Surr: 1,2-Dichloroethane-d4	181		200.0		90.7	72	119	0	0	
Surr: 4-Bromofluorobenzene	201		200.0		101	76	119	0	0	
Surr: Dibromofluoromethane	197		200.0		98.4	85	115	0	0	
Surr: Toluene-d8	189		200.0		94.7	81	120	0	0	

Sample ID MB-87553	Batch ID: 87553	TestNo: SW8260C	Units: mg/L
SampType: MBLK	Run ID: GCMS5_180926B	Analysis Date: 9/26/2018 4:45:00 PM	Prep Date: 9/26/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1809184
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_180926B

Sample ID	MB-87553	Batch ID:	87553	TestNo:	SW8260C	Units:	mg/L
SampType:	MBLK	Run ID:	GCMS5_180926B	Analysis Date:	9/26/2018 4:45:00 PM	Prep Date:	9/26/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	<0.000300	0.00100								
1,1,2,2-Tetrachloroethane	<0.000300	0.00100								
1,1,2-Trichloroethane	<0.000300	0.00100								
1,1-Dichloroethane	<0.000300	0.00100								
1,1-Dichloroethene	<0.000300	0.00100								
1,1-Dichloropropene	<0.000300	0.00100								
1,2-Dibromoethane	<0.000300	0.00100								
1,2-Dichlorobenzene	<0.000300	0.00100								
1,2-Dichloroethane	<0.000300	0.00100								
1,2-Dichloropropane	<0.000300	0.00100								
1,3-Dichlorobenzene	<0.000300	0.00100								
1,3-Dichloropropane	<0.000300	0.00100								
1,4-Dichlorobenzene	<0.000300	0.00100								
2,2-Dichloropropane	<0.000300	0.00100								
Acrolein	<0.00500	0.0150								
Acrylonitrile	<0.00100	0.00300								
Benzene	<0.000300	0.00100								
Bromobenzene	<0.000300	0.00100								
Bromochloromethane	<0.000300	0.00100								
Bromodichloromethane	<0.000300	0.00100								
Bromoform	<0.000300	0.00100								
Bromomethane	<0.000300	0.00100								
Carbon tetrachloride	<0.000300	0.00100								
Chlorobenzene	<0.000300	0.00100								
Chloroethane	<0.000300	0.00100								
Chloroform	<0.000300	0.00100								
Chloromethane	<0.000300	0.00100								
cis-1,2-Dichloroethene	<0.000300	0.00100								
cis-1,3-Dichloropropene	<0.000300	0.00100								
Dibromochloromethane	<0.000300	0.00100								
Dichlorodifluoromethane	<0.000300	0.00100								
Ethylbenzene	<0.000300	0.00100								
m,p-Xylene	<0.000600	0.00200								
Methyl tert-butyl ether	<0.000300	0.00100								
Methylene chloride	<0.00250	0.00250								
Naphthalene	<0.00500	0.0150								
o-Xylene	<0.000300	0.00100								
Tetrachloroethene	<0.000600	0.00200								
Toluene	<0.000600	0.00200								
trans-1,2-Dichloroethene	<0.000300	0.00100								
trans-1,3-Dichloropropene	<0.000300	0.00100								

Qualifiers:				
	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1809184
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_180926B

Sample ID **MB-87553**	Batch ID: **87553**	TestNo: **SW8260C**		Units:	**mg/L**
SampType: **MBLK**	Run ID: **GCMS5_180926B**	Analysis Date: **9/26/2018 4:45:00 PM**		Prep Date:	**9/26/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Trichloroethene	<0.000600	0.00100								
Trichlorofluoromethane	<0.000300	0.00100								
Vinyl chloride	<0.000300	0.00100								
Total Xylenes	<0.000300	0.00100								
Surr: 1,2-Dichloroethane-d4	170		200.0		85.2	72	119			
Surr: 4-Bromofluorobenzene	208		200.0		104	76	119			
Surr: Dibromofluoromethane	188		200.0		93.8	85	115			
Surr: Toluene-d8	193		200.0		96.7	81	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

DHL ANALYTICAL

December 21, 2018

Brad Stephenson
GHD
14998 W 6th Ave #800
Golden, CO 80401
TEL: (720) 974-0935
FAX (432) 686-0186

Order No.: 1812145

RE: Hobbs Tank

Dear Brad Stephenson:

DHL Analytical, Inc. received 7 sample(s) on 12/14/2018 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative and all estimated uncertainties of results are within method specifications.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-18-21

ACCREDITED IN ACCORDANCE WITH nelac

Table of Contents

Miscellaneous Documents 3
CaseNarrative 1812145 7
Analytical Report 1812145 8
AnalyticalQCSummaryReport 1812145 15

DHL ANALYTICAL
2300 Double Creek Dr. ■ Round Rock, TX 78664
Phone (512) 388-8222 ■ FAX (512) 388-8229
Web: www.dhlanalytical.com
E-Mail: login@dhlanalytical.com

№ 81592 CHAIN-OF-CUSTODY

CLIENT: GHD
ADDRESS: 6020 ACADEMY RD
PHONE: 303 941-6156 FAX/E-MAIL: BRAD.STEPHENSON@GHD.COM
DATA REPORTED TO: BRAD STEPHENSON
ADDITIONAL REPORT COPIES TO:

DATE: 12/12/18 PAGE 1 OF 1
PO #: DHL WORK ORDER #: 1812145
PROJECT LOCATION OR NAME: HOBBS NM
CLENT PROJECT #: 078863 COLLECTOR: BRAD STEPHENSON

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT P=PAINT SL=SLUDGE O=OTHER SO=SOLID

PRESERVATION: HCl, HNO3, H2SO4, NaOH ☐, ICE, UNPRESERVED

ANALYSES: BTEX ☐ [METHOD 8021] ☐ TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ GRO [METHOD 8015] ☐ DRO [METHOD 8015] ☐ VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐ SVOC 8270 ☐ 8270 PEST ☐ 625 PEST/PCB ☐ 608 PCB ☐ 8270 PCB ☐ 8270 O-P PEST ☐ 8081 PEST ☐ 8082 PCB ☐ 8321 HERB ☐ T PHOS; AMMONIA ☐ METALS 6010 ☐ METALS 200.8 ☐ DISS. METALS ☐ RCRA ☐ TX11 ☐ PH ☐ HEX CHROM ☐ ANIONS ☐ ALKALINITY ☐ COD ☐ CHLORIDE ☐ TCLP SVOC ☐ VOC ☐ PEST ☐ HERB ☐ TCLP METALS ☐ RCRA 8 ☐ TX11 ☐ Pb ☐ RCI ☐ FLASHPOINT ☐ DGAS ☐ TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO3	H2SO4	NaOH	ICE	UNPRESERVED	FIELD NOTES
MW-1	01	12/12/18	0910	W									
MW-2	02		1040	W									
MW-4	03		0845	W									
MW-5	04		0930	W									
MW-5D	05		0950	W									
HTRW-1	06	12/12/18	1000	W									
Trip	07												

RELINQUISHED BY: (Signature) DATE/TIME 12/13/18 1600 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)
UPS 12/14/18 0103
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

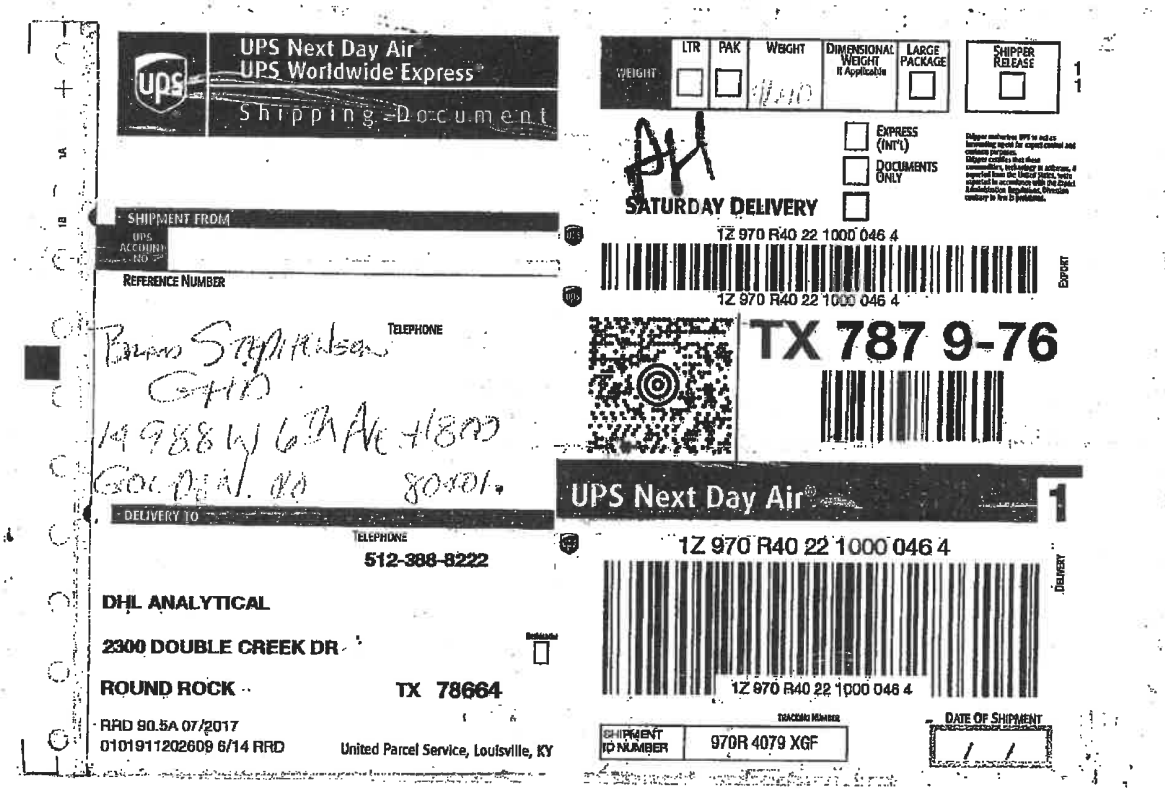
☐ DHL DISPOSAL @ $5.00 each ☐ Return

3

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☐
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.3/4.1 °C THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☐ INTACT ☐ NOT USED
CARRIER: ☐ LONE STAR ☐ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

DHL COC Rev 1 | FEB 2010


UPS Next Day Air
UPS Worldwide Express
Shipping Document
LTR
PAK
WEIGHT
DIMENSIONAL WEIGHT If Applicable
LARGE PACKAGE
SHIPPER RELEASE
EXPRESS (INT'L)
DOCUMENTS ONLY
SATURDAY DELIVERY
1Z 970 R40 22 1000 046 4
SHIPMENT FROM
UPS ACCOUNT NO.
REFERENCE NUMBER
TELEPHONE
DELIVERY TO
TELEPHONE
512-388-8222
DHL ANALYTICAL
2300 DOUBLE CREEK DR
ROUND ROCK
TX 78664
RRD 90.5A 07/2017
0101911202609 6/14 RRD
United Parcel Service, Louisville, KY
TX 787 9-76
UPS Next Day Air
1Z 970 R40 22 1000 046 4
SHIPMENT ID NUMBER
970R 4079 XGF
DATE OF SHIPMENT

UPS Next Day Air®
UPS Worldwide Express®
Shipping Document

WEIGHT | LTR | PAK | WEIGHT | DIMENSIONAL WEIGHT If Applicable | LARGE PACKAGE | SHIPPER RELEASE

EXPRESS (INT'L) | DOCUMENTS ONLY

SATURDAY DELIVERY

SHIPMENT FROM

REFERENCE NUMBER

TELEPHONE

TX 787 9-76

UPS Next Day Air®

DELIVERY TO

TELEPHONE
512-388-8222

DHL ANALYTICAL

2300 DOUBLE CREEK DR

ROUND ROCK TX 78664

RRD 90.5A 07/2017
0101911202609 6/14 RRD

United Parcel Service, Louisville, KY

1Z 970 R40 22 1000 047 3

SHIPMENT ID NUMBER | 970R 4079 XGG

DATE OF SHIPMENT

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name GHD Date Received: 12/14/2018

Work Order Number 1812145 Received by EL

Checklist completed by: _____ 12/14/2018 Reviewed by _____ 12/14/2018
Signature | Date | Initials | Date

Carrier name UPS Blue

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	1.3 °C
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH<2 acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Page 1 of 1

DHL Analytical, Inc. **Date:** *21-Dec-18*

CLIENT: GHD
Project: Hobbs Tank
Lab Order: 1812145

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition and Standard Methods.

The compound 1-Methylnaphthalene is not NELAC Certified.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives except where noted in the following. For Volatile Organics Analysis, the recovery of Toluene for the Matrix Spike (1812144-01 MS) was above the method control limits. This is flagged accordingly in the QC Summary Report. This compound was within method control limits in the associated LCS/MSD. No further corrective action was taken.

For PAH Analysis, the recovery of surrogate 2-Fluorobiphenyl for Method Blank-88638 was below the method control limits. These are flagged accordingly in the QC Summary Report. The remaining surrogate for these samples was within method control limits. No further corrective action was taken.

For PAH Analysis, the RPD(s) of three compounds for the Laboratory Control Spike Duplicate (LCSD-88638) were above the method control limit. These are flagged accordingly in the QC Summary Report. The recoveries of these compounds were within method control limits in the associated ICV/LCS/LCSD. No further corrective action was taken.

DHL Analytical, Inc.

Date: *21-Dec-18*

CLIENT:	GHD	**Client Sample ID:**	MW-2
Project:	Hobbs Tank	**Lab ID:**	1812145-01
Project No:	078863	**Collection Date:**	12/12/18 09:10 AM
Lab Order:	1812145	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	2.56	0.151	0.189		mg/L	1	12/19/18 10:37 AM
Surr: Isopropylbenzene	88.7	0	47-142		%REC	10	12/19/18 01:12 PM
Surr: Octacosane	90.7	0	51-124		%REC	10	12/19/18 01:12 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	12/18/18 05:01 PM
Surr: Tetrachlorethene	105	0	74-138		%REC	1	12/18/18 05:01 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000484	0.0000484	0.0000969	N	mg/L	1	12/18/18 03:24 PM
2-Methylnaphthalene	<0.0000484	0.0000484	0.0000969		mg/L	1	12/18/18 03:24 PM
3,4-Benzofluoranthene	<0.0000484	0.0000484	0.0000969		mg/L	1	12/18/18 03:24 PM
Anthracene	<0.0000484	0.0000484	0.0000969		mg/L	1	12/18/18 03:24 PM
Benzo[a]pyrene	<0.0000484	0.0000484	0.0000969		mg/L	1	12/18/18 03:24 PM
Benzo[k]fluoranthene	<0.0000484	0.0000484	0.0000969		mg/L	1	12/18/18 03:24 PM
Fluoranthene	<0.0000484	0.0000484	0.0000969		mg/L	1	12/18/18 03:24 PM
Fluorene	<0.0000484	0.0000484	0.0000969		mg/L	1	12/18/18 03:24 PM
Naphthalene	<0.0000484	0.0000484	0.0000969		mg/L	1	12/18/18 03:24 PM
Phenanthrene	0.000144	0.0000484	0.0000969		mg/L	1	12/18/18 03:24 PM
Pyrene	<0.0000484	0.0000484	0.0000969		mg/L	1	12/18/18 03:24 PM
Surr: 2-Fluorobiphenyl	65.1	0	48-120		%REC	1	12/18/18 03:24 PM
Surr: 4-Terphenyl-d14	63.6	0	51-135		%REC	1	12/18/18 03:24 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 08:49 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 08:49 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 08:49 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 08:49 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 08:49 PM
Surr: 1,2-Dichloroethane-d4	84.5	0	72-119		%REC	1	12/14/18 08:49 PM
Surr: 4-Bromofluorobenzene	95.1	0	76-119		%REC	1	12/14/18 08:49 PM
Surr: Dibromofluoromethane	93.4	0	85-115		%REC	1	12/14/18 08:49 PM
Surr: Toluene-d8	92.5	0	81-120		%REC	1	12/14/18 08:49 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *21-Dec-18*

CLIENT:	GHD	**Client Sample ID:**	MW-3
Project:	Hobbs Tank	**Lab ID:**	1812145-02
Project No:	078863	**Collection Date:**	12/12/18 10:40 AM
Lab Order:	1812145	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	0.224	0.0755	0.0944		mg/L	1	12/19/18 10:46 AM
Surr: Isopropylbenzene	74.9	0	47-142		%REC	10	12/19/18 01:21 PM
Surr: Octacosane	87.7	0	51-124		%REC	10	12/19/18 01:21 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	12/18/18 05:25 PM
Surr: Tetrachlorethene	107	0	74-138		%REC	1	12/18/18 05:25 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000236	0.0000236	0.0000473	N	mg/L	1	12/18/18 03:53 PM
2-Methylnaphthalene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 03:53 PM
3,4-Benzofluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 03:53 PM
Anthracene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 03:53 PM
Benzo[a]pyrene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 03:53 PM
Benzo[k]fluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 03:53 PM
Fluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 03:53 PM
Fluorene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 03:53 PM
Naphthalene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 03:53 PM
Phenanthrene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 03:53 PM
Pyrene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 03:53 PM
Surr: 2-Fluorobiphenyl	62.0	0	48-120		%REC	1	12/18/18 03:53 PM
Surr: 4-Terphenyl-d14	59.0	0	51-135		%REC	1	12/18/18 03:53 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 09:14 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 09:14 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 09:14 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 09:14 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 09:14 PM
Surr: 1,2-Dichloroethane-d4	82.0	0	72-119		%REC	1	12/14/18 09:14 PM
Surr: 4-Bromofluorobenzene	96.9	0	76-119		%REC	1	12/14/18 09:14 PM
Surr: Dibromofluoromethane	94.4	0	85-115		%REC	1	12/14/18 09:14 PM
Surr: Toluene-d8	93.9	0	81-120		%REC	1	12/14/18 09:14 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *21-Dec-18*

CLIENT:	GHD	**Client Sample ID:**	MW-4
Project:	Hobbs Tank	**Lab ID:**	1812145-03
Project No:	078863	**Collection Date:**	12/12/18 08:45 AM
Lab Order:	1812145	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	0.0980	0.0762	0.0952		mg/L	1	12/19/18 10:55 AM
Surr: Isopropylbenzene	78.6	0	47-142		%REC	10	12/19/18 01:30 PM
Surr: Octacosane	86.9	0	51-124		%REC	10	12/19/18 01:30 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	12/18/18 05:49 PM
Surr: Tetrachlorethene	114	0	74-138		%REC	1	12/18/18 05:49 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000236	0.0000236	0.0000473	N	mg/L	1	12/18/18 04:22 PM
2-Methylnaphthalene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 04:22 PM
3,4-Benzofluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 04:22 PM
Anthracene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 04:22 PM
Benzo[a]pyrene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 04:22 PM
Benzo[k]fluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 04:22 PM
Fluoranthene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 04:22 PM
Fluorene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 04:22 PM
Naphthalene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 04:22 PM
Phenanthrene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 04:22 PM
Pyrene	<0.0000236	0.0000236	0.0000473		mg/L	1	12/18/18 04:22 PM
Surr: 2-Fluorobiphenyl	65.3	0	48-120		%REC	1	12/18/18 04:22 PM
Surr: 4-Terphenyl-d14	64.3	0	51-135		%REC	1	12/18/18 04:22 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 09:38 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 09:38 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 09:38 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 09:38 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 09:38 PM
Surr: 1,2-Dichloroethane-d4	85.4	0	72-119		%REC	1	12/14/18 09:38 PM
Surr: 4-Bromofluorobenzene	97.0	0	76-119		%REC	1	12/14/18 09:38 PM
Surr: Dibromofluoromethane	94.5	0	85-115		%REC	1	12/14/18 09:38 PM
Surr: Toluene-d8	93.4	0	81-120		%REC	1	12/14/18 09:38 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *21-Dec-18*

CLIENT:	GHD	**Client Sample ID:**	MW-5
Project:	Hobbs Tank	**Lab ID:**	1812145-04
Project No:	078863	**Collection Date:**	12/12/18 09:30 AM
Lab Order:	1812145	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	0.157	0.0761	0.0951		mg/L	1	12/19/18 11:04 AM
Surr: Isopropylbenzene	79.9	0	47-142		%REC	10	12/19/18 01:39 PM
Surr: Octacosane	88.0	0	51-124		%REC	10	12/19/18 01:39 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	12/18/18 07:02 PM
Surr: Tetrachlorethene	93.5	0	74-138		%REC	1	12/18/18 07:02 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000237	0.0000237	0.0000474	N	mg/L	1	12/18/18 04:52 PM
2-Methylnaphthalene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 04:52 PM
3,4-Benzofluoranthene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 04:52 PM
Anthracene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 04:52 PM
Benzo[a]pyrene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 04:52 PM
Benzo[k]fluoranthene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 04:52 PM
Fluoranthene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 04:52 PM
Fluorene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 04:52 PM
Naphthalene	0.0000337	0.0000237	0.0000474	J	mg/L	1	12/18/18 04:52 PM
Phenanthrene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 04:52 PM
Pyrene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 04:52 PM
Surr: 2-Fluorobiphenyl	60.3	0	48-120		%REC	1	12/18/18 04:52 PM
Surr: 4-Terphenyl-d14	59.7	0	51-135		%REC	1	12/18/18 04:52 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 10:02 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 10:02 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 10:02 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 10:02 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 10:02 PM
Surr: 1,2-Dichloroethane-d4	85.5	0	72-119		%REC	1	12/14/18 10:02 PM
Surr: 4-Bromofluorobenzene	95.7	0	76-119		%REC	1	12/14/18 10:02 PM
Surr: Dibromofluoromethane	95.7	0	85-115		%REC	1	12/14/18 10:02 PM
Surr: Toluene-d8	93.1	0	81-120		%REC	1	12/14/18 10:02 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
	DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
	S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *21-Dec-18*

CLIENT:	GHD	**Client Sample ID:**	MW-5D
Project:	Hobbs Tank	**Lab ID:**	1812145-05
Project No:	078863	**Collection Date:**	12/12/18 09:30 AM
Lab Order:	1812145	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	0.148	0.0756	0.0946		mg/L	1	12/19/18 11:14 AM
Surr: Isopropylbenzene	80.6	0	47-142		%REC	10	12/19/18 01:48 PM
Surr: Octacosane	86.4	0	51-124		%REC	10	12/19/18 01:48 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	12/18/18 07:26 PM
Surr: Tetrachlorethene	75.9	0	74-138		%REC	1	12/18/18 07:26 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000237	0.0000237	0.0000474	N	mg/L	1	12/18/18 05:21 PM
2-Methylnaphthalene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 05:21 PM
3,4-Benzofluoranthene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 05:21 PM
Anthracene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 05:21 PM
Benzo[a]pyrene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 05:21 PM
Benzo[k]fluoranthene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 05:21 PM
Fluoranthene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 05:21 PM
Fluorene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 05:21 PM
Naphthalene	0.0000294	0.0000237	0.0000474	J	mg/L	1	12/18/18 05:21 PM
Phenanthrene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 05:21 PM
Pyrene	<0.0000237	0.0000237	0.0000474		mg/L	1	12/18/18 05:21 PM
Surr: 2-Fluorobiphenyl	64.9	0	48-120		%REC	1	12/18/18 05:21 PM
Surr: 4-Terphenyl-d14	61.9	0	51-135		%REC	1	12/18/18 05:21 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 10:27 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 10:27 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 10:27 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 10:27 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 10:27 PM
Surr: 1,2-Dichloroethane-d4	84.0	0	72-119		%REC	1	12/14/18 10:27 PM
Surr: 4-Bromofluorobenzene	94.6	0	76-119		%REC	1	12/14/18 10:27 PM
Surr: Dibromofluoromethane	93.1	0	85-115		%REC	1	12/14/18 10:27 PM
Surr: Toluene-d8	93.3	0	81-120		%REC	1	12/14/18 10:27 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *21-Dec-18*

CLIENT:	GHD	**Client Sample ID:**	HTRW-1
Project:	Hobbs Tank	**Lab ID:**	1812145-06
Project No:	078863	**Collection Date:**	12/12/18 10:00 AM
Lab Order:	1812145	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	0.240	0.0759	0.0949		mg/L	1	12/19/18 11:23 AM
Surr: Isopropylbenzene	80.7	0	47-142		%REC	10	12/19/18 01:57 PM
Surr: Octacosane	90.0	0	51-124		%REC	10	12/19/18 01:57 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	1.15	0.0600	0.100		mg/L	1	12/18/18 07:50 PM
Surr: Tetrachlorethene	87.2	0	74-138		%REC	1	12/18/18 07:50 PM
PAHS: GC/MS		**SW8270D-LL**					Analyst: **LG**
1-Methylnaphthalene	<0.0000236	0.0000236	0.0000472	N	mg/L	1	12/18/18 05:50 PM
2-Methylnaphthalene	<0.0000236	0.0000236	0.0000472		mg/L	1	12/18/18 05:50 PM
3,4-Benzofluoranthene	<0.0000236	0.0000236	0.0000472		mg/L	1	12/18/18 05:50 PM
Anthracene	<0.0000236	0.0000236	0.0000472		mg/L	1	12/18/18 05:50 PM
Benzo[a]pyrene	<0.0000236	0.0000236	0.0000472		mg/L	1	12/18/18 05:50 PM
Benzo[k]fluoranthene	<0.0000236	0.0000236	0.0000472		mg/L	1	12/18/18 05:50 PM
Fluoranthene	<0.0000236	0.0000236	0.0000472		mg/L	1	12/18/18 05:50 PM
Fluorene	<0.0000236	0.0000236	0.0000472		mg/L	1	12/18/18 05:50 PM
Naphthalene	<0.0000236	0.0000236	0.0000472		mg/L	1	12/18/18 05:50 PM
Phenanthrene	<0.0000236	0.0000236	0.0000472		mg/L	1	12/18/18 05:50 PM
Pyrene	<0.0000236	0.0000236	0.0000472		mg/L	1	12/18/18 05:50 PM
Surr: 2-Fluorobiphenyl	56.2	0	48-120		%REC	1	12/18/18 05:50 PM
Surr: 4-Terphenyl-d14	59.4	0	51-135		%REC	1	12/18/18 05:50 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	0.377	0.00300	0.0100		mg/L	10	12/17/18 11:24 AM
Ethylbenzene	0.00107	0.000300	0.00100		mg/L	1	12/14/18 10:51 PM
m,p-Xylene	0.00892	0.000600	0.00200		mg/L	1	12/14/18 10:51 PM
o-Xylene	0.0118	0.000300	0.00100		mg/L	1	12/14/18 10:51 PM
Toluene	0.0205	0.000600	0.00200		mg/L	1	12/14/18 10:51 PM
Surr: 1,2-Dichloroethane-d4	86.7	0	72-119		%REC	10	12/17/18 11:24 AM
Surr: 1,2-Dichloroethane-d4	86.2	0	72-119		%REC	1	12/14/18 10:51 PM
Surr: 4-Bromofluorobenzene	98.7	0	76-119		%REC	10	12/17/18 11:24 AM
Surr: 4-Bromofluorobenzene	97.1	0	76-119		%REC	1	12/14/18 10:51 PM
Surr: Dibromofluoromethane	94.9	0	85-115		%REC	10	12/17/18 11:24 AM
Surr: Dibromofluoromethane	94.8	0	85-115		%REC	1	12/14/18 10:51 PM
Surr: Toluene-d8	94.4	0	81-120		%REC	1	12/14/18 10:51 PM
Surr: Toluene-d8	94.2	0	81-120		%REC	10	12/17/18 11:24 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc.

Date: *21-Dec-18*

CLIENT:	GHD	**Client Sample ID:**	Trip
Project:	Hobbs Tank	**Lab ID:**	1812145-07
Project No:	078863	**Collection Date:**	12/12/18
Lab Order:	1812145	**Matrix:**	TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	12/18/18 01:23 PM
Surr: Tetrachlorethene	109	0	74-138		%REC	1	12/18/18 01:23 PM
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **DEW**
Benzene	<0.000300	0.000300	0.00100		mg/L	1	12/17/18 11:00 AM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 11:16 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 11:16 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	12/14/18 11:16 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	12/14/18 11:16 PM
Surr: 1,2-Dichloroethane-d4	85.6	0	72-119		%REC	1	12/17/18 11:00 AM
Surr: 1,2-Dichloroethane-d4	85.1	0	72-119		%REC	1	12/14/18 11:16 PM
Surr: 4-Bromofluorobenzene	97.9	0	76-119		%REC	1	12/17/18 11:00 AM
Surr: 4-Bromofluorobenzene	96.2	0	76-119		%REC	1	12/14/18 11:16 PM
Surr: Dibromofluoromethane	93.9	0	85-115		%REC	1	12/17/18 11:00 AM
Surr: Dibromofluoromethane	92.5	0	85-115		%REC	1	12/14/18 11:16 PM
Surr: Toluene-d8	93.2	0	81-120		%REC	1	12/17/18 11:00 AM
Surr: Toluene-d8	92.4	0	81-120		%REC	1	12/14/18 11:16 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	C	Sample Result or QC discussed in the Case Narrative
	DF	Dilution Factor	E	TPH pattern not Gas or Diesel Range Pattern
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	RL	Reporting Limit
	S	Spike Recovery outside control limits	N	Parameter not NELAC certified

DHL Analytical, Inc. **Date:** *21-Dec-18*

CLIENT: GHD
Work Order: 1812145
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_181219A

The QC data in batch 88686 applies to the following samples: 1812145-01C, 1812145-02C, 1812145-03C, 1812145-04C, 1812145-05C, 1812145-06C

Sample ID **MB-88686**	Batch ID: **88686**	TestNo: **M8015D**	Units: **mg/L**
SampType: **MBLK**	Run ID: **GC15_181219A**	Analysis Date: **12/19/2018 9:21:53 AM**	Prep Date: **12/18/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	<0.0800	0.100								

Sample ID **LCS-88686**	Batch ID: **88686**	TestNo: **M8015D**	Units: **mg/L**
SampType: **LCS**	Run ID: **GC15_181219A**	Analysis Date: **12/19/2018 9:30:56 AM**	Prep Date: **12/18/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.03	0.100	1.250	0	82.5	50	114			

Sample ID **LCSD-88686**	Batch ID: **88686**	TestNo: **M8015D**	Units: **mg/L**
SampType: **LCSD**	Run ID: **GC15_181219A**	Analysis Date: **12/19/2018 9:40:00 AM**	Prep Date: **12/18/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.01	0.100	1.250	0	80.8	50	114	2.15	30	

Sample ID **MB-88686**	Batch ID: **88686**	TestNo: **M8015D**	Units: **%REC**
SampType: **MBLK**	Run ID: **GC15_181219A**	Analysis Date: **12/19/2018 11:50:02 A**	Prep Date: **12/18/2018**

Analyte	Result	SPK value	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Isopropylbenzene	0.491	1.000	49.1	47	142			
Surr: Octacosane	0.661	1.000	66.1	51	124			

Sample ID **LCS-88686**	Batch ID: **88686**	TestNo: **M8015D**	Units: **%REC**
SampType: **LCS**	Run ID: **GC15_181219A**	Analysis Date: **12/19/2018 12:08:53 P**	Prep Date: **12/18/2018**

Analyte	Result	SPK value	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Isopropylbenzene	0.704	1.000	70.4	47	142			
Surr: Octacosane	0.863	1.000	86.3	51	124			

Sample ID **LCSD-88686**	Batch ID: **88686**	TestNo: **M8015D**	Units: **%REC**
SampType: **LCSD**	Run ID: **GC15_181219A**	Analysis Date: **12/19/2018 12:17:56 P**	Prep Date: **12/18/2018**

Analyte	Result	SPK value	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Isopropylbenzene	0.679	1.000	67.9	47	142	0	0	
Surr: Octacosane	0.859	1.000	85.9	51	124	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1812145
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_181218A

The QC data in batch 88641 applies to the following samples: 1812145-01B, 1812145-02B, 1812145-03B, 1812145-04B, 1812145-05B, 1812145-06B, 1812145-07B

Sample ID	LCS-88641	Batch ID:	88641	TestNo:	M8015V	Units:	mg/L
SampType:	LCS	Run ID:	GC4_181218A	Analysis Date:	12/18/2018 10:58:13 A	Prep Date:	12/18/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.31	0.100	2.500	0	92.3	67	136			
Surr: Tetrachlorethene	0.404		0.4000		101	74	138			

Sample ID	LCSD-88641	Batch ID:	88641	TestNo:	M8015V	Units:	mg/L
SampType:	LCSD	Run ID:	GC4_181218A	Analysis Date:	12/18/2018 11:22:26 A	Prep Date:	12/18/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.58	0.100	2.500	0	103	67	136	11.2	30	
Surr: Tetrachlorethene	0.396		0.4000		98.9	74	138	0	0	

Sample ID	MB-88641	Batch ID:	88641	TestNo:	M8015V	Units:	mg/L
SampType:	MBLK	Run ID:	GC4_181218A	Analysis Date:	12/18/2018 12:34:51 P	Prep Date:	12/18/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	<0.0600	0.100	0							
Surr: Tetrachlorethene	0.423		0.4000		106	74	138			

Sample ID	1812144-02BMS	Batch ID:	88641	TestNo:	M8015V	Units:	mg/L
SampType:	MS	Run ID:	GC4_181218A	Analysis Date:	12/18/2018 2:35:47 PM	Prep Date:	12/18/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.54	0.100	2.500	0	102	67	136			
Surr: Tetrachlorethene	0.410		0.4000		102	74	138			

Sample ID	1812144-02BMSD	Batch ID:	88641	TestNo:	M8015V	Units:	mg/L
SampType:	MSD	Run ID:	GC4_181218A	Analysis Date:	12/18/2018 3:00:06 PM	Prep Date:	12/18/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	2.51	0.100	2.500	0	101	67	136	0.954	30	
Surr: Tetrachlorethene	0.410		0.4000		102	74	138	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1812145
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_181218A

The QC data in batch 88638 applies to the following samples: 1812145-01C, 1812145-02D, 1812145-03D, 1812145-04D, 1812145-05D, 1812145-06D

Sample ID **LCS-88638** Batch ID: **88638** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS6_181218A** Analysis Date: **12/18/2018 9:29:00 AM** Prep Date: **12/17/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	0.00233	0.0000500	0.00400	0	58.2	46	120			N
2-Methylnaphthalene	0.00234	0.0000500	0.00400	0	58.4	46	120			
3,4-Benzofluoranthene	0.00392	0.0000500	0.00400	0	98.1	45	124			
Anthracene	0.00323	0.0000500	0.00400	0	80.7	54	120			
Benzo[a]pyrene	0.00396	0.0000500	0.00400	0	99.0	53	120			
Benzo[k]fluoranthene	0.00384	0.0000500	0.00400	0	95.9	45	124			
Fluoranthene	0.00346	0.0000500	0.00400	0	86.5	54	120			
Fluorene	0.00304	0.0000500	0.00400	0	76.1	50	120			
Naphthalene	0.00227	0.0000500	0.00400	0	56.8	39	120			
Phenanthrene	0.00291	0.0000500	0.00400	0	72.8	51	120			
Pyrene	0.00331	0.0000500	0.00400	0	82.8	49	128			
Surr: 2-Fluorobiphenyl	4.64		8.000		58.0	48	120			
Surr: 4-Terphenyl-d14	5.43		8.000		67.9	51	135			

Sample ID **LCSD-88638** Batch ID: **88638** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **LCSD** Run ID: **GCMS6_181218A** Analysis Date: **12/18/2018 9:58:00 AM** Prep Date: **12/17/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	0.00198	0.0000500	0.00400	0	49.4	46	120	16.3	20	N
2-Methylnaphthalene	0.00197	0.0000500	0.00400	0	49.2	46	120	17.2	20	
3,4-Benzofluoranthene	0.00319	0.0000500	0.00400	0	79.8	45	124	20.6	20	R
Anthracene	0.00264	0.0000500	0.00400	0	66.0	54	120	20.1	20	
Benzo[a]pyrene	0.00319	0.0000500	0.00400	0	79.7	53	120	21.5	20	R
Benzo[k]fluoranthene	0.00307	0.0000500	0.00400	0	76.7	45	124	22.3	20	R
Fluoranthene	0.00282	0.0000500	0.00400	0	70.4	54	120	20.4	20	
Fluorene	0.00259	0.0000500	0.00400	0	64.9	50	120	15.9	20	
Naphthalene	0.00199	0.0000500	0.00400	0	49.9	39	120	13.1	20	
Phenanthrene	0.00238	0.0000500	0.00400	0	59.4	51	120	20.2	20	
Pyrene	0.00270	0.0000500	0.00400	0	67.5	49	128	20.4	20	
Surr: 2-Fluorobiphenyl	3.97		8.000		49.6	48	120	0	0	
Surr: 4-Terphenyl-d14	4.30		8.000		53.8	51	135	0	0	

Sample ID **MB-88638** Batch ID: **88638** TestNo: **SW8270D-LL** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS6_181218A** Analysis Date: **12/18/2018 10:58:00 A** Prep Date: **12/17/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	<0.0000250	0.0000500								N
2-Methylnaphthalene	<0.0000250	0.0000500								
3,4-Benzofluoranthene	<0.0000250	0.0000500								
Anthracene	<0.0000250	0.0000500								

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1812145
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS6_181218A

Sample ID **MB-88638**	Batch ID: **88638**	TestNo: **SW8270D-LL**	Units: **mg/L**		
SampType: **MBLK**	Run ID: **GCMS6_181218A**	Analysis Date: **12/18/2018 10:58:00 A**	Prep Date: **12/17/2018**		

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo[a]pyrene	<0.0000250	0.0000500								
Benzo[k]fluoranthene	<0.0000250	0.0000500								
Fluoranthene	<0.0000250	0.0000500								
Fluorene	<0.0000250	0.0000500								
Naphthalene	<0.0000250	0.0000500								
Phenanthrene	<0.0000250	0.0000500								
Pyrene	<0.0000250	0.0000500								
Surr: 2-Fluorobiphenyl	3.59		8.000		44.8	48	120			S
Surr: 4-Terphenyl-d14	4.21		8.000		52.7	51	135			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1812145
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_181214A

The QC data in batch 88636 applies to the following samples: 1812145-01A, 1812145-02A, 1812145-03A, 1812145-04A, 1812145-05A, 1812145-06A, 1812145-07A

Sample ID **LCS-88636** Batch ID: **88636** TestNo: **SW8260C** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS5_181214A** Analysis Date: **12/14/2018 3:54:00 PM** Prep Date: **12/14/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0238	0.00100	0.0232	0	103	81	122			
Ethylbenzene	0.0235	0.00100	0.0232	0	101	80	120			
m,p-Xylene	0.0478	0.00200	0.0464	0	103	80	120			
o-Xylene	0.0238	0.00100	0.0232	0	103	80	120			
Toluene	0.0247	0.00200	0.0232	0	107	80	120			
Surr: 1,2-Dichloroethane-d4	184		200.0		91.8	72	119			
Surr: 4-Bromofluorobenzene	199		200.0		99.7	76	119			
Surr: Dibromofluoromethane	191		200.0		95.4	85	115			
Surr: Toluene-d8	192		200.0		95.9	81	120			

Sample ID **MB-88636** Batch ID: **88636** TestNo: **SW8260C** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS5_181214A** Analysis Date: **12/14/2018 4:43:00 PM** Prep Date: **12/14/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	<0.000300	0.00100								
Ethylbenzene	<0.000300	0.00100								
m,p-Xylene	<0.000600	0.00200								
o-Xylene	<0.000300	0.00100								
Toluene	<0.000600	0.00200								
Surr: 1,2-Dichloroethane-d4	178		200.0		89.1	72	119			
Surr: 4-Bromofluorobenzene	204		200.0		102	76	119			
Surr: Dibromofluoromethane	183		200.0		91.6	85	115			
Surr: Toluene-d8	197		200.0		98.3	81	120			

Sample ID **1812144-01AMS** Batch ID: **88636** TestNo: **SW8260C** Units: **mg/L**
SampType: **MS** Run ID: **GCMS5_181214A** Analysis Date: **12/14/2018 5:33:00 PM** Prep Date: **12/14/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0281	0.00100	0.0232	0	121	81	122			
Ethylbenzene	0.0270	0.00100	0.0232	0	117	80	120			
m,p-Xylene	0.0546	0.00200	0.0464	0	118	80	120			
o-Xylene	0.0272	0.00100	0.0232	0	117	80	120			
Toluene	0.0287	0.00200	0.0232	0	124	80	120			S
Surr: 1,2-Dichloroethane-d4	176		200.0		87.9	72	119			
Surr: 4-Bromofluorobenzene	199		200.0		99.6	76	119			
Surr: Dibromofluoromethane	192		200.0		96.0	85	115			
Surr: Toluene-d8	193		200.0		96.4	81	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1812145
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_181214A

Sample ID **1812144-01AMSD** Batch ID: **88636** TestNo: **SW8260C** Units: **mg/L**
SampType: **MSD** Run ID: **GCMS5_181214A** Analysis Date: **12/14/2018 5:57:00 PM** Prep Date: **12/14/2018**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0255	0.00100	0.0232	0	110	81	120	9.41	20	
Ethylbenzene	0.0244	0.00100	0.0232	0	105	80	120	10.3	20	
m,p-Xylene	0.0490	0.00200	0.0464	0	106	80	120	11.0	20	
o-Xylene	0.0250	0.00100	0.0232	0	108	80	120	8.40	20	
Toluene	0.0259	0.00200	0.0232	0	112	80	120	10.4	20	
Surr: 1,2-Dichloroethane-d4	176		200.0		88.2	72	119	0	0	
Surr: 4-Bromofluorobenzene	201		200.0		100	76	119	0	0	
Surr: Dibromofluoromethane	192		200.0		96.1	85	115	0	0	
Surr: Toluene-d8	192		200.0		95.8	81	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: GHD
Work Order: 1812145
Project: Hobbs Tank

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_181217A

The QC data in batch 88655 applies to the following samples: 1812145-06A, 1812145-07A

Sample ID	LCS-88655	Batch ID:	88655	TestNo:	SW8260C	Units:	mg/L
SampType:	LCS	Run ID:	GCMS5_181217A	Analysis Date:	12/17/2018 10:11:00 A	Prep Date:	12/17/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0235	0.00100	0.0232	0	101	81	122			
Surr: 1,2-Dichloroethane-d4	166		200.0		83.2	72	119			
Surr: 4-Bromofluorobenzene	193		200.0		96.4	76	119			
Surr: Dibromofluoromethane	190		200.0		94.9	85	115			
Surr: Toluene-d8	187		200.0		93.4	81	120			

Sample ID	MB-88655	Batch ID:	88655	TestNo:	SW8260C	Units:	mg/L
SampType:	MBLK	Run ID:	GCMS5_181217A	Analysis Date:	12/17/2018 10:35:00 A	Prep Date:	12/17/2018

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	<0.000300	0.00100								
Surr: 1,2-Dichloroethane-d4	171		200.0		85.6	72	119			
Surr: 4-Bromofluorobenzene	193		200.0		96.5	76	119			
Surr: Dibromofluoromethane	188		200.0		94.0	85	115			
Surr: Toluene-d8	187		200.0		93.4	81	120			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified