

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

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

OIL CONS. DIV DIST. 3

JAN 11 2016

Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company <b>Burlington Resources Oil &amp; Gas Company</b>	Contact <b>Lisa Hunter</b>
Address <b>3401 East 30<sup>th</sup> St, Farmington, NM</b>	Telephone No. <b>(505) 258-1607</b>
Facility Name: <b>Roelofs 1M</b>	Facility Type: <b>Gas</b>

Surface Owner <b>BLM</b>	Mineral Owner <b>NMSF-078415-A</b>	API No. <b>30-045-33198</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>D</b>	<b>22</b>	<b>29N</b>	<b>08W</b>	<b>795'</b>	<b>FNL</b>	<b>890'</b>	<b>FWL</b>	<b>San Juan</b>

Latitude 36.71634 Longitude -107.66894

**NATURE OF RELEASE**

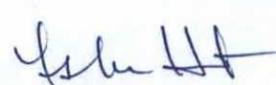
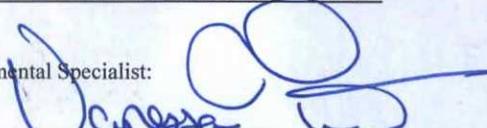
Type of Release <b>Hydrocarbon</b>	Volume of Release <b>54 bbls</b>	Volume Recovered <b>43 bbls</b>
Source of Release <b>Overflow of pit</b>	Date and Hour of Occurrence <b>Unknown</b>	Date and Hour of Discovery <b>8/5/2015 @ 10:30AM</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? <b>Cory Smith and Shari Ketcham</b>	
By Whom? <b>Lindsay Dumas</b>	Date and Hour <b>8/6/2015 @ 6AM</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>N/A</b>	

If a Watercourse was Impacted, Describe Fully.\*  
N/A

Describe Cause of Problem and Remedial Action Taken.\*  
A vandal opened the drain valve releasing the contents into the pit causing the pit to overflow 54 bbls of condensate into the cribbing.

Describe Area Affected and Cleanup Action Taken.\*  
**Excavation terminated at 41' x 58' x 2' Deep. 378 c/yds of soil was transported to IEI Land Farm and 378 c/yds of clean soil was transported from Aztec Machine Co, and placed in the excavation site. Although Analytical results for the base were still above regulatory standards, OCD and BLM approved spraying the base with Potassium Permanganate and backfilling due to site rank of 10 (based on distance to ground and surface water) – no further action required. The soil sampling report is attached for review.**

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>	
	Approved by Environmental Specialist: 	
Printed Name: <b>Lisa Hunter</b>	Approval Date: <b>2/5/2016</b>	Expiration Date:
Title: <b>Field Environmental Specialist</b>	Conditions of Approval: <b>—</b>	
E-mail Address: <b>Lisa.Hunter@cop.com</b>	Attached <input type="checkbox"/>	
Date: <b>January 6, 2016</b>	Phone: <b>(505) 258-1607</b>	

\* Attach Additional Sheets If Necessary

**NCS 1524540246**



December 22, 2015

Lisa Hunter  
ConocoPhillips  
San Juan Business Unit  
(505) 258-1607

OIL CONS. DIV DIST. 3

JAN 11 2016

*Via electronic mail to:*  
[SJBUE-Team@ConocoPhillips.com](mailto:SJBUE-Team@ConocoPhillips.com)

**RE: Release Assessment and Final Excavation Report  
Roelofs #1M  
San Juan County, New Mexico**

Dear Ms. Hunter:

On August 27, October 28 and November 2, 2015, Animas Environmental Services, LLC (AES) completed an initial release assessment and environmental clearance of the final excavation limits at the ConocoPhillips (COPC) Roelofs #1M, located in San Juan County, New Mexico. The release consisted of approximately 54 barrels (bbls) of condensate associated with vandalism of the below grade tank (BGT). The initial release assessment was completed by AES on August 27, 2015, and the initial excavation was completed by COPC contractors prior to AES' arrival on November 2, 2015. Final excavation extents were reached on November 12, 2015, and sampling was conducted by COPC.

## 1.0 Site Information

### 1.1 Location

Site Name – Roelofs #1M  
Location – NW¼ NW¼, Section 22, T29N, R8W, San Juan County, New Mexico  
Well Head Latitude/Longitude – N36.71625 and W107.66914, respectively  
Release Location Latitude/Longitude – N36.71634 and  
W107.66894, respectively  
Land Jurisdiction – Bureau of Land Management (BLM)  
Figure 1. Topographic Site Location Map  
Figure 2. Aerial Site Map, August 2015

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

1911 Main, Ste 280  
Durango, CO 81301  
970-403-3084

## 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 10 based on the following factors:

- **Depth to Groundwater:** Based on elevation, topographic interpretation and visual reconnaissance, depth to groundwater is interpreted to be greater than 100 feet below ground surface (bgs). (0 points)
- **Wellhead Protection Area:** The release location is not within a wellhead protection area. (0 points)
- **Distance to Surface Water Body:** An unnamed wash approximately 520 feet northeast of the BGT ultimately flows into Cutter Reservoir. (10 points)

## 1.3 Assessment

AES was initially contacted by Lindsay Dumas of COPC on August 17, 2015, and on August 27, 2015, Emilee Skyles and Sam Glasses of AES completed the release assessment field work. The assessment included collection and field sampling of 28 soil samples from 13 borings in and around the release area. Soil borings were terminated between 0.5 and 3 feet on shale. Based on field sampling results, AES recommended excavation of the release area. Sample locations and soil borings are shown on Figure 3 and 4.

On October 28, 2015, AES returned to the location to collect confirmation soil samples of the excavation. 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 initial excavation measured approximately 47 feet by 58 feet by 2 to 4 feet in depth. Based on field and laboratory analytical results, AES recommended removal of the 2 foot bench portion of the base, with the entire excavation being 4 feet in depth. On November 2, AES collected one additional composite sample (SC-6) from the base of the excavation that returned similar field and laboratory results. COPC contractors extended the base of the excavation by an additional 0.5 to 1 foot. A final composite sample (5 pt Composite) was collected by Lisa Hunter, COPC representative, on November 12, 2015.

Additional remedial activities included the application of potassium permanganate (December 2015), with no further sampling required by NMOCD and BLM. Application and approval to backfill were approved by Cory Smith, NMOCD representative, in email correspondence dated November 24, 2015, and Katherina Diemer, BLM representative, in email correspondence dated November 25, 2015. The excavation was terminated on sandstone, and the area of the final excavation measured approximately 47 feet by 58 feet

by 4.5 to 5 feet in depth. Sample locations and final excavation extents are presented on Figure 5.

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## 2.0 Soil Sampling

A total of 28 discrete soil samples from 13 borings (SB-1 through SB-13) and seven composite samples (SC-1 through SC-6 and 5 pt composite) were collected during the assessments and excavation clearances. All soil samples were field screened for volatile organic compounds (VOCs), with the exception of 5 pt composite, and selected samples were also analyzed for total petroleum hydrocarbons (TPH). All composite samples 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. All six soil samples were laboratory analyzed for:

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

### 2.3 Field and Laboratory Analytical Results

On August 27, 2015, initial assessment field screening results for VOCs via OVM showed concentrations ranging from 3.2 ppm in SB-6 up to 5,898 ppm in SB-3. Field TPH concentrations ranged 38.7 mg/kg in SB-6 up to 10,700 mg/kg in SB-1.

On October 28 and November 2, 2015, excavation field screening results for VOCs via OVM ranged from 250 ppm in SC-2 up to 4,905 ppm in SC-1. Field TPH concentrations ranged from 63.3 mg/kg in SC-2 up to 2,440 mg/kg in SC-6. Results are included below in Table 1 and on Figures 3 and 5, while a cross section showing the vertical and horizontal extent of contamination is included on Figure 4. The AES Field Sampling Reports are attached.

Table 1. Soil Field VOCs and TPH Results  
 Roelofs #1M Initial Release Assessment and Final Excavation  
 August, October and November 2015

<i>Sample ID</i>	<i>Date Sampled</i>	<i>Sample Depth (ft bgs)</i>	<i>VOCs via OVM (ppm)</i>	<i>TPH 418.1 (mg/kg)</i>
<i>NMOCD Action Level*</i>			<i>100</i>	<i>1,000</i>
SB-1	8/27/15	0.5	4,774	6,790
		2	3,735	10,700
		3	3,778	5,480
SB-2	8/27/15	0.5	1,907	NA
		2	4,819	936
SB-3	8/27/15	0.5	803	NA
		2	5,898	1,250
SB-4	8/27/15	0.5	118	NA
		2	3,788	>2,500
SB-5	8/27/15	0.5	26.8	NA
		2.5	4,465	3,260
SB-6	8/27/15	0.5	3.2	NA
		1.5	42.5	38.7
SB-7	8/27/15	0.5	37.5	NA
SB-8	8/27/15	0.5	133	NA
		1.5	3,895	>2,500
SB-9	8/27/15	0.5	14.1	NA
		1.5	4.6	54.4

<i>Sample ID</i>	<i>Date Sampled</i>	<i>Sample Depth (ft bgs)</i>	<i>VOCs via OVM (ppm)</i>	<i>TPH 418.1 (mg/kg)</i>
<i>NMOCD Action Level*</i>			<b>100</b>	<b>1,000</b>
SB-10	8/27/15	0.5	17.9	NA
		2	39.2	46.5
SB-11	8/27/15	0.5	48.2	NA
		1	32.0	40.2
SB-12	8/27/15	0.5	51.0	NA
		2	59.2	NA
SB-12	8/27/15	2.5	31.3	43.4
SB-13	8/27/15	0.5	41.4	NA
		2	67.2	NA
		3	36.7	65.3
SC-1	10/28/15	0 to 4	<b>4,905</b>	938
SC-2	10/28/15	0 to 4	<b>250</b>	63.3
SC-3	10/28/15	0 to 4	<b>4,251</b>	312
SC-4	10/28/15	0 to 4	<b>1,156</b>	102
SC-5	10/28/15	2 to 4	<b>3,553</b>	NA
SC-6	11/2/15	4	<b>2,960</b>	<b>2,440</b>
5 pt composite	11/12/15	4.5 to 5	NA	NA

NA - not analyzed

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

Laboratory analyses for SC-1 through SC-6 were used to confirm field sampling results from the final excavation. Benzene concentrations were reported below laboratory detection limits in all samples, with the exception of SC-1 (0.43 mg/kg). Total BTEX concentrations ranged from below laboratory detection limits of 0.244 mg/kg in SC-2 up to 45.5 mg/kg in 5 pt composite. TPH concentrations as GRO/DRO were reported from 17 mg/kg (SC-2) up to 1,480 mg/kg (5 pt composite). Results are presented in Table 2 and on Figure 5. The laboratory analytical reports are attached.

Table 2. Laboratory Analytical Results – Benzene, Total BTEX, and TPH  
 Roelofs #1M Final Excavation  
 October and November 2015

<i>Sample ID</i>	<i>Date Sampled</i>	<i>Sample Depth (ft bgs)</i>	<i>Benzene (mg/kg)</i>	<i>Total BTEX (mg/kg)</i>	<i>GRO (mg/kg)</i>	<i>DRO (mg/kg)</i>
<i>NMOCD Action Level*</i>			10	50	1,000	
SC-1	10/28/15	0 to 4	0.43	42	570	220
SC-2	10/28/15	0 to 4	<0.049	<0.244	<4.9	17
SC-3	10/28/15	0 to 4	<0.12	8.6	160	57
SC-4	10/28/15	0 to 4	<0.049	2.1	36	25
SC-5	10/28/15	2 to 4	<0.18	23	<b>710</b>	<b>590</b>
SC-6	11/2/15	4	<0.071	20.8	<b>720</b>	<b>500</b>
5 pt composite	11/12/15	4.5 to 5	<0.12	45.5	<b>880</b>	<b>600</b>

\*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 August 27, 2015, AES conducted an initial assessment of petroleum contaminated soils associated with a release of produced water and condensate at the Roelofs #1M. 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 10.

Initial assessment field sampling results above the NMOCD action levels of 100 ppm VOCs and 1,000 mg/kg TPH were reported in SB-1 through SB-5 and SB-8. The highest VOC concentration was reported in SB-3 with 5,898 ppm, and the highest TPH concentration was reported in SB-1 with 10,700 mg/kg.

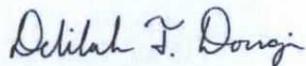
On October 28 and November 2, 2015, final clearance of the excavated area was completed. Field sampling results showed that VOC concentrations were above applicable NMOCD action levels for the final walls and base of the excavation. Field TPH concentrations were below the applicable NMOCD action level of 1,000 mg/kg for the final walls. However, the base (SC-6) exceeded the NMOCD action levels of 1,000 mg/kg with a TPH concentration of 2,440 mg/kg. Laboratory analytical results reported benzene and total BTEX concentrations below the applicable NMOCD action level in all samples. TPH concentrations as GRO/DRO were reported below the applicable NMOCD action level in the final sidewalls of the excavations (SC-1 through SC-4). On November 2 and 12, 2015, the

base composite soil samples (SC-6 and 5pt Composite) collected by AES and COPC, respectively, remained slightly above NMOCD action levels.

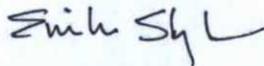
Based on the final field sampling and laboratory analytical results of the excavation of petroleum contaminated soils at the Roelofs #1M, benzene, total BTEX, and TPH concentrations were below the applicable NMOCD action levels for all four of the final sidewalls of the excavation. However, the base of the excavation exceeded applicable NMOCD action levels for total TPH. On November 24 and 25, 2015, COPC received approval from Cory Smith, NMOCD, and Katherina Diemer, BLM, to backfill the excavation following the application of the potassium permanganate to the base. Additional sampling was not requested by either agency, and 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.

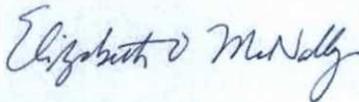
Sincerely,



Delilah T. Dougi  
Geology Technician



Emilee Skyles  
Geologist/Project Lead



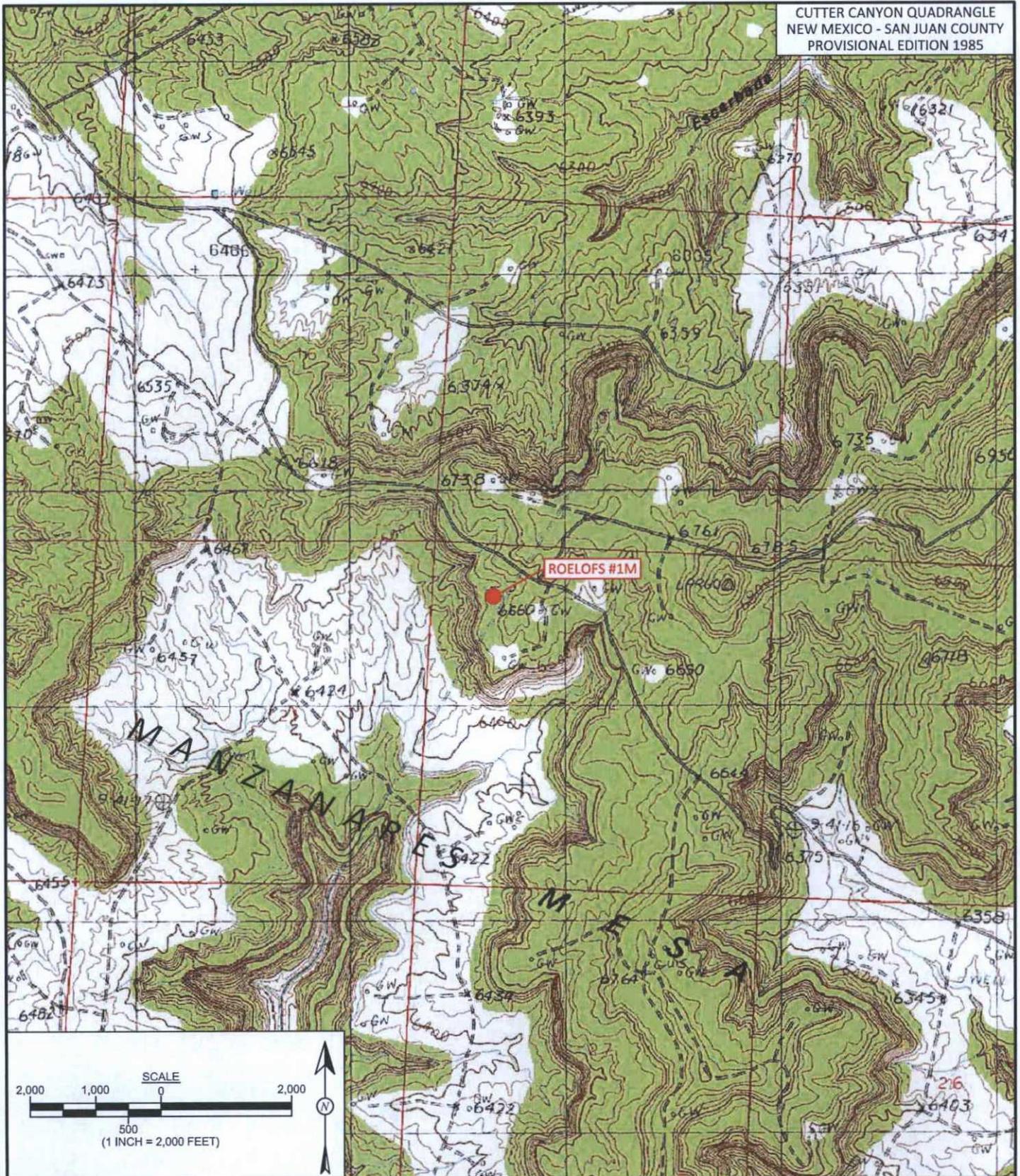
Elizabeth McNally, PE

Attachments:

- Figure 1. Topographic Site Location Map
- Figure 2. Aerial Site Map, August 2015
- Figure 3. Initial Assessment Sample Locations and Results, August 2015
- Figure 4. Initial Assessment Cross Section, August 2015
- Figure 5. Final Excavation Sample Locations and Results, October and November 2015
- AES Field Sampling Report 082715
- AES Field Sampling Report 102815

AES Field Sampling Report 110215  
Hall Laboratory Analytical Report 1510D62  
Hall Laboratory Analytical Report 1511039  
Hall Laboratory Analytical Report 1511627

C:\Users\eskyles\Dropbox (Animas Environmental)\0000 Animas Server Dropbox EM (1)\2015  
Projects\ConocoPhillips\Roelofs 1M\Roelofs #1M Release and Final Excavation Report 122215.docx



**FIGURE 1**

**TOPOGRAPHIC SITE LOCATION MAP**

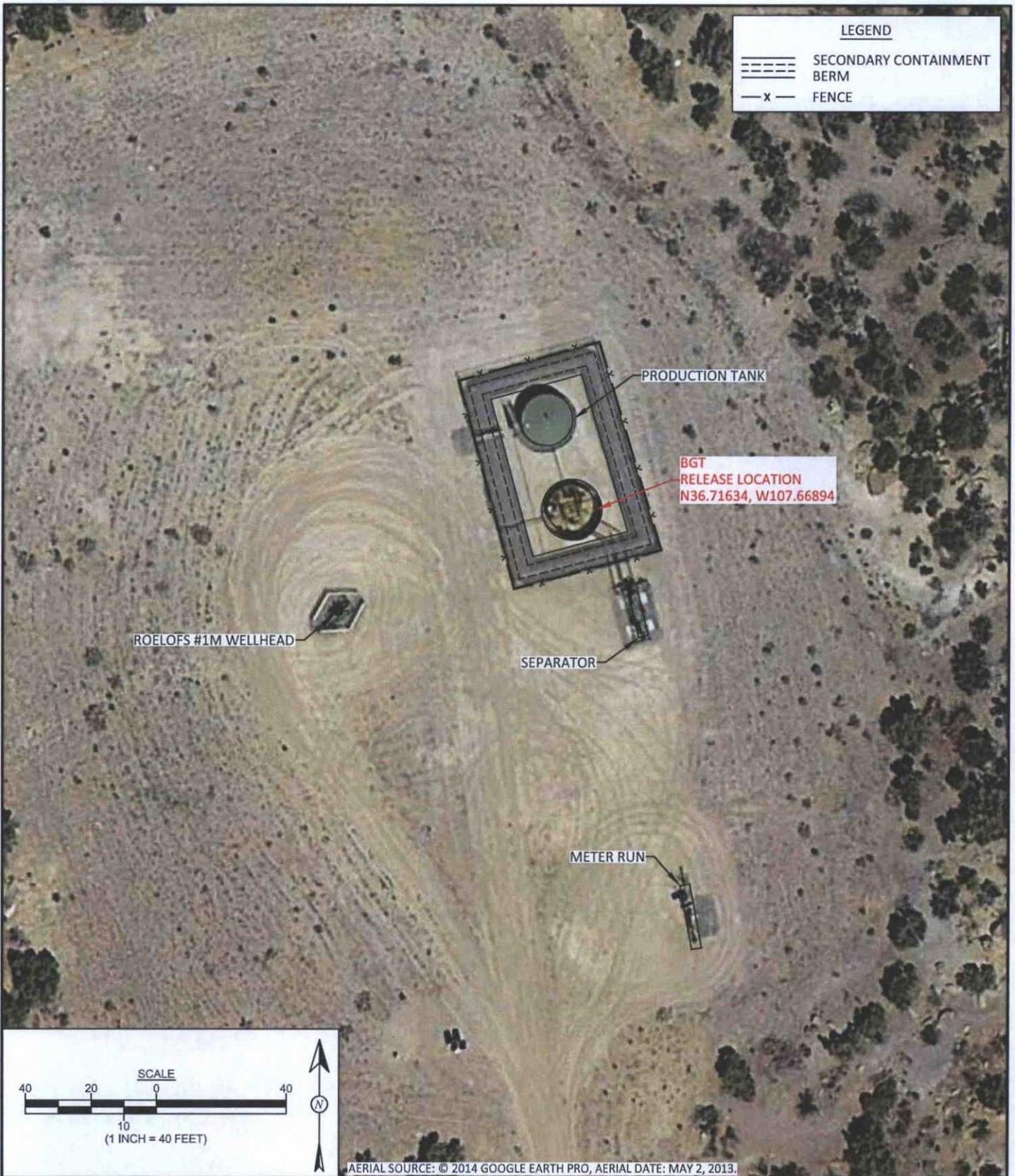
ConocoPhillips  
 ROELOFS #1M  
 NW¼ NW¼, SECTION 22, T29N, R8W  
 SAN JUAN COUNTY, NEW MEXICO  
 N36.71625, W107.66914

<b>DRAWN BY:</b> D. Dougi	<b>DATE DRAWN:</b> September 01, 2015
<b>REVISIONS BY:</b> D. Dougi	<b>DATE REVISED:</b> December 17, 2015
<b>CHECKED BY:</b> E. Skyles	<b>DATE CHECKED:</b> December 17, 2015
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> December 17, 2015



**animas  
 environmental  
 services**

Farmington, NM • Durango, CO  
 animasenvironmental.com



## FIGURE 2

### AERIAL SITE MAP AUGUST 2015

ConocoPhillips  
ROELOFS #1M  
NW¼, NW¼, SECTION 22, T29N, R8W  
SAN JUAN COUNTY, NEW MEXICO  
N36.71625, W107.66914



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services

Farmington, NM • Durango, CO  
animasenvironmental.com

**DRAWN BY:**

D. Dougi

**DATE DRAWN:**

September 01, 2015

**REVISIONS BY:**

D. Dougi

**DATE REVISED:**

December 22, 2015

**CHECKED BY:**

E. Skyles

**DATE CHECKED:**

December 22, 2015

**APPROVED BY:**

E. McNally

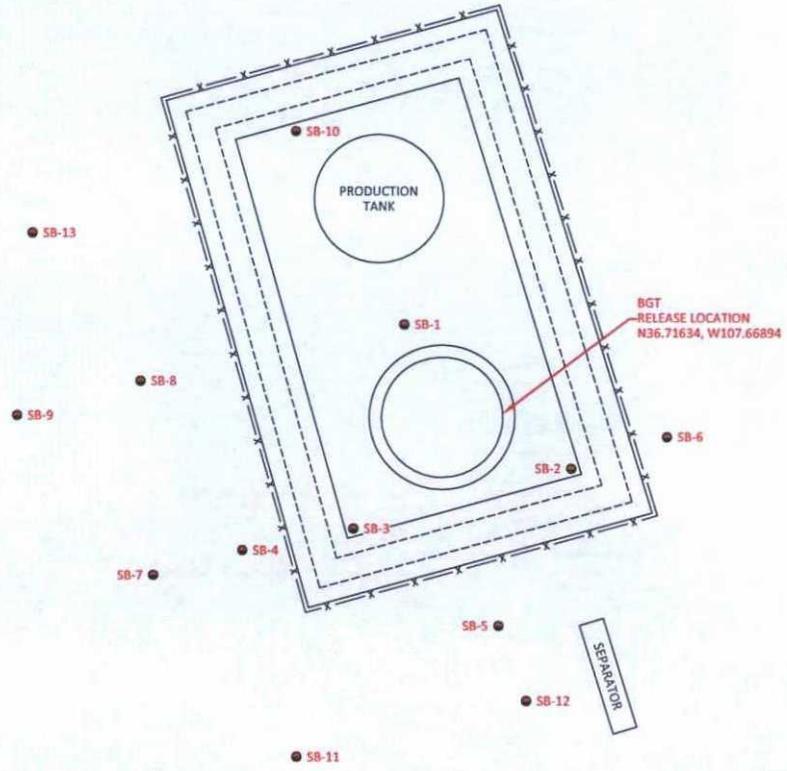
**DATE APPROVED:**

December 22, 2015

Field Sampling Results				
Sample ID	Date	Depth (ft)	OVM-PID (ppm)	TPH (mg/kg)
<b>NMOC ACTION LEVEL</b>				
		0.5	4,774	6,790
		2.0	3,735	10,700
		3.0	3,778	5,480
SB-1	8/27/15	0.5	1,907	NA
		2.0	4,819	936
SB-2	8/27/15	0.5	803	NA
		2.0	5,898	1,250
SB-3	8/27/15	0.5	118	NA
		2.0	3,788	>2,500
SB-4	8/27/15	0.5	26.8	NA
		2.5	4,465	3,260
SB-5	8/27/15	0.5	3.2	NA
		1.5	42.5	38.7
SB-6	8/27/15	0.5	37.5	NA
SB-7	8/27/15	0.5	133	NA
		1.5	3,895	>2,500
SB-8	8/27/15	0.5	14.1	NA
		1.5	4.6	54.4
SB-9	8/27/15	0.5	17.9	NA
		2.0	39.2	46.5
SB-10	8/27/15	0.5	48.2	NA
		1.0	32.0	40.2
SB-11	8/27/15	0.5	51.0	NA
		2.0	59.2	NA
		2.5	31.3	43.4
SB-12	8/27/15	0.5	41.4	NA
		2.0	67.2	NA
		3.0	36.7	65.3
SB-13	8/27/15	0.5		
		2.0		
		3.0		

NA - NOT ANALYZED

ROELOFS #1M WELLHEAD



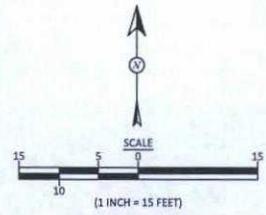
**FIGURE 3**

**INITIAL ASSESSMENT SAMPLE LOCATIONS AND RESULTS AUGUST 2015**  
 ConocoPhillips  
 ROELOFS #1M  
 NW¼ NW¼, SECTION 22, T29N, R8W  
 SAN JUAN COUNTY, NEW MEXICO  
 N36.71625, W107.66914



<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> August 27, 2015
<b>REVISIONS BY:</b> D. Dougi	<b>DATE REVISED:</b> December 22, 2015
<b>CHECKED BY:</b> E. Skyles	<b>DATE CHECKED:</b> December 22, 2015
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> December 22, 2015

- LEGEND**
- SOIL BORING LOCATIONS
  - SECONDARY CONTAINMENT BERM
  - x- FENCE



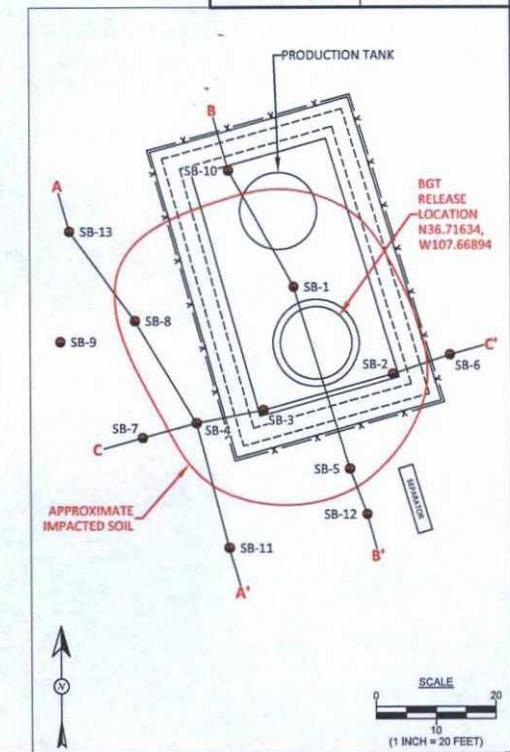
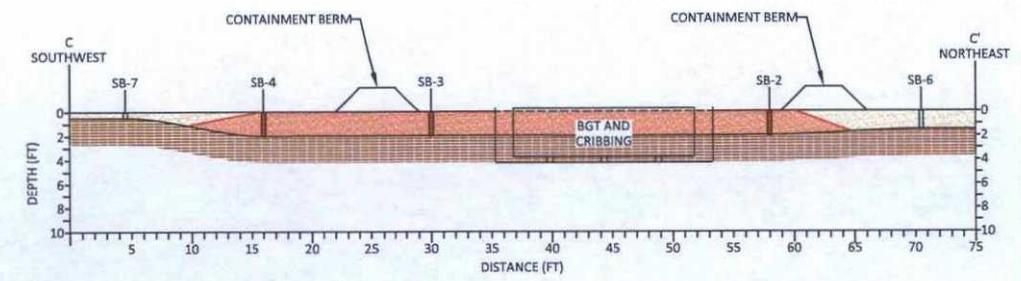
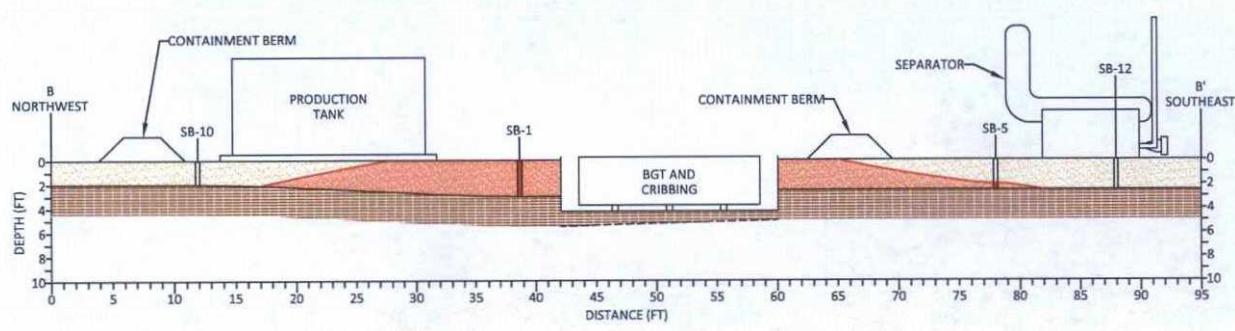
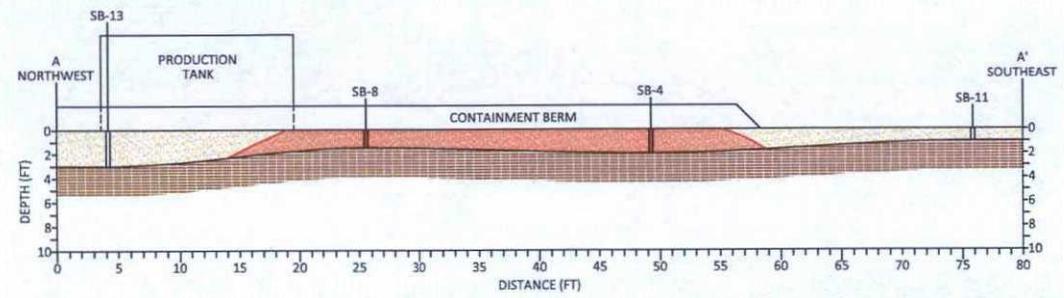
**FIGURE 4**

**INITIAL ASSESSMENT CROSS SECTION**  
**AUGUST 2015**  
 ConocoPhillips  
 ROELOFS #13M  
 NW¼, NW¼ SECTION 22, T29N, R8W  
 SAN JUAN COUNTY, NEW MEXICO  
 N36.71625, W107.66914



<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> September 11, 2015
<b>REVISIONS BY:</b> D. Dougl	<b>DATE REVISED:</b> December 22, 2015
<b>CHECKED BY:</b> E. Skyles	<b>DATE CHECKED:</b> December 22, 2015
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> December 22, 2015

- LEGEND**
- SOIL BORING LOCATIONS
  - ▬▬▬ SECONDARY CONTAINMENT BERM
  - x- FENCE
  - SAND
  - ▨ CLAYEY SAND
  - APPROXIMATE EXTENT OF IMPACTED SOIL (IN-PLACE 237 YD<sup>3</sup>) BASED ON OVM AND/OR TPH



NOT TO SCALE

**FIGURE 5**

**FINAL EXCAVATION SAMPLE LOCATIONS AND RESULTS  
OCTOBER AND NOVEMBER 2015**

ConocoPhillips  
ROELOFS #11M  
NW¼, NW¼, SECTION 22, T29N, R8W  
SAN JUAN COUNTY, NEW MEXICO  
N36.71625, W107.66914



**animas  
environmental  
services**  
Farmington, NH • Durango, CO  
animasenvironmental.com

<b>DRAWN BY:</b> C. Larneman	<b>DATE DRAWN:</b> August 27, 2015
<b>REVISIONS BY:</b> D. Dougi	<b>DATE REVISED:</b> December 22, 2015
<b>CHECKED BY:</b> E. Skyles	<b>DATE CHECKED:</b> December 22, 2015
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> December 22, 2015

**LEGEND**

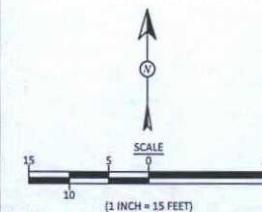
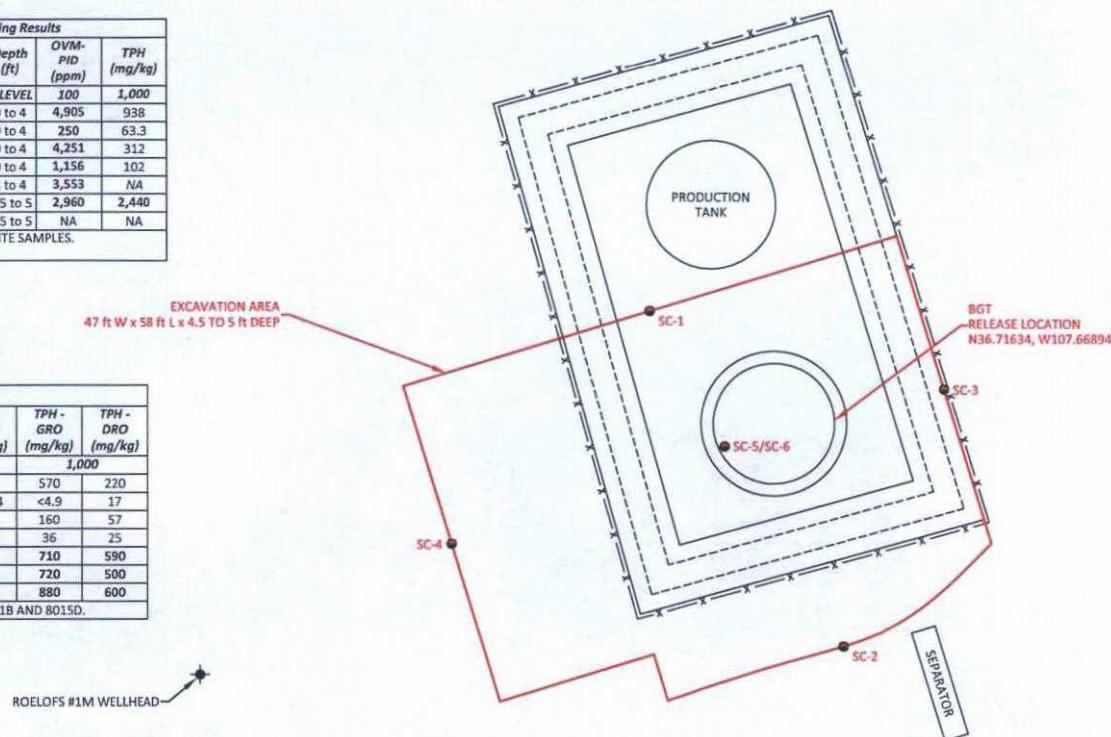
- SAMPLE LOCATIONS
- SECONDARY CONTAINMENT BERM
- x- FENCE

Field Sampling Results				
Sample ID	Date	Depth (ft)	OVM-PID (ppm)	TPH (mg/kg)
<b>NMOC ACTION LEVEL</b>			<b>100</b>	<b>1,000</b>
SC-1	10/28/15	0 to 4	4,905	938
SC-2	10/28/15	0 to 4	250	63.3
SC-3	10/28/15	0 to 4	4,251	312
SC-4	10/28/15	0 to 4	1,156	102
SC-5	10/28/15	2 to 4	3,553	NA
SC-6	11/2/15	4.5 to 5	2,960	2,440
5pt Composite	11/12/15	4.5 to 5	NA	NA

ALL SAMPLES WERE COMPOSITE SAMPLES.  
NA - NOT ANALYZED

Laboratory Analytical Results						
Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)
<b>NMOC ACTION LEVEL</b>			<b>10</b>	<b>50</b>	<b>1,000</b>	
SC-1	10/28/15	0 to 4	0.43	42	570	220
SC-2	10/28/15	0 to 4	<0.049	<0.244	<4.9	17
SC-3	10/28/15	0 to 4	<0.12	8.6	160	57
SC-4	10/28/15	0 to 4	<0.049	2.1	36	25
SC-5	10/28/15	2 to 4	<0.18	23	710	590
SC-6	11/2/15	4.5 to 5	<0.071	20.8	720	500
5pt Composite	11/12/15	4.5 to 5	<0.12	45.5	880	600

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



# AES Field Sampling Report

Animas Environmental Services, LLC



Client: ConocoPhillips

Project Location: Roelofs #1M

Date: 8/27/2015

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
SB-1 @ 0.5'	8/27/2015	9:45	4,774	6,790	10:37	200	10	EMS
SB-1 @ 2'	8/27/2015	9:52	3,735	10,700	10:54	200	10	EMS
SB-1 @ 3'	8/27/2015	10:00	3,778	5,480	11:02	200	10	EMS
SB-2 @ 0.5'	8/27/2015	10:10	1,907	Not Analyzed for TPH				
SB-2 @ 2'	8/27/2015	10:15	4,819	936	11:52	20.0	1	EMS
SB-3 @ 0.5'	8/27/2015	10:21	803	Not Analyzed for TPH				
SB-3 @ 2'	8/27/2015	10:28	5,898	1,250	12:06	20.0	1	EMS
SB-4 @ 0.5'	8/27/2015	10:35	118	Not Analyzed for TPH				
SB-4 @ 2'	8/27/2015	10:40	3,788	>2,500	12:08	20.0	1	EMS
SB-5 @ 0.5'	8/27/2015	10:43	26.8	Not Analyzed for TPH				
SB-5 @ 2.5'	8/27/2015	10:50	4,465	3,260	12:15	200	10	EMS
SB-6 @ 0.5'	8/27/2015	10:54	3.2	Not Analyzed for TPH				
SB-6 @ 1.5'	8/27/2015	11:02	42.5	38.7	12:18	20.0	1	EMS

Sample ID	Collection Date	Collection Time	OVM (ppm)	Field TPH* (mg/kg)	Field TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SB-7 @ 0.5'	8/27/2015	11:20	37.5	Not Analyzed for TPH				
SB-8 @ 0.5'	8/27/2015	11:36	133	Not Analyzed for TPH				
SB-8 @ 1.5'	8/27/2015	11:40	3,895	>2,500	13:08	20.0	1	EMS
SB-9 @ 0.5'	8/27/2015	11:50	14.1	Not Analyzed for TPH				
SB-9 @ 1.5'	8/27/2015	11:53	4.6	54.4	13:11	20.0	1	EMS
SB-10 @ 0.5'	8/27/2015	12:05	17.9	Not Analyzed for TPH				
SB-10 @ 2'	8/27/2015	12:11	39.2	46.5	13:13	20.0	1	EMS
SB-11 @ 0.5'	8/27/2015	12:20	48.2	Not Analyzed for TPH				
SB-11 @ 1'	8/27/2015	12:24	32.0	40.2	13:15	20.0	1	EMS
SB-12 @ 0.5'	8/27/2015	12:38	51.0	Not Analyzed for TPH				
SB-12 @ 2'	8/27/2015	12:44	59.2	Not Analyzed for TPH				
SB-12 @ 2.5'	8/27/2015	12:46	31.3	43.4	13:18	20.0	1	EMS
SB-13 @ 0.5'	8/27/2015	13:25	41.4	Not Analyzed for TPH				
SB-13 @ 2'	8/27/2015	13:30	67.2	Not Analyzed for TPH				
SB-13 @ 3'	8/27/2015	13:34	36.7	65.3	14:20	20.0	1	EMS

DF Dilution Factor  
NA Not Analyzed  
PQL Practical Quantitation Limit

\*Field TPH concentrations recorded may be below PQL.

Total Petroleum Hydrocarbons - USEPA 418.1

Analyst: *Eric SkL*

# AES Field Sampling Report

Animas Environmental Services, LLC



Client: ConocoPhillips

Project Location: Roelofs #1M

Date: 10/28/2015

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	10/28/2015	11:30	North Wall	4,905	938	11:48	20.0	1	EMS
SC-2	10/28/2015	11:55	South Wall	250	63.3	12:50	20.0	1	EMS
SC-3	10/28/2015	11:51	East Wall	4,251	312	12:53	20.0	1	EMS
SC-4	10/28/2015	13:45	West Wall	1,156	102	14:16	20.0	1	EMS
SC-5	10/28/2015	16:20	Base COMP	3,553	<i>Not Analyzed for TPH</i>				

DF Dilution Factor  
 NA Not Analyzed  
 PQL Practical Quantitation Limit

*\*TPH concentrations recorded may be below PQL.*

Total Petroleum Hydrocarbons - USEPA 418.1

Analyst: *Eric Skelton*

AES Field Sampling Report

Animas Environmental Services, LLC



Client: ConocoPhillips

Project Location: Roelofs #1M

Date: 11/2/2015

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-6	11/2/2015	9:35	Base Comp.	2,960	2,440	10:03	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](http://www.hallenvironmental.com)

November 02, 2015

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

RE: CoP Roelofs 1M

OrderNo.: 1510D62

Dear Emilee Skyles:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/29/2015 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 light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Animas Environmental

Client Sample ID: SC-1

Project: CoP Roelofs 1M

Collection Date: 10/28/2015 11:30:00 AM

Lab ID: 1510D62-001

Matrix: MEOH (SOIL)

Received Date: 10/29/2015 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	220	9.8		mg/Kg	1	10/29/2015 11:02:56 AM	22079
Surr: DNOP	120	70-130		%REC	1	10/29/2015 11:02:56 AM	22079
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	570	69		mg/Kg	20	10/29/2015 10:34:28 AM	22060
Surr: BFB	160	75.4-113	S	%REC	20	10/29/2015 10:34:28 AM	22060
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.43	0.35		mg/Kg	20	10/29/2015 10:34:28 AM	22060
Toluene	8.1	0.69		mg/Kg	20	10/29/2015 10:34:28 AM	22060
Ethylbenzene	2.5	0.69		mg/Kg	20	10/29/2015 10:34:28 AM	22060
Xylenes, Total	31	1.4		mg/Kg	20	10/29/2015 10:34:28 AM	22060
Surr: 4-Bromofluorobenzene	116	80-120		%REC	20	10/29/2015 10:34:28 AM	22060

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
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1510D62

Date Reported: 11/2/2015

CLIENT: Animas Environmental

Client Sample ID: SC-2

Project: CoP Roelofs 1M

Collection Date: 10/28/2015 11:55:00 AM

Lab ID: 1510D62-002

Matrix: SOIL

Received Date: 10/29/2015 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	17	10		mg/Kg	1	10/29/2015 1:19:20 PM	22079
Surr: DNOP	104	70-130		%REC	1	10/29/2015 1:19:20 PM	22079
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/30/2015 10:58:24 AM	22083
Surr: BFB	101	75.4-113		%REC	1	10/30/2015 10:58:24 AM	22083
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	10/30/2015 10:58:24 AM	22083
Toluene	ND	0.049		mg/Kg	1	10/30/2015 10:58:24 AM	22083
Ethylbenzene	ND	0.049		mg/Kg	1	10/30/2015 10:58:24 AM	22083
Xylenes, Total	ND	0.097		mg/Kg	1	10/30/2015 10:58:24 AM	22083
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	10/30/2015 10:58:24 AM	22083

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
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1510D62

Date Reported: 11/2/2015

CLIENT: Animas Environmental

Client Sample ID: SC-3

Project: CoP Roelofs 1M

Collection Date: 10/28/2015 11:51:00 AM

Lab ID: 1510D62-003

Matrix: SOIL

Received Date: 10/29/2015 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	57	9.8		mg/Kg	1	10/29/2015 1:46:12 PM	22079
Surr: DNOP	106	70-130		%REC	1	10/29/2015 1:46:12 PM	22079
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	160	25		mg/Kg	5	10/30/2015 11:21:37 AM	22083
Surr: BFB	169	75.4-113	S	%REC	5	10/30/2015 11:21:37 AM	22083
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.12		mg/Kg	5	10/30/2015 11:21:37 AM	22083
Toluene	0.90	0.25		mg/Kg	5	10/30/2015 11:21:37 AM	22083
Ethylbenzene	0.60	0.25		mg/Kg	5	10/30/2015 11:21:37 AM	22083
Xylenes, Total	7.1	0.49		mg/Kg	5	10/30/2015 11:21:37 AM	22083
Surr: 4-Bromofluorobenzene	119	80-120		%REC	5	10/30/2015 11:21:37 AM	22083

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
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1510D62

Date Reported: 11/2/2015

CLIENT: Animas Environmental

Client Sample ID: SC-4

Project: CoP Roelofs 1M

Collection Date: 10/28/2015 1:40:00 PM

Lab ID: 1510D62-004

Matrix: SOIL

Received Date: 10/29/2015 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	25	10		mg/Kg	1	10/29/2015 2:19:16 PM	22079
Surr: DNOP	108	70-130		%REC	1	10/29/2015 2:19:16 PM	22079
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	36	4.9		mg/Kg	1	10/30/2015 11:44:59 AM	22083
Surr: BFB	177	75.4-113	S	%REC	1	10/30/2015 11:44:59 AM	22083
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	10/30/2015 11:44:59 AM	22083
Toluene	0.29	0.049		mg/Kg	1	10/30/2015 11:44:59 AM	22083
Ethylbenzene	0.12	0.049		mg/Kg	1	10/30/2015 11:44:59 AM	22083
Xylenes, Total	1.7	0.097		mg/Kg	1	10/30/2015 11:44:59 AM	22083
Surr: 4-Bromofluorobenzene	119	80-120		%REC	1	10/30/2015 11:44:59 AM	22083

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
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1510D62

Date Reported: 11/2/2015

CLIENT: Animas Environmental

Client Sample ID: SC-5

Project: CoP Roelofs 1M

Collection Date: 10/28/2015 4:20:00 PM

Lab ID: 1510D62-005

Matrix: MEOH (SOIL)

Received Date: 10/29/2015 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	590	9.8		mg/Kg	1	10/29/2015 11:31:31 AM	22079
Surr: DNOP	112	70-130		%REC	1	10/29/2015 11:31:31 AM	22079
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	710	36		mg/Kg	10	10/29/2015 10:57:43 AM	22060
Surr: BFB	369	75.4-113	S	%REC	10	10/29/2015 10:57:43 AM	22060
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.18		mg/Kg	10	10/29/2015 10:57:43 AM	22060
Toluene	1.6	0.36		mg/Kg	10	10/29/2015 10:57:43 AM	22060
Ethylbenzene	1.8	0.36		mg/Kg	10	10/29/2015 10:57:43 AM	22060
Xylenes, Total	20	0.72		mg/Kg	10	10/29/2015 10:57:43 AM	22060
Surr: 4-Bromofluorobenzene	128	80-120	S	%REC	10	10/29/2015 10:57:43 AM	22060

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
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

**QC SUMMARY REPORT**  
**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1510D62  
 02-Nov-15

**Client:** Animas Environmental  
**Project:** CoP Roelofs 1M

Sample ID <b>MB-22079</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>22079</b>		RunNo: <b>29870</b>							
Prep Date: <b>10/29/2015</b>	Analysis Date: <b>10/29/2015</b>		SeqNo: <b>909857</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.8		10.00		88.3	70	130			

Sample ID <b>LCS-22079</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>22079</b>		RunNo: <b>29870</b>							
Prep Date: <b>10/29/2015</b>	Analysis Date: <b>10/29/2015</b>		SeqNo: <b>909858</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.6	57.4	139			
Surr: DNOP	4.4		5.000		87.1	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                          |
| R RPD outside accepted recovery limits                  | RL Reporting Detection Limit                      |
| S % Recovery outside of range due to dilution or matrix |   |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510D62

02-Nov-15

**Client:** Animas Environmental  
**Project:** CoP Roelofs IM

Sample ID	<b>MB-22060</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>22060</b>	RunNo:	<b>29871</b>					
Prep Date:	<b>10/28/2015</b>	Analysis Date:	<b>10/29/2015</b>	SeqNo:	<b>910476</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		85.9	75.4	113			

Sample ID	<b>LCS-22060</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>22060</b>	RunNo:	<b>29871</b>					
Prep Date:	<b>10/28/2015</b>	Analysis Date:	<b>10/29/2015</b>	SeqNo:	<b>910477</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.5	79.6	122			
Surr: BFB	920		1000		91.7	75.4	113			

Sample ID	<b>MB-22083</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>22083</b>	RunNo:	<b>29913</b>					
Prep Date:	<b>10/29/2015</b>	Analysis Date:	<b>10/30/2015</b>	SeqNo:	<b>911431</b>	Units:	<b>mg/Kg</b>			
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		88.1	75.4	113			

Sample ID	<b>LCS-22083</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>22083</b>	RunNo:	<b>29913</b>					
Prep Date:	<b>10/29/2015</b>	Analysis Date:	<b>10/30/2015</b>	SeqNo:	<b>911432</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	106	79.6	122			
Surr: BFB	950		1000		94.8	75.4	113			

**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
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510D62

02-Nov-15

**Client:** Animas Environmental  
**Project:** CoP Roelofs 1M

Sample ID	<b>MB-22060</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>22060</b>	RunNo:	<b>29871</b>					
Prep Date:	<b>10/28/2015</b>	Analysis Date:	<b>10/29/2015</b>	SeqNo:	<b>910488</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID	<b>LCS-22060</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>22060</b>	RunNo:	<b>29871</b>					
Prep Date:	<b>10/28/2015</b>	Analysis Date:	<b>10/29/2015</b>	SeqNo:	<b>910489</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	111	80	120			
Toluene	0.99	0.050	1.000	0	99.3	80	120			
Ethylbenzene	0.97	0.050	1.000	0	97.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.0	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID	<b>MB-22083</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>22083</b>	RunNo:	<b>29913</b>					
Prep Date:	<b>10/29/2015</b>	Analysis Date:	<b>10/30/2015</b>	SeqNo:	<b>911459</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID	<b>LCS-22083</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>22083</b>	RunNo:	<b>29913</b>					
Prep Date:	<b>10/29/2015</b>	Analysis Date:	<b>10/30/2015</b>	SeqNo:	<b>911460</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	108	80	120			
Toluene	0.98	0.050	1.000	0	97.7	80	120			
Ethylbenzene	0.97	0.050	1.000	0	96.8	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.0	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	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
- P Sample pH Not In Range
- RL Reporting Detection Limit

**QC SUMMARY REPORT**  
**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1510D62  
 02-Nov-15

**Client:** Animas Environmental  
**Project:** CoP Roelofs 1M

Sample ID	1510D62-002AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SC-2	Batch ID:	22083	RunNo:	29913					
Prep Date:	10/29/2015	Analysis Date:	10/30/2015	SeqNo:	911461	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.048	0.9597	0	119	69.6	136			
Toluene	1.1	0.048	0.9597	0.02151	107	76.2	134			
Ethylbenzene	1.0	0.048	0.9597	0.02058	107	75.8	137			
Xylenes, Total	3.2	0.096	2.879	0.09273	108	78.9	133			
Surr: 4-Bromofluorobenzene	1.1		0.9597		117	80	120			

Sample ID	1510D62-002AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SC-2	Batch ID:	22083	RunNo:	29913					
Prep Date:	10/29/2015	Analysis Date:	10/30/2015	SeqNo:	911462	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.047	0.9479	0	119	69.6	136	1.73	20	
Toluene	1.0	0.047	0.9479	0.02151	107	76.2	134	1.22	20	
Ethylbenzene	1.0	0.047	0.9479	0.02058	107	75.8	137	0.985	20	
Xylenes, Total	3.1	0.095	2.844	0.09273	106	78.9	133	2.17	20	
Surr: 4-Bromofluorobenzene	1.1		0.9479		114	80	120	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                          |
| R RPD outside accepted recovery limits                  | RL Reporting Detection Limit                      |
| S % Recovery outside of range due to dilution or matrix |   |

**Sample Log-In Check List**

Client Name: **Anlmas Environmental**

Work Order Number: **1510D62**

RcptNo: **1**

Received by/date: **JA 10/29/15**

Logged By: **Ashley Gallegos 10/29/2015 8:15:00 AM**

Completed By: **Ashley Gallegos 10/29/2015 8:39:43 AM**

Reviewed By: **JA 10/29/15**

*AG*  
*AG*

**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° C to 6.0°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  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? Yes  No  # of preserved bottles checked for pH: ( <2 or >12 unless noted )
- 13. Are matrices correctly identified on Chain of Custody? Yes  No  Adjusted?
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No  Checked by:
- (If no, notify 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:

**Cooler Information**

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

# Chain-of-Custody Record

Turn-Around Time:

Standard  Rush See Comments Please!

Project Name:

COPC Roelofs IM

Project #:

Project Manager:

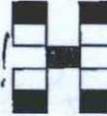
E. Skyles

Sampler:

E. Skyles

On Ice:  Yes  No

Sample Temperature: 1.1



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + THMs (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / WFO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
28/15	11:30	SOIL	SC-1	1-4oz Med kit	Cool Med	1510DU2-001	X	X										
28/15	11:55	SOIL	SC-2	1-4oz	Cool	-002	X	X										
28/15	11:51	SOIL	SC-3	1-4oz	Cool	-003	X	X										
28/15	13:40	SOIL	SC-4	1-4oz	Cool	-004	X	X										
28/15	16:20	SOIL	SC-5	1-4oz Med kit	Cool Med	-005	X	X										

Received by: *Christa Waechter* Date Time: 10/28/15 1642

Received by: *Joe Acosta* Date Time: 10/29/15 0815

Remarks: Bill to ConocoPhillips  
 WO# 20970697  
 Area: 23  
 Supervisor: Greg Dunn  
 UGR: BENKE  
 ordered by: Lindsay Purnas

PLEASE RUSH  
 ONLY SC-1  
 and SC-5!  
 THANKS!!!

Relinquished by: *E. Skyles*

Relinquished by: *Christa Waechter*

Date Time: 28/15 1642

Date Time: 28/15 1740

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

November 04, 2015

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

RE: COPC Roelofs 1M

OrderNo.: 1511039

Dear Emilee Skyles:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/3/2015 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 light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

Analytical Report

Lab Order 1511039

Date Reported: 11/4/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental

Client Sample ID: SC-6

Project: COPC Roelofs IM

Collection Date: 11/2/2015 9:35:00 AM

Lab ID: 1511039-001

Matrix: MEOH (SOIL)

Received Date: 11/3/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	500	10		mg/Kg	1	11/3/2015 10:11:36 AM	22137
Surr: DNOP	104	70-130		%REC	1	11/3/2015 10:11:36 AM	22137
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	720	14		mg/Kg	5	11/3/2015 9:45:54 AM	22126
Surr: BFB	842	75.4-113	S	%REC	5	11/3/2015 9:45:54 AM	22126
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.071		mg/Kg	5	11/3/2015 9:45:54 AM	22126
Toluene	0.77	0.14		mg/Kg	5	11/3/2015 9:45:54 AM	22126
Ethylbenzene	ND	0.14		mg/Kg	5	11/3/2015 9:45:54 AM	22126
Xylenes, Total	20	0.28		mg/Kg	5	11/3/2015 9:45:54 AM	22126
Surr: 4-Bromofluorobenzene	166	80-120	S	%REC	5	11/3/2015 9:45:54 AM	22126

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
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

**QC SUMMARY REPORT**  
**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1511039  
 04-Nov-15

**Client:** Animas Environmental  
**Project:** COPC Roelofs IM

Sample ID <b>MB-22137</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>22137</b>		RunNo: <b>29954</b>							
Prep Date: <b>11/3/2015</b>	Analysis Date: <b>11/3/2015</b>		SeqNo: <b>912449</b>				Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.7		10.00		97.2	70	130			

Sample ID <b>LCS-22137</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>22137</b>		RunNo: <b>29954</b>							
Prep Date: <b>11/3/2015</b>	Analysis Date: <b>11/3/2015</b>		SeqNo: <b>912452</b>				Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.4	57.4	139			
Surr: DNOP	5.1		5.000		102	70	130			

Sample ID <b>MB-22117</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>22117</b>		RunNo: <b>29954</b>							
Prep Date: <b>11/2/2015</b>	Analysis Date: <b>11/3/2015</b>		SeqNo: <b>912719</b>				Units: <b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		125	70	130			

Sample ID <b>LCS-22117</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>22117</b>		RunNo: <b>29954</b>							
Prep Date: <b>11/2/2015</b>	Analysis Date: <b>11/3/2015</b>		SeqNo: <b>912857</b>				Units: <b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.4		5.000		129	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
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

**QC SUMMARY REPORT**  
**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1511039  
 04-Nov-15

**Client:** Animas Environmental  
**Project:** COPC Roelofs 1M

Sample ID <b>MB-22126</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>22126</b>		RunNo: <b>29970</b>							
Prep Date: <b>11/2/2015</b>	Analysis Date: <b>11/3/2015</b>		SeqNo: <b>913194</b>		Units: <b>mg/Kg</b>					
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		88.0	75.4	113			

Sample ID <b>LCS-22126</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>22126</b>		RunNo: <b>29970</b>							
Prep Date: <b>11/2/2015</b>	Analysis Date: <b>11/3/2015</b>		SeqNo: <b>913195</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	79.6	122			
Surr: BFB	960		1000		96.2	75.4	113			

**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
- P Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1511039

04-Nov-15

Client: Animas Environmental

Project: COPC Roelofs 1M

Sample ID	<b>MB-22126</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>22126</b>	RunNo:	<b>29970</b>					
Prep Date:	<b>11/2/2015</b>	Analysis Date:	<b>11/3/2015</b>	SeqNo:	<b>913277</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID	<b>LCS-22126</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>22126</b>	RunNo:	<b>29970</b>					
Prep Date:	<b>11/2/2015</b>	Analysis Date:	<b>11/3/2015</b>	SeqNo:	<b>913278</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	113	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	100	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	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
- P Sample pH Not In Range
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name: **Animas Environmental**

Work Order Number: **1511039**

RcptNo: **1**

Received by/date:

*[Signature]* 11/03/15

Logged By: **Lindsay Mangin**

11/3/2015 7:00:00 AM

*[Signature]*

Completed By: **Lindsay Mangin**

11/3/2015 7:26:18 AM

*[Signature]*

Reviewed By:

*[Signature]* 11/03/15

**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° C to 6.0°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  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? 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? 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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	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)

November 20, 2015

Lisa Hunter  
Conoco Phillips  
5525 Hwy 64 (3401 E. 30th St)  
Farmington, NM 87402  
TEL: (505) 258-1607  
FAX

RE: Roelofs IM

OrderNo.: 1511627

Dear Lisa Hunter:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/13/2015 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".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

Analytical Report

Lab Order 1511627

Date Reported: 11/20/2015

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Conoco Phillips

**Client Sample ID:** 5pt Composite

**Project:** Roelofs IM

**Collection Date:** 11/12/2015

**Lab ID:** 1511627-001

**Matrix:** SOIL

**Received Date:** 11/13/2015 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	600	9.7		mg/Kg	1	11/18/2015 10:22:48 AM	22372
Surr: DNOP	112	70-130		%REC	1	11/18/2015 10:22:48 AM	22372
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	880	24		mg/Kg	5	11/17/2015 9:47:31 AM	22362
Surr: BFB	591	75.4-113	S	%REC	5	11/17/2015 9:47:31 AM	22362
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.12		mg/Kg	5	11/17/2015 9:47:31 AM	22362
Toluene	2.9	0.24		mg/Kg	5	11/17/2015 9:47:31 AM	22362
Ethylbenzene	3.6	0.24		mg/Kg	5	11/17/2015 9:47:31 AM	22362
Xylenes, Total	39	0.49		mg/Kg	5	11/17/2015 9:47:31 AM	22362
Surr: 4-Bromofluorobenzene	158	80-120	S	%REC	5	11/17/2015 9:47:31 AM	22362

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
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1511627

20-Nov-15

Client: Conoco Phillips

Project: Roelofs IM

Sample ID <b>MB-22372</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>22372</b>		RunNo: <b>30304</b>							
Prep Date: <b>11/17/2015</b>	Analysis Date: <b>11/18/2015</b>		SeqNo: <b>924564</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		118	70	130			

Sample ID <b>LCS-22372</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>22372</b>		RunNo: <b>30304</b>							
Prep Date: <b>11/17/2015</b>	Analysis Date: <b>11/18/2015</b>		SeqNo: <b>924565</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	120	57.4	139			
Surr: DNOP	6.4		5.000		129	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                          |
| R RPD outside accepted recovery limits                  | RL Reporting Detection Limit                      |
| S % Recovery outside of range due to dilution or matrix |   |

**QC SUMMARY REPORT**  
**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1511627  
 20-Nov-15

**Client:** Conoco Phillips  
**Project:** Roelofs IM

Sample ID <b>MB-22362</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>22362</b>		RunNo: <b>30296</b>							
Prep Date: <b>11/16/2015</b>	Analysis Date: <b>11/17/2015</b>		SeqNo: <b>924156</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		85.6	75.4	113			

Sample ID <b>LCS-22362</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>22362</b>		RunNo: <b>30296</b>							
Prep Date: <b>11/16/2015</b>	Analysis Date: <b>11/17/2015</b>		SeqNo: <b>924157</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.3	79.6	122			
Surr: BFB	920		1000		91.7	75.4	113			

**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                          |
| R RPD outside accepted recovery limits                  | RL Reporting Detection Limit                      |
| S % Recovery outside of range due to dilution or matrix |   |

**QC SUMMARY REPORT**  
**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1511627  
 20-Nov-15

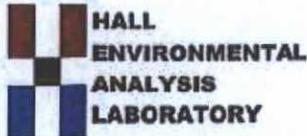
**Client:** Conoco Phillips  
**Project:** Roelofs IM

Sample ID	<b>MB-22362</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>22362</b>	RunNo:	<b>30296</b>					
Prep Date:	<b>11/16/2015</b>	Analysis Date:	<b>11/17/2015</b>	SeqNo:	<b>924183</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID	<b>LCS-22362</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>22362</b>	RunNo:	<b>30296</b>					
Prep Date:	<b>11/16/2015</b>	Analysis Date:	<b>11/17/2015</b>	SeqNo:	<b>924184</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.050	1.000	0	87.6	80	120			
Toluene	0.82	0.050	1.000	0	82.3	80	120			
Ethylbenzene	0.88	0.050	1.000	0	87.8	80	120			
Xylenes, Total	2.7	0.10	3.000	0	89.2	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		115	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
- P Sample pH Not In Range
- RL Reporting Detection Limit



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87109  
 TEL: 505-345-3973 FAX: 505-345-4107  
 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: Conoco Phillips Farm HW

Work Order Number: 1511627

RcptNo: 1

Received by/date: AG 11/13/15

Logged By: Ashley Gallegos 11/13/2015 6:50:00 AM AG

Completed By: Ashley Gallegos 11/16/2015 9:02:47 AM AG

Reviewed By: IO 11/16/15

### Chain of Custody

- Custody seals intact on sample bottles? Yes  No  Not Present
- Is Chain of Custody complete? Yes  No  Not Present
- How was the sample delivered? Courier

### Log In

- Was an attempt made to cool the samples? Yes  No  NA
- Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- Sample(s) in proper container(s)? Yes  No
- Sufficient sample volume for indicated test(s)? Yes  No
- Are samples (except VOA and ONG) properly preserved? Yes  No
- Was preservative added to bottles? Yes  No  NA
- VOA vials have zero headspace? Yes  No  No VOA Vials
- Were any sample containers received broken? Yes  No
- Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- Are matrices correctly identified on Chain of Custody? Yes  No
- Is it clear what analyses were requested? Yes  No
- Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

### Special Handling (if applicable)

- 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 °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

