

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 August 8, 2011

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>ConocoPhillips Company</b>	Contact <b>Ashley Maxwell</b>
Address <b>3401 E. 30th St., Farmington, NM 87402</b>	Telephone No. <b>505-324-5169</b>
Facility Name <b>Apache 1E</b>	Facility Type <b>Gas Well</b>

Surface Owner <b>Jicarilla Tribe</b>	Mineral Owner <b>Jicarilla Tribe</b>	API No. <b>30039226890000</b> Contract Number <b>98</b>
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
<b>A</b>	<b>18</b>	<b>026N</b>	<b>003W</b>	<b>810'</b>	<b>North</b>	<b>820'</b>	<b>East</b>	<b>Rio Arriba</b>

Latitude 36.491821 Longitude -107.17931

RCVD NOV 21 '12  
OIL CONS. DIV.  
DIST. 3

**NATURE OF RELEASE**

Type of Release <b>Produced Water, Hydrocarbon</b>	Volume of Release <b>15 BBL Produced Water</b> <b>5 BBL Hydrocarbon</b>	Volume Recovered <b>0 BBL Produced Water</b> <b>0 BBL Hydrocarbon</b>
Source of Release <b>Production Tank</b>	Date and Hour of Occurrence <b>Unknown</b>	Date and Hour of Discovery <b>8/16/12 @ 2:00PM</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <b>Bryce Hammond - Certified Lead Jicarilla/BLM Inspector</b>	
By Whom? <b>Ashley Maxwell</b>	Date and Hour <b>8/17/2012 8:35AM</b> <i>SK 6/6/2013 verified w/ Ashley</i>	
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.\*


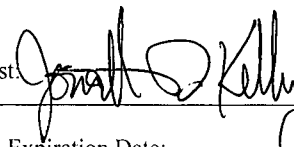
Describe Cause of Problem and Remedial Action Taken.\*

**Corrosion in the production tank caused the release of 15 BBL produced water and 5 BBL of hydrocarbon. The release was contained within the berm with 0 BBL recovered.**

Describe Area Affected and Cleanup Action Taken.\*

COPC will assess the soil and fluid to determine a path forward for clean-up. Production tank will be replaced. **Excavation was required based on Jicarilla Apache Nation Oil & Gas Administration (JANOGA) soil remediation action levels. The excavation was 40'X45'X8' and 540 yds<sup>3</sup> of soil was transported to a third party land farm. Excavation and confirmation sampling occurred. Analytical results were below the regulatory standards set forth by JANOGA; therefore no further action is needed.**

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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Ashley Maxwell</b>	Approved by Environmental Specialist: 	
Title: <b>Field Environmental Specialist</b>	Approval Date: <b>6/6/2013</b>	Expiration Date:
E-mail Address: <b>ashley.p.wethington@conocophillips.com</b>	Conditions of Approval:	Attached <input type="checkbox"/>
Date <b>November 19, 2012</b> Phone: <b>505-324-5169</b>		

\* Attach Additional Sheets If Necessary

nJK1315756500



Animas Environmental Services, LLC

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

November 7, 2012

Ashley Maxwell  
ConocoPhillips  
San Juan Business Unit  
Office 216-2  
5525 Hwy 64  
Farmington, New Mexico 87401

624 E. Comanche  
Farmington, NM 87401  
505-564-2281

Durango, Colorado  
970-403-3274

**RE: Initial Release Assessment and Final Excavation Report  
Apache #1E  
Rio Arriba County, New Mexico**

Dear Ms. Maxwell:

On August 20 and September 20, 2012, Animas Environmental Services, LLC (AES) completed an initial release assessment and environmental clearance of the final excavation limits at the ConocoPhillips (CoP) Apache #1E, located in Rio Arriba County, New Mexico. The final excavation was completed by contractors prior to AES' arrival to the location on September 20, 2012. The release consisted of approximately 15 barrels (bbls) of produced water and 5 bbls of condensate from the production tank at the location.

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## 1.0 Site Information

### 1.1 Location

Location - NE $\frac{1}{4}$  NE $\frac{1}{4}$ , Section 18, T26N, R3W, Rio Arriba County, New Mexico  
Well Head Latitude/Longitude - N36.49153 and W107.17998, respectively  
Release Location Latitude/Longitude - N36.49177 and W107.17978, respectively  
Land Jurisdiction - Jicarilla Apache Tribal Land  
Figure 1. Topographic Site Location Map  
Figure 2. Aerial Site Map, August 2012

### 1.2 Risk Ranking

The Apache 1E is located on Jicarilla Apache Tribal lands. Therefore, soil remediation action levels are determined by the Jicarilla Apache Nation Oil and Gas Administration (JANOGA). JANOGA remedial action levels for releases are as follows: 10 mg/kg benzene, 50 mg/kg total BTEX (benzene, toluene, ethylbenzene, and xylenes), 100 mg/kg total petroleum hydrocarbons (TPH) as gasoline range organics (GRO), motor oil range organics (MRO), and diesel range organics (DRO), and 250 mg/kg chlorides.

### **1.3 Assessments**

AES was initially contacted by Ashley Maxwell of CoP on August 17, 2012, and on August 20, 2012, Heather Woods and Zachary Trujillo of AES completed the release assessment field work. The assessment included collection and field screening of 43 soil samples from 11 soil borings (SB-1 through SB-11) advanced near the production tank where the release was discovered. Based on the field screening results, AES recommended excavation of the release area. Sample locations are shown on Figure 3.

On September 20, 2012, AES returned to the location to collect confirmation soil samples of the excavation. The field screening activities included collection of six confirmation soil samples (SC-1 through SC-6) of the walls and base of the excavation. The final excavation was approximately 1,570 square feet by 8 to 10 feet in depth. Sample locations and final excavation extents are shown on Figure 4.

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## **2.0 Soil Sampling**

A total of 43 soil samples from SB-1 through SB-11 and 6 5-point composite samples (SC-1 through SC-6) were collected during the assessments. All soil samples were field screened for volatile organic compounds (VOCs), and selected samples were also analyzed for TPH. Soil samples collected during the excavation (SC-1 through SC-6) were submitted for confirmation laboratory analysis.

### **2.1 Field Screening**

#### **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 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. Soil samples were laboratory analyzed for:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per U.S. Environmental Protection Agency (USEPA) Method 8021B;
- TPH as GRO, MRO, and DRO per USEPA Method 8015B;
- Chloride per USEPA Method 300.0.

### 2.3 Field Screening and Laboratory Analytical Results

On August 20, 2012, initial assessment field screening readings for VOCs via OVM ranged from 4.9 ppm in SB-9 up to 5,111 ppm in SB-1. Field TPH concentrations ranged from 77.8 mg/kg in SB-7 up to 6,400 mg/kg in SB-2.

On September 20, 2012, final excavation field screening readings for VOCs via OVM ranged from 1.4 ppm in SC-2 up to 584 ppm in SC-6. Field TPH concentrations ranged from 31.4 mg/kg in SC-5 up to 94.3 mg/kg in SC-4. Results are included below in Table 1 and on Figures 3 and 4. AES field screening reports are attached.

Table 1. Soil Field Screening VOCs and TPH Results  
 Apache #1E Release Assessment and Final Excavation  
 August and September 2012

<b>Sample ID</b>	<b>Date Sampled</b>	<b>Sample Depth (ft bgs)</b>	<b>VOCs via OVM (ppm)</b>	<b>Field TPH (mg/kg)</b>
<i>JANOGA Action Level</i>			<b>100</b>	<b>100</b>
SB-1	8/20/12	0.5	<b>5,111</b>	<b>1,190</b>
		2	<b>4,816</b>	NA
		4	<b>2,201</b>	NA
		6	<b>2,352</b>	NA
		8	<b>3,588</b>	<b>684</b>
		8.5	<b>2,344</b>	NA
SB-2	8/20/12	0.5	<b>2,613</b>	<b>6,400</b>
		2	<b>3,639</b>	NA
		4	<b>4,589</b>	NA
		6	<b>1,739</b>	NA
		8	<b>3,420</b>	NA
SB-3	8/20/12	0.5	25.0	NA

Sample ID	Date Sampled	Sample Depth (ft bgs)	VOCs via OVM (ppm)	Field TPH (mg/kg)
		JANOGA Action Level	100	100
		2	12.1	NA
		4	84.9	NA
		6	83.5	NA
		8	<b>578</b>	<b>291</b>
		10	<b>3,708</b>	NA
SB-4	8/20/12	0	12.8	NA
		2	<b>4,698</b>	NA
		4	<b>3,992</b>	NA
SB-5	8/20/12	0.5	14.8	NA
		2	42.0	NA
		4	<b>341</b>	<b>111</b>
SB-6	8/20/12	0	41.8	NA
		2	38.8	NA
		4	92.2	<b>103</b>
SB-7	8/20/12	0	35.5	NA
		2	33.0	NA
		4	36.6	77.8
SB-8	8/20/12	0	15.7	NA
		2	16.0	NA
		4	<b>3,050</b>	NA
SB-9	8/20/12	0	4.9	NA
		2	5.9	NA
		4	14.8	83.3
SB-10	8/20/12	0	25.2	NA
		2	30.6	NA
		4	12.7	NA
		5.5	<b>138</b>	<b>114</b>
SB-11	8/20/12	0	7.7	NA
		2	12.5	NA
		4	16.4	NA

<b>Sample ID</b>	<b>Date Sampled</b>	<b>Sample Depth (ft bgs)</b>	<b>VOCs via OVM (ppm)</b>	<b>Field TPH (mg/kg)</b>
<b>JANOGA Action Level</b>			<b>100</b>	<b>100</b>
		6	19.2	84.7
SC-1	9/20/12	1 to 10	26.4	50.7
SC-2	9/20/12	1 to 8	1.4	47.1
SC-3	9/20/12	8	<b>193</b>	76.2
SC-4	9/20/12	10	<b>411</b>	94.3
SC-5	9/20/12	1 to 10	11.6	31.4
SC-6	9/20/12	1 to 10	<b>584</b>	67.7

NA – Not Analyzed

Final excavation confirmation samples collected on September 20, 2012, reported benzene concentrations below laboratory detection limits for samples SC-1 through SC-6. Total BTEX concentrations ranged from less than 0.25 mg/kg in SC-1, SC-2 and SC-5 up to 1.7 mg/kg in SC-4. TPH concentrations (as GRO/DRO/MRO) were below the laboratory detection limits in SC-1, SC-2, and SC-5. The highest TPH concentration of 64 mg/kg was reported in SC-4. Chloride concentrations ranged from below laboratory detection limits of 30 mg/kg up to 35 mg/kg. Results are presented in Table 2 and on Figure 4. The laboratory analytical report is attached.

Table 2. Laboratory Analytical Results – Benzene, BTEX, TPH, and Chlorides  
 Apache #1E Final Excavation, September 2012

<b>Sample ID</b>	<b>Date</b>	<b>Sample Depth (ft bgs)</b>	<b>Benzene (mg/kg)</b>	<b>BTEX (mg/kg)</b>	<b>GRO (mg/kg)</b>	<b>DRO (mg/kg)</b>	<b>MRO (mg/kg)</b>	<b>Chlorides (mg/kg)</b>
<b>JANOGA Action Level</b>			<b>10</b>	<b>50</b>		<b>100</b>		<b>250</b>
SC-1	9/20/12	1 to 10	<0.050	<0.25	<5.0	<9.7	<48	<30
SC-2	9/20/12	1 to 8	<0.050	<0.25	<5.0	<10	<51	<30
SC-3	9/20/12	8	<0.050	0.10	11	<10	<51	<30
SC-4	9/20/12	10	<0.20	1.7	47	17	<50	35
SC-5	9/20/12	1 to 10	<0.050	<0.25	<5.0	<9.9	<50	<30
SC-6	9/20/12	1 to 10	<0.050	1.2	28	<9.8	<49	<30

### 3.0 Conclusions and Recommendations

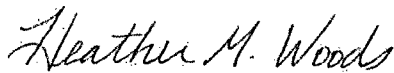
On August 20, 2012, AES conducted an initial assessment for a release from the production tank at the Apache #1E, located in Rio Arriba County, New Mexico. VOC readings were above the JANOGA action level of 100 ppm in all borings except SB-6, SB-7, SB-9, and SB-11. The highest VOC reading was reported in SB-1 with 5,111 ppm. Field TPH concentrations were reported above the JANOGA action level of 100 mg/kg in all of the soil borings except SB-7 and SB-9. The highest TPH concentration was reported in SB-2 with 6,400 mg/kg. Based on field screening results, excavation of the release area was recommended for the location.

On September 20, 2012, final assessment of the excavation area was completed. Field screening results of the excavation extents showed that field TPH concentrations were reported below the applicable JANOGA action level of 100 mg/kg for all samples. VOC readings exceeded the JANOGA action level in SC-3, SC-4, and SC-6. However, laboratory analytical results showed that benzene, total BTEX, TPH as GRO/MRO/DRO, and chlorides were reported below applicable JANOGA action levels.

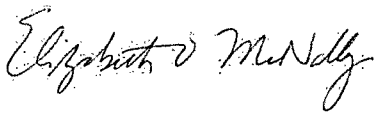
Based on the final field screening and laboratory results of the excavation of petroleum contaminated soils at the Apache #1E, benzene, total BTEX, TPH, and chloride concentrations were below applicable JANOGA action levels. No further work is recommended.

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

Sincerely,



Heather M. Woods  
Staff Geologist



Elizabeth McNally, PE

Attachments:--

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map, August 2012

Figure 3. Initial Assessment Soil Sample Locations and Results, August 2012

Figure 4. Final Excavation Soil Sample Locations and Results, September 2012

AES Field Screening Report 082012

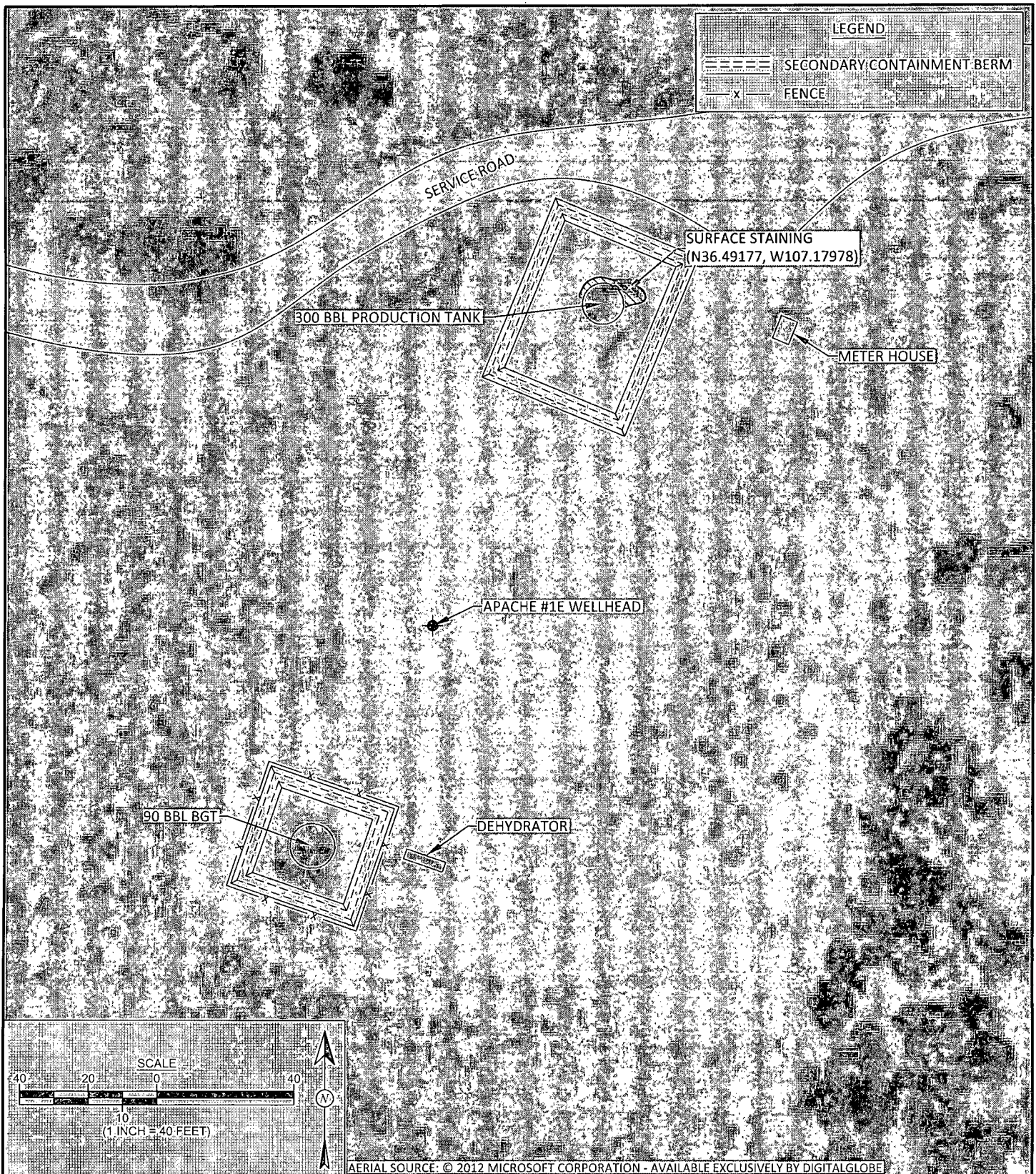
AES Field Screening Report 092012

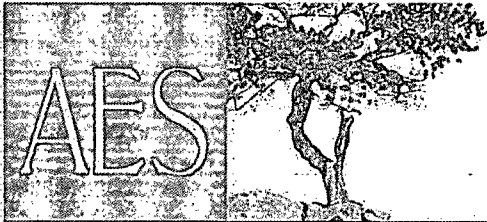
Hall Laboratory Analytical Report 1209927

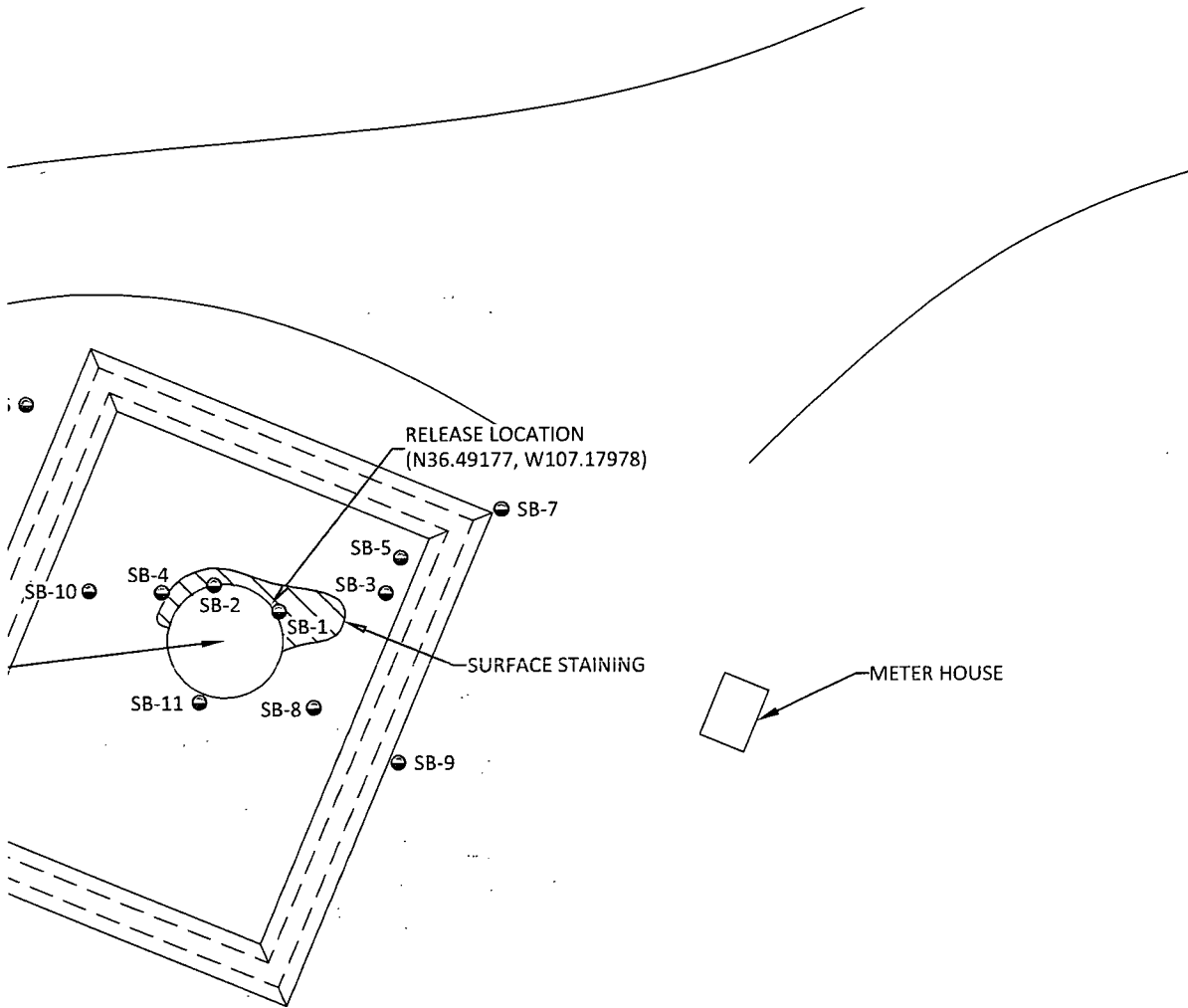
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Report 110712.docx



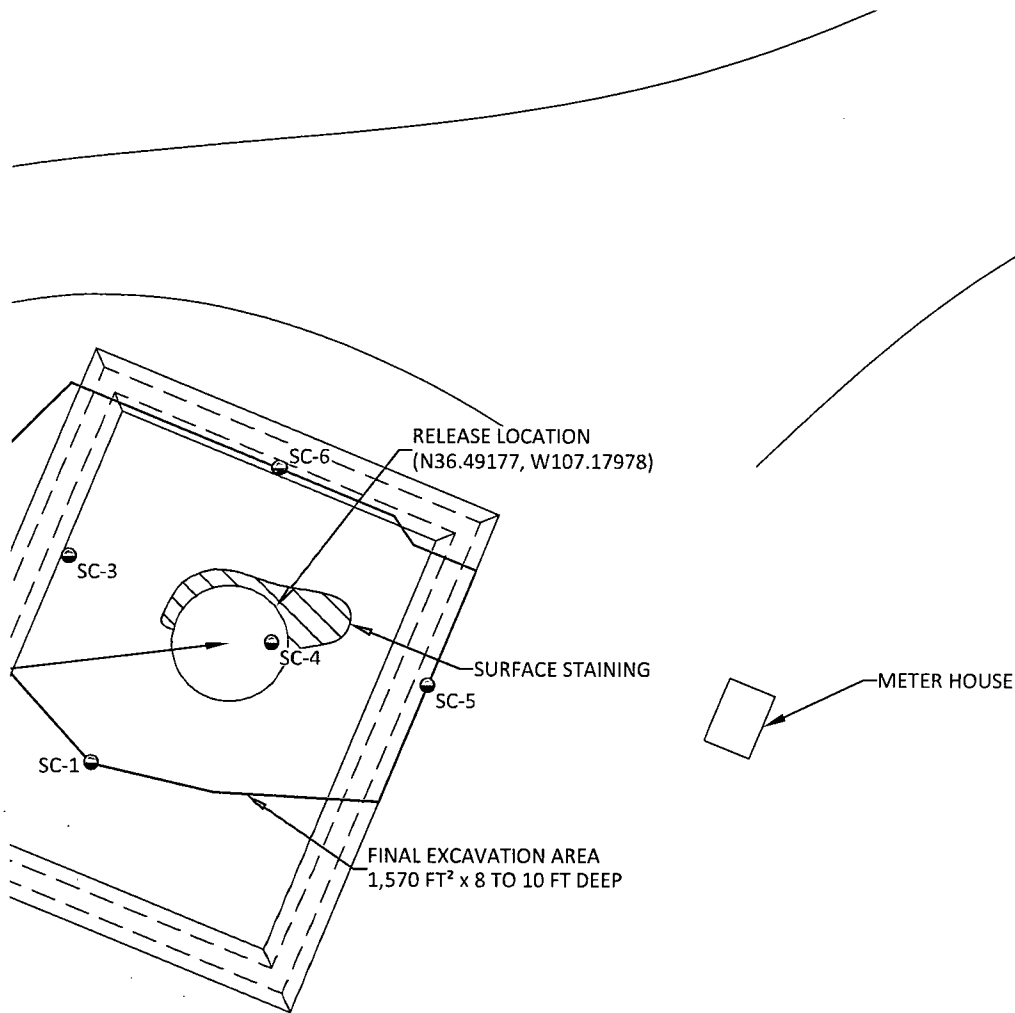




 <b>Animas Environmental Services, LLC</b>	<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> August 21, 2012	<b>FIGURE 2</b>  <b>AERIAL SITE MAP</b> <b>AUGUST 2012</b> ConocoPhillips APACHE #1E RIO ARRIBA COUNTY, NEW MEXICO NE¼ NE¼, SECTION 18, T26N, R3W N36.49153, W107.17998
	<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> August 21, 2012	
	<b>CHECKED BY:</b> D. Watson	<b>DATE CHECKED:</b> August 21, 2012	
	<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> August 21, 2012	



Field Screening Results				
Sample ID	Date	Depth (ft)	OVM-PID (ppm)	TPH (mg/kg)
JANOGA ACTION LEVEL			100	100
SB-1	8/20/12	0.5	5,111	1,190
		2	4,816	NA
		4	2,201	NA
		6	2,352	NA
		8	3,588	684
SB-2	8/20/12	8.5	2,344	NA
		0.5	2,613	6,400
		2	3,639	NA
		4	4,589	NA
		6	1,739	NA
SB-3	8/20/12	8	3,420	NA
		0.5	25.0	NA
		2	12.1	NA
		4	84.9	NA
		6	83.5	NA
SB-4	8/20/12	8	578	291
		10	3,708	NA
		0	12.8	NA
		2	4,698	NA
		4	3,992	NA
SB-5	8/20/12	0.5	14.8	NA
		2	42.0	NA
		4	341	111
SB-6	8/20/12	0	41.8	NA
		2	38.8	NA
		4	92.2	103
SB-7	8/20/12	0	35.5	NA
		2	33.0	NA
		4	36.6	77.8
SB-8	8/20/12	0	15.7	NA
		2	16.0	NA
		4	3,050	NA
SB-9	8/20/12	0	4.9	NA
		2	5.9	NA
		4	14.8	83.3
SB-10	8/20/12	0	25.2	NA
		2	30.6	NA
		4	12.7	NA
		5.5	138	114
SB-11	8/20/12	0	7.7	NA
		2	12.5	NA
		4	16.4	NA
		6	19.2	84.7



Field Screening Results				
Sample ID	Date	Depth (ft)	OVM-PID (ppm)	TPH (mg/kg)
JANOGA ACTION LEVEL			100	100
SC-1	9/20/12	1 to 10	26.4	50.7
SC-2	9/20/12	1 to 8	1.4	47.1
SC-3	9/20/12	8	193	76.2
SC-4	9/20/12	10	411	94.3
SC-5	9/20/12	1 to 10	11.6	31.4
SC-6	9/20/12	1 to 10	584	67.7
ALL SAMPLES WERE 5-POINT COMPOSITE SAMPLES.				

Laboratory Analytical Results								
Sample ID	Date	Depth (ft)	Benzene (mg/kg)	BTEX (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)	TPH - MRO (mg/kg)	Chlorides (mg/kg)
JANOGA ACTION LEVEL			10	50		100		250
SC-1	9/20/12	1 to 10	<0.050	<0.25	<5.0	<9.7	<48	<30
SC-2	9/20/12	1 to 8	<0.050	<0.25	<5.0	<10	<51	<30
SC-3	9/20/12	8	<0.050	0.10	11	<10	<51	<30
SC-4	9/20/12	10	<0.20	1.7	47	17	<50	35
SC-5	9/20/12	1 to 10	<0.050	<0.25	<5.0	<9.9	<50	<30
SC-6	9/20/12	1 to 10	<0.050	1.2	28	<9.8	<49	<30
SAMPLES WERE ANALYZED PER EPA METHOD 8021B, 8015B AND 300.0.								



# AES Field Screening Report



Animas Environmental Services, LLC

www.animasenvironmental.com

Client: ConocoPhillips

Project Location: Apache #1E

Date: 8/20/2012

Matrix: Soil

624 E. Comanche  
Farmington, NM 87401  
505-564-2281

Durango, Colorado  
970-403-3274

Sample ID	Collection Date	Collection Time	OVM (ppm)	Time of Sample Analysis	Field TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SB-1 @ 0.5'	8/20/2012	11:22	5,111	12:40	1,190	20.0	1	HMW
SB-1 @ 2'	8/20/2012	11:26	4,816	Not analyzed for TPH				
SB-1 @ 4'	8/20/2012	11:32	2,201	Not analyzed for TPH				
SB-1 @ 6'	8/20/2012	11:45	2,352	Not analyzed for TPH				
SB-1 @ 8'	8/20/2012	11:50	3,588	12:47	684	20.0	1	HMW
SB-1 @ 8.5'	8/20/2012	13:19	2,344	Not analyzed for TPH				
SB-2 @ 0.5'	8/20/2012	11:37	2,613	12:22	6,400	20.0	1	HMW
SB-2 @ 2'	8/20/2012	11:42	3,639	Not analyzed for TPH				
SB-2 @ 4'	8/20/2012	11:51	4,589	Not analyzed for TPH				
SB-2 @ 6'	8/20/2012	12:45	1,739	Not analyzed for TPH				
SB-2 @ 8'	8/20/2012	13:01	3,420	Not analyzed for TPH				
SB-3 @ 0.5'	8/20/2012	11:55	25.0	Not analyzed for TPH				
SB-3 @ 2'	8/20/2012	12:00	12.1	Not analyzed for TPH				
SB-3 @ 4'	8/20/2012	12:10	84.9	Not analyzed for TPH				
SB-3 @ 6'	8/20/2012	12:20	83.5	Not analyzed for TPH				
SB-3 @ 8'	8/20/2012	12:25	578	13:37	291	20.0	1	HMW
SB-3 @ 10'	8/20/2012	13:28	3,708	Not analyzed for TPH				
SB-4 @ 0'	8/20/2012	13:37	12.8	Not analyzed for TPH				
SB-4 @ 2'	8/20/2012	13:43	4,698	Not analyzed for TPH				
SB-4 @ 4'	8/20/2012	13:58	3,992	Not analyzed for TPH				
SB-5 @ 0.5'	8/20/2012	13:53	14.8	Not analyzed for TPH				
SB-5 @ 2'	8/20/2012	14:10	42.0	Not analyzed for TPH				

Sample ID	Collection Date	Collection Time	OVM (ppm)	Time of Sample Analysis	Field TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SB-5 @ 4'	8/20/2012	14:14	341	15:14	111	20.0	1	HMW
SB-6 @ 0'	8/20/2012	14:04	41.8	Not analyzed for TPH				
SB-6 @ 2'	8/20/2012	14:10	38.8	Not analyzed for TPH				
SB-6 @ 4'	8/20/2012	14:16	92.2	14:57	103	20.0	1	HMW
SB-7 @ 0'	8/20/2012	14:30	35.5	Not analyzed for TPH				
SB-7 @ 2'	8/20/2012	14:33	33.0	Not analyzed for TPH				
SB-7 @ 4'	8/20/2012	14:38	36.6	15:27	77.8	20.0	1	HMW
SB-8 @ 0'	8/20/2012	14:20	15.7	Not analyzed for TPH				
SB-8 @ 2'	8/20/2012	14:34	16.0	Not analyzed for TPH				
SB-8 @ 4'	8/20/2012	14:40	3,050	Not analyzed for TPH				
SB-9 @ 0'	8/20/2012	15:31	4.9	Not analyzed for TPH				
SB-9 @ 2'	8/20/2012	15:36	5.9	Not analyzed for TPH				
SB-9 @ 4'	8/20/2012	15:43	14.8	16:05	83.3	20.0	1	HMW
SB-10 @ 0'	8/20/2012	15:34	25.2	Not analyzed for TPH				
SB-10 @ 2'	8/20/2012	15:38	30.6	Not analyzed for TPH				
SB-10 @ 4'	8/20/2012	15:42	12.7	Not analyzed for TPH				
SB-10 @ 5.5'	8/20/2012	15:54	138	16:50	114	20.0	1	HMW
SB-11 @ 0'	8/20/2012	15:56	7.7	Not analyzed for TPH				
SB-11 @ 2'	8/20/2012	15:59	12.5	Not analyzed for TPH				
SB-11 @ 4'	8/20/2012	16:07	16.4	Not analyzed for TPH				
SB-11 @ 6'	8/20/2012	16:12	19.2	17:05	84.7	20.0	1	HMW

Total Petroleum Hydrocarbons - USEPA 418.1

PQL Practical Quantitation Limit

ND Not Detected at the Reporting Limit

DF Dilution Factor

\*Field TPH concentrations recorded may be below PQL.

Analyst:

*Heather M. Woods*

# AES Field Screening Report



Animas Environmental Services, LLC

www.animaseenvironmental.com

Client: ConocoPhillips

Project Location: Apache #1E

Date: 9/20/2012

Matrix: Soil

624 E. Comanche  
Farmington, NM 87401  
505-564-2281

Durango, Colorado  
970-403-3274

Sample ID	Collection Date	Collection Time	Sample Location	OVM (ppm)	Time of Sample Analysis	Field TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SC-1	9/20/2012	9:07	South Wall	26.4	10:26	50.7	20.0	1	HMW
SC-2	9/20/2012	9:09	West Wall	1.4	10:28	47.1	20.0	1	HMW
SC-3	9/20/2012	9:20	West Base	193	10:30	76.2	20.0	1	HMW
SC-4	9/20/2012	9:17	East Base	411	10:33	94.3	20.0	1	HMW
SC-5	9/20/2012	9:12	East Wall	11.6	10:35	31.4	20.0	1	HMW
SC-6	9/20/2012	9:15	North Wall	584	10:37	67.7	20.0	1	HMW

Total Petroleum Hydrocarbons - USEPA 418.1

PQL Practical Quantitation Limit

ND Not Detected at the Reporting Limit

DF Dilution Factor

NA Not Analyzed

\*Field TPH concentrations recorded may be below PQL.

Analyst:

*Heather M. Woods*

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Animas Environmental Services**Client Sample ID:** SC-1**Project:** CoP Apache #1E**Collection Date:** 9/20/2012 9:07:00 AM**Lab ID:** 1209927-001**Matrix:** MEOH (SOIL)**Received Date:** 9/21/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/21/2012 11:17:04 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/21/2012 11:17:04 AM
Surr: DNOP	106	77.6-140		%REC	1	9/21/2012 11:17:04 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/21/2012 1:05:28 PM
Surr: BFB	104	84-116		%REC	1	9/21/2012 1:05:28 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	9/21/2012 1:05:28 PM
Toluene	ND	0.050		mg/Kg	1	9/21/2012 1:05:28 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/21/2012 1:05:28 PM
Xylenes, Total	0.12	0.10		mg/Kg	1	9/21/2012 1:05:28 PM
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	9/21/2012 1:05:28 PM

Chloride less than 30 mg/kg

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.

B Analyte detected in the associated Method Blank

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 greater than 2

RPD RPD outside accepted recovery limits

RL Reporting Detection Limit

S Spike Recovery outside accepted recovery limits

**PRELIMINARY**



# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1209927

Date Reported:

CLIENT: Animas Environmental Services

Client Sample ID: SC-2

Project: CoP Apache #1E

Collection Date: 9/20/2012 9:09:00 AM

Lab ID: 1209927-002

Matrix: MEOH (SOIL)

Received Date: 9/21/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/21/2012 11:38:47 AM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	9/21/2012 11:38:47 AM
Surr: DNOP	109	77.6-140		%REC	1	9/21/2012 11:38:47 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/21/2012 1:34:10 PM
Surr: BFB	100	84-116		%REC	1	9/21/2012 1:34:10 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	9/21/2012 1:34:10 PM
Toluene	ND	0.050		mg/Kg	1	9/21/2012 1:34:10 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/21/2012 1:34:10 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/21/2012 1:34:10 PM
Surr: 4-Bromofluorobenzene	104	80-120		%REC	1	9/21/2012 1:34:10 PM

Chloride less than 30 mg/kg

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.

E Value above analytical range

J Analyte detected below quantitation limits

P Sample not greater than 2

RL Reporting Detection Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

N RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

PRELIMINARY

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Animas Environmental Services

Client Sample ID: SC-3

Project: CoP Apache #1E

Collection Date: 9/20/2012 9:20:00 AM

Lab ID: 1209927-003

Matrix: MEOH (SOIL)

Received Date: 9/21/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/21/2012 12:01:16 PM
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	9/21/2012 12:01:16 PM
Surr: DNOP	112	77.6-140		%REC	1	9/21/2012 12:01:16 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	14	5.0		mg/Kg	1	9/21/2012 2:03:04 PM
Surr: BFB	129	84-116	S	%REC	1	9/21/2012 2:03:04 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	9/21/2012 2:03:04 PM
Toluene	ND	0.050		mg/Kg	1	9/21/2012 2:03:04 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/21/2012 2:03:04 PM
Xylenes, Total	0.14	0.10		mg/Kg	1	9/21/2012 2:03:04 PM
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	9/21/2012 2:03:04 PM

Chloride less than 30 mg/kg

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.

B Analyte detected in the associated Method Blank

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 greater than 2

N RPD outside accepted recovery limits

RL Reporting Detection Limit

S Spike Recovery outside accepted recovery limits

**PRELIMINARY**

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1209927

Date Reported:

CLIENT: Animas Environmental Services

Client Sample ID: SC-4

Project: CoP Apache #1E

Collection Date: 9/20/2012 9:17:00 AM

Lab ID: 1209927-004

Matrix: MEOH (SOIL)

Received Date: 9/21/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JMP
Diesel Range Organics (DRO)	17	10		mg/Kg	1	9/21/2012 12:22:58 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/21/2012 12:22:58 PM
Surr: DNOP	115	77.6-140		%REC	1	9/21/2012 12:22:58 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	72	20		mg/Kg	4	9/21/2012 3:29:28 PM
Surr: BFB	154	84-116	S	%REC	4	9/21/2012 3:29:28 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.10		mg/Kg	4	9/21/2012 3:29:28 PM
Toluene	ND	0.20		mg/Kg	4	9/21/2012 3:29:28 PM
Ethylbenzene	ND	0.20		mg/Kg	4	9/21/2012 3:29:28 PM
Xylenes, Total	2.6	0.40		mg/Kg	4	9/21/2012 3:29:28 PM
Surr: 4-Bromofluorobenzene	106	80-120		%REC	4	9/21/2012 3:29:28 PM

chloride 31mg/kg

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample not greater than 2

RL Reporting Detection Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not detected at the Reporting Limit

N RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

PRELIMINARY

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1209927

Date Reported:

CLIENT: Animas Environmental Services

Client Sample ID: SC-5

Project: CoP Apache #1E

Collection Date: 9/20/2012 9:12:00 AM

Lab ID: 1209927-005

Matrix: MEOH (SOIL)

Received Date: 9/21/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/21/2012 12:44:48 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/21/2012 12:44:48 PM
Surr: DNOP	111	77.6-140		%REC	1	9/21/2012 12:44:48 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	9/21/2012 2:31:50 PM
Surr: BFB	103	84-116		%REC	1	9/21/2012 2:31:50 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	9/21/2012 2:31:50 PM
Toluene	ND	0.050		mg/Kg	1	9/21/2012 2:31:50 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/21/2012 2:31:50 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/21/2012 2:31:50 PM
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	9/21/2012 2:31:50 PM

chloride less than 30mg/kg

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
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 greater than 2	RPD Outside accepted recovery limits
RL	Reporting Detection Limit	S Spike Recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Animas Environmental Services

Client Sample ID: SC-6

Project: CoP Apache #1E

Collection Date: 9/20/2012 9:15:00 AM

Lab ID: 1209927-006

Matrix: MEOH (SOIL)

Received Date: 9/21/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: JMP
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/21/2012 1:06:26 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/21/2012 1:06:26 PM
Surr: DNOP	118	77.6-140		%REC	1	9/21/2012 1:06:26 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	41	5.0		mg/Kg	1	9/21/2012 3:00:40 PM
Surr: BFB	187	84-116	S	%REC	1	9/21/2012 3:00:40 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	9/21/2012 3:00:40 PM
Toluene	ND	0.050		mg/Kg	1	9/21/2012 3:00:40 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/21/2012 3:00:40 PM
Xylenes, Total	1.7	0.10		mg/Kg	1	9/21/2012 3:00:40 PM
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	9/21/2012 3:00:40 PM

chloride less than 30 mg/kg

Qualifiers: \* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

RL Reporting Detection Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

**PRELIMINARY**