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 Hilcorp Energy	OGRID 372171
Contact Name Clara Cardoza	Contact Telephone 505.564.0733
Contact email ccardoza@hilcorp.com	Incident # *(assigned by OCD)* NRM2021354649
Contact mailing address 382 CR 3100, Aztec NM 87410	

Location of Release Source

Latitude 36.7728195 Longitude -108.0010071
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Federal H 1	Site Type Well Site
Date Release Discovered 7/16/2020	API# *(if applicable)* 30-045-09030

Unit Letter	Section	Township	Range	County
D	33	30N	11W	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)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 54	Volume Recovered (bbls) 21
	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
Release was caused by BGT failure due to corrosion. Twenty-one (21) bbls were recovered and nothing went offpad.

2/22/2021 History impacts were found during excavation activities of this release extending time of remediation efforts.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of a volume in excess of 25 barrels.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
NMOCD – Cory Smith – contacted by Clara Cardoza via phone on 7/16/20 at 3:05 p.m. and via email 7/16/20 at 3:18 p.m (copied Jim Griswold).
BLM – Emmanuel Adeloye – contacted by Clara Cardoza left a voicemail on 7/16/20 at 3:07 p.m. and via email 7/16/20 at 3:18 p.m.

Initial Response

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

☒ 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: Clara Cardoza Title: Environmental Specialist

Signature: Clara Cardoza Date: 07/30/2020

email: ccardoza@hilcorp.com Telephone: 505.564.0733

OCD Only

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?	<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.

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: Clara Cardoza Title: Environmental Specialist

Signature: Clara Cardoza Date: 02/22/2021

email: ccardoza@hilcorp.com Telephone: 505.564.0733

OCD Only

Received by: Date:

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: Clara Cardoza Title: Environmental Specialist

Signature: Clara Cardoza Date: 02/22/2021

email: ccardoza@hilcorp.com Telephone: 505.564.0733

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: Cory Date: 7/1/2020

Printed Name: Cory Title: Environmental Specialist

Executive Summary

On July 16th Hilcorp Energy had a release of 54 bbls of produced water at the Federal H 1. The release was due to corrosion at the bottom of the below grade tank. No liquids were recovered. After the release, Hilcorp tried to take samples of the impacted area but the saturation was too high. Rains during that time also kept soil saturation high.

A confirmation sampling event was conducted on 9/17/2020 witnessed by Cory Smith of NMOCD in accordance with NMAC 19.15.29.12.D. This site is ranked >100 ft per NMAC 19.15.29.12.E. Sample came back above clean up action levels. Hilcorp tried to delineate the site to propose a remediation plan but was unsuccessful. Soil removal by excavation was the path forward and while removing impacts around the BGT area we encountered historical contamination. NMOCD and BLM were contacted when historic impacts were encountered on 11/25/2021. Four additional sampling events were required to meet closure standards for this facility.

N

Release Area

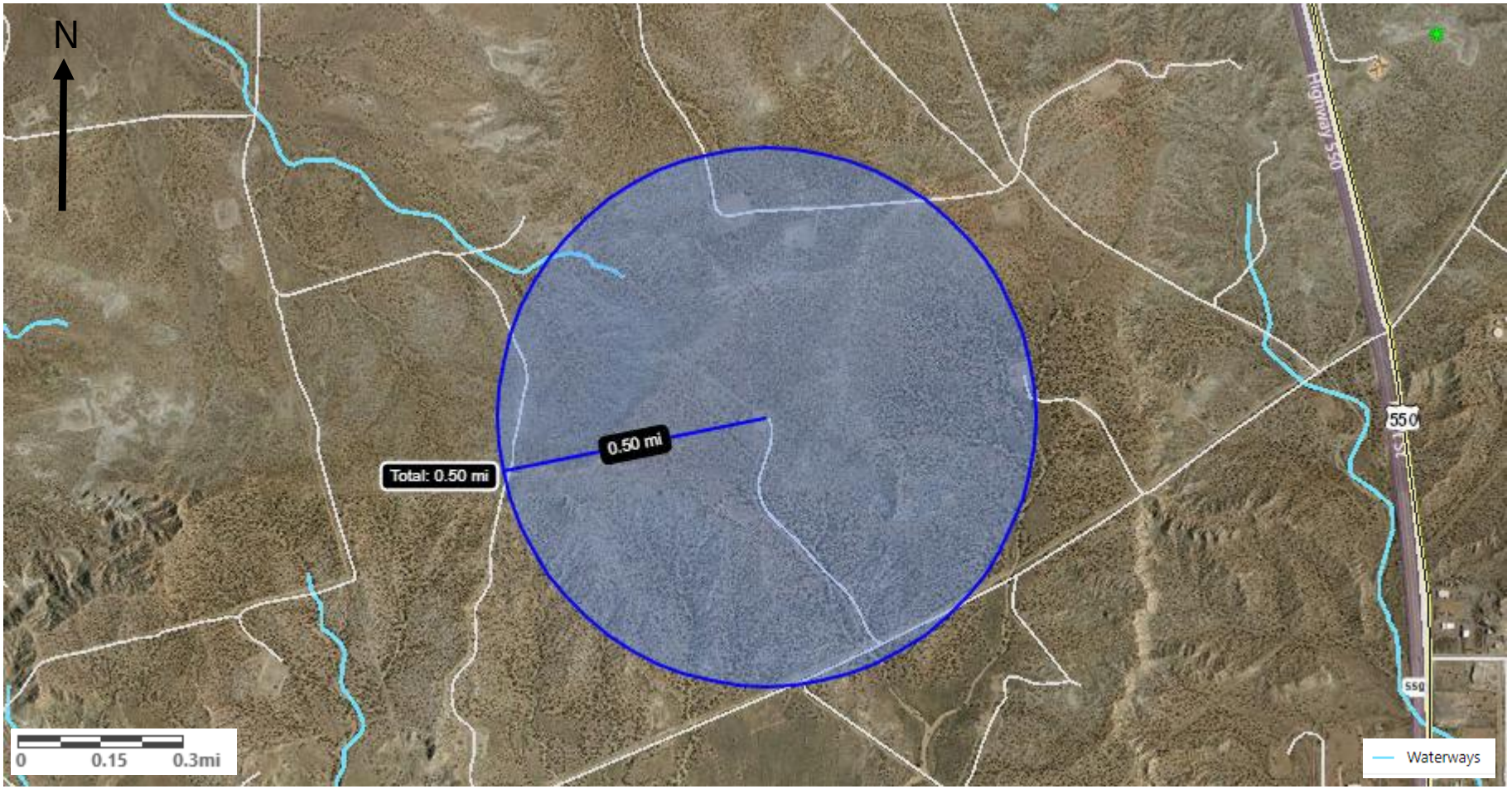
Nearby Pipelines

Enterprise Conventional

Distance to watercourse

Distance to wash 143 ft

Water sources or courses within ½ mile



Depth to groundwater

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	SJ 03251	4	4	3	32	30N	11W	230879	4072752*

Driller License: 717 **Driller Company:** WESTERN WATER WELLS
Driller Name: TERRY HOOD

Drill Start Date: 04/08/2003 **Drill Finish Date:** 04/11/2003 **Plug Date:**
Log File Date: 04/16/2003 **PCW Rcv Date:** **Source:** Shallow
Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 6 GPM
Casing Size: 4.50 **Depth Well:** 150 feet **Depth Water:** 77 feet

Water Bearing Stratifications:	Top	Bottom	Description
	75	100	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	80	150

*UTM location was derived from PLSS - see Help

9/29/20 10:03 AM POINT OF DIVERSION SUMMARY

POD #	Elevation (ft)	GW Depth (ft)
SJ 03251	5838	77
Cathodic Federal A 1N	5918	60
Federal H 1	5985	127 - 224

TIERRA CORROSION CONTROL, INC.
DRILLING LOG

COMPANY: ConocoPhillips
LOCATION: Federal A 1N
STATE: NM
BIT SIZE: 7 7/8"
LBS COKE BACKFILL: 2,600#
ANODE TYPE: 2" X 60" Diriron

CONTRACT #:
LEGALS: S27 T30N R11W
DRILLER: Gilbert Peck
CASING SIZE/TYPE: 8" X 20' PVC
VENT PIPE: 300'
ANODE AMOUNT: 10

DATE: February 28, 2008
COUNTY: San Juan
DEPTH: 300'
COKE TYPE: Asbury
PERF PIPE: 140'
BOULDER DRILLING: None

DEPTH	DRILLER'S LOG	AMPS	DEPTH	DRILLER'S LOG	AMPS
20	Casing		310		
25	Sand Stone		315		
30		.1	320		
35		.9	325		
40		.5	330		
45		.5	335		
50		.1	340		
55		.2	345		
60		.4	350		
65		.5	355		
70		.5	360		
75		.6	365		
80		.8	370		
85	Gray Shale	1.0	375		
90		.2	380		
95		1.8	385		
100		2.0	390		
105		2.1	395		
110		1.9	400		
115		2.2	405		
120		1.8	410		
125		2.0	415		
130		2.1	420		
135		2.2	425		
140		2.1	430		
145		2.4	435		
150		2.5	440		
155		2.5	445		
160		2.3	450		
165		2.7	455		
170		2.8	460		
175		2.6	465		
180		2.8	470		
185		3.0	475		
190		2.6	480		
195		2.4	485		
200		2.5	490		
205		2.7	495		
210		2.6	500		
215		2.4			
220		2.5			
225		2.5			
230		2.6			
235		2.9			
240		2.9			
245		2.7			
250		2.8			
255		3.0			
260		2.9			
265		2.9			
270		2.9			
275		3.0			
280		2.8			
285		2.8			
290		2.7			
295		2.8			
300		td			
305					

ANODE #	DEPTH	NO COKE	COKE
1	295	2.8	4.9
2	285	2.6	3.8
3	275	3.0	7.4
4	265	2.9	7.9
5	255	3.0	7.9
6	245	2.7	7.2
7	235	2.9	7.3
8	225	2.5	7.5
9	215	2.4	7.9
10	205	2.7	7.2
11			
12			
13			
14			
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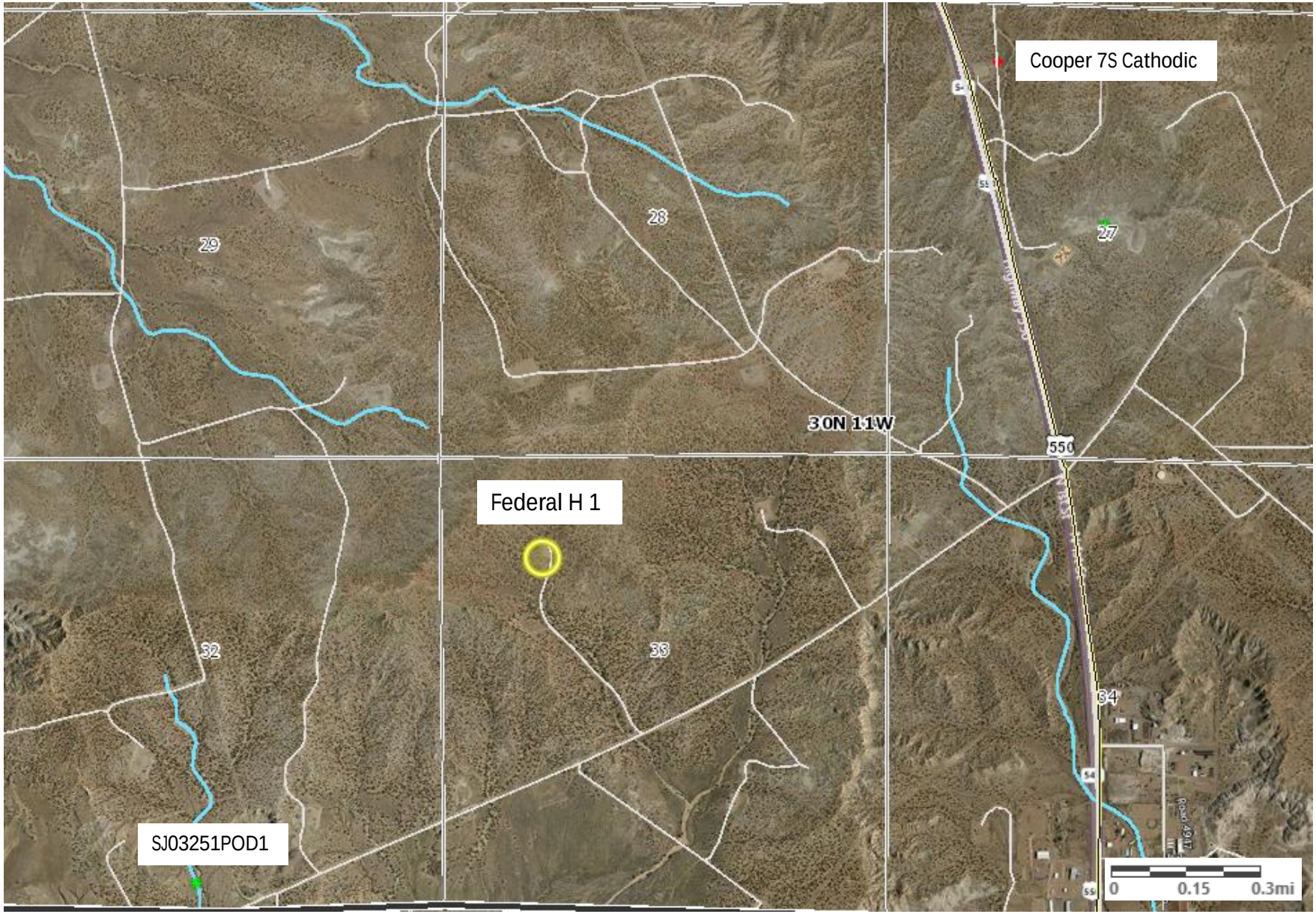
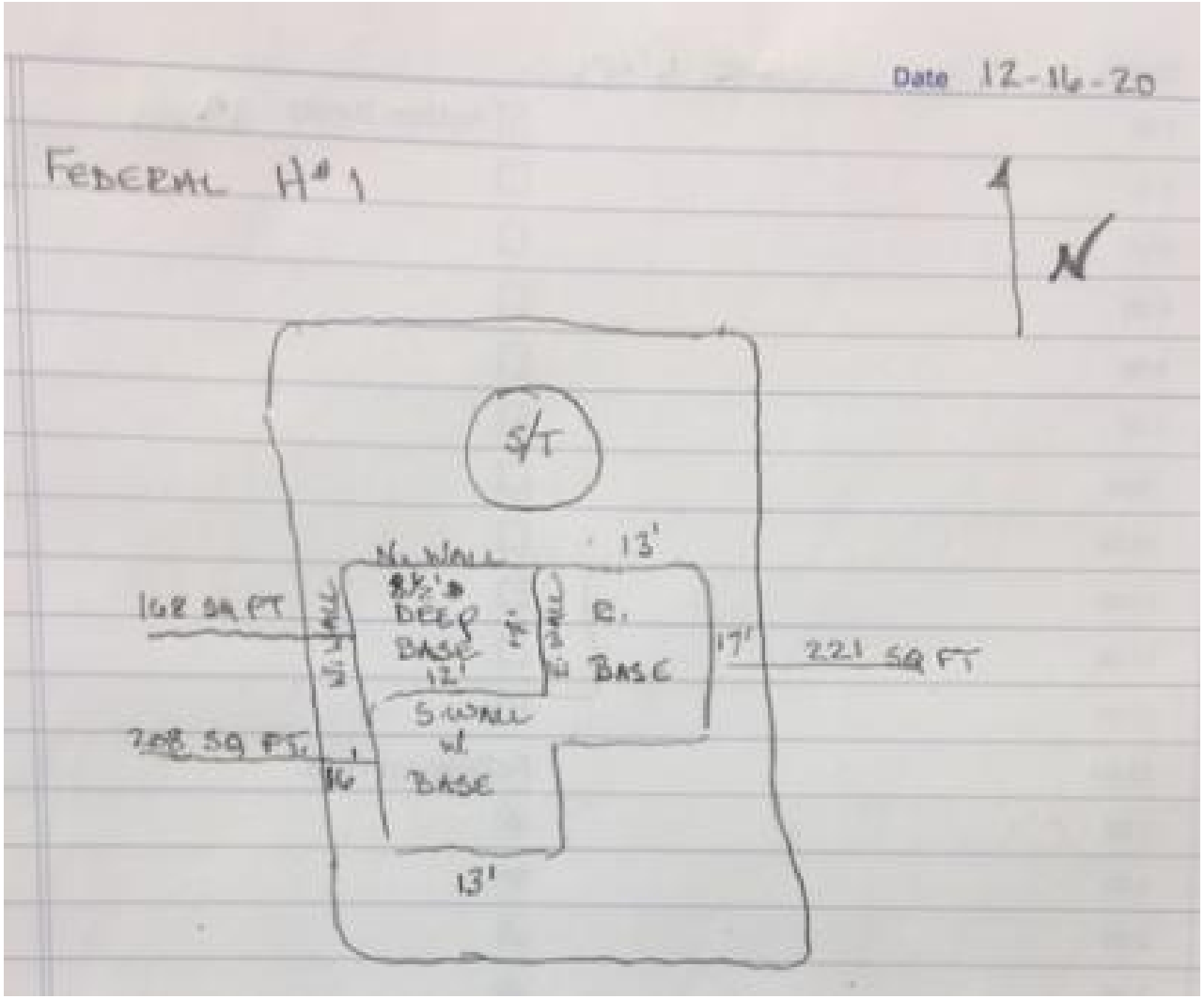
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

WATER DEPTH: 60'
ISOLATION PLUGS: None
LOGING VOLTS: 11.28
VOLT SOURCE: AUTO BATTERY
TOTAL AMPS: 21.2
TOTAL GB RESISTANCE: .53
REMARKS:

Depth to groundwater

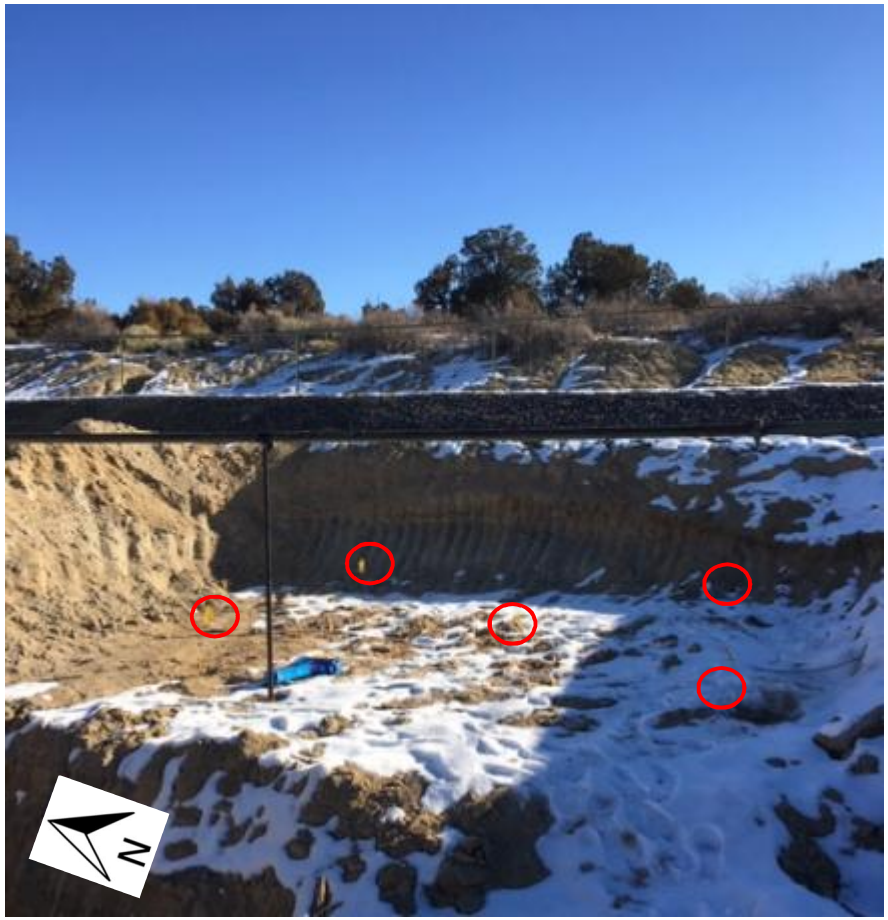


Sample locations/field notes – 12/16/20



Since the previous confirmation sampling events, only pictures that met cleanup standards have been included

Sample locations/field notes – 12/16/20



East base (BGT location)

West base

Sample locations/field notes – 12/16/20

North Wall (8 ft depression)

South Wall (8 ft depression)

Sample locations/field notes – 12/16/20

East Wall (8 ft depression)

Sample locations/field notes – 1/7/2021

North Base 10ft Deep

Composite sample gathered with backhoe

Sample locations/field notes – 1/7/2021

South Wall (Sep side)

Sample locations/field notes – 1/13/2021

West Wall

West Wall

Composite sample gathered with backhoe

Sample locations/field notes – 2/2/2021

West Wall

West Wall

Composite sample gathered with backhoe

Lab Analysis

Data table of soil contaminant concentration data

Sample Name	Date	Field VOCs by PID (ppm)	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)
NMOCD Action Level		-	600	-	-	-	100	10	-	-	-	50
BGT Pit*	9/17/2020	n/a	987.0	6.2	ND	ND	6.2	ND	ND	ND	ND	ND
East Base	12/16/2020	n/a	96.7	19.2	ND	22.5	41.7	ND	ND	ND	ND	ND
West Base	12/16/2020	n/a	46.5	7.02	ND	ND	7.0	0.0005	ND	0.0005	0.0016	0.0026
North Base 8' Deep	12/16/2020	n/a	22.9	99.7	12.8	49.9	162.4	ND	ND	0.0284	0.12	0.1484
North Wall	12/16/2020	n/a	81.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
West Wall	12/16/2020	n/a	ND	109.0	10.6	59.2	178.8	ND	ND	0.0316	0.0474	0.079
South Wall	12/16/2020	n/a	29.1	29.1	ND	8.4	37.5	0.000889	ND	0.000739	0.00438	0.006008
East Wall	12/16/2020	n/a	142.0	25.9	ND	8.96	34.9	0.00177	ND	0.0128	0.0226	0.03717
Base 10' Deep	1/7/2021	n/a	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
West Wall	1/7/2021	n/a	ND	180.0	110.0	ND	290.0	0.25	0.26	1.0	8.0	9.51
South Wall (Seperator side)**	1/7/2021	n/a	ND	11.0	ND	ND	11.0	ND	ND	ND	ND	ND
West Wall*	1/13/2021	n/a	ND	78.0	67.0	ND	145.0	0.13	0.4	0.37	5.3	6.2
West Wall	02/02/21	n/a	ND	ND	ND	ND	ND	0.07	0.055	ND	0.22	0.345

Above closure standard

* This lab report has been omitted from the report since it did not pass and is the only sample taken during this sampling event.

** This wall was inadvertently left out of the first sampling event on 12/16/2020.

Confirmation samples taken on 9/17 was witnessed by Cory Smith, NMOCD

Confirmation samples taken on 12/16 were witnessed by Emmanuel Adeloye, BLM

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

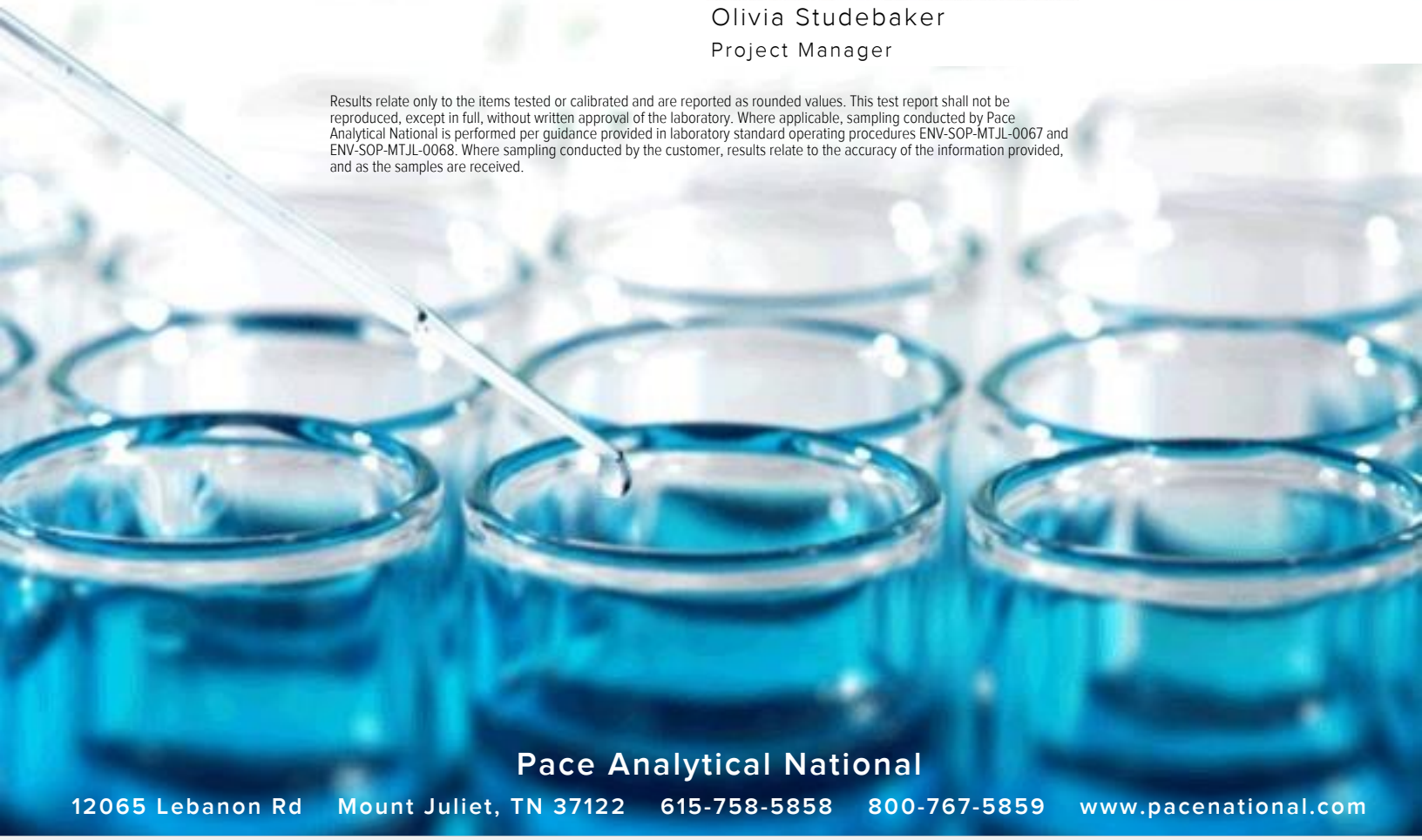
December 31, 2020

HilCorp-Farmington, NM

Sample Delivery Group:	L1298801
Samples Received:	12/18/2020
Project Number:	
Description:	Federal H # 1
Site:	FEDERAL H # 1
Report To:	Clara Cardoza 382 Road 3100 Aztec, NM 87410

Entire Report Reviewed By:

Olivia Studebaker
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

EAST BASE L1298801-01 Solid

Collected by: K Hoekstra | Collected date/time: 12/16/20 09:30 | Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1597509	1	12/27/20 13:28	12/27/20 17:02	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1598322	1	12/23/20 10:47	12/29/20 06:35	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1597059	1	12/24/20 07:48	12/25/20 17:21	JDG	Mt. Juliet, TN

WEST BASE L1298801-02 Solid

Collected by: K Hoekstra | Collected date/time: 12/16/20 09:42 | Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1597509	1	12/27/20 13:28	12/27/20 17:12	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1598669	1	12/23/20 10:47	12/29/20 22:13	TPR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1597466	1	12/24/20 07:25	12/25/20 16:38	JDG	Mt. Juliet, TN

NORTH BASE 8' DEEP L1298801-03 Solid

Collected by: K Hoekstra | Collected date/time: 12/16/20 09:54 | Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1597509	1	12/27/20 13:28	12/27/20 17:41	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1598669	25	12/23/20 10:47	12/29/20 22:35	TPR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1597466	1	12/24/20 07:25	12/25/20 17:16	JDG	Mt. Juliet, TN

NORTH WALL L1298801-04 Solid

Collected by: K Hoekstra | Collected date/time: 12/16/20 10:03 | Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1597509	1	12/27/20 13:28	12/27/20 17:50	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1598322	1	12/23/20 10:47	12/29/20 07:17	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1597466	1	12/24/20 07:25	12/25/20 16:00	JDG	Mt. Juliet, TN

WEST WALL L1298801-05 Solid

Collected by: K Hoekstra | Collected date/time: 12/16/20 10:09 | Received date/time: 12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1597509	1	12/27/20 13:28	12/27/20 18:00	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1598669	25	12/23/20 10:47	12/29/20 22:58	TPR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1597466	1	12/24/20 07:25	12/25/20 17:41	JDG	Mt. Juliet, TN

SOUTH WALL L1298801-06 Solid

Collected by: K Hoekstra | Collected date/time: 12/16/20 10:18 | Received date/time: 12/18/20 11:15

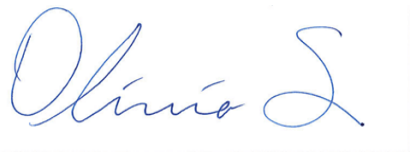
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1597509	1	12/27/20 13:28	12/27/20 18:09	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1598322	1	12/23/20 10:47	12/29/20 07:38	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1597466	1	12/24/20 07:25	12/25/20 16:51	JDG	Mt. Juliet, TN

EAST WALL L1298801-07 Solid

			Collected by	Collected date/time	Received date/time
			K Hoekstra	12/16/20 10:24	12/18/20 11:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1597509	1	12/27/20 13:28	12/27/20 18:19	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1598322	1	12/23/20 10:47	12/29/20 07:59	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1597466	1	12/24/20 07:25	12/25/20 17:03	JDG	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Olivia Studebaker
Project Manager

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	96.7		20.0	1	12/27/2020 17:02	WG1597509

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	12/29/2020 06:35	WG1598322
Toluene	ND		0.00500	1	12/29/2020 06:35	WG1598322
Ethylbenzene	ND		0.000500	1	12/29/2020 06:35	WG1598322
Total Xylene	ND		0.00150	1	12/29/2020 06:35	WG1598322
TPH (GC/FID) Low Fraction	ND		0.100	1	12/29/2020 06:35	WG1598322
(S) a,a,a-Trifluorotoluene(FID)	*107*		*77.0-120*		*12/29/2020 06:35*	WG1598322
(S) a,a,a-Trifluorotoluene(PID)	*99.8*		*72.0-128*		*12/29/2020 06:35*	WG1598322

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	19.2		4.00	1	12/25/2020 17:21	WG1597059
C28-C40 Oil Range	22.5		4.00	1	12/25/2020 17:21	WG1597059
(S) o-Terphenyl	*92.1*		*18.0-148*		*12/25/2020 17:21*	WG1597059

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	46.5		20.0	1	12/27/2020 17:12	WG1597509

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000530		0.000500	1	12/29/2020 22:13	WG1598669
Toluene	ND		0.00500	1	12/29/2020 22:13	WG1598669
Ethylbenzene	0.000536		0.000500	1	12/29/2020 22:13	WG1598669
Total Xylene	0.00163		0.00150	1	12/29/2020 22:13	WG1598669
TPH (GC/FID) Low Fraction	ND		0.100	1	12/29/2020 22:13	WG1598669
(S) a,a,a-Trifluorotoluene(FID)	*99.2*		*77.0-120*		*12/29/2020 22:13*	WG1598669
(S) a,a,a-Trifluorotoluene(PID)	*101*		*72.0-128*		*12/29/2020 22:13*	WG1598669

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	7.02		4.00	1	12/25/2020 16:38	WG1597466
C28-C40 Oil Range	ND		4.00	1	12/25/2020 16:38	WG1597466
(S) o-Terphenyl	*74.0*		*18.0-148*		*12/25/2020 16:38*	WG1597466

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	22.9		20.0	1	12/27/2020 17:41	WG1597509

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.0125	25	12/29/2020 22:35	WG1598669
Toluene	ND		0.125	25	12/29/2020 22:35	WG1598669
Ethylbenzene	0.0284		0.0125	25	12/29/2020 22:35	WG1598669
Total Xylene	0.120		0.0375	25	12/29/2020 22:35	WG1598669
TPH (GC/FID) Low Fraction	12.8		2.50	25	12/29/2020 22:35	WG1598669
(S) a,a,a-Trifluorotoluene(FID)	*96.1*		*77.0-120*		*12/29/2020 22:35*	WG1598669
(S) a,a,a-Trifluorotoluene(PID)	*103*		*72.0-128*		*12/29/2020 22:35*	WG1598669

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	99.7		4.00	1	12/25/2020 17:16	WG1597466
C28-C40 Oil Range	49.9		4.00	1	12/25/2020 17:16	WG1597466
(S) o-Terphenyl	*75.2*		*18.0-148*		*12/25/2020 17:16*	WG1597466

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	81.3		20.0	1	12/27/2020 17:50	WG1597509

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	12/29/2020 07:17	WG1598322
Toluene	ND		0.00500	1	12/29/2020 07:17	WG1598322
Ethylbenzene	ND		0.000500	1	12/29/2020 07:17	WG1598322
Total Xylene	ND		0.00150	1	12/29/2020 07:17	WG1598322
TPH (GC/FID) Low Fraction	ND		0.100	1	12/29/2020 07:17	WG1598322
(S) a,a,a-Trifluorotoluene(FID)	*107*		*77.0-120*		*12/29/2020 07:17*	WG1598322
(S) a,a,a-Trifluorotoluene(PID)	*98.8*		*72.0-128*		*12/29/2020 07:17*	WG1598322

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	12/25/2020 16:00	WG1597466
C28-C40 Oil Range	ND		4.00	1	12/25/2020 16:00	WG1597466
(S) o-Terphenyl	*74.4*		*18.0-148*		*12/25/2020 16:00*	WG1597466

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		20.0	1	12/27/2020 18:00	WG1597509

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.0125	25	12/29/2020 22:58	WG1598669
Toluene	ND		0.125	25	12/29/2020 22:58	WG1598669
Ethylbenzene	0.0316		0.0125	25	12/29/2020 22:58	WG1598669
Total Xylene	0.0474		0.0375	25	12/29/2020 22:58	WG1598669
TPH (GC/FID) Low Fraction	10.6		2.50	25	12/29/2020 22:58	WG1598669
(S) a,a,a-Trifluorotoluene(FID)	*96.5*		*77.0-120*		*12/29/2020 22:58*	WG1598669
(S) a,a,a-Trifluorotoluene(PID)	*102*		*72.0-128*		*12/29/2020 22:58*	WG1598669

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	109		4.00	1	12/25/2020 17:41	WG1597466
C28-C40 Oil Range	59.2		4.00	1	12/25/2020 17:41	WG1597466
(S) o-Terphenyl	*79.4*		*18.0-148*		*12/25/2020 17:41*	WG1597466

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	29.1		20.0	1	12/27/2020 18:09	WG1597509

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000889		0.000500	1	12/29/2020 07:38	WG1598322
Toluene	ND		0.00500	1	12/29/2020 07:38	WG1598322
Ethylbenzene	0.000739		0.000500	1	12/29/2020 07:38	WG1598322
Total Xylene	0.00438		0.00150	1	12/29/2020 07:38	WG1598322
TPH (GC/FID) Low Fraction	ND		0.100	1	12/29/2020 07:38	WG1598322
(S) a,a,a-Trifluorotoluene(FID)	*108*		*77.0-120*		*12/29/2020 07:38*	WG1598322
(S) a,a,a-Trifluorotoluene(PID)	*101*		*72.0-128*		*12/29/2020 07:38*	WG1598322

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	29.1		4.00	1	12/25/2020 16:51	WG1597466
C28-C40 Oil Range	8.38		4.00	1	12/25/2020 16:51	WG1597466
(S) o-Terphenyl	*60.2*		*18.0-148*		*12/25/2020 16:51*	WG1597466

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	142		20.0	1	12/27/2020 18:19	WG1597509

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.00177		0.000500	1	12/29/2020 07:59	WG1598322
Toluene	ND		0.00500	1	12/29/2020 07:59	WG1598322
Ethylbenzene	0.00128		0.000500	1	12/29/2020 07:59	WG1598322
Total Xylene	0.00226		0.00150	1	12/29/2020 07:59	WG1598322
TPH (GC/FID) Low Fraction	ND		0.100	1	12/29/2020 07:59	WG1598322
(S) a,a,a-Trifluorotoluene(FID)	*106*		*77.0-120*		*12/29/2020 07:59*	WG1598322
(S) a,a,a-Trifluorotoluene(PID)	*99.7*		*72.0-128*		*12/29/2020 07:59*	WG1598322

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	25.9		4.00	1	12/25/2020 17:03	WG1597466
C28-C40 Oil Range	8.96		4.00	1	12/25/2020 17:03	WG1597466
(S) o-Terphenyl	*65.3*		*18.0-148*		*12/25/2020 17:03*	WG1597466

Method Blank (MB)

(MB) R3607506-1 12/27/20 14:39

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		9.20	20.0

L1298737-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1298737-01 12/27/20 16:15 • (DUP) R3607506-3 12/27/20 16:24

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	5.93		20

L1299447-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1299447-03 12/27/20 19:06 • (DUP) R3607506-6 12/27/20 19:16

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	546	613	1	11.5		20

Laboratory Control Sample (LCS)

(LCS) R3607506-2 12/27/20 14:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	201	100	90.0-110	

L1298801-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1298801-02 12/27/20 17:12 • (MS) R3607506-4 12/27/20 17:22 • (MSD) R3607506-5 12/27/20 17:31

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	500	46.5	551	522	101	95.0	1	80.0-120			5.48	20

Method Blank (MB)

(MB) R3608063-3 12/29/20 04:09

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*112*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*103*			*72.0-128*

Laboratory Control Sample (LCS)

(LCS) R3608063-1 12/29/20 02:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0562	112	76.0-121	
Toluene	0.0500	0.0562	112	80.0-120	
Ethylbenzene	0.0500	0.0576	115	80.0-124	
Total Xylene	0.150	0.181	121	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			*113*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*102*	*72.0-128*	

Laboratory Control Sample (LCS)

(LCS) R3608063-2 12/29/20 03:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.27	77.6	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*99.2*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*106*	*72.0-128*	

Method Blank (MB)

(MB) R3608455-3 12/29/20 19:56

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*102*			*72.0-128*

Laboratory Control Sample (LCS)

(LCS) R3608455-1 12/29/20 16:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0511	102	76.0-121	
Toluene	0.0500	0.0514	103	80.0-120	
Ethylbenzene	0.0500	0.0504	101	80.0-124	
Total Xylene	0.150	0.155	103	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			*100*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*102*	*72.0-128*	

Laboratory Control Sample (LCS)

(LCS) R3608455-2 12/29/20 19:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.79	87.1	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*110*	*72.0-128*	

Method Blank (MB)

(MB) R3607251-1 12/24/20 15:18

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*109*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3607251-2 12/24/20 15:33

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	54.7	109	50.0-150	
(S) o-Terphenyl			*106*	*18.0-148*	

L1296849-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1296849-01 12/24/20 17:30 • (MS) R3607251-3 12/24/20 17:59 • (MSD) R3607251-4 12/24/20 18:13

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	48.0	ND	46.4	50.4	96.7	105	1	50.0-150			8.26	20
(S) o-Terphenyl					*64.4*	*70.9*		*18.0-148*				

Method Blank (MB)

(MB) R3607287-1 12/25/20 14:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*80.0*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3607287-2 12/25/20 15:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	51.0	102	50.0-150	
(S) o-Terphenyl			*109*	*18.0-148*	

L1299210-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1299210-03 12/25/20 18:06 • (MS) R3607287-3 12/25/20 18:19 • (MSD) R3607287-4 12/25/20 18:31

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	6760	6270	6960	0.000	399	100	50.0-150	V	V	10.4	20
(S) o-Terphenyl					*0.000*	*0.000*		*18.0-148*	J7	J7		

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA

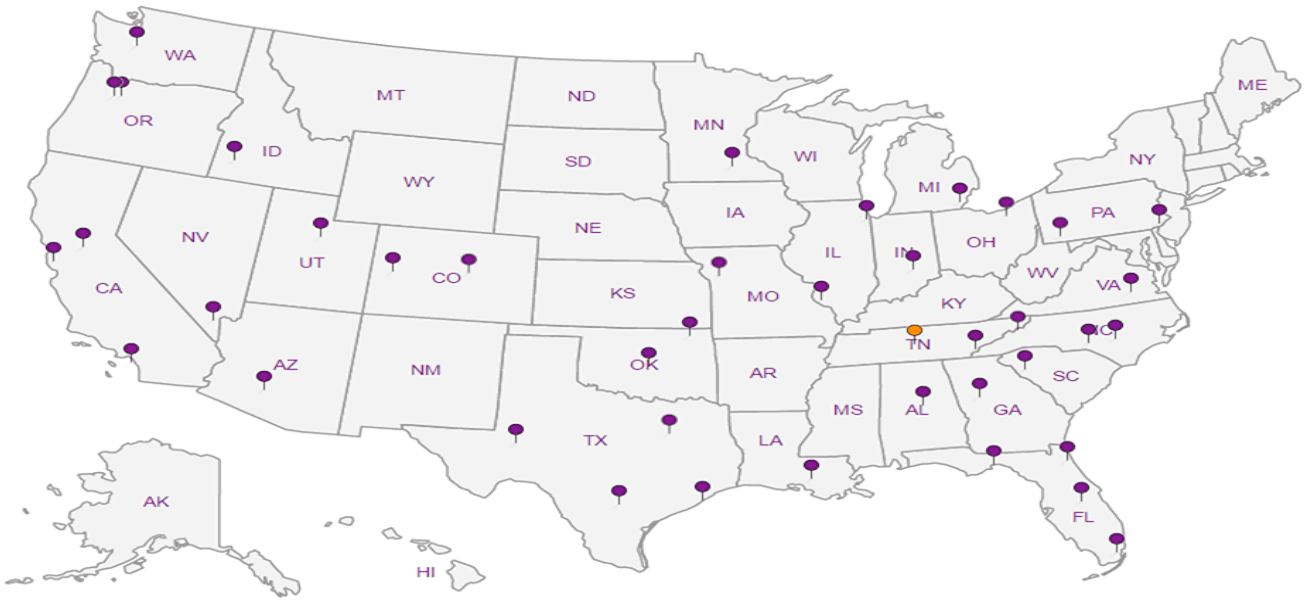
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Billing Information: **ATTN: Clara Cardoza**

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1298801

I132

Report to: **Clara Cardoza**

Email To: **ccardoza@hilcorp.com; khoekstra@hilc**

Project Description: **Federal H # 1**

City/State Collected: **Aztec, NM**

Phone: **5055640733**
Fax:

Client Project #

Lab Project #

Collected by (print): **K Hoekstra**

Site/Facility ID # **Federal H # 1**

P.O. #

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Acctnum: **HILCORANM**
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH - 8015 - DRO, GRO, MRO	BTEX 8021	Chloride 300.0	Remarks	Sample # (lab only)
East Base	Comp	SS		12-16	9:30	1	X	X	X		-01
West Base	Comp	SS		12-16	9:42	1	X	X	X		-02
North Base 8' Deep	Comp	SS		12-16	9:54	1	X	X	X		-03
North Wall	Comp	SS		12-16	10:03	1	X	X	X		-04
West Wall	Comp	SS		12-16	10:09	1	X	X	X		-05
South Wall	Comp	SS		12-16	10:18	1	X	X	X		-06
East Wall	Comp	SS		12-16	10:24	1	X	X	X		-07

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 929652431019

Sample Receipt Checklist
COC Seal Present/Intact: NP ___Y ___N
COC Signed/Accurate: ___Y ___N
Bottles arrive intact: ___Y ___N
Correct bottles used: ___Y ___N
Sufficient volume sent: ___Y ___N
If Applicable
VOA Zero Headspace: ___Y ___N
Preservation Correct/Checked: ___Y ___N

RAD SCREEN: <0.5 mR/hr

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Kurt Hoekstra	12-17-20	7:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 2.0+1.4=3.4 7	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12/18/20 Time: 1115	Hold: / Condition: NCF / OK

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

January 12, 2021

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

RE: Federal H 1 OrderNo.: 2101306

Dear Clara Cardoza:

Hall Environmental Analysis Laboratory received 3 sample(s) on 1/8/2021 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2101306**
Date Reported: **1/12/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** BASE 10' DEEP
Project: Federal H 1 **Collection Date:** 1/7/2021 10:12:00 AM
Lab ID: 2101306-001 **Matrix:** MEOH (SOIL) **Received Date:** 1/8/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/8/2021 12:19:49 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/8/2021 12:19:49 PM
Surr: DNOP	108	30.4-154		%Rec	1	1/8/2021 12:19:49 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	9.7		mg/Kg	2	1/9/2021 3:14:38 PM
Surr: BFB	102	75.3-105		%Rec	2	1/9/2021 3:14:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.048		mg/Kg	2	1/9/2021 3:14:38 PM
Toluene	ND	0.097		mg/Kg	2	1/9/2021 3:14:38 PM
Ethylbenzene	ND	0.097		mg/Kg	2	1/9/2021 3:14:38 PM
Xylenes, Total	ND	0.19		mg/Kg	2	1/9/2021 3:14:38 PM
Surr: 4-Bromofluorobenzene	98.8	80-120		%Rec	2	1/9/2021 3:14:38 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	1/8/2021 12:23:17 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	Value above quantitation range
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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **2101306**
Date Reported: **1/12/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** W. WALL
Project: Federal H 1 **Collection Date:** 1/7/2021 10:18:00 AM
Lab ID: 2101306-002 **Matrix:** MEOH (SOIL) **Received Date:** 1/8/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	180	9.6		mg/Kg	1	1/8/2021 12:43:43 PM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	1/8/2021 12:43:43 PM
Surr: DNOP	106	30.4-154		%Rec	1	1/8/2021 12:43:43 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	110	47		mg/Kg	10	1/8/2021 6:35:25 PM
Surr: BFB	154	75.3-105	S	%Rec	10	1/8/2021 6:35:25 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	0.25	0.24		mg/Kg	10	1/8/2021 6:35:25 PM
Toluene	0.26	0.24		mg/Kg	10	1/8/2021 6:35:25 PM
Ethylbenzene	1.0	0.47		mg/Kg	10	1/8/2021 6:35:25 PM
Xylenes, Total	8.0	0.95		mg/Kg	10	1/8/2021 6:35:25 PM
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	10	1/8/2021 6:35:25 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	1/8/2021 12:35:41 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	Value above quantitation range
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **2101306**
Date Reported: **1/12/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** S. WALL
Project: Federal H 1 **Collection Date:** 1/7/2021 10:21:00 AM
Lab ID: 2101306-003 **Matrix:** MEOH (SOIL) **Received Date:** 1/8/2021 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**
Diesel Range Organics (DRO)	11	9.2		mg/Kg	1	1/8/2021 1:07:44 PM
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/8/2021 1:07:44 PM
Surr: DNOP	102	30.4-154		%Rec	1	1/8/2021 1:07:44 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	1/8/2021 7:23:00 PM
Surr: BFB	104	75.3-105		%Rec	1	1/8/2021 7:23:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.020		mg/Kg	1	1/8/2021 7:23:00 PM
Toluene	ND	0.040		mg/Kg	1	1/8/2021 7:23:00 PM
Ethylbenzene	ND	0.040		mg/Kg	1	1/8/2021 7:23:00 PM
Xylenes, Total	ND	0.079		mg/Kg	1	1/8/2021 7:23:00 PM
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	1/8/2021 7:23:00 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	1/8/2021 12:48:05 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	Value above quantitation range
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 Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2101306**
12-Jan-21

Client: HILCORP ENERGY
Project: Federal H 1

Sample ID: **MB-57426**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **57426**	RunNo: **74500**							
Prep Date: **1/8/2021**	Analysis Date: **1/8/2021**	SeqNo: **2630787**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-57426**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **57426**	RunNo: **74500**							
Prep Date: **1/8/2021**	Analysis Date: **1/8/2021**	SeqNo: **2630788**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2101306**

12-Jan-21

Client: HILCORP ENERGY

Project: Federal H 1

Sample ID: **LCS-57422**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **57422**	RunNo: **74483**
Prep Date: **1/8/2021**	Analysis Date: **1/8/2021**	SeqNo: **2629450** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.7	68.9	141			
Surr: DNOP	4.6		5.000		92.4	30.4	154			

Sample ID: **MB-57422**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **57422**	RunNo: **74483**
Prep Date: **1/8/2021**	Analysis Date: **1/8/2021**	SeqNo: **2629451** 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	10		10.00		101	30.4	154			

Sample ID: **MB-57445**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **57445**	RunNo: **74518**
Prep Date: **1/11/2021**	Analysis Date: **1/11/2021**	SeqNo: **2630575** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.8		10.00		87.8	30.4	154			

Sample ID: **LCS-57445**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **57445**	RunNo: **74518**
Prep Date: **1/11/2021**	Analysis Date: **1/11/2021**	SeqNo: **2630576** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		88.0	30.4	154			

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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2101306**

12-Jan-21

Client: HILCORP ENERGY

Project: Federal H 1

Sample ID: **lcs-57418**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **57418**	RunNo: **74501**
Prep Date: **1/7/2021**	Analysis Date: **1/8/2021**	SeqNo: **2629932** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	72.5	106			
Surr: BFB	1100		1000		115	75.3	105			S

Sample ID: **mb-57418**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **57418**	RunNo: **74501**
Prep Date: **1/7/2021**	Analysis Date: **1/8/2021**	SeqNo: **2629933** 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		105	75.3	105			S

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G74508**	RunNo: **74508**
Prep Date:	Analysis Date: **1/9/2021**	SeqNo: **2630293** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		113	75.3	105			S

Sample ID: **2.5ug ug lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G74508**	RunNo: **74508**
Prep Date:	Analysis Date: **1/9/2021**	SeqNo: **2630294** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		115	75.3	105			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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2101306**
12-Jan-21

Client: HILCORP ENERGY
Project: Federal H 1

Sample ID: **LCS-57418** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **57418** RunNo: **74501**
Prep Date: **1/7/2021** Analysis Date: **1/8/2021** SeqNo: **2629948** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.8	80	120			
Toluene	0.96	0.050	1.000	0	95.9	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.3	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID: **mb-57418** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **57418** RunNo: **74501**
Prep Date: **1/7/2021** Analysis Date: **1/8/2021** SeqNo: **2629949** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **B74508** RunNo: **74508**
Prep Date: Analysis Date: **1/9/2021** SeqNo: **2630309** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID: **100ng btex lcs** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **B74508** RunNo: **74508**
Prep Date: Analysis Date: **1/9/2021** SeqNo: **2630310** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		101	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **HILCORP ENERGY** Work Order Number: **2101306** RcptNo: **1**

Received By: **Desiree Dominguez** **1/8/2021 8:00:00 AM** DD

Completed By: **Desiree Dominguez** **1/8/2021 8:05:11 AM** DD

Reviewed By: JR 1/8/21

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? (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: SGL 1/8/21

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record

Client: Hilcorp

Mailing Address:

Phone #: 505-793-2784

email or Fax#: ccardoza@hilcorp.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: Results 1/11
☐ Standard ☒ Rush 2DAY

Project Name: FEDERAL H # 1

Project #:

Project Manager: CLARA CARDOZA

Sampler: KURT

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.9 +0.2 = 1.1 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2101306	BTEX / ~~MTBE~~ / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chloride 300.0
1-7	10:12	SS	BASE 10' DEEP	(1) 4oz. Jar	DN ICE	-001	X	X									X
1-7	10:18	SS	W. WALL	"	"	-002	X	X									X
1-7	10:21	SS	S. WALL	"	"	-003	X	X									X

Date	Time	Relinquished by	Received by	Via	Date	Time
1-7	1107	Kurt Hubbell	Chad Ward		1/7/21	1107
1/8/21	1747	Christine Walker		courier	1/8/21	8:00

Remarks: Seal intact on cooler. DAD 1/8/21

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

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

February 08, 2021

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

RE: Federal H1 OrderNo.: 2102138

Dear Clara Cardoza:

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/3/2021 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2102138**
Date Reported: **2/8/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY
Client Sample ID: West Wall
Project: Federal H1
Collection Date: 2/2/2021 11:14:00 AM
Lab ID: 2102138-001 **Matrix:** SOIL **Received Date:** 2/3/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	2/4/2021 3:35:40 PM
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	2/4/2021 3:35:40 PM
Surr: DNOP	122	70-130		%Rec	1	2/4/2021 3:35:40 PM
EPA METHOD 300.0: ANIONS						Analyst: **VP**
Chloride	ND	60		mg/Kg	20	2/4/2021 11:23:59 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**
Benzene	0.070	0.025		mg/Kg	1	2/4/2021 4:49:39 PM
Toluene	0.055	0.049		mg/Kg	1	2/4/2021 4:49:39 PM
Ethylbenzene	ND	0.049		mg/Kg	1	2/4/2021 4:49:39 PM
Xylenes, Total	0.22	0.098		mg/Kg	1	2/4/2021 4:49:39 PM
Surr: 1,2-Dichloroethane-d4	77.7	70-130		%Rec	1	2/4/2021 4:49:39 PM
Surr: 4-Bromofluorobenzene	93.1	70-130		%Rec	1	2/4/2021 4:49:39 PM
Surr: Dibromofluoromethane	95.6	70-130		%Rec	1	2/4/2021 4:49:39 PM
Surr: Toluene-d8	99.2	70-130		%Rec	1	2/4/2021 4:49:39 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/4/2021 4:49:39 PM
Surr: BFB	92.7	70-130		%Rec	1	2/4/2021 4:49:39 PM

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

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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102138**
08-Feb-21

Client: HILCORP ENERGY
Project: Federal H1

Sample ID: **MB-57911**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **57911**	RunNo: **75086**							
Prep Date: **2/4/2021**	Analysis Date: **2/4/2021**	SeqNo: **2650452**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-57911**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **57911**	RunNo: **75086**							
Prep Date: **2/4/2021**	Analysis Date: **2/4/2021**	SeqNo: **2650453**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.8	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102138**
08-Feb-21

Client: HILCORP ENERGY
Project: Federal H1

Sample ID: **MB-57873**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **57873**	RunNo: **75056**
Prep Date: **2/3/2021**	Analysis Date: **2/4/2021**	SeqNo: **2649463** 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	11		10.00		114	70	130			

Sample ID: **MB-57910**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **57910**	RunNo: **75056**
Prep Date: **2/4/2021**	Analysis Date: **2/4/2021**	SeqNo: **2649464** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		105	70	130			

Sample ID: **LCS-57873**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **57873**	RunNo: **75056**
Prep Date: **2/3/2021**	Analysis Date: **2/4/2021**	SeqNo: **2649465** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	107	68.9	141			
Surr: DNOP	5.3		5.000		106	70	130			

Sample ID: **LCS-57910**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **57910**	RunNo: **75056**
Prep Date: **2/4/2021**	Analysis Date: **2/4/2021**	SeqNo: **2649963** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.0		5.000		99.5	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2102138**
08-Feb-21

Client: HILCORP ENERGY
Project: Federal H1

Sample ID: **lcs-57899**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **57899**	RunNo: **75090**
Prep Date: **2/3/2021**	Analysis Date: **2/4/2021**	SeqNo: **2650933** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	98.3	70	130			
Toluene	1.0	0.050	1.000	0	99.5	70	130			
Surr: 1,2-Dichloroethane-d4	0.40		0.5000		80.9	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.7	70	130			
Surr: Dibromofluoromethane	0.47		0.5000		94.5	70	130			
Surr: Toluene-d8	0.48		0.5000		96.2	70	130			

Sample ID: **mb-57899**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **57899**	RunNo: **75090**
Prep Date: **2/3/2021**	Analysis Date: **2/4/2021**	SeqNo: **2650934** 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: 1,2-Dichloroethane-d4	0.40		0.5000		80.3	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.1	70	130			
Surr: Dibromofluoromethane	0.49		0.5000		98.8	70	130			
Surr: Toluene-d8	0.50		0.5000		99.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2102138**

08-Feb-21

Client: HILCORP ENERGY

Project: Federal H1

Sample ID: **lcs-57899**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **57899**	RunNo: **75090**
Prep Date: **2/3/2021**	Analysis Date: **2/4/2021**	SeqNo: **2650938** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.9	70	130			
Surr: BFB	490		500.0		97.9	70	130			

Sample ID: **mb-57899**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **57899**	RunNo: **75090**
Prep Date: **2/3/2021**	Analysis Date: **2/4/2021**	SeqNo: **2650939** 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	480		500.0		96.4	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 Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2102138 RcptNo: 1

Received By: Juan Rojas 2/3/2021 7:30:00 AM

Completed By: Sean Livingston 2/3/2021 8:19:03 AM

Reviewed By: JR 2/3/21

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? (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 ☐

IO

# of preserved bottles checked for pH: 02/03/21 (<2 or >12 unless noted)

Adjusted?

Checked by:

Special Handling (if applicable)

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

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good				
2	1.5	Good				
3	1.6	Good				

Chain-of-Custody Record

Client: Hilcorp

Mailing Address:

Phone #: 505-793-2784

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: Results 2/5

☐ Standard ☒ Rush 3 DAY

Project Name: FEDERAL H # 1

Project #:

Project Manager: CLARA CARDOZA

Sampler: KURT

On Ice: ☒ Yes ☐ No

# of Coolers: 3

Cooler Temp(including CF): See Remarks (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2102138	BTEX / ~~MTBE / TMB's~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	CHLORIDE 300.0
2-2	11:14	SS	WEST WALL	(1) 4oz JAR	ON ICE	001	X	X									X

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
2-2	1350	Kurt Hostetler	Christy Walters		2/2/21	1350
2/2/21	1910	Christy Walters		courier	2/3/21	7:30

Remarks: 2.5-0.1=2.4
1.6-0.1=1.5
1.7-0.1=1.6

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.

Agency Correspondence

Clara Cardoza

From: Clara Cardoza
Sent: Thursday, July 16, 2020 3:18 PM
To: cory.smith@state.nm.us; Abiodun Adeloye
Cc: Griswold, Jim, EMNRD
Subject: Release Notification

Please let this serve as a follow up for the phone call/voicemail for (2) major releases at Hilcorp Energy facilities.

Federal H 1 API 30-045-09030, discovered today 7/16/2020 – 54 bbls of produced water was released to containment of a BGT due to corrosion. Approximately 21 bbls were recovered.

Hare 14A API 30-045-29527 S10 T29N R10W, discovered today 7/16/2020 - 36 bbls of condensate was released to containment due to bullet holes caused by vandals. No recoverable product on surface.

Initial C-141 will follow.

Please let me know if you have any questions.

Thank you,

Clara M Cardoza
Environmental Specialist
505-564-0733 (O)
505-793-2784 (C)

Clara Cardoza

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Wednesday, September 16, 2020 7:28 AM
To: Clara Cardoza; Abiodun Adeloye
Cc: Kurt Hoekstra
Subject: [EXTERNAL] RE: Federal H 1 Confirmation Sampling

Clara,

The incident number is NRM2021354649 it was processed on 7/31/2020.

Thank you for the notice of sampling on the Federal H 1 at 8 a.m. on Thursday 9/17. If an OCD representative is not onsite please continue to sample per 19.15.29 NMAC. If the date or time changes please contact the OCD as soon as possible to communicate the new date and time for sampling.

Thanks.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Tuesday, September 15, 2020 3:15 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Abiodun Adeloye <aadeloye@blm.gov>
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: [EXT] RE: Federal H 1 Confirmation Sampling

Let me try that again…
API number is 30-045-09030.

My apologize.

From: Clara Cardoza
Sent: Tuesday, September 15, 2020 7:45 AM
To: cory.smith@state.nm.us; Abiodun Adeloye <aadeloye@blm.gov>
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>; Ervin Wyckoff Jr <ewyckoff@hilcorp.com>
Subject: Federal H 1 Confirmation Sampling

Cory/Emmanuel, please let this serve as notice that Hilcorp Energy plans to take confirmation samples at the Federal H 1 (API 30-045-06665) at 8 a.m. on Thursday 9/17. I have not been issued an incident number for this release yet but this was a 54 bbl produced water spill that occurred on 7/16. Please let me know if you have any questions.

Thank you,

Clara Cardoza

From: Adeloye, Abiodun A <aadeloye@blm.gov>
Sent: Wednesday, September 16, 2020 9:59 AM
To: Clara Cardoza; cory.smith@state.nm.us
Cc: Kurt Hoekstra
Subject: Re: [EXTERNAL] RE: Federal H 1 Confirmation Sampling

Hi Clara please go ahead with sampling, I will not be able to come.
Thank you.

Abiodun Adeloye (Emmanuel), NRS
Bureau of Land Management
Farmington Field Office
6251 College Blvd., Suite A
Farmington, NM 87402
Office Phone: 505-564-7665
Cell Phone: 505-635-0984

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Tuesday, September 15, 2020 3:15 PM
To: cory.smith@state.nm.us <cory.smith@state.nm.us>; Adeloye, Abiodun A <aadeloye@blm.gov>
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: [EXTERNAL] RE: Federal H 1 Confirmation Sampling

Let me try that again…
API number is 30-045-09030.

My apologize.

From: Clara Cardoza
Sent: Tuesday, September 15, 2020 7:45 AM
To: cory.smith@state.nm.us; Abiodun Adeloye <aadeloye@blm.gov>
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>; Ervin Wyckoff Jr <ewyckoff@hilcorp.com>
Subject: Federal H 1 Confirmation Sampling

Cory/Emmanuel, please let this serve as notice that Hilcorp Energy plans to take confirmation samples at the Federal H 1 (API 30-045-06665) at 8 a.m. on Thursday 9/17. I have not been issued an incident number for this release yet but this was a 54 bbl produced water spill that occurred on 7/16. Please let me know if you have any questions.

Thank you,

Clara M Cardoza

Clara Cardoza

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Tuesday, December 1, 2020 8:15 AM
To: Clara Cardoza
Cc: Abiodun Adeloye
Subject: RE: [EXTERNAL] RE: Federal H 1 NRM2021354649

Clara,

A new incident # is not needed and the clean up of the historic release can be documented under this incident#.

Cory Smith • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1000 Rio Brazos | Aztec, NM 87410
505.334.6178 x115 | Cory.Smith@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Wednesday, November 25, 2020 11:46 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Abiodun Adeloye <aadeloye@blm.gov>
Subject: [EXT] RE: [EXTERNAL] RE: Federal H 1 NRM2021354649

Cory, during work at this facility on Monday/Tuesday to get the site to closure by removing impacted soil (of chlorides) Hilcorp encountered a historic release. We continued to work in the effort to remove impacted soil. By the end of the work day Tuesday it was clear that the historic impact is larger than the equipment we had onsite. Hilcorp will schedule delineation so that a remediation plan can be submitted for the discovered release. Please let me know if we can continue reporting through this incident number or if it needs to be reported separately.

Thank you and Happy Thanksgiving.

Clara

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]
Sent: Tuesday, October 27, 2020 1:32 PM
To: Clara Cardoza <ccardoza@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Federal H 1 NRM2021354649

Clara,

OCD approves HEC request for an extension due to COVID related issues at the laboratory.

Please submit the full site characterization and remediation plan or full closure report no later than 12/1/2020

Please include this approval in your Site characterization and remediation plan or your closure report as no hard copy will be sent to you.

Thank you.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Monday, October 26, 2020 3:39 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Subject: [EXT] RE: [EXTERNAL] RE: Federal H 1 NRM2021354649

One additional point. In the future when we need samples rushed we will contact the lab to get an upfront time estimate for turnaround and use a different vendor if the lab cannot provide in the needed timeframe.

From: Clara Cardoza
Sent: Monday, October 26, 2020 3:23 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Subject: RE: [EXTERNAL] RE: Federal H 1 NRM2021354649

Update and extension request.

Cory, after Kurt delineated at the Federal H 1, he reached refusal at 1 ft in most of the corners of the BGT bermed area. We submitted the labs for the soil we were able to collect and all 4 samples came back above 600 ppm. After these results were received we took a backhoe to the site last week to try to get through the sandstone. We were able to grab samples about 2 ft but are now hostage at the lab and despite requesting same day turnaround. The lab has a tremendous backlog and have estimated the end of the week due to COVID issues they are experiencing. With the lab issues I would like to request a 30 day extension for the remediation plan at this site. Please let me know if you require additional information.

Thank you,
Clara

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]
Sent: Monday, October 5, 2020 12:39 PM
To: Clara Cardoza <ccardoza@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Federal H 1 NRM2021354649

Clara,

Thank you for the notice please delineate per 19.15.29 NMAC

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115

cory.smith@state.nm.us

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Monday, October 5, 2020 12:17 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Subject: [EXT] RE: [EXTERNAL] RE: Federal H 1 NRM2021354649

Cory, Kurt (and possibly me) will delineate this site tomorrow morning. If you think you might be onsite let me know and we can wait to start.

Thank you,
Clara

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]
Sent: Thursday, October 1, 2020 9:13 AM
To: Clara Cardoza <ccardoza@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Federal H 1 NRM2021354649

Clara,

It is located on the well pad so yes it would be. The release would still need to be delineated for that request to be approved.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Thursday, October 1, 2020 9:00 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Subject: [EXT] RE: [EXTERNAL] RE: Federal H 1 NRM2021354649

Cory, would this be a candidate for leaving in place until P&A?

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]
Sent: Thursday, October 1, 2020 8:37 AM
To: Clara Cardoza <ccardoza@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Federal H 1 NRM2021354649

Clara,

I would think it would be doable.. but it might take a bit of work and making sure that the area is raked and tiled.

To do gypsum, the area needs to be completely delineated horizontally and vertically and a site characterization/remediation plan needs to be submitted.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Thursday, October 1, 2020 8:24 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Subject: [EXT] RE: [EXTERNAL] RE: Federal H 1 NRM2021354649

987 mg/kg

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]
Sent: Thursday, October 01, 2020 9:23 AM
To: Clara Cardoza <ccardoza@hilcorp.com>
Subject: [EXTERNAL] RE: Federal H 1 NRM2021354649

Clara,

What were the chloride levels? Depending on how close you are would be if I would recommend doing gypsum.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Thursday, October 1, 2020 7:55 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Subject: [EXT] Federal H 1 NRM2021354649

Good morning Cory. I wanted to reach out to ask for your guidance on the remediation at this facility. This is the site you recently witnessed confirmation sampling. Samples came in over 600 mg/kg for chlorides, DRO was 6.2 mg/kg and all other was ND . I wanted to treat this area with gypsum but wanted to make sure I request that properly on the C-141 (if that is in fact required). Please advise.

Thank you,

Clara M Cardoza
Environmental Specialist
505-564-0733 (O)
505-793-2784 (C)

Clara Cardoza

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Tuesday, December 15, 2020 4:07 PM
To: Clara Cardoza; Abiodun Adeloye
Cc: Kurt Hoekstra
Subject: [EXTERNAL] RE: Confirmation Sampling - Federal H 1 - NRM2021354649

Clara,

Thank your for the notice for confirmation sampling at the Federal H 1 (API 30-045-09030) at 9 a.m. on Wednesday December 16th. If no OCD representative is onsite please sample per 19.15.29 NMAC. If the date/time changes for the sampling event please contact OCD ASAP to communicate the changes etc.

Thank you,

Cory Smith • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1000 Rio Brazos | Aztec, NM 87410
505.334.6178 x115 | Cory.Smith@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Tuesday, December 15, 2020 7:47 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Abiodun Adeloye <aadeloye@blm.gov>
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: [EXT] Confirmation Sampling - Federal H 1 - NRM2021354649

Please let this serve as notice for confirmation sampling at the Federal H 1 (API 30-045-09030) at 9 a.m. on Wednesday December 16th. Let me know if you have any questions or concerns.

Thank you,

Clara M Cardoza
Environmental Specialist
505-564-0733 (O)
505-793-2784 (C)


Please consider the environment before printing this e-mail

Clara Cardoza

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Wednesday, December 16, 2020 1:25 PM
To: Kurt Hoekstra
Cc: Clara Cardoza
Subject: [EXTERNAL] RE: Federal H # 1

Kurt,

Thank your for the follow up OCD approves the sample plan and outline below.

Please include this approval in your final C-141 as a hard copy will not be sent to you.

Thank you,

Cory Smith • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1000 Rio Brazos | Aztec, NM 87410
505.334.6178 x115 | Cory.Smith@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Kurt Hoekstra <khoekstra@hilcorp.com>
Sent: Wednesday, December 16, 2020 1:20 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Clara Cardoza <ccardoza@hilcorp.com>
Subject: [EXT] Federal H # 1

Hello Cory, per our conversation this morning I took three 3 base samples for closure at the Federal H # 1, two 2 of them were slightly over the square footage, 221 sq. ft. and 208 sq. ft. the other base sample was approximately 168 sq. ft. I also took four wall samples where the excavation was approximately 8-1/2 ‘ deep. If you have any questions or concerns please let me know.

Thank you.

Kurt Hoekstra
Field Environmental Specialist
505-486-9543
khoekstra@hilcorp.com

Clara Cardoza

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Tuesday, January 5, 2021 11:30 AM
To: Clara Cardoza; Joyner, Ryan N
Cc: Kurt Hoekstra
Subject: [EXTERNAL] RE: Confirmation Sampling - Federal H 1 - NRM2021354649

Clara,

Thank you for the notice of Sampling on incident# NRM2021354649 at the Federal H 1 on Thursday January 7th at 10 a.m. If an OCD representative is not onsite Please sample per 19.15.29 NMAC. If the date/time of the sample event changes please contact OCD asap so we may adjust our schedules.

Thank you,

Cory Smith • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1000 Rio Brazos | Aztec, NM 87410
505.334.6178 x115 | Cory.Smith@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Tuesday, January 5, 2021 9:34 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Joyner, Ryan N <rjoyner@blm.gov>
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: [EXT] Confirmation Sampling - Federal H 1 - NRM2021354649

Please let this serve as notice for confirmation sampling at the Federal H 1 (API 30-045-09030) at 10 a.m. on Thursday January 7th. The sampling we did last month had 2 samples that were over clean-up standards so we will be removing more dirt and resample those areas. Let me know if you have any questions or concerns.

Thank you,
Clara

From: Clara Cardoza
Sent: Tuesday, December 15, 2020 7:47 AM
To: cory.smith@state.nm.us; Abiodun Adeloye <aadeloye@blm.gov>
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: Confirmation Sampling - Federal H 1 - NRM2021354649

Please let this serve as notice for confirmation sampling at the Federal H 1 (API 30-045-09030) at 9 a.m. on Wednesday December 16th. Let me know if you have any questions or concerns.

Thank you,

Clara M Cardoza
Environmental Specialist
505-564-0733 (O)

505-793-2784 (C)

Clara Cardoza

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Tuesday, January 12, 2021 8:22 AM
To: Clara Cardoza; Joyner, Ryan N
Cc: Kurt Hoekstra
Subject: [EXTERNAL] RE: Confirmation Sampling - Federal H 1 - NRM2021354649

Clara,

Thank you for the confirmation sampling notice at the Federal H 1 (API 30-045-09030) at 12 p.m. on Wednesday January 13, 2021. If an OCD representative is not onsite during the proposed time please sample per 19.15.29 NMAC. If the Date/Time changes please notify OCD as soon as possible so we may adjust our schedules. Failure to notify OCD of date/time changes could result in the samples not being accepted for closure.

Thanks,

Cory Smith • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1000 Rio Brazos | Aztec, NM 87410
505.334.6178 x115 | Cory.Smith@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Monday, January 11, 2021 12:06 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Joyner, Ryan N <rjoyner@blm.gov>
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: [EXT] RE: Confirmation Sampling - Federal H 1 - NRM2021354649

Please let this serve as notice for confirmation sampling at the Federal H 1 (API 30-045-09030) at 12 p.m. on Wednesday January 13th. The sampling we did last Thursday had 1 sample (west wall) that was over clean-up standards so we will try again removing more dirt and resampling. Let me know if you have any questions or concerns.

Thank you,
Clara

From: Clara Cardoza
Sent: Tuesday, January 5, 2021 9:34 AM
To: cory.smith@state.nm.us; Joyner, Ryan N <rjoyner@blm.gov>
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: Confirmation Sampling - Federal H 1 - NRM2021354649

Please let this serve as notice for confirmation sampling at the Federal H 1 (API 30-045-09030) at 10 a.m. on Thursday January 7th. The sampling we did last month had 2 samples that were over clean-up standards so we will be removing more dirt and resample those areas. Let me know if you have any questions or concerns.

Thank you,

Clara

From: Clara Cardoza
Sent: Tuesday, December 15, 2020 7:47 AM
To: cory.smith@state.nm.us; Abiodun Adeloye <aadeloye@blm.gov>
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: Confirmation Sampling - Federal H 1 - NRM2021354649

Please let this serve as notice for confirmation sampling at the Federal H 1 (API 30-045-09030) at 9 a.m. on Wednesday December 16th. Let me know if you have any questions or concerns.

Thank you,

Clara M Cardoza
Environmental Specialist
505-564-0733 (O)
505-793-2784 (C)

Clara Cardoza

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Monday, February 1, 2021 7:44 AM
To: Clara Cardoza; Joyner, Ryan N
Cc: Kurt Hoekstra
Subject: RE: [EXTERNAL] RE: Confirmation Sampling - Federal H 1 - NRM2021354649

Clara,

Thank you for the notification for confirmation sampling at the Federal H 1 for Tuesday, February 2nd at 11:00 a.m. If and OCD representative is not onsite during that time please sample per 19.15.29 NMAC. If the date or time changes please notify then OCD as soon as possible so we may adjust our schedule.

Cory Smith • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1000 Rio Brazos | Aztec, NM 87410
505.334.6178 x115 | Cory.Smith@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Friday, January 29, 2021 4:01 PM
To: Joyner, Ryan N <rjoyner@blm.gov>; Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: [EXT] RE: [EXTERNAL] RE: Confirmation Sampling - Federal H 1 - NRM2021354649

Good afternoon. Hilcorp would like to schedule confirmation sampling at the Federal H 1 for Tuesday, February 2nd at 11:00 a.m. Please let me know if you have any questions or concerns.

Thank you,
Clara

From: Joyner, Ryan N [mailto:rjoyner@blm.gov]
Sent: Tuesday, January 26, 2021 12:35 PM
To: Clara Cardoza <ccardoza@hilcorp.com>; cory.smith@state.nm.us
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Confirmation Sampling - Federal H 1 - NRM2021354649

Thanks for letting us know.

Ryan

From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Tuesday, January 26, 2021 12:27 PM
To: Joyner, Ryan N <rjoyner@blm.gov>; cory.smith@state.nm.us
Cc: Kurt Hoekstra <khoekstra@hilcorp.com>
Subject: RE: [EXTERNAL] RE: Confirmation Sampling - Federal H 1 - NRM2021354649

District I
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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

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 18490
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
csmith	None	7/1/2021