

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	

I Release Notification

Responsible Party

Responsible Party: Hilcorp Energy	OGRID 372171
Contact Name: Kate Kaufman	Contact Telephone: 346-237-2275
Contact email: kkaufman@hilcorp.com	Incident # (assigned by OCD) nAPP2311842691
Contact mailing address: 1111 Travis St. Houston, TX 77471	

Location of Release Source

Latitude 36.78818 _____ Longitude -107.953968 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Hartman 3	Site Type: Well Site
Date Release Discovered: 4/24/2023	API# (if applicable) 30-045-32504

Unit Letter	Section	Township	Range	County
A	26	030N	011W	San Juan

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input checked="" type="checkbox"/> Other (describe) Unknown hydrocarbon	Volume/Weight Released (provide units) Unknown.	Volume/Weight Recovered (provide units) Approximately 420 cubic yards of visibly stained and some clean soil.

Cause of Release

On April 24, 2023, while excavating to repair a flowline after recompleting operations at the Hartman #3 wellsite, construction personnel discovered stained soil, possible evidence of historic hydrocarbon impacts. Personnel began excavation of impacted material and transported it offsite for disposal.


Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? The historic release volume is unknown, however based on the volume of soil removed during cleanup, it is anticipated to be greater than 25 bbls. Evidence of impacted soil was initially discovered on 4/24/2023, but the final excavation volume was not determined until 4/27/2023.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A Notification was given by Kate Kaufman to Nelson Velez via telephone and Emmanuel Adeloye via email on 4/28/2023	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Kate Kaufman</u>	Title: <u>Environmental Specialist</u>
Signature: 	Date: <u>5/4/2023</u>
email: <u>kk Kaufman@hilcorp.com</u>	Telephone: <u>346-237-2275</u>
<u>OCD Only</u> Received by: _____ Date: _____	

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

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

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

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


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

State of New Mexico
Oil Conservation Division

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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: Kathryn H Kaufman Title: Environmental SpecialistSignature:  Date: 5-23-2023email: kk Kaufman@hilcorp.com Telephone: 346-237-2275**OCD Only**Received by: Jocelyn Harimon Date: 05/24/2023

Incident ID	NAPP2311842691
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: Kathryn H. Kaufman Title: Environmental Specialist


Signature:  Date: 5-23-2023

email: kkaufman@hilcorp.com Telephone: 346-237-2275

OCD Only

Received by: Jocelyn Harimon Date: 05/24/2023

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

Closure Approved by:  Date: 06/22/2023

Printed Name: Nelson Velez Title: Environmental Specialist – Adv

Executive Summary – Hartman #3

On April 24, 2023, while excavating to repair a flowline after recompleting operations at the Hartman #3 wellsite (API 30-045-32504) S26, T030N, R011W, Unit Letter A, construction personnel discovered stained soil, possible evidence of historic hydrocarbon impacts. Construction personnel began excavation of impacted material and transported it offsite for disposal.

The final excavated area was approximately 70 feet long by 25 feet wide. It is approximately 5 feet deep at the north end adjacent to the wellhead, and approximately 9 feet deep at the south end adjacent to the Below Ground Tank (BGT). Total area is approximately 1750 square feet. Hilcorp transported approximately 420 cubic yards of visibly stained and some clean material to Envirotech for disposal.

Eleven 5-point composite samples were collected on April 24 and April 26, 2023 to confirm the extent of the historic impact. Analytical results from this sampling event were below NMOCD action criteria noted in NMAC 19.15.29 Table 1.

Verbal and email notification was provided to NMOCD on April 28, 2023, and approval to backfill the excavation was provided by Nelson Velez via telephone on April 28. A sample diagram and sample results are presented below.

Scaled Site Map

Lat: 36.78818
Long: -107.953968

Hartman #3 Wellsite
API: 30-045-32504



Historic Release Area



Depth to groundwater determination.

BGT Siting Criteria for Hartman #3: estimated depth to groundwater is greater than 100'.

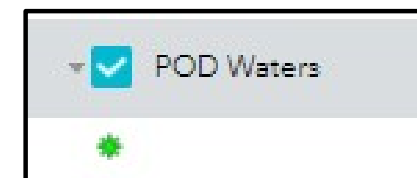
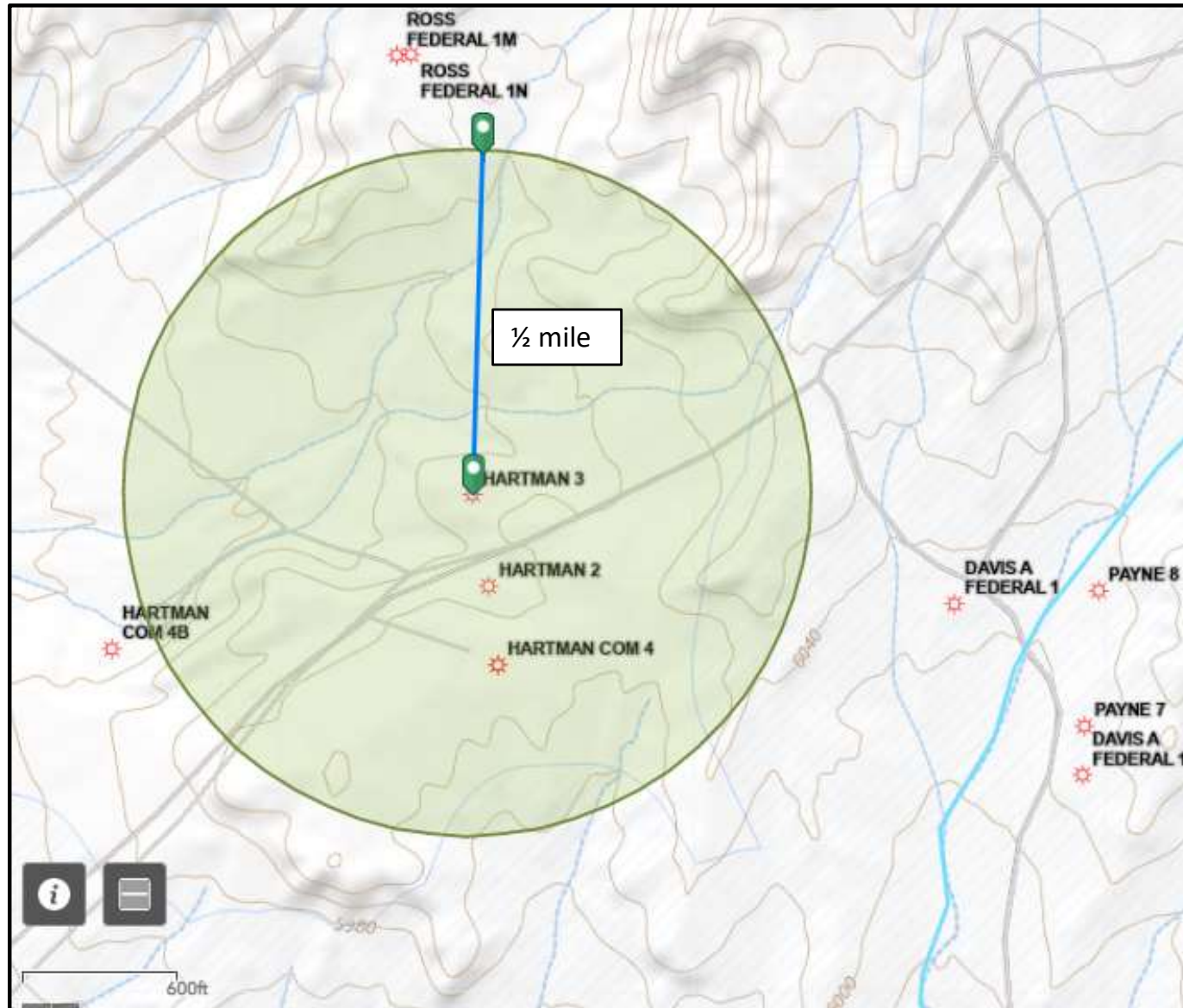
Site Specific Hydrogeology

Depth to groundwater is estimated to be greater than 100 feet. This estimation is based on data from Stone and others, 1983 and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography and proximity to surface hydrologic features are also taken into consideration.

Local aquifers include sandstones within the Nacimiento Formation, which ranges from 0 to 1000 feet deep in this area, as well as shallow aquifers within Quaternary alluvial deposits (Stone et al., 1983). The 1000-foot depth range for Nacimiento aquifers covers an area over 20 miles wide, and depth decreases towards the margin of the San Juan Basin. The site in question is more centrally located, and depth to the aquifer is expected to be closer to 1000 feet. It is well known that groundwater close to the Animas River can be shallow, as the Quaternary deposits near the river itself form shallow aquifers. However, the proposed site is situated over three miles to the south-southeast of the Animas River, and is approximately 430 feet higher in elevation (Google Earth).

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. A map showing the location of wells in reference to the proposed pit location is also included. Pinpoints show locations of wells and the labels for each pinpoint indicate depth to groundwater in feet. The closest well to the proposed site is located approximately 1.34 miles to the west-southwest, and is approximately 20 feet lower in topographic elevation (Google Earth). Depth to groundwater within the well is 310 feet below ground surface. A well to the southwest is approximately 170 feet lower in elevation than the proposed site, and has a depth to groundwater of 77 feet below ground surface. A well to the north is approximately 30 feet lower in elevation than the proposed site, and has a depth to groundwater of 54 feet.

Determination of water sources and significant watercourses within ½ mile of the lateral extent of the release



Note 1: Release point is within 300 ft of a continuously flowing watercourse or other significant water course.

Note 2: The lateral extents of the release point are not shown to be within 300 feet of a mapped wetland.

Distance to mapped water wells.



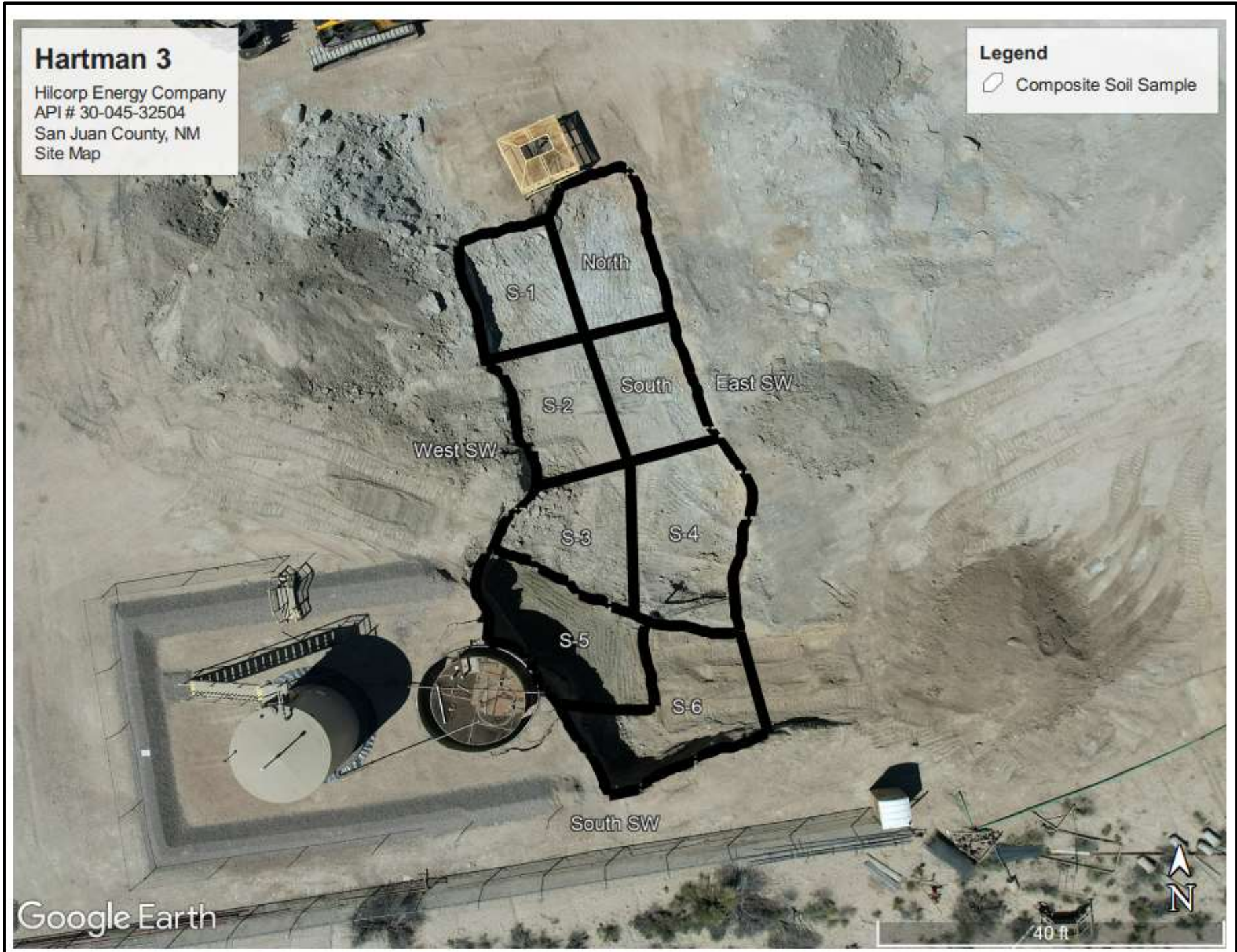
Note: The lateral extents of the release point are not shown to be within 500 ft of a spring or domestic freshwater well used by less than 5 households (or stock watering) or within 1,000 ft of any freshwater water well or spring. The nearest mapped water well appears to be 1.3 miles SW of the Hartman 3 wellsite.

Data table of soil contaminant concentrations

Sample Name	Sample Date	Field VOCs by PID (ppm)	Hartman #3 Laboratory Results									
			Chloride (mg/kg)	TPH as DRO (mg/kg)	TPH as GRO (mg/kg)	TPH as MRO (mg/kg)	Total TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylene (mg/kg)	Total BTEX (mg/kg)
19.15.29 Table 1 Closure Criteria			600	-	-	-	100	10	-	-	-	50
North	4/24/2023	-	ND	21	14	ND	35	ND	ND	0.1	1.4	1.0
South	4/24/2023	-	ND	48	44	ND	92 42 <i>✓✓</i>	ND	ND	0.3	2.9	3.2
S-1	4/26/2023	-	ND	16	ND	ND	16	ND	ND	ND	ND	ND
S-2	4/26/2023	-	ND	11	ND	ND	11	ND	ND	ND	ND	ND
S-3	4/26/2023	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
S-4	4/26/2023	-	ND	34	28	ND	62	ND	ND	0.3	1.2	1.2
S-5	4/26/2023	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
S-6	4/26/2023		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
South Sidewall	4/26/2023		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
East Sidewall	4/26/2023		ND	18	44	ND	62	ND	ND	0.2	4.2	4.4
West Sidewall	4/26/2023		ND	13	ND	ND	13	ND	ND	ND	ND	ND

Confirmation samples were collected on 4/24/2023 and 4/26/2023 by Hilcorp personnel and all results were below NMOCD 19.15.29.12.D Table 1 closure criteria.

Field Sample Diagram



Sample Photos – South to BGT

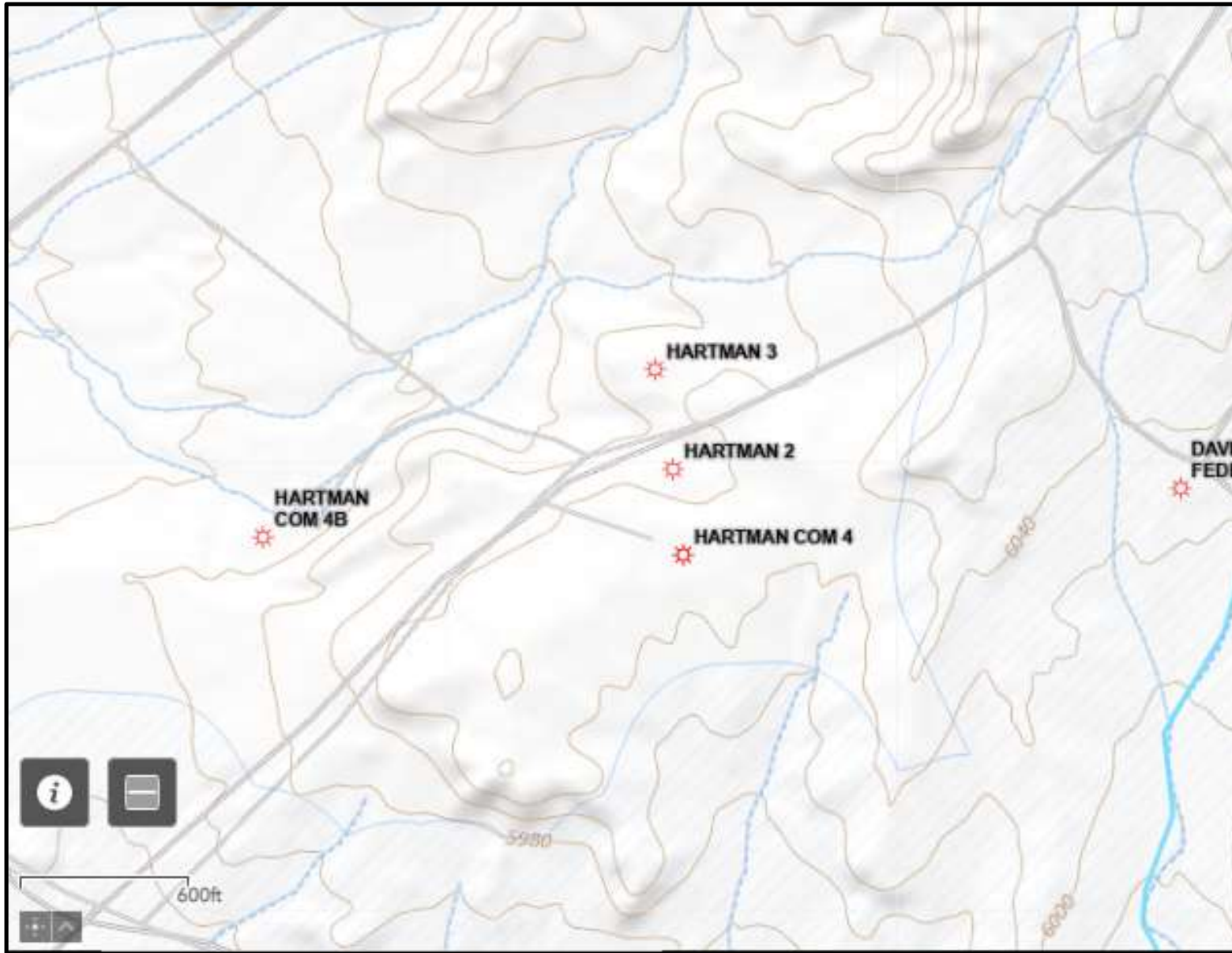
N →



Sample Photos – Aerial View



Topographic Map



↑
N

Analytical Data, Sample Collected 4/24/2023 and 4/27/2023.

See attached Lab Report.



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

May 02, 2023

Kate Kaufman
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hartman 3

OrderNo.: 2304B59

Dear Kate Kaufman:

Hall Environmental Analysis Laboratory received 9 sample(s) on 4/27/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2304B59

Date Reported: 5/2/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: S-1

Project: Hartman 3

Collection Date: 4/26/2023 3:00:00 PM

Lab ID: 2304B59-001

Matrix: MEOH (SOIL)

Received Date: 4/27/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	16	9.6		mg/Kg	1	4/27/2023 10:13:28 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/27/2023 10:13:28 AM
Surr: DNOP	76.5	69-147		%Rec	1	4/27/2023 10:13:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	19		mg/Kg	5	4/27/2023 2:25:00 PM
Surr: BFB	101	37.7-212		%Rec	5	4/27/2023 2:25:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.093		mg/Kg	5	4/27/2023 2:25:00 PM
Toluene	ND	0.19		mg/Kg	5	4/27/2023 2:25:00 PM
Ethylbenzene	ND	0.19		mg/Kg	5	4/27/2023 2:25:00 PM
Xylenes, Total	ND	0.37		mg/Kg	5	4/27/2023 2:25:00 PM
Surr: 4-Bromofluorobenzene	95.9	70-130		%Rec	5	4/27/2023 2:25:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/27/2023 11:08:51 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2304B59

Date Reported: 5/2/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: S-2

Project: Hartman 3

Collection Date: 4/26/2023 3:10:00 PM

Lab ID: 2304B59-002

Matrix: MEOH (SOIL)

Received Date: 4/27/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	11	9.3		mg/Kg	1	4/27/2023 10:42:33 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/27/2023 10:42:33 AM
Surr: DNOP	89.9	69-147		%Rec	1	4/27/2023 10:42:33 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	19		mg/Kg	5	4/27/2023 2:46:00 PM
Surr: BFB	107	37.7-212		%Rec	5	4/27/2023 2:46:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.097		mg/Kg	5	4/27/2023 2:46:00 PM
Toluene	ND	0.19		mg/Kg	5	4/27/2023 2:46:00 PM
Ethylbenzene	ND	0.19		mg/Kg	5	4/27/2023 2:46:00 PM
Xylenes, Total	ND	0.39		mg/Kg	5	4/27/2023 2:46:00 PM
Surr: 4-Bromofluorobenzene	97.2	70-130		%Rec	5	4/27/2023 2:46:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/27/2023 11:21:15 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2304B59

Date Reported: 5/2/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: S-3

Project: Hartman 3

Collection Date: 4/26/2023 3:20:00 PM

Lab ID: 2304B59-003

Matrix: MEOH (SOIL)

Received Date: 4/27/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/27/2023 10:52:58 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/27/2023 10:52:58 AM
Surr: DNOP	87.5	69-147		%Rec	1	4/27/2023 10:52:58 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	4/27/2023 3:08:00 PM
Surr: BFB	100	37.7-212		%Rec	1	4/27/2023 3:08:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.020		mg/Kg	1	4/27/2023 3:08:00 PM
Toluene	ND	0.041		mg/Kg	1	4/27/2023 3:08:00 PM
Ethylbenzene	ND	0.041		mg/Kg	1	4/27/2023 3:08:00 PM
Xylenes, Total	ND	0.081		mg/Kg	1	4/27/2023 3:08:00 PM
Surr: 4-Bromofluorobenzene	88.8	70-130		%Rec	1	4/27/2023 3:08:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/27/2023 11:33:40 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2304B59

Date Reported: 5/2/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: S-4

Project: Hartman 3

Collection Date: 4/26/2023 3:30:00 PM

Lab ID: 2304B59-004

Matrix: MEOH (SOIL)

Received Date: 4/27/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	34	9.3		mg/Kg	1	4/27/2023 11:03:28 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/27/2023 11:03:28 AM
Surr: DNOP	90.2	69-147		%Rec	1	4/27/2023 11:03:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	28	18		mg/Kg	5	4/27/2023 3:30:00 PM
Surr: BFB	194	37.7-212		%Rec	5	4/27/2023 3:30:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.092		mg/Kg	5	4/27/2023 3:30:00 PM
Toluene	ND	0.18		mg/Kg	5	4/27/2023 3:30:00 PM
Ethylbenzene	0.29	0.18		mg/Kg	5	4/27/2023 3:30:00 PM
Xylenes, Total	1.2	0.37		mg/Kg	5	4/27/2023 3:30:00 PM
Surr: 4-Bromofluorobenzene	116	70-130		%Rec	5	4/27/2023 3:30:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/27/2023 11:46:05 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2304B59

Date Reported: 5/2/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: S-5

Project: Hartman 3

Collection Date: 4/26/2023 3:40:00 PM

Lab ID: 2304B59-005

Matrix: MEOH (SOIL)

Received Date: 4/27/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	4/27/2023 11:14:00 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/27/2023 11:14:00 AM
Surr: DNOP	92.7	69-147		%Rec	1	4/27/2023 11:14:00 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	4/27/2023 3:51:00 PM
Surr: BFB	119	37.7-212		%Rec	1	4/27/2023 3:51:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.020		mg/Kg	1	4/27/2023 3:51:00 PM
Toluene	ND	0.041		mg/Kg	1	4/27/2023 3:51:00 PM
Ethylbenzene	ND	0.041		mg/Kg	1	4/27/2023 3:51:00 PM
Xylenes, Total	ND	0.081		mg/Kg	1	4/27/2023 3:51:00 PM
Surr: 4-Bromofluorobenzene	89.5	70-130		%Rec	1	4/27/2023 3:51:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/27/2023 11:58:30 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2304B59

Date Reported: 5/2/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: S-6

Project: Hartman 3

Collection Date: 4/26/2023 3:50:00 PM

Lab ID: 2304B59-006

Matrix: MEOH (SOIL)

Received Date: 4/27/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/27/2023 11:24:33 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/27/2023 11:24:33 AM
Surr: DNOP	89.3	69-147		%Rec	1	4/27/2023 11:24:33 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	4/27/2023 3:06:36 PM
Surr: BFB	111	37.7-212		%Rec	1	4/27/2023 3:06:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.020		mg/Kg	1	4/27/2023 3:06:36 PM
Toluene	ND	0.039		mg/Kg	1	4/27/2023 3:06:36 PM
Ethylbenzene	ND	0.039		mg/Kg	1	4/27/2023 3:06:36 PM
Xylenes, Total	ND	0.078		mg/Kg	1	4/27/2023 3:06:36 PM
Surr: 4-Bromofluorobenzene	96.4	70-130		%Rec	1	4/27/2023 3:06:36 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/27/2023 12:10:55 PM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2304B59

Date Reported: 5/2/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: South SW

Project: Hartman 3

Collection Date: 4/26/2023 4:00:00 PM

Lab ID: 2304B59-007

Matrix: MEOH (SOIL)

Received Date: 4/27/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/27/2023 11:35:07 AM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	4/27/2023 11:35:07 AM
Surr: DNOP	90.7	69-147		%Rec	1	4/27/2023 11:35:07 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	4/27/2023 3:30:02 PM
Surr: BFB	151	37.7-212		%Rec	1	4/27/2023 3:30:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.017		mg/Kg	1	4/27/2023 3:30:02 PM
Toluene	ND	0.035		mg/Kg	1	4/27/2023 3:30:02 PM
Ethylbenzene	ND	0.035		mg/Kg	1	4/27/2023 3:30:02 PM
Xylenes, Total	ND	0.069		mg/Kg	1	4/27/2023 3:30:02 PM
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	4/27/2023 3:30:02 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/27/2023 12:23:19 PM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2304B59

Date Reported: 5/2/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: West SW

Project: Hartman 3

Collection Date: 4/26/2023 4:10:00 PM

Lab ID: 2304B59-008

Matrix: MEOH (SOIL)

Received Date: 4/27/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	13	9.0		mg/Kg	1	4/27/2023 11:45:43 AM
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/27/2023 11:45:43 AM
Surr: DNOP	86.1	69-147		%Rec	1	4/27/2023 11:45:43 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	4/27/2023 3:53:27 PM
Surr: BFB	117	37.7-212		%Rec	1	4/27/2023 3:53:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.019		mg/Kg	1	4/27/2023 3:53:27 PM
Toluene	ND	0.038		mg/Kg	1	4/27/2023 3:53:27 PM
Ethylbenzene	ND	0.038		mg/Kg	1	4/27/2023 3:53:27 PM
Xylenes, Total	ND	0.076		mg/Kg	1	4/27/2023 3:53:27 PM
Surr: 4-Bromofluorobenzene	97.3	70-130		%Rec	1	4/27/2023 3:53:27 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/27/2023 12:35:43 PM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2304B59

Date Reported: 5/2/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: East SW

Project: Hartman 3

Collection Date: 4/26/2023 4:20:00 PM

Lab ID: 2304B59-009

Matrix: MEOH (SOIL)

Received Date: 4/27/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: DGH
Diesel Range Organics (DRO)	18	10		mg/Kg	1	4/27/2023 11:56:19 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/27/2023 11:56:19 AM
Surr: DNOP	88.1	69-147		%Rec	1	4/27/2023 11:56:19 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: CCM
Gasoline Range Organics (GRO)	44	3.5		mg/Kg	1	4/27/2023 4:13:00 PM
Surr: BFB	229	37.7-212	S	%Rec	1	4/27/2023 4:13:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: CCM
Benzene	ND	0.018		mg/Kg	1	4/27/2023 4:13:00 PM
Toluene	ND	0.035		mg/Kg	1	4/27/2023 4:13:00 PM
Ethylbenzene	0.23	0.035		mg/Kg	1	4/27/2023 4:13:00 PM
Xylenes, Total	4.2	0.071		mg/Kg	1	4/27/2023 4:13:00 PM
Surr: 4-Bromofluorobenzene	164	70-130	S	%Rec	1	4/27/2023 4:13:00 PM
EPA METHOD 300.0: ANIONS						Analyst: JMT
Chloride	ND	60		mg/Kg	20	4/27/2023 1:12:57 PM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304B5902-May-23

Client: HILCORP ENERGY

Project: Hartman 3

Sample ID: MB-74601		SampType: mblk		TestCode: EPA Method 300.0: Anions						
Client ID: PBS		Batch ID: 74601		RunNo: 96357						
Prep Date: 4/27/2023		Analysis Date: 4/27/2023		SeqNo: 3490739		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74601		SampType: lcs		TestCode: EPA Method 300.0: Anions						
Client ID: LCSS		Batch ID: 74601		RunNo: 96357						
Prep Date: 4/27/2023		Analysis Date: 4/27/2023		SeqNo: 3490740		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.1	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quantitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

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

WO#: 2304B59

02-May-23

Client: HILCORP ENERGY**Project:** Hartman 3

Sample ID: 2304B59-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: S-1	Batch ID: 74593	RunNo: 96349								
Prep Date: 4/27/2023	Analysis Date: 4/27/2023	SeqNo: 3489627 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.30	16.43	85.8	54.2	135			
Surr: DNOP	4.4		5.030		87.2	69	147			

Sample ID: LCS-74593	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74593	RunNo: 96349								
Prep Date: 4/27/2023	Analysis Date: 4/27/2023	SeqNo: 3489636 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.1	61.9	130			
Surr: DNOP	4.4		5.000		88.5	69	147			

Sample ID: MB-74593	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 74593	RunNo: 96349								
Prep Date: 4/27/2023	Analysis Date: 4/27/2023	SeqNo: 3489638 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		87.8	69	147			

Sample ID: 2304B59-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: S-1	Batch ID: 74593	RunNo: 96349								
Prep Date: 4/27/2023	Analysis Date: 4/27/2023	SeqNo: 3490870 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	49.90	16.43	72.0	54.2	135	12.9	29.2	
Surr: DNOP	4.8		4.990		97.1	69	147	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

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

WO#: 2304B59

02-May-23

Client: HILCORP ENERGY**Project:** Hartman 3

Sample ID: lcs-74524	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 74524			RunNo: 96350						
Prep Date: 4/24/2023	Analysis Date: 4/27/2023			SeqNo: 3489752	Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	5000		1000		503	37.7	212			S

Sample ID: mb-74524	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 74524			RunNo: 96350						
Prep Date: 4/24/2023	Analysis Date: 4/27/2023			SeqNo: 3489753	Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		105	37.7	212			

Sample ID: 2.5ug gro lcs	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: GS96355			RunNo: 96355						
Prep Date:	Analysis Date: 4/27/2023			SeqNo: 3489949	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.8	70	130			
Surr: BFB	2200		1000		224	37.7	212			S

Sample ID: mb	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: GS96355			RunNo: 96355						
Prep Date:	Analysis Date: 4/27/2023			SeqNo: 3489950	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	37.7	212			

Sample ID: 2.5ug gro lcs	SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch ID: R96350			RunNo: 96350						
Prep Date:	Analysis Date: 4/27/2023			SeqNo: 3489989	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.0	70	130			
Surr: BFB	5500		1000		548	37.7	212			S

Sample ID: mb	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: R96350			RunNo: 96350						
Prep Date:	Analysis Date: 4/27/2023			SeqNo: 3489990	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		111	37.7	212			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

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

WO#: 2304B59

02-May-23

Client: HILCORP ENERGY**Project:** Hartman 3

Sample ID: ics-74569	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: 74569		RunNo: 96355							
Prep Date: 4/26/2023	Analysis Date: 4/27/2023		SeqNo: 3490359		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		1000		195	37.7	212			

Sample ID: mb-74569	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: 74569		RunNo: 96355							
Prep Date: 4/26/2023	Analysis Date: 4/27/2023		SeqNo: 3490360		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		92.9	37.7	212			

Sample ID: 2304b59-006ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: S-6	Batch ID: R96350		RunNo: 96350							
Prep Date:	Analysis Date: 4/28/2023		SeqNo: 3490725		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.2	70	130			
Surr: BFB	5400		1000		540	37.7	212			S

Sample ID: 2304b59-006amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: S-6	Batch ID: R96350		RunNo: 96350							
Prep Date:	Analysis Date: 4/28/2023		SeqNo: 3490726		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.2	70	130	2.00	20	
Surr: BFB	5600		1000		555	37.7	212	0	0	S

Sample ID: 2304B59-002ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: S-2	Batch ID: GS96355		RunNo: 96355							
Prep Date:	Analysis Date: 4/27/2023		SeqNo: 3490881		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	130	25	125.0	0	101	70	130			
Surr: BFB	11000		5000		224	37.7	212			S

Sample ID: 2304B59-002amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: S-2	Batch ID: GS96355		RunNo: 96355							
Prep Date:	Analysis Date: 4/27/2023		SeqNo: 3490882		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	120	25	125.0	0	94.1	70	130	7.21	20	
Surr: BFB	11000		5000		226	37.7	212	0	0	S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

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

WO#: 2304B59

02-May-23

Client: HILCORP ENERGY**Project:** Hartman 3

Sample ID: LCS-74524	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74524		RunNo: 96350							
Prep Date: 4/24/2023	Analysis Date: 4/27/2023		SeqNo: 3489755		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.98		1.000		98.4	70	130			

Sample ID: mb-74524	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 74524		RunNo: 96350							
Prep Date: 4/24/2023	Analysis Date: 4/27/2023		SeqNo: 3489757		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.97		1.000		97.1	70	130			

Sample ID: 100ng btex lcs	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: BS96355		RunNo: 96355							
Prep Date:	Analysis Date: 4/27/2023		SeqNo: 3489952		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.0	80	120			
Toluene	0.97	0.050	1.000	0	97.2	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.5	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.2	80	120			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.5	70	130			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: BS96355		RunNo: 96355							
Prep Date:	Analysis Date: 4/27/2023		SeqNo: 3489953		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		94.2	70	130			

Sample ID: 100ng btex lcs	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: BS96350		RunNo: 96350							
Prep Date:	Analysis Date: 4/27/2023		SeqNo: 3489992		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.4	80	120			
Toluene	0.93	0.050	1.000	0	93.2	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.2	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

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

WO#: 2304B59

02-May-23

Client: HILCORP ENERGY**Project:** Hartman 3

Sample ID: 100ng btex lcs	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: BS96350		RunNo: 96350							
Prep Date:	Analysis Date: 4/27/2023		SeqNo: 3489992		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		94.8	70	130			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: BS96350		RunNo: 96350							
Prep Date:	Analysis Date: 4/27/2023		SeqNo: 3489993		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		96.9	70	130			

Sample ID: lcs-74569	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: 74569		RunNo: 96355							
Prep Date: 4/26/2023	Analysis Date: 4/27/2023		SeqNo: 3490404		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.87		1.000		87.5	70	130			

Sample ID: mb-74569	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 74569		RunNo: 96355							
Prep Date: 4/26/2023	Analysis Date: 4/27/2023		SeqNo: 3490405		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.86		1.000		85.8	70	130			

Sample ID: 2304b59-007ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: South SW	Batch ID: BS96350		RunNo: 96350							
Prep Date:	Analysis Date: 4/28/2023		SeqNo: 3490735		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.0	68.8	120			
Toluene	0.94	0.050	1.000	0.01155	92.6	73.6	124			
Ethylbenzene	0.94	0.050	1.000	0.01342	93.0	72.7	129			
Xylenes, Total	2.8	0.10	3.000	0.03873	93.1	75.7	126			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**WO#: **2304B59**

02-May-23

Client: HILCORP ENERGY**Project:** Hartman 3

Sample ID: 2304b59-007amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: South SW	Batch ID: BS96350	RunNo: 96350								
Prep Date:	Analysis Date: 4/28/2023	SeqNo: 3490736 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	88.8	68.8	120	2.41	20	
Toluene	0.91	0.050	1.000	0.01155	89.7	73.6	124	3.12	20	
Ethylbenzene	0.93	0.050	1.000	0.01342	91.9	72.7	129	1.19	20	
Xylenes, Total	2.8	0.10	3.000	0.03873	92.0	75.7	126	1.13	20	
Surr: 4-Bromofluorobenzene	1.0		1.000		102	70	130	0	0	

Sample ID: 2304B59-001ams	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: S-1	Batch ID: BS96355	RunNo: 96355								
Prep Date:	Analysis Date: 4/27/2023	SeqNo: 3490879 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.7	0.12	5.000	0	94.5	68.8	120			
Toluene	4.7	0.25	5.000	0	94.5	73.6	124			
Ethylbenzene	4.8	0.25	5.000	0.04299	94.7	72.7	129			
Xylenes, Total	14	0.50	15.00	0.2073	94.8	75.7	126			
Surr: 4-Bromofluorobenzene	4.8		5.000		96.4	70	130			

Sample ID: 2304B59-001amsd	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: S-1	Batch ID: BS96355	RunNo: 96355								
Prep Date:	Analysis Date: 4/27/2023	SeqNo: 3490880 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.6	0.12	5.000	0	91.0	68.8	120	3.72	20	
Toluene	4.6	0.25	5.000	0	91.2	73.6	124	3.56	20	
Ethylbenzene	4.6	0.25	5.000	0.04299	91.4	72.7	129	3.53	20	
Xylenes, Total	14	0.50	15.00	0.2073	91.9	75.7	126	2.96	20	
Surr: 4-Bromofluorobenzene	4.8		5.000		95.4	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

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

Sample Log-In Check List

Client Name: Hilcorp Energy

Work Order Number: 2304B59

RcptNo: 1

Received By: Tracy Casarrubias 4/27/2023 6:30:00 AM

Completed By: Tracy Casarrubias 4/27/2023 7:09:41 AM

Reviewed By: *Cmc* 4/27/23

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: *Jan 4/27/23*

Special Handling (if applicable)

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

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: Mailing address and phone number missing on COC- TMC 4/27/23

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes	Yogi		



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

April 28, 2023

Fasho Trujillo
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Hartman 3

OrderNo.: 2304A75

Dear Fasho Trujillo:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/26/2023 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2304A75

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: North

Project: Hartman 3

Collection Date: 4/24/2023 3:20:00 PM

Lab ID: 2304A75-001

Matrix: MEOH (SOIL)

Received Date: 4/26/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	21	9.4		mg/Kg	1	4/26/2023 10:34:39 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/26/2023 10:34:39 AM
Surr: DNOP	99.7	69-147		%Rec	1	4/26/2023 10:34:39 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	14	4.0		mg/Kg	1	4/26/2023 11:31:13 AM
Surr: BFB	695	37.7-212	S	%Rec	1	4/26/2023 11:31:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.020		mg/Kg	1	4/26/2023 11:31:13 AM
Toluene	ND	0.040		mg/Kg	1	4/26/2023 11:31:13 AM
Ethylbenzene	0.10	0.040		mg/Kg	1	4/26/2023 11:31:13 AM
Xylenes, Total	1.4	0.080		mg/Kg	1	4/26/2023 11:31:13 AM
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	4/26/2023 11:31:13 AM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	ND	60		mg/Kg	20	4/26/2023 10:18:33 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

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Analytical Report

Lab Order 2304A75

Date Reported: 4/28/2023

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: South

Project: Hartman 3

Collection Date: 4/24/2023 3:30:00 PM

Lab ID: 2304A75-002

Matrix: MEOH (SOIL)

Received Date: 4/26/2023 6:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: PRD
Diesel Range Organics (DRO)	52	9.4		mg/Kg	1	4/26/2023 10:45:07 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/26/2023 10:45:07 AM
Surr: DNOP	92.4	69-147		%Rec	1	4/26/2023 10:45:07 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: JJP
Gasoline Range Organics (GRO)	44	22		mg/Kg	5	4/26/2023 11:54:55 AM
Surr: BFB	454	37.7-212	S	%Rec	5	4/26/2023 11:54:55 AM
EPA METHOD 8021B: VOLATILES						Analyst: JJP
Benzene	ND	0.11		mg/Kg	5	4/26/2023 11:54:55 AM
Toluene	ND	0.22		mg/Kg	5	4/26/2023 11:54:55 AM
Ethylbenzene	0.30	0.22		mg/Kg	5	4/26/2023 11:54:55 AM
Xylenes, Total	2.9	0.43		mg/Kg	5	4/26/2023 11:54:55 AM
Surr: 4-Bromofluorobenzene	98.9	70-130		%Rec	5	4/26/2023 11:54:55 AM
EPA METHOD 300.0: ANIONS						Analyst: SNS
Chloride	ND	60		mg/Kg	20	4/26/2023 10:30:52 AM

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Page 2 of 7

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 2304A75

28-Apr-23

Client: HILCORP ENERGY

Project: Hartman 3

Sample ID: MB-74568	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 74568	RunNo: 96342								
Prep Date: 4/26/2023	Analysis Date: 4/26/2023	SeqNo: 3489287	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-74568	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 74568	RunNo: 96342								
Prep Date: 4/26/2023	Analysis Date: 4/26/2023	SeqNo: 3489288	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.2	90	110			

Qualifiers:

*

Value exceeds Maximum Contaminant Level.

D

Sample Diluted Due to Matrix

H

Holding times for preparation or analysis exceeded

ND

Not Detected at the Reporting Limit

PQL

Practical Quantitative Limit

S

% Recovery outside of standard limits. If undiluted results may be estimated.

B

Analyte detected in the associated Method Blank

E

Above Quantitation Range/Estimated Value

J

Analyte detected below quantitation limits

P

Sample pH Not In Range

RL

Reporting Limit

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

WO#: 2304A75

28-Apr-23

Client: HILCORP ENERGY**Project:** Hartman 3

Sample ID: 2304A75-002AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: South	Batch ID: 74565	RunNo: 96315								
Prep Date: 4/26/2023	Analysis Date: 4/26/2023	SeqNo: 3488061			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	100	10	49.85	52.12	96.8	54.2	135			
Surr: DNOP	4.6		4.985		93.1	69	147			

Sample ID: 2304A75-002AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: South	Batch ID: 74565	RunNo: 96315								
Prep Date: 4/26/2023	Analysis Date: 4/26/2023	SeqNo: 3488062			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	120	9.6	48.08	52.12	150	54.2	135	21.3	29.2	S
Surr: DNOP	4.5		4.808		94.4	69	147	0	0	

Sample ID: LCS-74565	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74565	RunNo: 96315								
Prep Date: 4/26/2023	Analysis Date: 4/26/2023	SeqNo: 3488063			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.2	61.9	130			
Surr: DNOP	4.5		5.000		89.8	69	147			

Sample ID: MB-74565	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 74565	RunNo: 96315								
Prep Date: 4/26/2023	Analysis Date: 4/26/2023	SeqNo: 3488064			Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.7		10.00		86.6	69	147			

Sample ID: LCS-74549	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74549	RunNo: 96315								
Prep Date: 4/25/2023	Analysis Date: 4/26/2023	SeqNo: 3489048			Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		93.3	69	147			

Sample ID: LCS-74564	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 74564	RunNo: 96315								
Prep Date: 4/26/2023	Analysis Date: 4/26/2023	SeqNo: 3489049			Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

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

WO#: 2304A75

28-Apr-23

Client: HILCORP ENERGY**Project:** Hartman 3

Sample ID: LCS-74564	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 74564		RunNo: 96315							
Prep Date: 4/26/2023	Analysis Date: 4/26/2023		SeqNo: 3489049		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.1	69	147			

Sample ID: LCS-74583	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 74583		RunNo: 96315							
Prep Date: 4/26/2023	Analysis Date: 4/26/2023		SeqNo: 3489050		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		88.6	69	147			

Sample ID: MB-74549	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74549		RunNo: 96315							
Prep Date: 4/25/2023	Analysis Date: 4/26/2023		SeqNo: 3489051		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.8		10.00		88.0	69	147			

Sample ID: MB-74564	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74564		RunNo: 96315							
Prep Date: 4/26/2023	Analysis Date: 4/26/2023		SeqNo: 3489052		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.0		10.00		90.2	69	147			

Sample ID: MB-74583	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch ID: 74583		RunNo: 96315							
Prep Date: 4/26/2023	Analysis Date: 4/26/2023		SeqNo: 3489053		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.3		10.00		92.8	69	147			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

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

WO#: 2304A75

28-Apr-23

Client: HILCORP ENERGY**Project:** Hartman 3

Sample ID: 2.5ug gro lcs	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: GS96311		RunNo: 96311							
Prep Date:	Analysis Date: 4/26/2023		SeqNo: 3487968		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.6	70	130			
Surr: BFB	5200		1000		519	37.7	212			S

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: GS96311		RunNo: 96311							
Prep Date:	Analysis Date: 4/26/2023		SeqNo: 3487969		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	870		1000		87.3	37.7	212			

Sample ID: 2304a75-001ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: North	Batch ID: GS96311		RunNo: 96311							
Prep Date:	Analysis Date: 4/26/2023		SeqNo: 3488741		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	35	4.0	19.98	13.97	106	70	130			
Surr: BFB	9700		799.4		1210	37.7	212			S

Sample ID: 2304a75-001amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: North	Batch ID: GS96311		RunNo: 96311							
Prep Date:	Analysis Date: 4/26/2023		SeqNo: 3488742		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	35	4.0	19.98	13.97	103	70	130	1.97	20	
Surr: BFB	9200		799.4		1160	37.7	212	0	0	S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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

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

WO#: 2304A75

28-Apr-23

Client: HILCORP ENERGY**Project:** Hartman 3

Sample ID: 100ng btex lcs	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batch ID: BS96311		RunNo: 96311							
Prep Date:	Analysis Date: 4/26/2023		SeqNo: 3487972		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.7	80	120			
Toluene	0.94	0.050	1.000	0	94.4	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.7	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.5	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	70	130			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: BS96311		RunNo: 96311							
Prep Date:	Analysis Date: 4/26/2023		SeqNo: 3487973		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		92.3	70	130			

Sample ID: 2304a75-002ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: South	Batch ID: BS96311		RunNo: 96311							
Prep Date:	Analysis Date: 4/26/2023		SeqNo: 3488743		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.1	0.11	4.310	0	94.7	68.8	120			
Toluene	4.2	0.22	4.310	0.08793	94.2	73.6	124			
Ethylbenzene	4.4	0.22	4.310	0.2983	96.2	72.7	129			
Xylenes, Total	16	0.43	12.93	2.862	98.1	75.7	126			
Surr: 4-Bromofluorobenzene	4.4		4.310		102	70	130			

Sample ID: 2304a75-002amsd	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: South	Batch ID: BS96311		RunNo: 96311							
Prep Date:	Analysis Date: 4/26/2023		SeqNo: 3488744		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.0	0.11	4.310	0	92.8	68.8	120	2.01	20	
Toluene	4.1	0.22	4.310	0.08793	92.1	73.6	124	2.27	20	
Ethylbenzene	4.4	0.22	4.310	0.2983	95.7	72.7	129	0.476	20	
Xylenes, Total	15	0.43	12.93	2.862	97.7	75.7	126	0.353	20	
Surr: 4-Bromofluorobenzene	4.6		4.310		107	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of standard limits. If undiluted results may be estimated.

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J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Page 7 of 7



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

Sample Log-In Check List

Client Name: HILCORP ENERGY

Work Order Number: 2304A75

RcptNo: 1

Received By: Tracy Casarrubias 4/26/2023 6:30:00 AM

Completed By: Tracy Casarrubias 4/26/2023 7:03:03 AM

Reviewed By: *Cue* 4/26/23

Chain of Custody

1. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐

2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐

4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐

5. Sample(s) in proper container(s)? Yes ☒ No ☐

6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐

7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐

8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐

9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☒

10. Were any sample containers received broken? Yes ☐ No ☒

11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐

13. Is it clear what analyses were requested? Yes ☒ No ☐

14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? ☐

Checked by: *July 26/23*

Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes	Yogi		

Chain-of-Custody Record

Client: Hilcorp Energy

 Rush

4/26/23

Project Name:

Hartman 3

Mailing Address: 382 CB 3100

Azteco NM 87410

Phone #: 505.599.3400

email or Fax#: kkaufman@hilcorp.com

QA/QC Package: etrujillo@hilcorp.com

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ AZ Compliance

☐ NELAC ☐ Other☐ EDD (Type)

Date	Time	Matrix	Sample Name
------	------	--------	-------------

4/24/23	15:20	Soil	North
---------	-------	------	-------

4/24/23	15:30	Soil	South
---------	-------	------	-------

Date:	Time:
-------	-------

4/25/14 14/12

Date:	Time:
-------	-------

7-1-10

Relinquished by:

12

Relinquished by:

2

Received by:	Via:
--------------	------

12

Received by: Via:

11

Time

141

Time

64

Remarks:

[illegible]

10

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



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

[illegible]

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 219882

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 219882
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	6/22/2023