# OIL CONS. DIV DIST. 3

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

JUL 08 2016

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office to accordance with 19.15.29 NMAC.

			Rele	ease Notific	catio	n and Co	rrective A	ction				
						OPERA'	FOR	D	Initia	al Report	$\boxtimes$	Final Report
Name of C	ompany Co	onocoPhillips	Compan	у		Contact Li	sa Hunter					
		Oth St, Farm				Telephone 1	No. (505) 258-	1607				
Facility Na	me: Hamr	ner 3E				Facility Typ	e: Gas Well					
Surface Ov	vner Fede	ral		Mineral (	wner	Federal			API No	. 3004524	800	
				LOCA	ATIO	N OF RE	LEASE					
Unit Letter M	Section 29	Township 29N	Range 09W	Feet from the 970	North	/South Line South	Feet from the 870	East/We		County San Juan		
						Longitud OF REL	e <u>-107. 80981</u> EASE					
Type of Rele Water)	ease Histo	oric Contami	nation (H	ydrocarbon/Pro		Volume of		nown \	Volume I	Recovered	660	cyds
	Source of Release Production Tank Was Immediate Notice Given?					Unknown	Iour of Occurren	The second secon	Date and March 2.	Hour of Dis 3, <b>2016</b>	covery	
Was Immediate Notice Given?  ☐ Yes ☐ No ☒ Not Require					equired	d If YES, To Whom? N/A						
By Whom?	N/A					Date and I						
Was a Wate	rcourse Read		Yes 🛛	No		If YES, V	olume Impacting	the Watero	course.			
If a Waterco	urse was Im	pacted, Descr	ibe Fully.	*								
Describe Ca Historic con				n Taken.* neath Productio	n Tank	during Plug	& Abandon act	ivities. Th	ird-part	environme	ntal as	ssessed and
Historical excavation	hydrocarl was 45' x	40' x 15' in	ed soil wa	ken.* as found benea nd 660 yds of s required. The	oil was	transporte	to IEI land f	arm. Ana	alytical			
regulations a public health should their or the environment	all operators h or the envir operations h onment. In a	are required to ronment. The lave failed to	o report and acceptant adequately OCD accep	e is true and comp nd/or file certain note of a C-141 report vinvestigate and notance of a C-141	release r ort by the remedian	notifications a ne NMOCD m te contaminat	nd perform corre arked as "Final I on that pose a th e the operator of	Report" doe reat to grou	ns for reless not releand water	eases which ieve the open r, surface wa ompliance w	may en rator of ater, hu with any	ndanger f liability man health
Signature:	fol	H				Approved by	OIL CON	1	TION	S.	) N	5

Approval Date: 8 3 2016

NVF1621642953

Conditions of Approval:

**Expiration Date:** 

Attached

\* Attach Additional Sheets If Necessary

Date: July 1, 2016

Title: Field Environmental Specialist

E-mail Address: Lisa.Hunter@cop.com

Phone: (505) 258-1607



# Animas Environmental Services, LLC



May 26, 2016

Lisa Hunter ConocoPhillips San Juan Business Unit (505) 326-9786

Via electronic mail to: SJBUE-Team@ConocoPhillips.com

RE: Release Assessment and Final Excavation Report

Hamner 3E

San Juan County, New Mexico

Dear Ms. Hunter:

On March 24 and May 4, 2016, Animas Environmental Services, LLC (AES) completed an initial release assessment and environmental clearance of the final excavation limits at the ConocoPhillips (COPC) Hamner 3E, located in San Juan County, New Mexico. The release consisted of contamination found beneath the production tank during plugging and abandonment activities at the location. The initial release assessment was completed by AES on March 24, 2016, and the final excavation was completed by COPC contractors while AES was at the location on May 4, 2016.

## 1.0 Site Information

#### 1.1 Location

Site Name – Hamner 3E
Location – SW¼ SW¼, Section 29, T29N, R9W, San Juan County, New Mexico
Well Head Latitude/Longitude – N36.69212 and W107.80954, respectively
Release Location Latitude/Longitude – N36.69238 and W107.80981, respectively
Land Jurisdiction – Bureau of Land Management (BLM)

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map, March 2016

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

> 1911 Main, Ste 200 Durango, CO 81301 970-403-3084

www.animasenvironmental.com

### 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:

- Depth to Groundwater: A site-specific hydrogeology report dated September 2008 reported the depth to groundwater as 233 feet below ground surface (bgs). (0 points)
- Wellhead Protection Area: The tank location is not within a wellhead protection area. (0 points)
- Distance to Surface Water Body: Unnamed washes which discharge to the San Juan River are located approximately 65 feet west and 145 feet southwest of the location. (20 points)

#### 1.3 Assessment

AES was initially contacted by Lisa Hunter of COPC on March 23, 2016, and on March 24, 2016, Corwin Lameman of AES completed the release assessment field work. The assessment included collection and field sampling of 15 soil samples from six assessment trenches in and around the release area. Assessment trenches were terminated between 6.5 and 8 feet. Based on field sampling results, AES recommended excavation of the release area. Sample locations are shown on Figure 3.

On May 4, 2016, AES returned to the location to collect confirmation soil samples of the excavation. The field sampling activities included collection of seven confirmation soil samples (SC-1 through SC-7) from the walls and base of the excavation. The area of the final excavation measured approximately 43 feet by 57 feet by 8 to 18 feet in depth. Sample locations and final excavation extents are presented on Figure 4.

## 2.0 Soil Sampling

A total of 15 soil samples from six assessment trenches (TH-1 through TH-6) and seven composite samples (SC-1 through SC-7) were collected during the assessments. All soil samples were field screened for volatile organic compounds (VOCs), and selected samples were also analyzed for total petroleum hydrocarbons (TPH). Seven composite samples (SC-1 and SC-7) collected during the excavation clearance were submitted for confirmation laboratory analysis.

### 2.1 Field Sampling

### 2.1.1 Volatile Organic Compounds

Field screening for 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

Field TPH samples were analyzed 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's 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 a sample chain of custody record. Samples were maintained on ice until delivery to the analytical laboratory, Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico. Seven soil samples were laboratory analyzed for:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per USEPA Method 8021B; and
- TPH for gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015D.

### 2.3 Field and Laboratory Analytical Results

On March 24, 2016, initial assessment field screening results for VOCs via OVM showed concentrations ranging from 0.0 ppm in TH-2, TH-3, TH-5, and TH-6 up to 5,473 ppm in TH-1. Field TPH concentrations ranged from less than 20.0 mg/kg in TH-2, TH-5, and TH-6 up to 7,950 mg/kg in TH-3.

On May 4, 2016, final excavation field screening results for VOCs via OVM ranged from 0.0 ppm in SC-2 and SC-4 up to 793 ppm in SC-1. Field TPH concentrations ranged from less than 20.0 mg/kg in SC-2, SC-5, and SC-6 up to 161 mg/kg in SC-1. Results are included below in Table 1 and on Figures 3 and 4. The AES Field Sampling Reports are attached.

Table 1. Soil Field VOCs and TPH Results

Hamner 3E Initial Release Assessment and Final Excavation

March and May 2016

Sample ID	Date Sampled	Sample Depth (ft bgs)	VOCs via OVM (ppm)	TPH 418.1 (mg/kg)
NMOCD	Action Level*		100	100
THA	2/24/45	5	4,752	NA
TH-1	3/24/16 -	6.5	5,473	589
		1	0.0	NA
TH-2	3/24/16	4	0.0	NA
		6.5	0.0	<20.0
		1	0.0	NA
TH-3	3/24/16	4	0.0	NA
		7.5	2,465	7,950
		1	3.4	NA
TH-4	3/24/16	4	2.6	NA
		8	492	84.9
TUE	2/24/46	4	0.0	NA
TH-5	3/24/16 -	6.5	0.0	<20.0
TUC	2/24/45	4	0.0	NA
TH-6	3/24/16 -	6.5	0.0	<20.0
SC-1	5/4/16	0 to 18	793	161
SC-2	5/4/16	0 to 8	0.0	<20.0
SC-3	5/4/16	0 to 18	17.4	23.4
SC-4	5/4/16	0 to 18	0.0	26.6
SC-5	5/4/16	8 to 18	2.1	<20.0
SC-6	5/4/16	18.0	4.7	<20.0
SC-7	5/4/16	8.0	30.3	41.2

NA - not analyzed

Laboratory analyses for SC-1 through SC-7 were used to confirm field sampling results from the final excavation. Benzene concentrations were reported below laboratory detection limits in SC-1 through SC-7 and total BTEX concentrations ranged from below laboratory

<sup>\*</sup>Action level determined by the NMOCD ranking score per NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993)

detection limits of 0.136 mg/kg (SC-2) up to 1.43 mg/kg (SC-1). TPH concentrations as GRO/DRO were reported from below the laboratory detection limits of 12.2 mg/kg (SC-3) up to 63 mg/kg (SC-1). Results are presented in Table 2 and on Figure 4. The laboratory analytical report is attached.

Table 2. Laboratory Analytical Results – Benzene, Total BTEX, and TPH Hamner 3E Initial Release Assessment and Final Excavation

March and May 2016

Sample ID	Date Sampled	Sample Depth (ft bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)
-	D Action Lev		10	50		00 00
SC-1	5/4/16	0 to 18	<0.016	1.43	31	32
SC-2	5/4/16	0 to 8	<0.015	<0.136	<3.0	<10
SC-3	5/4/16	0 to 18	<0.016	<0.141	<3.1	<9.1
SC-4	5/4/16	0 to 18	<0.016	<0.141	<3.1	<9.5
SC-5	5/4/16	8 to 18	<0.016	<0.147	<3.3	<9.8
SC-6	5/4/16	18.0	<0.026	<0.230	<5.2	<9.4
SC-7	5/4/16	8.0	<0.020	<0.181	<4.0	26

<sup>\*</sup>Action level determined by the NMOCD ranking score per NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993)

### 3.0 Conclusions and Recommendations

On March 24, 2016, AES conducted an initial assessment of petroleum contaminated soils associated with contamination found beneath the production tank during plugging and abandonment activities at the Hamner 3E. Action levels for releases are determined by the NMOCD ranking score per *NMOCD Guidelines for Remediation of Leaks, Spills, and Releases* (August 1993), and the site was assigned a rank of 20.

Initial assessment field sampling results above the NMOCD action level of 100 ppm VOCs and 100 mg/kg TPH were reported in TH-1, TH-3, and TH-4. The highest VOC concentration was reported in TH-1 with 5,473 ppm, and the highest TPH concentration was reported in TH-3 with 7,950 mg/kg. Based on the results of the initial assessment, excavation of impacted soils was recommended.

On May 4, 2016, final clearance of the excavation area was completed. Field sampling results of the excavation extents showed that VOC concentrations were below applicable NMOCD action levels for the final walls and base of the excavation, except for SC-1 (north

Lisa Hunter Hamner 3E Release Assessment and Final Excavation Report May 26, 2016 Page 6

wall) which had a VOC concentration of 793 ppm. Field TPH concentrations were below the applicable NMOCD action level of 100 mg/kg for the final walls and base of the excavation, with the exception of SC-1 (north wall) which had a TPH concentration of 161 mg/kg. However, laboratory analytical results reported benzene, total BTEX, and TPH concentrations as GRO/DRO in SC-1 through SC-7 below NMOCD action levels.

Based on final field sampling of the excavation of petroleum contaminated soils at the Hamner 3E, VOC, benzene, total BTEX, and TPH concentrations were below applicable NMOCD action levels for each of the sidewalls and base of the excavation, with the exception of SC-1 (north wall) for VOCs and TPH; however, confirmation laboratory analytical results reported results below NMOCD action levels. No further work is recommended.

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

Sincerely,

Delilah T. Dougi

Delilah J. Dongi

Geologist

Emilee Skyles

Geologist/Project Lead

Shih ShL

Elizabeth McNally, PE

Elizabeth V McNdly

#### Attachments:

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map, March 2016

Figure 3. Release Assessment Sample Locations and Results, March 2016

Figure 4. Final Excavation Sample Locations and Results, May 2016

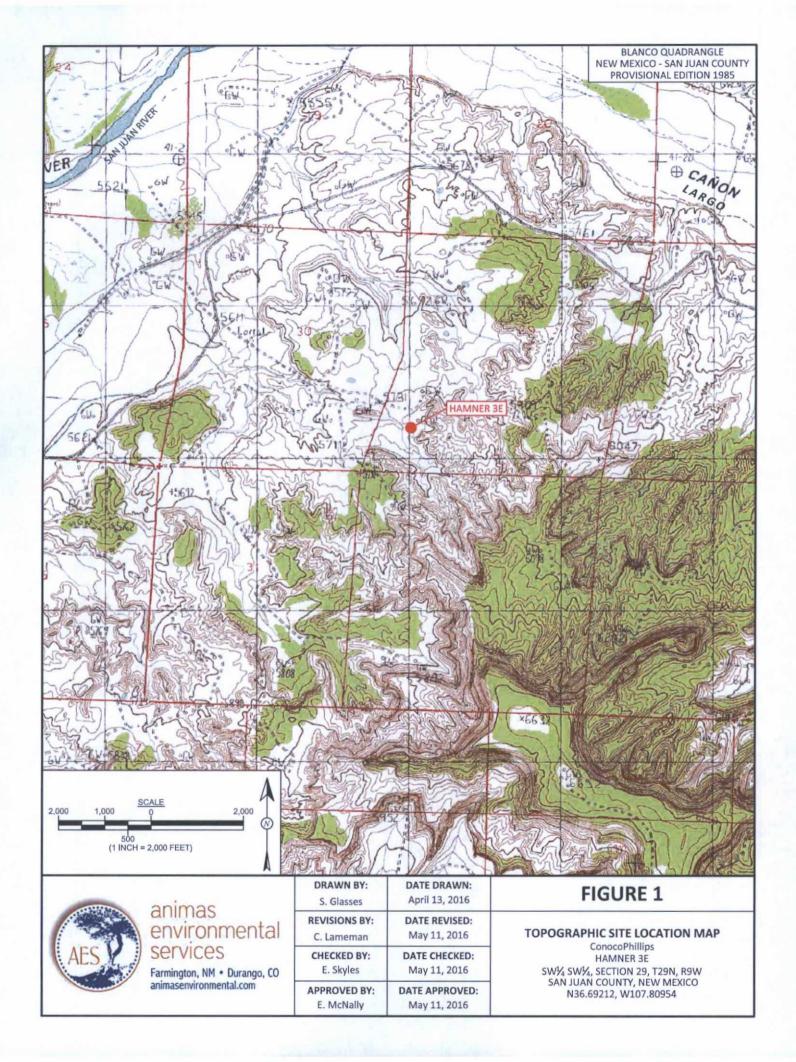
AES Field Sampling Report 032416

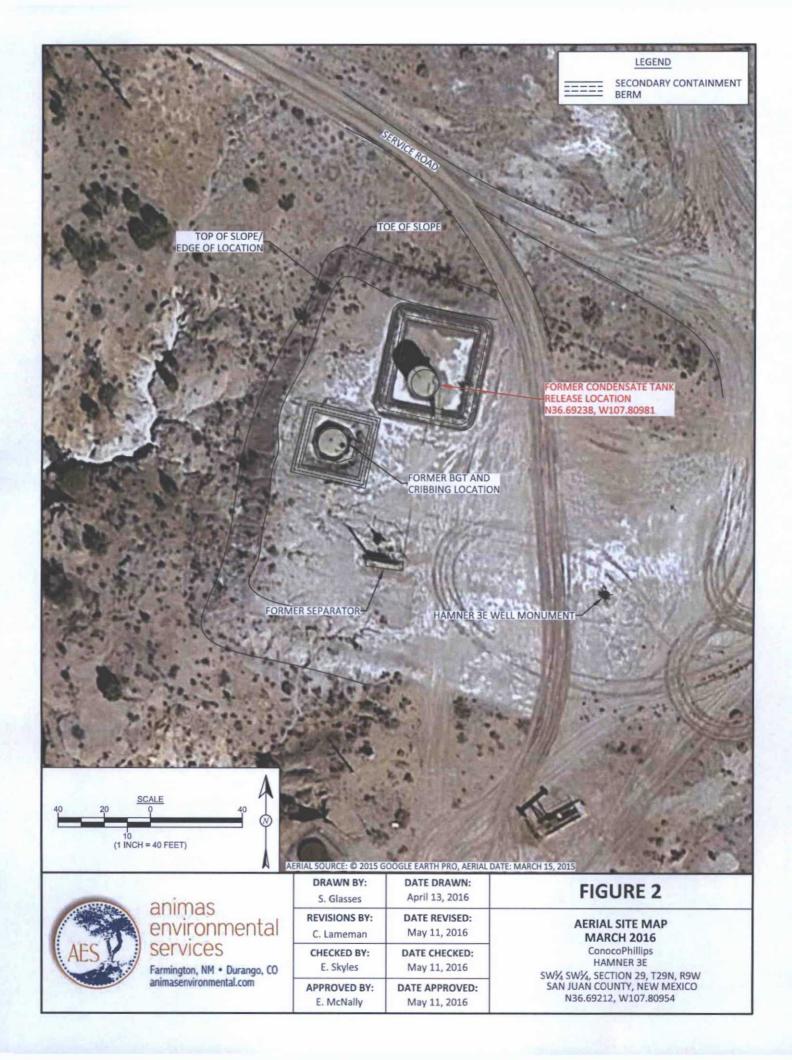
AES Field Sampling Report 050416

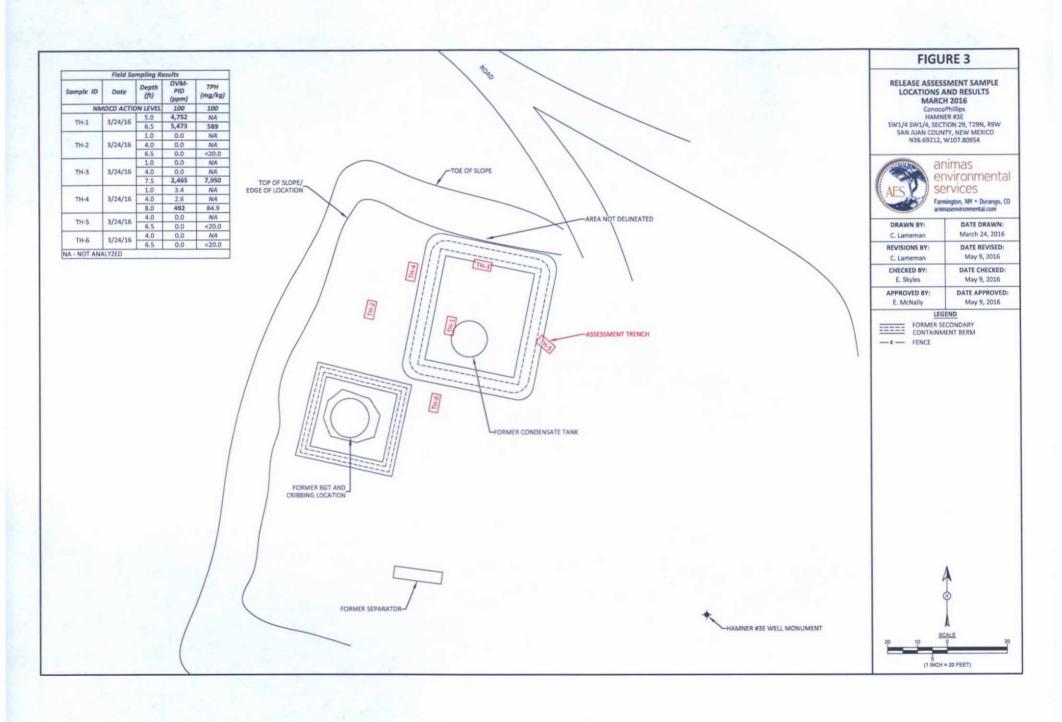
Hall Laboratory Analytical Report 1605189

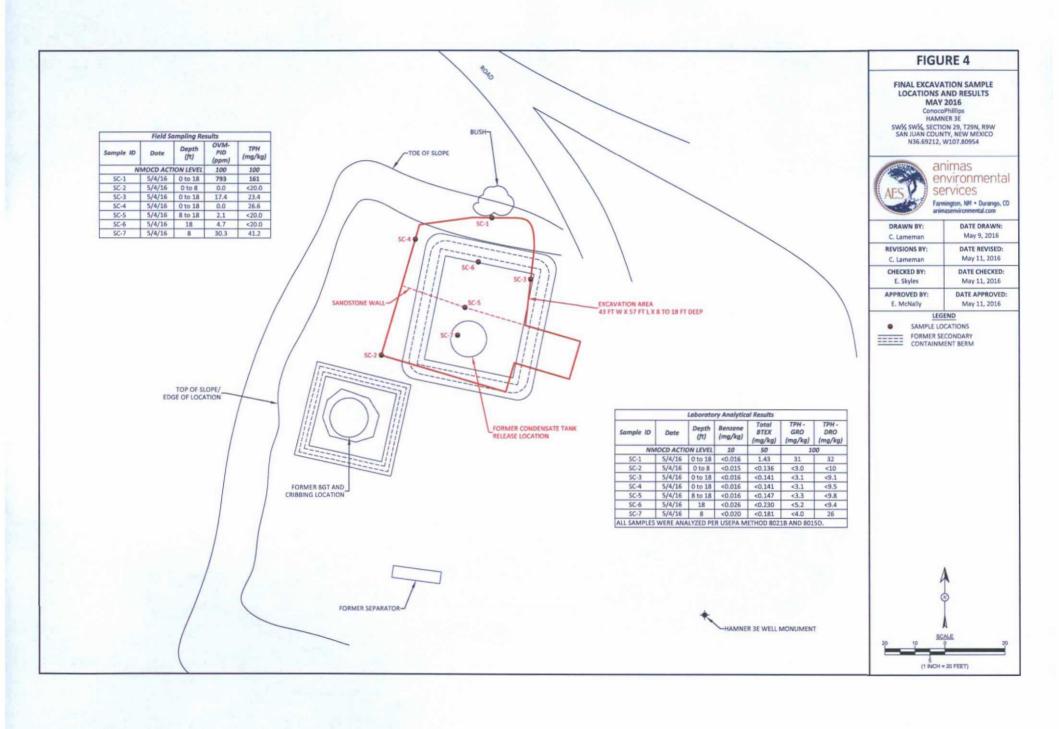
Lisa Hunter Hamner 3E Release Assessment and Final Excavation Report May 26, 2016 Page 7

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Client: ConocoPhillips

Project Location: Hamner 3E

Date: 3/24/2016

Matrix: Soil

Sample ID	Collection Date	Collection Time	OVM (ppm)	Field TPH* (mg/kg)	Field TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials	
TH-1 @ 5'	3/24/2016	9:00	4,752		Not	Analyzed for Th	PH		
TH-1 @ 6.5'	3/24/2016	9:05	5,473	589	9:32	20.0	1	CL	
TH-2 @ 1'	3/24/2016	9:33	0.0		Not A	Analyzed for TI	PH		
TH-2 @ 4'	3/24/2016	9:38	0.0		Not A	Analyzed for TI	РН	2	
TH-2 @ 6.5'	3/24/2016	9:42	0.0	6.39	10:45	20.0	1	CL	
TH-3 @ 1'	3/24/2016	9:49	0.0	Not Analyzed for TPH					
TH-3 @ 4'	3/24/2016	9:52	0.0		Not i	Analyzed for TI	PH		
TH-3 @ 7.5'	3/24/2016	9:55	2,465	7,946	10:53	200	10	CL	
TH-4 @ 1'	3/24/2016	10:00	3.4		Not A	Analyzed for TI	PH		
TH-4 @ 4'	3/24/2016	10:03	2.6		Not /	Analyzed for TI	PH		
TH-4 @ 8'	3/24/2016	10:05	492	84.9	10:58	20.0	1	CL	
TH-5 @ 4'	3/24/2016	11:07	0.0		Not A	Analyzed for TI	РН		
TH-5 @ 6.5'	3/24/2016	11:10	0.0	9.73	11:41	20.0	1	CL	

Sample ID	Collection Date	Collection Time	OVM (ppm)	Field TPH* (mg/kg)	Field TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials		
TH-6 @ 4'	3/24/2016	11:18	0.0	Not Analyzed for TPH						
TH-6 @ 6.5'	3/24/2016	11:20	0.0	14.7	11:44	20.0	1	CL		

DF

**Dilution Factor** 

Total Petroleum Hydrocarbons - USEPA 418.1

NA

Not Analyzed

PQL

Practical Quantitation Limit

\*Field TPH concentrations recorded may be below PQL.

Analyst: Cai h

# **AES Field Sampling Report**



Client: ConocoPhillips

Project Location: Hamner 3E

Date: 5/4/2016

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	5/4/2016	10:45	North Wall	793	161	12:42	20.0	1	CL
SC-2	5/4/2016	13:35	S & W Wall	0.0	18.5	13:56	20.0	1	CL
SC-3	5/4/2016	11:34	East Wall	17.4	23.4	12:50	20.0	1	CL
SC-4	5/4/2016	11:05	West Wall	0.0	26.6	12:54	20.0	1	CL
SC-5	5/4/2016	11:15	Mid-Wall	2.1	15.3	12:58	20.0	1	CL
SC-6	5/4/2016	11:25	North Base	4.7	16.9	13:02	20.0	1	CL
SC-7	5/4/2016	11:38	South Base	30.3	41.2	13:06	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



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

May 09, 2016

Emilee Skyles Animas Environmental 604 Pinon Street Farmington, NM 87401 TEL: (505) 564-2281

**FAX** 

RE: Hamner 3E OrderNo.: 1605189

Dear Emilee Skyles:

Hall Environmental Analysis Laboratory received 7 sample(s) on 5/5/2016 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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 qualifers 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,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1605189

Date Reported: 5/9/2016

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental

Client Sample ID: SC-1

Project:

Hamner 3E

Collection Date: 5/4/2016 10:45:00 AM

Lab ID: 1605189-001

Matrix: MEOH (SOIL)

Received Date: 5/5/2016 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst	: KJH
Diesel Range Organics (DRO)	32	10	mg/Kg	1	5/5/2016 12:37:34 PM	25161
Surr: DNOP	85.2	70-130	%Rec	1	5/5/2016 12:37:34 PM	25161
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	31	3.1	mg/Kg	1	5/5/2016 2:29:32 PM	25154
Surr: BFB	289	80-120	S %Rec	1	5/5/2016 2:29:32 PM	25154
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.016	mg/Kg	1	5/5/2016 2:29:32 PM	25154
Toluene	0.064	0.031	mg/Kg	1	5/5/2016 2:29:32 PM	25154
Ethylbenzene	0.068	0.031	mg/Kg	1	5/5/2016 2:29:32 PM	25154
Xylenes, Total	1.3	0.063	mg/Kg	1	5/5/2016 2:29:32 PM	25154
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	1	5/5/2016 2:29:32 PM	25154

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

- 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
- R RPD outside accepted recovery limits
- 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 Page 1 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1605189

Date Reported: 5/9/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental

Client Sample ID: SC-2

Project: Hamner 3E

Collection Date: 5/4/2016 1:35:00 PM

Lab ID: 1605189-002

Matrix: MEOH (SOIL)

Received Date: 5/5/2016 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst	: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/5/2016 12:59:22 PM	25161
Surr: DNOP	90.7	70-130	%Rec	1	5/5/2016 12:59:22 PM	25161
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.0	mg/Kg	1	5/5/2016 2:53:02 PM	25154
Surr: BFB	103	80-120	%Rec	1	5/5/2016 2:53:02 PM	25154
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.015	mg/Kg	1	5/5/2016 2:53:02 PM	25154
Toluene	ND	0.030	mg/Kg	1	5/5/2016 2:53:02 PM	25154
Ethylbenzene	ND	0.030	mg/Kg	1	5/5/2016 2:53:02 PM	25154
Xylenes, Total	ND	0.061	mg/Kg	1	5/5/2016 2:53:02 PM	25154
Surr: 4-Bromofluorobenzene	100	80-120	%Rec	1	5/5/2016 2:53:02 PM	25154

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

- 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
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank B
- Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 10 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1605189

Date Reported: 5/9/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental

Client Sample ID: SC-3

Project: Hamner 3E

Collection Date: 5/4/2016 11:34:00 AM

Lab ID: 1605189-003

Matrix: MEOH (SOIL) Received Date: 5/5/2016 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	NGE ORGANICS	3			Analys	t: KJH
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	5/5/2016 1:21:14 PM	25161
Surr: DNOP	85.8	70-130	%Rec	1	5/5/2016 1:21:14 PM	25161
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	5/5/2016 7:34:39 PM	25154
Surr: BFB	96.0	80-120	%Rec	1	5/5/2016 7:34:39 PM	25154
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.016	mg/Kg	1	5/5/2016 7:34:39 PM	25154
Toluene	ND	0.031	mg/Kg	1	5/5/2016 7:34:39 PM	25154
Ethylbenzene	ND	0.031	mg/Kg	1	5/5/2016 7:34:39 PM	25154
Xylenes, Total	ND	0.063	mg/Kg	1	5/5/2016 7:34:39 PM	25154
Surr: 4-Bromofluorobenzene	95.9	80-120	%Rec	1	5/5/2016 7:34:39 PM	25154

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

- 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
- R RPD outside accepted recovery limits
- 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 Page 3 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1605189

Date Reported: 5/9/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Animas Environmental

Client Sample ID: SC-4

Project: Hamner 3E

Collection Date: 5/4/2016 11:05:00 AM

Lab ID: 1605189-004

Matrix: MEOH (SOIL) Received Date: 5/5/2016 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS	3			Analys	: KJH
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	5/5/2016 1:44:43 PM	25161
Surr: DNOP	87.6	70-130	%Rec	1	5/5/2016 1:44:43 PM	25161
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	5/5/2016 7:57:59 PM	25154
Surr: BFB	93.7	80-120	%Rec	1	5/5/2016 7:57:59 PM	25154
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	: NSB
Benzene	ND	0.016	mg/Kg	1	5/5/2016 7:57:59 PM	25154
Toluene	ND	0.031	mg/Kg	1	5/5/2016 7:57:59 PM	25154
Ethylbenzene	ND	0.031	mg/Kg	1	5/5/2016 7:57:59 PM	25154
Xylenes, Total	ND	0.063	mg/Kg	1	5/5/2016 7:57:59 PM	25154
Surr: 4-Bromofluorobenzene	95.3	80-120	%Rec	1	5/5/2016 7:57:59 PM	25154

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

- 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
- R RPD outside accepted recovery limits
- 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 Page 4 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1605189

Date Reported: 5/9/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental

Client Sample ID: SC-5

Project: Hamner 3E

Collection Date: 5/4/2016 11:15:00 AM

Lab ID: 1605189-005

Matrix: MEOH (SOIL) Received Date: 5/5/2016 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANICS	3			Analys	t: KJH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	5/5/2016 2:06:33 PM	25161
Surr: DNOP	89.6	70-130	%Rec	1	5/5/2016 2:06:33 PM	25161
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.3	mg/Kg	1	5/5/2016 8:21:28 PM	25154
Surr: BFB	95.3	80-120	%Rec	1	5/5/2016 8:21:28 PM	25154
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.016	mg/Kg	1	5/5/2016 8:21:28 PM	25154
Toluene	ND	0.033	mg/Kg	1	5/5/2016 8:21:28 PM	25154
Ethylbenzene	ND	0.033	mg/Kg	1	5/5/2016 8:21:28 PM	25154
Xylenes, Total	ND	0.065	mg/Kg	1	5/5/2016 8:21:28 PM	25154
Surr: 4-Bromofluorobenzene	96.2	80-120	%Rec	1	5/5/2016 8:21:28 PM	25154

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

- 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
- R RPD outside accepted recovery limits
- 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 Page 5 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1605189

Date Reported: 5/9/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental

Client Sample ID: SC-6

Project: Hamner 3E

Collection Date: 5/4/2016 11:25:00 AM

Lab ID: 1605189-006

Matrix: MEOH (SOIL) Received Date: 5/5/2016 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS	3			Analyst	KJH
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	5/5/2016 2:28:19 PM	25161
Surr: DNOP	89.2	70-130	%Rec	1	5/5/2016 2:28:19 PM	25161
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	5.2	mg/Kg	1	5/5/2016 8:44:57 PM	25154
Surr: BFB	96.5	80-120	%Rec	1	5/5/2016 8:44:57 PM	25154
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.026	mg/Kg	1	5/5/2016 8:44:57 PM	25154
Toluene	ND	0.052	mg/Kg	1	5/5/2016 8:44:57 PM	25154
Ethylbenzene	ND	0.052	mg/Kg	1	5/5/2016 8:44:57 PM	25154
Xylenes, Total	ND	0.10	mg/Kg	1	5/5/2016 8:44:57 PM	25154
Surr: 4-Bromofluorobenzene	96.2	80-120	%Rec	1	5/5/2016 8:44:57 PM	25154

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

- 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
- R RPD outside accepted recovery limits
- 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 Page 6 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1605189

Date Reported: 5/9/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental

Client Sample ID: SC-7

Project: Hamner 3E

Collection Date: 5/4/2016 11:38:00 AM

Lab ID: 1605189-007

Matrix: MEOH (SOIL) Received Date: 5/5/2016 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	3			Analyst	: KJH	
Diesel Range Organics (DRO)	26	9.7	mg/Kg	1	5/5/2016 2:50:10 PM	25161
Surr: DNOP	80.3	70-130	%Rec	1	5/5/2016 2:50:10 PM	25161
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	5/5/2016 9:08:27 PM	25154
Surr: BFB	105	80-120	%Rec	1	5/5/2016 9:08:27 PM	25154
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.020	mg/Kg	1	5/5/2016 9:08:27 PM	25154
Toluene	ND	0.040	mg/Kg	1	5/5/2016 9:08:27 PM	25154
Ethylbenzene	ND	0.040	mg/Kg	1	5/5/2016 9:08:27 PM	25154
Xylenes, Total	ND	0.081	mg/Kg	1	5/5/2016 9:08:27 PM	25154
Surr: 4-Bromofluorobenzene	97.9	80-120	%Rec	1	5/5/2016 9:08:27 PM	25154

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

- 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
- R RPD outside accepted recovery limits
- 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 Page 7 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# **OC SUMMARY REPORT**

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1605189

09-May-16

Animas Environmental Client: Hamner 3E Project:

Sample ID LCS-25161 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS Batch ID: 25161 RunNo: 34001

Prep Date: 5/5/2016 Analysis Date: 5/5/2016 SeqNo: 1047693 Units: mg/Kg

LowLimit PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Analyte Result 65.8 Diesel Range Organics (DRO) 49 50.00 97.8 136 10 Surr: DNOP 5.000 82.7 130 4.1

SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Sample ID MB-25161 Client ID: PBS Batch ID: 25161 RunNo: 34001 Prep Date: 5/5/2016 Analysis Date: 5/5/2016 SeqNo: 1047694 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte

Diesel Range Organics (DRO) ND 10 Surr: DNOP 8.5 10.00 85.0 70 130

Sample ID MB-25139 TestCode: EPA Method 8015M/D: Diesel Range Organics SampType: MBLK Client ID: PBS Batch ID: 25139 RunNo: 34001 Prep Date: 5/4/2016 Analysis Date: 5/5/2016 SeqNo: 1047876 Units: %Rec SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte LowLimit HighLimit Qual

Surr: DNOP 7.4 10.00 74.0 130 Sample ID 1605189-001AMS SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: SC-1 Batch ID: 25161 RunNo: 34001 Prep Date: 5/5/2016 Analysis Date: 5/5/2016 SeqNo: 1048342 Units: mg/Kg %REC %RPD Analyte Result POL SPK value SPK Ref Val Lowl imit HighLimit **RPDLimit** Qual

Diesel Range Organics (DRO) 59 92 46.08 31.59 59.2 33.9 141 Surr: DNOP 3.7 4.608 80.4 70 130

Sample ID 1605189-001AMSD SampType: MSD TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: SC-1 Batch ID: 25161 RunNo: 34001 Prep Date: 5/5/2016 Analysis Date: 5/5/2016 SeqNo: 1048343 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 66 10 49.80 31.59 68.6 33.9 141 11.0 20 4.980 Surr: DNOP 4.8 95.8 70 130 0 0

Sample ID LCS-25139 TestCode: EPA Method 8015M/D: Diesel Range Organics SampType: LCS LCSS Batch ID: 25139 Client ID: RunNo: 34001 Prep Date: 5/4/2016 Analysis Date: 5/5/2016 SeqNo: 1048346 Units: %Rec SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result PQL LowLimit HighLimit Qual

Surr: DNOP 3.7 5.000 74.0 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 R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank B

Value above quantitation range

Analyte detected below quantitation limits

Page 8 of 10

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

# **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

22

1000

5.0

25.00

1000

WO#: 1605189

09-May-16

Client:

Animas Environmental

Gasoline Range Organics (GRO)

Surr: BFB

Sample ID MB-25154	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range										
Client ID: PBS	Batch ID: 25154	RunNo: 33999										
Prep Date: 5/4/2016	Analysis Date: 5/5/2016	SeqNo: 1048220 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	950 1000	94.7 80 120										
Sample ID LCS-25154	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range										
Client ID: LCSS	Batch ID: 25154	RunNo: 33999										
Prep Date: 5/4/2016	Analysis Date: 5/5/2016	SeqNo: 1048221 Units: mg/Kg										
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual										

80

80

86.9

104

120

120

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- Not Detected at the Reporting Limit ND
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits

Page 9 of 10

- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

# **QC SUMMARY REPORT**

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1605189

09-May-16

Client: Animas Environmental

Project: Hamner 3E

Sample ID MB-25154 SampType: MBLK				TestCode: EPA Method 8021B: Volatiles										
Client ID: PBS	Batch ID: <b>25154</b> Analysis Date: <b>5/5/2016</b>			R	tunNo: 3	3999								
Prep Date: 5/4/2016				SeqNo: 1048261			Units: mg/K	g						
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												
(ylenes, Total	ND	0.10												
Surr: 4-Bromofluorobenzene	0.97		1.000		97.0	80	120							

Sample ID LCS-25154	s	Tes								
Client ID: LCSS	154	F								
Prep Date: 5/4/2016	Analysis Date: 5/5/2016			5	SeqNo: 1	048262	Units: mg/h	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	94.6	75.3	123			
Toluene	0.91	0.050	1.000	0	90.9	80	124			
Ethylbenzene	0.90	0.050	1.000	0	90.0	82.8	121			
ylenes, Total 2.7 0.10 3.000				0	89.9	83.9	122			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

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

Page 10 of 10

P Sample pH Not In Range

RL Reporting Detection Limit

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 Orde	er Number; 1605189		RcptNo: 1
Received by/date: 05/05/1	6		
Logged By: Lindsay Mangin 5/5/2016 7:1	5:00 AM	Julythypo	
Completed By: Lindsay Mangin 5/5/2016 7:3	6:59 AM	A WHO	
Reviewed By: AT 05/05/16		000	
Chain of Custody		T.R.	
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° C to 6	5.0°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 V	No 🗆	
9. Was preservative added to bottles?	Yes	No 🗸	NA 🗆
10.VOA vials have zero headspace?	Yes 🗆	No L	No VOA Vials ✓
11, Were any sample containers received broken?	Yes 🗆	No 🗹	
			# of preserved bottles checked
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗸	No 🗌	for pH: (<2 or >12 unless note
13. Are matrices correctly identified on Chain of Custody?	Yes V	No 🗆	Adjusted?
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 🗆	Checked by:
(II IIO, Hothly Customer for authorization.)			
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			
18. Cooler Information  Cooler No Temp °C Condition Seal Intact   Se	eal No   Seal Date	Signed By	
1 1.5 Good Yes	Jan 19 Oddi Dato	Olginou bj	

Ch	nain-o	f-Cust	tody Record	Turn-Around I	HALL ENVIRONMENTAL														
lient:	Animas	Enviror	nmental Services, LLC	Standard X Rush 3 day TAT ANALYSIS LABORATORY															
				Project Name:														-12	
lailing Ad	ldress:	604 W	Pinon St.	Hamner #3E				www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109											
				Project #:				Tel. 505-345-3975 Fax 505-345-4107											
hone #:	505-564		gion, NW 07401	(	COPC Hamne	or #3F	Analysis Request								==1				
	nail or Fax#: eskyles@animasenvironmental.com																		T
A/QC Package:  Standard		E. Skyles				0													
ccreditati	ion:	□ Other		Sampler:	C.Lameman			GRO/DRO											
EDD (T				Sample Temp	The residence of the second second	The state of the s			0.										o N
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	LHEALNO	BTEX - 8021B	TPH - EPA 8015	Chlorides - 300.0										Air Bubbles (Y or N)
5/4/16	10:45	SOIL	SC-1	1 - 4 oz. MeOH kit	cool MeOH	-001	х	Х										$\top$	
5/4/16	13:35	SOIL	SC-2	1 - 4 oz. MeOH kit	cool	-002	х	Х										$\top$	$\top$
5/4/16	11:34	SOIL	SC-3	1 - 4 oz. MeOH kit	cool MeOH	-003	X	Х										$\top$	
5/4/16	11:05	SOIL	SC-4	1 - 4 oz.	cool	-004	X	Х						$\neg$		$\top$		$\top$	+
5/4/16	11:15	SOIL	SC-5	MeOH kit 1 - 4 oz. MeOH kit	MeOH COOL	-005	х	Х						1		1			
5/4/16	11:25	SOIL	SC-6	MeOH kit 1 - 4 oz. MeOH kit	MeOH cool MeOH	-006	X	X											
5/4/16	11:38	SOIL	SC-7	MeOH kit 1 - 4 oz. MeOH kit	MeOH cool MeOH	-007	Х	Х			•								
															-	+	$\sqcup$	$\perp$	
	-													-		-	$\vdash$	+	_
														-	+	+	$\vdash$	+	+
ate:	Time:	Relinquished by:		Received by: Date Time			Remarks: Bill to Conoco Phillips												
4/4	1631	Ceo	ila	/ Wester White 5/4/16 1/13/			WO # 10385151 Supervisor: Dusty Mars USERID: KGARCIA												
14/16	Time:	Reimagiish	on Wells	Received by:	* NE	Date Time	Area: 2 Ordered by: Lisa Hunter												
1	If necessary,	samples subm	nitted to Hall Environmental may be sub	contracted to other a	ccredited laborator		this po	ossibili	ity. A	ny sub	-contra	cted d	lata wil	l be cle	arly nota	ated on t	he analy	rtical re	port.