

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

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

Form C-141  
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company <b>Burlington Resources, a Wholly Owned Subsidiary of ConocoPhillips Company</b>	Contact Clara Cardoza	
Address 9a CR 5793	Telephone No. 505-326-9710	
Facility Name San Juan 27-5 Unit 3	Facility Type Well	
Surface Owner Federal Private	Mineral Owner Federal	API No. 30-039-07038

LOCATION OF RELEASE

Unit Letter M	Section 17	Township 27N	Range 05W	Feet from the 990	North/South Line South	Feet from the 990	East/West Line West	County Rio Arriba
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Latitude 36.56909 Longitude -107.3873 NAD83

NATURE OF RELEASE

Type of Release Hydrocarbon/Produced Water	Volume of Release 38 bbl	Volume Recovered none
Source of Release Tank	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 7/28/2017 @ 10:45
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Cory Smith & Vanessa Fields	
By Whom? Lisa Hunter	Date and Hour 7/28/2017 @ 12:53 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

Upon arriving at the site the field operator noticed condensate in the berm coming from the bottom of the tank which appears to be the result of corrosion. A truck was called to remove the oil from the tank in order to repair the tank.

Describe Area Affected and Cleanup Action Taken.\*

Based on final field sampling and laboratory analytical results the excavation of petroleum contaminated soils at the San Juan 27-5 Unit 3, benzene, total BTEX, and TPH concentrations were below the applicable NMOCD action levels for the final sidewalls and base of excavation. No further remediation is required.

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

Signature: <i>Lindsay Dumas</i>	OIL CONSERVATION DIVISION	
Printed Name: Lindsay Dumas	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Environmental Specialist	Approval Date: <u>2/26/18</u>	Expiration Date:
E-mail Address: ldumas@hilcorp.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 11/08/2017	Phone: 281-794-9159	

\* Attach Additional Sheets If Necessary

#NMF 1722936962

OIL CONS. DIV DIST. 3

NOV 13 2017

36



October 13, 2017

Lindsay Dumas  
Hilcorp Energy Company  
[ldumas@hilcorp.com](mailto:ldumas@hilcorp.com)  
(832) 839-4585

**RE: Final Excavation Report  
San Juan 27-5 Unit 3  
Rio Arriba County, New Mexico**

Dear Ms. Dumas:

On October 3 and 9, 2017, Animas Environmental Services, LLC (AES) completed an environmental clearance of the final excavation limits at the Hilcorp Energy Company (Hilcorp) San Juan 27-5 Unit 3, located in Rio Arriba County, New Mexico. The release consisted of 38 bbls of condensate from the production tank at the location. The final excavation was completed by Hilcorp contractors prior to AES' arrival on location on October 9, 2017.

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## 1.0 Site Information

### 1.1 Location

Site Name – San Juan 27-5 Unit 3

Legal Description – SW¼ SW¼, Section 17, T27N, R5W, Rio Arriba County, New Mexico

Well Latitude/Longitude – N36.56971 and W107.38779, respectively

Release Latitude/Longitude – N36.56974 and W107.38749, respectively

Land Jurisdiction – Private

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map, October 2017

### 1.2 NMOCD Ranking

In accordance with New Mexico Oil Conservation Division (NMOCD) release protocols, action levels were established per NMOCD *Guidelines for Remediation of Leaks, Spills, and Releases* (August 1993) prior to site work. The release was given a ranking score of 20 based on the following factors:

604 W. Piñon St.  
Farmington, NM 87401  
505-564-2281

1911 Main, Ste 206  
Durango, CO 81301  
970-403-3084

- **Depth to Groundwater:** A cathodic protection report form dated May 1991 reported the depth to groundwater at 80 feet below ground surface (bgs). (10 points)
- **Wellhead Protection Area:** The release location is not within a wellhead protection area. (0 points)
- **Distance to Surface Water Body:** An unnamed wash which discharges to Carrizo Canyon Wash is located approximately 430 feet southeast of the location. (10 points)

### 1.3 Assessment

AES was initially contacted by Lindsay Dumas of Hilcorp on September 18, 2017, and on October 3 and 9, 2017, Corwin Lameman of AES completed the excavation field work. The field sampling activities included collection of five confirmation soil samples (SC-1 through SC-5) from the walls and base of the excavation. The area of the final excavation measured approximately 36 feet by 39 feet by 17 to 19 feet in depth. Sample locations and final excavation extents are presented on Figure 3.

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## 2.0 Soil Sampling

### 2.1 Field Sampling

#### 2.1.1 Volatile Organic Compounds

Field screening for volatile organic compound (VOC) vapors was conducted with a photo-ionization detector (PID) organic vapor meter (OVM). Before beginning field screening, the PID-OVM was first calibrated with 100 parts per million (ppm) isobutylene gas.

#### 2.1.2 Total Petroleum Hydrocarbons

Soil samples were also analyzed in the field for total petroleum hydrocarbons (TPH) per U.S. Environmental Protection Agency (USEPA) Method 418.1 using a Buck Scientific Model HC-404 Total Hydrocarbon Analyzer Infrared Spectrometer (Buck). A 3-point calibration was completed prior to conducting soil analyses. Field analytical protocol followed AES' *Standard Operating Procedure: Field Analysis Total Petroleum Hydrocarbons per EPA Method 418.1*.

### 2.2 Laboratory Analyses

The soil samples collected for laboratory analysis were placed into new, clean, laboratory-supplied containers, which were then labeled, placed on ice, and logged onto sample chain of custody records. Samples were maintained on ice until delivery to the analytical laboratory, Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico. All soil samples were laboratory analyzed for:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per USEPA Method 8021B; and

- TPH for gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO) per USEPA Method 8015D.

### 2.3 Field and Laboratory Analytical Results

Field sampling results and laboratory analytical results are summarized in Tables 1 and 2, respectively, and on Figure 3. The AES Field Sampling Reports and laboratory analytical reports are attached.

Table 1. Soil Field VOCs and TPH Results  
San Juan 27-5 Unit 3 Final Excavation  
October 2017

<b>Sample ID</b>	<b>Date Sampled</b>	<b>Sample Depth (ft)</b>	<b>VOCs OVM Reading (ppm)</b>	<b>Field TPH (418.1) (mg/kg)</b>
<b>NMOCD Action Level*</b>			<b>100</b>	<b>100</b>
SC-1	10/3/17	2 to 17	0.0	38.5
SC-2	10/3/17	2 to 15	0.0	44.0
SC-3	10/3/17	2 to 15	0.0	45.3
SC-4	10/9/17	4 to 15	0.0	27.6
SC-5	10/3/17	17 to 19	1,198	146

\*Action level determined by NMAC 19.15.17.13 Table 1

Table 2. Soil Laboratory Analytical Results – Benzene, Total BTEX, and TPH  
San Juan 27-5 Unit 3 Final Excavation  
October 2017

<b>Sample ID</b>	<b>Date Sampled</b>	<b>Sample Depth (ft bgs)</b>	<b>Benzene (mg/kg)</b>	<b>Total BTEX (mg/kg)</b>	<b>TPH-GRO (mg/kg)</b>	<b>TPH-DRO (mg/kg)</b>	<b>TPH-MRO (mg/kg)</b>
<b>NMOCD Action Level*</b>			<b>10</b>	<b>50</b>	<b>100</b>		
SC-1	10/3/17	2 to 17	<0.017	<0.149	<3.3	<9.5	<48
SC-2	10/3/17	2 to 15	<0.023	<0.207	<4.6	<9.4	<47
SC-3	10/3/17	2 to 15	<0.024	<0.216	<4.8	<9.7	<48
SC-4	10/9/17	4 to 17	<0.014	<0.130	<2.9	<9.4	<47
SC-5	10/3/17	17 to 19	<0.074	0.83	24	<10	<50

\*Action level determined by NMAC 19.15.17.13 Table 1

### 3.0 Conclusions and Recommendations

On October 3 and 9, 2017, final clearance of the excavation area at the San Juan 27-5 Unit 3 was completed. Field sampling results of the excavation extents showed field TPH concentrations were below the applicable NMOCD action level of 100 mg/kg for all samples except SC-5 (base). However, laboratory analytical results reported benzene, total BTEX, and TPH concentrations (as GRO/DRO/MRO) in all samples as below NMOCD action levels.

Based on the final field sampling and laboratory analytical results of the excavation of petroleum contaminated soils at the San Juan 27-5 Unit 3, benzene, total BTEX, and TPH concentrations were below the applicable NMOCD action levels for the final sidewalls and base of the excavation. No further work is recommended.

If you have any questions about this report or site conditions, please do not hesitate to contact Elizabeth McNally at (505) 564-2281.

Sincerely,



David J. Reese  
Environmental Scientist

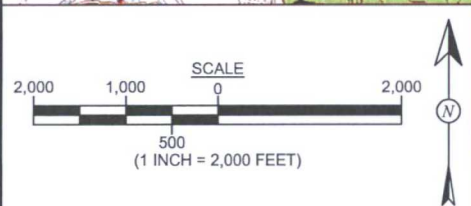


Elizabeth McNally, PE

#### Attachments:

- Figure 1. Topographic Site Location Map
- Figure 2. Aerial Site Map, October 2017
- Figure 3. Final Excavation Area Sample Locations and Results, October 2017
- AES Field Sampling Report 100317
- AES Field Sampling Report 100917
- Hall Laboratory Analytical Report 1710167
- Hall Laboratory Analytical Report 1710295
- Hall Laboratory Analytical Report 1710491





**DATE APPROVED:**  
October 16, 2017

**TOPOGRAPHIC SITE LOCATION MAP**  
HILCORP ENERGY  
SAN JUAN 27-5 UNIT 3  
SW¼ SW¼, SECTION 17, T27N, R5W  
RIO ARriba COUNTY, NEW MEXICO  
N36.56971, W107.38779





**animas  
environmental  
services**

Farmington, NM • Durango, CO  
animasenvironmental.com

**DRAWN BY:**

C. Lameman

**DATE DRAWN:**

September 19, 2017

**REVISIONS BY:**

C. Lameman

**DATE REVISED:**

October 16, 2017

**CHECKED BY:**

E. McNally

**DATE CHECKED:**

October 16, 2017

**APPROVED BY:**

E. McNally

**DATE APPROVED:**

October 16, 2017

**FIGURE 2**

**OCTOBER 2017  
AERIAL SITE MAP**

HILCORP ENERGY  
SAN JUAN 27-5 UNIT 3  
SW $\frac{1}{4}$  SW $\frac{1}{4}$ , SECTION 17, T27N, R5W  
RIO ARriba COUNTY, NEW MEXICO  
N36.56971, W107.38779



FIGURE 3

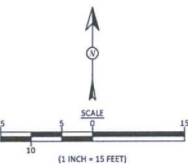
FINAL EXCAVATION AREA  
SAMPLE LOCATIONS AND RESULTS  
OCTOBER 2017  
HILCORP ENERGY  
SAN JUAN 27-S UNIT 3  
SW¼, SW¼, SECTION 17, T27N, R5W  
RIO ARriba COUNTY, NEW MEXICO  
N36.56971, W107.38779



DRAWN BY: C. Lameman	DATE DRAWN: October 11, 2017
REVISIONS BY: C. Lameman	DATE REVISED: October 16, 2017
CHECKED BY: D. Reese	DATE CHECKED: October 16, 2017
APPROVED BY: E. McNally	DATE APPROVED: October 16, 2017

LEGEND

- SAMPLE LOCATIONS
- ===== SECONDARY CONTAINMENT BERM
- x — FENCE



Field Sampling Results				
Sample ID	Date	Depth (ft)	PIG - OVI/M (ppm)	TPH (mg/kg)
NMOCD ACTION LEVEL			100	100
SC-1	10/3/17	2 to 17	0.0	38.5
SC-2	10/3/17	2 to 15	0.0	44.0
SC-3	10/3/17	2 to 15	0.0	45.3
SC-4	10/9/17	4 to 17	0.0	27.6
SC-5	10/3/17	17 to 19	1,198	146

ALL SAMPLES WERE SOIL COMPOSITE SAMPLES.

Laboratory Analytical Results						
Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)
NMOCD ACTION LEVEL			10	50	100	
SC-1	10/3/17	2 to 17	<0.017	<0.149	<3.3	<9.5
SC-2	10/3/17	2 to 15	<0.023	<0.207	<4.6	<9.4
SC-3	10/3/17	2 to 15	<0.024	<0.216	<4.8	<9.7
SC-4	10/9/17	4 to 15	<0.014	<0.130	<2.9	<9.4
SC-5	10/3/17	17 to 19	<0.074	0.83	24	<10

ALL SAMPLES WERE ANALYZED PER USEPA METHOD 8021B AND 8015D.





# AES Field Sampling Report

Animas Environmental Services, LLC



Client: Hilcorp Energy Company

Project Location: San Juan 27-5 Unit 3

Date: 10/3/2017

Matrix: Soil

Sample ID	Collection Date	Collection Time	Sample Location	OVM (ppm)	Field TPH* (mg/kg)	Field TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SC-1	10/3/2017	11:45	North Wall	0.0	38.5	12:22	20.0	1	CL
SC-2	10/3/2017	11:50	South Wall	0.0	44.0	12:25	20.0	1	CL
SC-3	10/3/2017	11:33	East Wall	0.0	45.3	12:29	20.0	1	CL
SC-5	10/3/2017	11:29	Base	1,198	146	12:35	20.0	1	CL

DF Dilution Factor

NA Not Analyzed

PQL Practical Quantitation Limit

\*TPH concentrations recorded may be below PQL.

Total Petroleum Hydrocarbons - USEPA 418.1

Analyst:

# AES Field Sampling Report

Animas Environmental Services, LLC



Client: Hilcorp Energy Company

Project Location: San Juan 27-5 Unit 3

Date: 10/9/2017

Matrix: Soil

Sample ID	Collection Date	Collection Time	Sample Location	OVN (ppm)	Field TPH* (mg/kg)	Field TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SC-4	10/9/2017	10:43	West Wall	0.0	27.6	10:56	20.0	1	CL

DF Dilution Factor

NA Not Analyzed

PQL Practical Quantitation Limit

\*TPH concentrations recorded may be below PQL.

Total Petroleum Hydrocarbons - USEPA 418.1

Analyst:

*Cari*





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)

October 05, 2017

Corwin Lameman  
Animas Environmental Services  
604 Pinon Street  
Farmington, NM 87401  
TEL: (505) 564-2281  
FAX (505) 324-2022

RE: Hilcorp San Juan 27-5 Unit 3

OrderNo.: 1710167

Dear Corwin Lameman:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/4/2017 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 dark ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1710167

Date Reported: 10/5/2017

**CLIENT:** Animas Environmental Services

**Client Sample ID:** SC-4

**Project:** Hilcorp San Juan 27-5 Unit 3

**Collection Date:** 10/3/2017 11:58:00 AM

**Lab ID:** 1710167-001

**Matrix:** SOIL

**Received Date:** 10/4/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	130	9.8		mg/Kg	1	10/4/2017 11:04:41 AM	34229
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/4/2017 11:04:41 AM	34229
Surr: DNOP	105	70-130		%Rec	1	10/4/2017 11:04:41 AM	34229
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	81	3.2		mg/Kg	1	10/4/2017 10:11:05 AM	34210
Surr: BFB	353	54-150	S	%Rec	1	10/4/2017 10:11:05 AM	34210
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.11	0.016		mg/Kg	1	10/4/2017 10:11:05 AM	34210
Toluene	2.0	0.032		mg/Kg	1	10/4/2017 10:11:05 AM	34210
Ethylbenzene	0.39	0.032		mg/Kg	1	10/4/2017 10:11:05 AM	34210
Xylenes, Total	4.5	0.064		mg/Kg	1	10/4/2017 10:11:05 AM	34210
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	10/4/2017 10:11:05 AM	34210

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 1710167

Date Reported: 10/5/2017

**CLIENT:** Animas Environmental Services**Client Sample ID:** SC-5**Project:** Hilcorp San Juan 27-5 Unit 3**Collection Date:** 10/3/2017 11:29:00 AM**Lab ID:** 1710167-002**Matrix:** SOIL**Received Date:** 10/4/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/4/2017 11:26:43 AM	34229
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/4/2017 11:26:43 AM	34229
Surr: DNOP	103	70-130		%Rec	1	10/4/2017 11:26:43 AM	34229
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	24	15		mg/Kg	5	10/4/2017 9:47:43 AM	34210
Surr: BFB	137	54-150		%Rec	5	10/4/2017 9:47:43 AM	34210
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.074		mg/Kg	5	10/4/2017 9:47:43 AM	34210
Toluene	ND	0.15		mg/Kg	5	10/4/2017 9:47:43 AM	34210
Ethylbenzene	ND	0.15		mg/Kg	5	10/4/2017 9:47:43 AM	34210
Xylenes, Total	0.83	0.30		mg/Kg	5	10/4/2017 9:47:43 AM	34210
Surr: 4-Bromofluorobenzene	99.7	66.6-132		%Rec	5	10/4/2017 9:47:43 AM	34210

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710167

05-Oct-17

Client: Animas Environmental Services

Project: Hilcorp San Juan 27-5 Unit 3

Sample ID	LCS-34229		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 34229		RunNo: 46080					
Prep Date:	10/4/2017		Analysis Date: 10/4/2017		SeqNo: 1465760		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.8	73.2	114			
Surr: DNOP	4.7		5.000		93.9	70	130			

Sample ID	MB-34229	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	34229		RunNo:	46080				
Prep Date:	10/4/2017	Analysis Date:	10/4/2017		SeqNo:	1465761		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	9.9		10.00		98.7	70	130			

Sample ID	1710167-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-4		Batch ID: 34229		RunNo: 46080					
Prep Date:	10/4/2017		Analysis Date: 10/4/2017		SeqNo: 1465997		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	180	9.5	47.35	125.2	119	55.8	122			
Surr: DNOP	4.8		4.735		102	70	130			

Sample ID	1710167-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	SC-4		Batch ID:	34229		RunNo:	46080				
Prep Date:	10/4/2017		Analysis Date:	10/4/2017		SeqNo:	1465998		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	150	9.8	48.97	125.2	53.7	55.8	122	18.0	20	S	
Surr: DNOP	5.0		4.897		102	70	130	0	0		

## Qualifiers:

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E 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#: 1710167

05-Oct-17

Client: Animas Environmental Services

Project: Hilcorp San Juan 27-5 Unit 3

Sample ID	MB-34210	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	34210	RunNo:	46084					
Prep Date:	10/3/2017	Analysis Date:	10/4/2017	SeqNo:	1466652	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	880		1000		87.6	54	150			

Sample ID	LCS-34210	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	34210	RunNo:	46084					
Prep Date:	10/3/2017	Analysis Date:	10/4/2017	SeqNo:	1466653	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	5.0	25.00	0	124	76.4	125			
Surr: BFB	1000		1000		101	54	150			

Sample ID	MB-34201	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	34201	RunNo:	46084					
Prep Date:	10/3/2017	Analysis Date:	10/4/2017	SeqNo:	1466658	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	890		1000		88.7	54	150			

Sample ID	LCS-34201	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	34201	RunNo:	46084					
Prep Date:	10/3/2017	Analysis Date:	10/4/2017	SeqNo:	1466659	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	990		1000		99.4	54	150			

## 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#: 1710167

05-Oct-17

Client: Animas Environmental Services

Project: Hilcorp San Juan 27-5 Unit 3

Sample ID	MB-34210	SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS	Batch ID:	34210		RunNo:	46084				
Prep Date:	10/3/2017	Analysis Date:	10/4/2017		SeqNo:	1466686	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.8	66.6	132			

Sample ID	LCS-34210		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 34210		RunNo: 46084					
Prep Date:	10/3/2017		Analysis Date: 10/4/2017		SeqNo: 1466687		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	108	80	120			
Toluene	1.1	0.050	1.000	0	107	80	120			
Ethylbenzene	1.1	0.050	1.000	0	110	80	120			
Xylenes, Total	3.3	0.10	3.000	0	111	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	66.6	132			

Sample ID	MB-34201	SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS	Batch ID:	34201		RunNo:	46084				
Prep Date:	10/3/2017	Analysis Date:	10/4/2017		SeqNo:	1466753	Units:	%Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.95		1.000		95.5	66.6	132			

Sample ID	LCS-34201	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	34201	RunNo:	46084					
Prep Date:	10/3/2017	Analysis Date:	10/4/2017	SeqNo:	1466754	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.99		1.000		98.9	66.6	132			

## 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: Animas Environmental

Work Order Number: 1710187

RcptNo: 1

Received By: Sophia Campuzano 10/4/2017 7:30:00 AM

Completed By: Erin Melendrez 10/4/2017 8:12:22 AM

Reviewed By: *[Signature]* 10/4/17

*[Signature]*

*[Signature]*

### Chain of Custody

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

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. 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: \_\_\_\_\_

### Special Handling (if applicable)

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

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

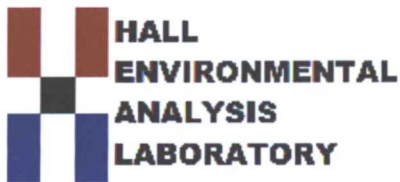
17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Not Present			







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)

October 10, 2017

Elizabeth McNally  
Animas Environmental Services  
604 Pinon Street  
Farmington, NM 87401  
TEL: (505) 564-2281  
FAX (505) 324-2022

RE: Hilcorp San Juan 27 5 Unit 3

OrderNo.: 1710295

Dear Elizabeth McNally:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/4/2017 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 1710295

Date Reported: 10/10/2017

**CLIENT:** Animas Environmental Services**Client Sample ID:** SC-1**Project:** Hilcorp San Juan 27 5 Unit 3**Collection Date:** 10/3/2017 11:45:00 AM**Lab ID:** 1710295-001**Matrix:** MEOH (SOIL)**Received Date:** 10/4/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/9/2017 1:12:19 PM	34276
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/9/2017 1:12:19 PM	34276
Surr: DNOP	90.7	70-130		%Rec	1	10/9/2017 1:12:19 PM	34276
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	10/9/2017 1:09:15 PM	G46204
Surr: BFB	86.8	54-150		%Rec	1	10/9/2017 1:09:15 PM	G46204
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.017		mg/Kg	1	10/9/2017 1:09:15 PM	B46204
Toluene	ND	0.033		mg/Kg	1	10/9/2017 1:09:15 PM	B46204
Ethylbenzene	ND	0.033		mg/Kg	1	10/9/2017 1:09:15 PM	B46204
Xylenes, Total	ND	0.066		mg/Kg	1	10/9/2017 1:09:15 PM	B46204
Surr: 4-Bromofluorobenzene	91.7	66.6-132		%Rec	1	10/9/2017 1:09:15 PM	B46204

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 1710295

Date Reported: 10/10/2017

CLIENT: Animas Environmental Services

Client Sample ID: SC-2

Project: Hilcorp San Juan 27 5 Unit 3

Collection Date: 10/3/2017 11:50:00 AM

Lab ID: 1710295-002

Matrix: MEOH (SOIL)

Received Date: 10/4/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/9/2017 1:39:54 PM	34276
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/9/2017 1:39:54 PM	34276
Surr: DNOP	91.1	70-130		%Rec	1	10/9/2017 1:39:54 PM	34276
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/6/2017 4:22:30 PM	34265
Surr: BFB	88.4	54-150		%Rec	1	10/6/2017 4:22:30 PM	34265
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	10/6/2017 4:22:30 PM	34265
Toluene	ND	0.046		mg/Kg	1	10/6/2017 4:22:30 PM	34265
Ethylbenzene	ND	0.046		mg/Kg	1	10/6/2017 4:22:30 PM	34265
Xylenes, Total	ND	0.092		mg/Kg	1	10/6/2017 4:22:30 PM	34265
Surr: 4-Bromofluorobenzene	93.8	66.6-132		%Rec	1	10/6/2017 4:22:30 PM	34265

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 1710295

Date Reported: 10/10/2017

CLIENT: Animas Environmental Services

Client Sample ID: SC-3

Project: Hilcorp San Juan 27 5 Unit 3

Collection Date: 10/3/2017 11:33:00 AM

Lab ID: 1710295-003

Matrix: MEOH (SOIL)

Received Date: 10/4/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/9/2017 2:07:27 PM	34276
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/9/2017 2:07:27 PM	34276
Surr: DNOP	91.1	70-130		%Rec	1	10/9/2017 2:07:27 PM	34276
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/6/2017 5:33:15 PM	34265
Surr: BFB	88.0	54-150		%Rec	1	10/6/2017 5:33:15 PM	34265
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	10/6/2017 5:33:15 PM	34265
Toluene	ND	0.048		mg/Kg	1	10/6/2017 5:33:15 PM	34265
Ethylbenzene	ND	0.048		mg/Kg	1	10/6/2017 5:33:15 PM	34265
Xylenes, Total	ND	0.096		mg/Kg	1	10/6/2017 5:33:15 PM	34265
Surr: 4-Bromofluorobenzene	93.7	66.6-132		%Rec	1	10/6/2017 5:33:15 PM	34265

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#: 1710295

10-Oct-17

Client: Animas Environmental Services

Project: Hilcorp San Juan 27 5 Unit 3

Sample ID	LCS-34276		SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS		Batch ID:	34276		RunNo:	46197				
Prep Date:	10/6/2017		Analysis Date:	10/9/2017		SeqNo:	1471237		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	45	10	50.00	0	90.5	73.2	114				
Surr: DNOP	4.7		5.000		93.3	70	130				

Sample ID	MB-34276	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	34276		RunNo:	46197				
Prep Date:	10/6/2017	Analysis Date:	10/9/2017		SeqNo:	1471238	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	9.4		10.00		93.5	70	130			

Sample ID	MB-34277		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	34277		RunNo:	46198				
Prep Date:	10/6/2017		Analysis Date:	10/9/2017		SeqNo:	1471363		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	9.3		10.00		92.9	70	130				

Sample ID	LCS-34277		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 34277		RunNo: 46198					
Prep Date:	10/6/2017		Analysis Date: 10/9/2017		SeqNo: 1471655		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7		5.000		93.3	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 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#: 1710295

10-Oct-17

Client: Animas Environmental Services

Project: Hilcorp San Juan 27 5 Unit 3

Sample ID	MB-34265	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	34265	RunNo:	46173					
Prep Date:	10/5/2017	Analysis Date:	10/6/2017	SeqNo:	1470392	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	870		1000		87.0	54	150			

Sample ID	LCS-34265	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	34265	RunNo:	46173					
Prep Date:	10/5/2017	Analysis Date:	10/6/2017	SeqNo:	1470393	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	114	76.4	125			
Surr: BFB	990		1000		99.0	54	150			

Sample ID	1710295-003AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-3	Batch ID:	34265	RunNo:	46173					
Prep Date:	10/5/2017	Analysis Date:	10/6/2017	SeqNo:	1470396	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	4.7	23.30	0	129	77.8	128			S
Surr: BFB	930		932.0		100	54	150			

Sample ID	1710295-003AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-3	Batch ID:	34265	RunNo:	46173					
Prep Date:	10/5/2017	Analysis Date:	10/6/2017	SeqNo:	1470397	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.8	24.02	0	122	77.8	128	2.49	20	
Surr: BFB	960		960.6		100	54	150	0	0	

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G46204	RunNo:	46204					
Prep Date:		Analysis Date:	10/9/2017	SeqNo:	1471397	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	930		1000		93.3	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G46204	RunNo:	46204					
Prep Date:		Analysis Date:	10/9/2017	SeqNo:	1471398	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	930		1000		93.3	54	150			

## 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#: 1710295

10-Oct-17

Client: Animas Environmental Services

Project: Hilcorp San Juan 27 5 Unit 3

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G46204	RunNo:	46204					
Prep Date:		Analysis Date:	10/9/2017	SeqNo:	1471398	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	114	76.4	125			
Surr: BFB	1100		1000		107	54	150			

## 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#: 1710295

10-Oct-17

Client: Animas Environmental Services

Project: Hilcorp San Juan 27 5 Unit 3

Sample ID	MB-34265		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	34265		RunNo:	46173			
Prep Date:	10/5/2017		Analysis Date:	10/6/2017		SeqNo:	1470424		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.94		1.000		93.8	66.6	132			

Sample ID	LCS-34265		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	34265		RunNo:	46173			
Prep Date:	10/5/2017		Analysis Date:	10/6/2017		SeqNo:	1470425		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.1	80	120			
Toluene	0.98	0.050	1.000	0	97.6	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	66.6	132			

Sample ID	1710295-002AMS		SampType:	MS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	SC-2		Batch ID:	34265		RunNo:	46173			
Prep Date:	10/5/2017		Analysis Date:	10/6/2017		SeqNo:	1470427		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9970	0	105	80.9	132			
Toluene	1.1	0.050	0.9970	0.01005	105	79.8	136			
Ethylbenzene	1.1	0.050	0.9970	0	110	79.4	140			
Xylenes, Total	3.3	0.10	2.991	0	111	78.5	142			
Surr: 4-Bromofluorobenzene	0.96		0.9970		96.7	66.6	132			

Sample ID	1710295-002AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	SC-2		Batch ID:	34265		RunNo:	46173			
Prep Date:	10/5/2017		Analysis Date:	10/6/2017		SeqNo:	1470466		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9524	0	105	80.9	132	4.43	20	
Toluene	1.0	0.048	0.9524	0.01005	105	79.8	136	4.59	20	
Ethylbenzene	1.0	0.048	0.9524	0	109	79.4	140	5.44	20	
Xylenes, Total	3.2	0.095	2.857	0	111	78.5	142	4.30	20	
Surr: 4-Bromofluorobenzene	0.90		0.9524		94.7	66.6	132	0	0	

## 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#: 1710295

10-Oct-17

Client: Animas Environmental Services

Project: Hilcorp San Juan 27 5 Unit 3

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B46204	RunNo:	46204					
Prep Date:		Analysis Date:	10/9/2017	SeqNo:	1471413	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								
Sur: 4-Bromofluorobenzene	0.97		1.000		97.4	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B46204	RunNo:	46204					
Prep Date:		Analysis Date:	10/9/2017	SeqNo:	1471414	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	97.7	80	120			
Toluene	0.96	0.050	1.000	0	96.5	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.8	80	120			
Sur: 4-Bromofluorobenzene	1.0		1.000		103	66.6	132			

## 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: Animas Environmental

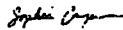
Work Order Number: 1710295

RcptNo: 1

Received By: Sophia Campuzano 10/4/2017 7:30:00 AM

Completed By: Erin Melendrez 10/5/2017 9:10:43 AM

Reviewed By:  10/5/17





### Chain of Custody

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

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. 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: \_\_\_\_\_

### Special Handling (if applicable)

16. 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: \_\_\_\_\_

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			





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)

October 11, 2017

Corwin Lameman  
Animas Environmental Services  
604 Pinon Street  
Farmington, NM 87401  
TEL: (505) 564-2281  
FAX (505) 324-2022

RE: Hilcorp San Juan 27-5 Unit 3

OrderNo.: 1710491

Dear Corwin Lameman:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/10/2017 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



**Analytical Report**

Lab Order 1710491

Date Reported: 10/11/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Animas Environmental Services**Client Sample ID:** SC-4**Project:** Hilcorp San Juan 27-5 Unit 3**Collection Date:** 10/9/2017 10:43:00 AM**Lab ID:** 1710491-001**Matrix:** SOIL**Received Date:** 10/10/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/10/2017 10:57:25 AM	34325
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/10/2017 10:57:25 AM	34325
Surr: DNOP	94.2	70-130		%Rec	1	10/10/2017 10:57:25 AM	34325
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	10/10/2017 9:18:04 AM	G46228
Surr: BFB	92.2	54-150		%Rec	1	10/10/2017 9:18:04 AM	G46228
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.014		mg/Kg	1	10/10/2017 9:18:04 AM	B46228
Toluene	ND	0.029		mg/Kg	1	10/10/2017 9:18:04 AM	B46228
Ethylbenzene	ND	0.029		mg/Kg	1	10/10/2017 9:18:04 AM	B46228
Xylenes, Total	ND	0.058		mg/Kg	1	10/10/2017 9:18:04 AM	B46228
Surr: 4-Bromofluorobenzene	99.2	66.6-132		%Rec	1	10/10/2017 9:18:04 AM	B46228

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1710491

11-Oct-17

Client: Animas Environmental Services

Project: Hilcorp San Juan 27-5 Unit 3

Sample ID	MB-34325	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	34325	RunNo:	46223					
Prep Date:	10/10/2017	Analysis Date:	10/10/2017	SeqNo:	1471772	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								
Sum: DNOP	9.1		10.00		91.3	70	130			

Sample ID	LCS-34325	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	34325	RunNo:	46223					
Prep Date:	10/10/2017	Analysis Date:	10/10/2017	SeqNo:	1472009	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.7	73.2	114			
Sum: DNOP	4.7		5.000		93.5	70	130			

Sample ID	1710491-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-4	Batch ID:	34325	RunNo:	46223					
Prep Date:	10/10/2017	Analysis Date:	10/10/2017	SeqNo:	1472268	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	9.9	49.36	0	106	55.8	122			
Sum: DNOP	4.9		4.936		99.9	70	130			

Sample ID	1710491-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-4	Batch ID:	34325	RunNo:	46223					
Prep Date:	10/10/2017	Analysis Date:	10/10/2017	SeqNo:	1472407	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.3	46.51	0	103	55.8	122	8.73	20	
Sum: DNOP	4.7		4.651		100	70	130	0	0	

## Qualifiers:

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E 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#: 1710491

11-Oct-17

Client: Animas Environmental Services

Project: Hilcorp San Juan 27-5 Unit 3

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472358	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	970		1000		96.6	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472359	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	76.4	125			
Surr: BFB	1000		1000		105	54	150			

Sample ID	1710491-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-4	Batch ID:	G46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472360	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	2.9	14.44	0	113	77.8	128			
Surr: BFB	610		577.4		106	54	150			

Sample ID	1710491-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-4	Batch ID:	G46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472361	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	2.9	14.44	0	113	77.8	128	0.603	20	
Surr: BFB	590		577.4		103	54	150	0	0	

## 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#: 1710491

11-Oct-17

Client: Animas Environmental Services

Project: Hilcorp San Juan 27-5 Unit 3

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472376	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	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472377	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.0	80	120			
Toluene	0.96	0.050	1.000	0	96.1	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.6	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.8	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	66.6	132			

## 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: Animas Environmental

Work Order Number: 1710491

RcptNo: 1

Received By: Anne Thorne

10/10/2017 7:10:00 AM

*Anne Thorne*

Completed By: Anne Thorne

10/10/2017 7:33:40 AM

*Anne Thorne*

Reviewed By: *JS*

10/10/17

### Chain of Custody

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

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐  
6. Sample(s) in proper container(s)? Yes ☒ No ☐  
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐  
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒  
11. Were any sample containers received broken? Yes ☐ No ☒  
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐  
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐  
14. Is it clear what analyses were requested? Yes ☒ No ☐  
15. 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: \_\_\_\_\_

### Special Handling (if applicable)

16. 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: \_\_\_\_\_

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Yes			



