

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	

NMOC

FEB 14 2019

DISTRICT III

## Release Notification

### Responsible Party

NMOC

FEB 14 2019

DISTRICT III

Responsible Party: Hilcorp Energy Company	OGRID: 372171
Contact Name: Lindsay Dumas	Contact Telephone: 832-465-7304
Contact email: Ldumas@hilcorp.com	Incident # (assigned by OCD) NCS1803751908
Contact mailing address: 1111 Travis St. Houston, TX 77002	

### Location of Release Source

Latitude 36.6343231 Longitude -107.4690323  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: San Juan 28-6 #148N	Site Type: Gas
Date Release Discovered: 1/19/18 8:30AM	API# (if applicable) 30-039-29890

Unit Letter	Section	Township	Range	County
G	28	28N	06W	Rio Arriba

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

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 9bbls	Volume Recovered (bbls) 0 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

#### Cause of Release

The release was a result of corrosion on the bottom of the production tank. There was no standing product to recover.

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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 OCD 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: Lindsay Dumas Title: Environmental Specialist

Signature:  Date: 1/25/2019

email: Ldumas@hilcorp.com Telephone: 832-839-4585

**OCD Only**

Received by:  Date: 2/14/19

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

Closure Approved by:  Date: 2/22/19

Printed Name: Cory Title: Environmental Spec.



# Area of Impact of Release



On 1/19/18 HEC discovered a release had occurred on the San Juan 28-6 148N well pad. The release was approximately 9 bbls of produced water from the bottom of the production tank. The corroded tank sits on a liner and during discovery the soil around the tank was saturated. On 1/22/18 samples around the tank were taken approximately 1' bgs and pictures were taken of the sampling. All samples were submitted for BTEX, TPH and Chlorides. Results and pictures are attached. No further action required.



TABLE 1

SOIL ANALYTICAL RESULTS  
 SJ 28-6 148N  
 HIL CORP ENERGY - L48 WEST

Soil Sample Identification	Sample Date	Field Headspace (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
East	1/23/2018		0.025	0.05	0.05	0.1	0.23	0	0	0	0
North	1/23/2018		0	0	0	0	0.00	0.0	0	0	0
West	1/23/2018		0	0	0	0	0.00	0	0	0	0
South	1/23/2018		0	0	0	0	0.00	0	0	0	0
NMOCD Standards			10				50				1,000

## NOTES:

&lt; - indicates result is less than the stated laboratory reporting limit

**Bold** - indicates value exceeds stated NMOCD standard

BTEX - benzene, toluene, ethylbenzene, total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

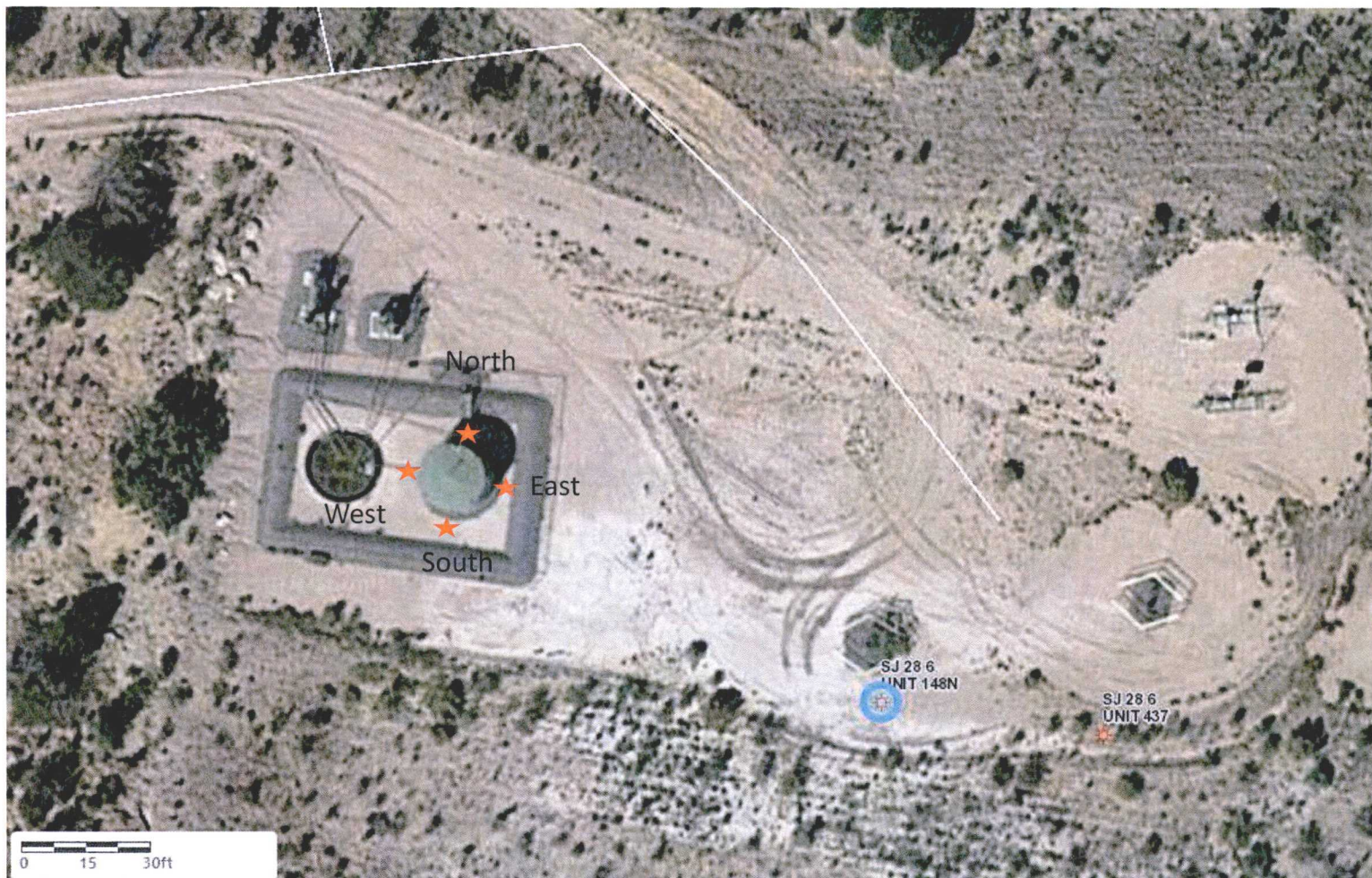
MRO - motor oil range organics

NE - Not Established

NMOCD - New Mexico Oil Conservation Division

ppm - parts per million

TPH - total petroleum hydrocarbons







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

February 05, 2018

Lindsay Dumas  
Hilcorp Energy  
PO Box 61529  
Houston, TX 77208-1529  
TEL: (337) 276-7676  
FAX

RE: San Juan 28 6 148N

OrderNo.: 1801C54

Dear Lindsay Dumas:

Hall Environmental Analysis Laboratory received 4 sample(s) on 1/26/2018 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](http://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 #NM0190

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1801C54

Date Reported: 2/5/2018

CLIENT: Hilcorp Energy

Client Sample ID: East

Project: San Juan 28 6 148N

Collection Date: 1/23/2018 10:45:00 AM

Lab ID: 1801C54-001

Matrix: SOIL

Received Date: 1/26/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/2/2018 7:48:21 PM	36330
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	1/30/2018 2:36:15 PM	36249
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	1/30/2018 2:36:15 PM	36249
Surr: DNOP	101	70-130		%Rec	1	1/30/2018 2:36:15 PM	36249
EPA METHOD 8015D: GASOLINE RANGE							Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	1/31/2018 1:46:03 PM	36238
Surr: BFB	101	15-316		%Rec	1	1/31/2018 1:46:03 PM	36238
EPA METHOD 8021B: VOLATILES							Analyst: RAA
Methyl tert-butyl ether (MTBE)	ND	0.10		mg/Kg	1	1/31/2018 1:46:03 PM	36238
Benzene	ND	0.025		mg/Kg	1	1/31/2018 1:46:03 PM	36238
Toluene	ND	0.050		mg/Kg	1	1/31/2018 1:46:03 PM	36238
Ethylbenzene	ND	0.050		mg/Kg	1	1/31/2018 1:46:03 PM	36238
Xylenes, Total	ND	0.10		mg/Kg	1	1/31/2018 1:46:03 PM	36238
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	1/31/2018 1:46:03 PM	36238

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 Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified



**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **1801C54**Date Reported: **2/5/2018****CLIENT:** Hilcorp Energy**Client Sample ID:** North**Project:** San Juan 28 6 148N**Collection Date:** 1/23/2018 10:30:00 AM**Lab ID:** 1801C54-002**Matrix:** SOIL**Received Date:** 1/26/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	2/2/2018 8:00:45 PM	36330
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	1/30/2018 2:58:13 PM	36249
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	1/30/2018 2:58:13 PM	36249
Surr: DNOP	108	70-130		%Rec	1	1/30/2018 2:58:13 PM	36249
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/31/2018 2:09:19 PM	36238
Surr: BFB	101	15-316		%Rec	1	1/31/2018 2:09:19 PM	36238
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	1/31/2018 2:09:19 PM	36238
Benzene	ND	0.024		mg/Kg	1	1/31/2018 2:09:19 PM	36238
Toluene	ND	0.049		mg/Kg	1	1/31/2018 2:09:19 PM	36238
Ethylbenzene	ND	0.049		mg/Kg	1	1/31/2018 2:09:19 PM	36238
Xylenes, Total	ND	0.098		mg/Kg	1	1/31/2018 2:09:19 PM	36238
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	1/31/2018 2:09:19 PM	36238

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **1801C54**Date Reported: **2/5/2018****CLIENT:** Hilcorp Energy**Client Sample ID:** West**Project:** San Juan 28 6 148N**Collection Date:** 1/23/2018 11:00:00 AM**Lab ID:** 1801C54-003**Matrix:** SOIL**Received Date:** 1/26/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	ND	30		mg/Kg	20	2/2/2018 8:13:09 PM	36330
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	1/30/2018 3:20:22 PM	36249
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	1/30/2018 3:20:22 PM	36249
Surr: DNOP	104	70-130		%Rec	1	1/30/2018 3:20:22 PM	36249
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	1/31/2018 2:32:32 PM	36238
Surr: BFB	102	15-316		%Rec	1	1/31/2018 2:32:32 PM	36238
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>
Methyl tert-butyl ether (MTBE)	ND	0.098		mg/Kg	1	1/31/2018 2:32:32 PM	36238
Benzene	ND	0.025		mg/Kg	1	1/31/2018 2:32:32 PM	36238
Toluene	ND	0.049		mg/Kg	1	1/31/2018 2:32:32 PM	36238
Ethylbenzene	ND	0.049		mg/Kg	1	1/31/2018 2:32:32 PM	36238
Xylenes, Total	ND	0.098		mg/Kg	1	1/31/2018 2:32:32 PM	36238
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	1/31/2018 2:32:32 PM	36238

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

<b>Qualifiers:</b>	*	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 Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1801C54

Date Reported: 2/5/2018

CLIENT: Hilcorp Energy

Client Sample ID: South

Project: San Juan 28 6 148N

Collection Date: 1/23/2018 11:10:00 AM

Lab ID: 1801C54-004

Matrix: SOIL

Received Date: 1/26/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: MRA
Chloride	ND	30		mg/Kg	20	2/2/2018 8:25:34 PM	36330
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	1/30/2018 3:42:25 PM	36249
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	1/30/2018 3:42:25 PM	36249
Surr: DNOP	108	70-130		%Rec	1	1/30/2018 3:42:25 PM	36249
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	1/31/2018 2:55:52 PM	36238
Surr: BFB	99.0	15-316		%Rec	1	1/31/2018 2:55:52 PM	36238
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: RAA
Methyl tert-butyl ether (MTBE)	ND	0.097		mg/Kg	1	1/31/2018 2:55:52 PM	36238
Benzene	ND	0.024		mg/Kg	1	1/31/2018 2:55:52 PM	36238
Toluene	ND	0.048		mg/Kg	1	1/31/2018 2:55:52 PM	36238
Ethylbenzene	ND	0.048		mg/Kg	1	1/31/2018 2:55:52 PM	36238
Xylenes, Total	ND	0.097		mg/Kg	1	1/31/2018 2:55:52 PM	36238
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	1/31/2018 2:55:52 PM	36238

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 Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1801C54

05-Feb-18

Client: Hilcorp Energy

Project: San Juan 28 6 148N

Sample ID	MB-36330	SampType:	mbk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	36330	RunNo:	48884					
Prep Date:	2/2/2018	Analysis Date:	2/2/2018	SeqNo:	1573131	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-36330	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	36330	RunNo:	48884					
Prep Date:	2/2/2018	Analysis Date:	2/2/2018	SeqNo:	1573132	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.8	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 Quantitative 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 Detection Limit  
W Sample container temperature is out of limit as specified



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1801C54

05-Feb-18

Client: Hilcorp Energy  
Project: San Juan 28 6 148N

Sample ID	LCS-36249		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 36249		RunNo: 48775					
Prep Date:	1/29/2018		Analysis Date: 1/30/2018		SeqNo: 1569177		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.9	70	130			
Surr: DNOP	4.5		5.000		90.5	70	130			

Sample ID	MB-36249	SampType:	MBLK			TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	36249			RunNo:	48775				
Prep Date:	1/29/2018	Analysis Date:	1/30/2018			SeqNo:	1569178		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	9.8		10.00		97.6	70	130				

Sample ID	LCS-36275		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 36275		RunNo: 48777					
Prep Date:	1/30/2018		Analysis Date: 1/31/2018		SeqNo: 1570270		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		90.8	70	130			

Sample ID	MB-36275	SampType:	MBLK			TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	36275			RunNo:	48777				
Prep Date:	1/30/2018	Analysis Date:	1/31/2018			SeqNo:	1570272	Units:	%Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	8.9		10.00		88.6	70	130				

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of 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 Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1801C54

05-Feb-18

Client: Hilcorp Energy  
Project: San Juan 28 6 148N

Sample ID	LCS-36238		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 36238		RunNo: 48820					
Prep Date:	1/29/2018		Analysis Date: 1/31/2018		SeqNo: 1570842		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	75.9	131			
Surr: BFB	1100		1000		115	15	316			

Sample ID	LCS-36252		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 36252		RunNo: 48820					
Prep Date:	1/30/2018		Analysis Date: 1/31/2018		SeqNo: 1570843		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		108	15	316			

Sample ID	MB-36238		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID:	36238		RunNo:	48820				
Prep Date:	1/29/2018		Analysis Date:	1/31/2018		SeqNo:	1570844		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	1000		1000		101	15	316				

Sample ID	MB-36252	SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS	Batch ID:	36252		RunNo:	48820				
Prep Date:	1/30/2018	Analysis Date:	1/31/2018		SeqNo:	1570845	Units:	%Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	940		1000		94.4	15	316			

### 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 Quantitative Limit                        | RL Reporting Detection Limit                                |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1801C54

05-Feb-18

Client: Hilcorp Energy  
Project: San Juan 28 6 148N

Sample ID	LCS-36238		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 36238		RunNo: 48820					
Prep Date:	1/29/2018		Analysis Date: 1/31/2018		SeqNo: 1570883		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	0.98	0.10	1.000	0	97.7	70.1	121			
Benzene	1.0	0.025	1.000	0	104	77.3	128			
Toluene	1.0	0.050	1.000	0	104	79.2	125			
Ethylbenzene	1.0	0.050	1.000	0	102	80.7	127			
Xylenes, Total	3.1	0.10	3.000	0	105	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID	LCS-36252		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 36252		RunNo: 48820					
Prep Date:	1/30/2018		Analysis Date: 1/31/2018		SeqNo: 1570884		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		99.8	80	120			

Sample ID	MB-36238	SampType:		MBLK		TestCode: EPA Method 8021B: Volatiles				
Client ID:	PBS	Batch ID:		36238		RunNo: 48820				
Prep Date:	1/29/2018	Analysis Date:		1/31/2018		SeqNo: 1570885		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	MB-36252	SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS	Batch ID:	36252		RunNo:	48820				
Prep Date:	1/30/2018	Analysis Date:	1/31/2018		SeqNo:	1570886		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.98		1.000		98.2	80	120			

### 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 Quantitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified





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

## Sample Log-In Check List

Client Name: HILCORP ENERGY

Work Order Number: 1801C54

RcptNo: 1

Received By: Erin Melendrez

1/26/2018 8:00:00 AM

*EM*

Completed By: Dennis Suazo

1/26/2018 8:48:13 AM

*DS*

Reviewed By: ENM

1/26/18

### Chain of Custody

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

### Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
4. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒  
10. Were any sample containers received broken? Yes ☐ No ☒  
# of preserved bottles checked for pH: \_\_\_\_\_  
11. Does paperwork match bottle labels? Yes ☒ No ☐ ( $<2$  or  $>12$  unless noted)  
(Note discrepancies on chain of custody)  
12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted? \_\_\_\_\_  
13. Is it clear what analyses were requested? Yes ☒ No ☐  
14. Were all holding times able to be met? Yes ☒ No ☐ Checked by: \_\_\_\_\_  
(If no, notify customer for authorization.)

### Special Handling (if applicable)

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

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Not Present			

Chain-of-Custody Record		Turn-Around Time:
Client: <u>Lindsay Dumas</u> <u>Hickory</u>	<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush	
Mailing Address: <u>1111 Travis St.</u> <u>Houston, TX 77002</u>	Project Name: <u>San Juan 28-b #148N</u>	
Phone #: <u>281-794-9159</u>	Project #:	
email or Fax#:	Project Manager: <u>Lindsay Dumas</u>	
QA/QC Package:		
<input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		
Accreditation:	Sampler: <u>Clayton Hamilton</u>	
<input type="checkbox"/> NELAP <input type="checkbox"/> Other _____	On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> EDD (Type)	Sample Temperature: <u>3.1 - 0.7 (C.F.) = 2.4</u>	

☒ Standard ☐ Rush

Project Name:

San Juan 28-6 #148N

Project #:

Project Manager:

Lindsay Dumas

Sampler: Clayton Hamilton

On Ice: ☒ Yes ☐ No

Sample Temperature:  $3.1 - 0.7 (C.F.) = 2.4$



[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

[illegible]

Date: 1/25/18	Time: 1558	Relinquished by: Rinday Dumas	Received by: Christal Weller	Date: 1/25/18	Time: 1558
Date: 1/25/18	Time: 1847	Relinquished by: Christal Weller	Received by: [Signature] courier	Date: 1/26/18	Time: 0808

Remarks:	Standard turnaround
----------	---------------------

If necessary, samples submitted to Hal 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.











