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

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 **Burlington Resources Oil & Gas Company**	Contact **Crystal Tafoya**
Address 3401 East 30th St, Farmington, NM	Telephone No.(505) 326-9837
Facility Name: **Huerfano Unit 182**	Facility Type: **Gas Well**

Surface Owner **BLM**	Mineral Owner **BLM (SF-078060-A)**	API No.**30-045-20309**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	**28**	**26N**	**9W**	**990**	**North**	**890**	**West**	**San Juan**

Latitude 36.46365 Longitude 107.79941

NATURE OF RELEASE

Type of Release **Produced Fluids**	Volume of Release **120 yds**	Volume Recovered
Source of Release **Below Grade Tank**	Date and Hour of Occurrence **4/2/2012**	Date and Hour of Discovery
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RCVD AUG 29 '12
OIL CONS. DIV.
DIST. 3

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

Describe Cause of Problem and Remedial Action Taken.*
Below Grade Tank Closure Activities

Describe Area Affected and Cleanup Action Taken.*
Historical hydrocarbon impacted soil was found during the BGT closure for the subject well. The excavation was 25'X30'X4' and 120yds of soil was transported to Envirotech and clean soil was used from location and placed in the excavation site. 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: Crystal L. Tafoya	OIL CONSERVATION DIVISION Approved by Environmental Specialist: Jonathan D. Kelly	
Printed Name: **Crystal Tafoya**		
Title: **Field Environmental Specialist**	Approval Date: 9/04/2012	Expiration Date:
E-mail Address: crystal.tafoya@conocophillips.com	Conditions of Approval:	Attached ☐
Date: 8/28/12 Phone: (505) 326-9837		

* Attach Additional Sheets If Necessary

nJK1225054297

Animas Environmental Services, LLC
www.animasenvironmental.com
624 E. Comanche
Farmington, NM 87401
505-564-2281
Durango, Colorado
970-403-3274

May 8, 2012

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

RE: Initial Release Assessment and Final Excavation Report
Huerfano #182
San Juan County, New Mexico

Dear Ms. Maxwell:

On March 30 and April 3, 2012, Animas Environmental Services, LLC (AES) completed an initial release assessment and environmental clearance of the final excavation limits at the Huerfano #182, located in San Juan County, New Mexico. The release consisted of historical contamination that was associated with the former production and waste tanks and with the former pump jack.

1.0 Site Information

1.1 Location

Location - NW¼ NW¼, Section 28, T26N, R9W, San Juan County, New Mexico
Latitude/Longitude - N36.46379 and W107.80001, respectively
Land Jurisdiction – Bureau of Land Management
Figure 1. Topographic Site Location Map
Figure 2. Aerial Site Location Map
Figure 3. Initial Release Assessment Soil Sample Locations and Results, March 2012
Figure 4. Final Excavation Soil Sample Locations and Results, April 2012

1.2 NMOCD Ranking

Prior to site work, the New Mexico Oil Conservation Division (NMOCD) database was reviewed and one Pit Closure Report, dated August 25, 2006, for the Huerfano #182 was located and reported a NMOCD ranking of 10. Depth to groundwater was listed as greater than 100 feet below ground surface (bgs); distance to surface water was listed as between 200 and 1,000 feet; and the nearest water well was listed as greater than 200 feet in distance. A Cathodic Report, dated May 3, 1999, was reviewed which listed groundwater at 245 feet bgs. Additionally, the New Mexico Office of the State Engineer

(NMOSE) database was reviewed for nearby private domestic water wells, and no registered water wells were reported within 1,000 feet.

Once on-site, AES personnel assessed the NMOCD ranking information using topographical interpretation, Global Position System (GPS) elevation readings, and visual reconnaissance. The nearest down-gradient surface water body, an unnamed wash, was greater than 1,000 feet from the site. AES reassessed the site and assigned a NMOCD ranking score of 0.

1.3 Initial Release Assessment

AES was initially contacted by Ashley Maxwell of CoP on March 29, 2012, and on March 30, 2012, Tami Ross and Ross Kennemer of AES completed the initial release assessment field work. The assessment included excavating nine test holes (TH-1 through TH-9) with a hand auger, from which a total of 22 soil samples were collected. Based on field screening, excavation of petroleum contaminated soils was recommended. Test hole locations are shown on Figure 3.

On April 3, 2012, AES returned to the location to field screen the excavation of the contaminated soil identified in the initial release assessment. The field screening activities included collecting eight confirmation soil samples (SC-1 through SC-8) within the excavation near the former production and waste tank location and one confirmation soil sample (SC-9) within the excavation near the location of the former pump jack. The final excavation in the area of the tanks was 32 feet by 24 feet by 5 feet in depth. The excavation located near the former pump jack was approximately 12 feet by 8 feet by 4 feet in depth. An estimated 215 cubic yards of soil were removed from the location for disposal at an authorized facility. Sample locations and final excavation extents are shown on Figure 4.

2.0 Soil Sampling

On March 30, 2012, initial release assessment test holes were excavated to a total depth of 4 feet bgs, and soil sample depths ranged from surface to 4 feet bgs in each test hole. All soil samples were field-screened for volatile organic compounds (VOCs) and were also analyzed for total petroleum hydrocarbons (TPH). One confirmation soil sample (RSC-1) was collected and submitted for waste characterization.

On April 3, 2012, the final excavation was continuously monitored using VOC and TPH field screening methods, and the excavation extents were cleared in the field.

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 waste characterization soil sample (RSC-1) collected on March 30, 2012, for laboratory analysis was 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:

- TCLP Metals including arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver per USEPA Method 6010B; and
- TPH for gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO) per USEPA Method 8015B.

2.3 Field Screening and Laboratory Analytical Results

Initial assessment field screening results for VOCs via OVM on March 30, 2012, showed concentrations ranging from 0.2 ppm in TH-2 up to 18.2 ppm in TH-8. Field TPH concentrations ranged from 45.6 mg/kg in TH-7 up to 59,200 mg/kg in TH-3.

On April 3, 2012, final excavation field screening results for VOCs via OVM showed concentrations ranging from 2.4 ppm in SC-2 to 51.6 ppm in SC-3. Field TPH concentrations ranged from 35.7 mg/kg in SC-7 up to 1,960 mg/kg in SC-9. Results are included below in Table 1 and on Figures 3 and 4. AES Field Screening Reports are attached.

Table 1. Soil Field Screening Results
Huerfano #182 Initial Release Assessment and Final Excavation, March and April 2012

Sample ID	*Date Sampled*	*Sample Depth (ft bgs)*	*VOCs via OVM (ppm)*	*Field TPH (mg/kg)*
		NMOCD Action Level	*100*	*5,000*
RSC-1	03/30/12	surface	1.0	NA
TH-1	03/30/12	2	0.9	1,030
		4	1.9	70.7
TH-2	03/30/12	surface	0.6	**10,010**
		2	0.3	341
		4	0.7	90.2
TH-3	03/30/12	surface	4.1	**59,200**
		2	1.0	1,100
		4	2.1	1,440
TH-4	03/30/12	surface	1.4	993
		2	5.2	**11,500**
		4	6.3	2,640
TH-5	03/30/12	2	0.2	433
		4	1.5	58.2
TH-6	3/30/12	2	3.0	51.2
		4	2.2	72.1
TH-7	03/30/12	2	3.1	55.4
		4	2.3	45.6
TH-8	03/30/12	2	18.2	**39,800**
		4	4.4	925
TH-9	03/30/12	2	0.4	98.5
		4	3.2	77.7
SC-1*	04/3/12	2 to 5	7.3	152
SC-2*	04/3/12	2 to 5	2.4	103
SC-3*	04/3/12	2 to 5	51.6	775
SC-4*	04/3/12	2 to 5	46.4	880
SC-5*	04/3/12	2 to 5	11.6	46.7
SC-6*	04/3/12	2 to 5	6.3	45.3
SC-7*	04/3/12	2 to 5	8.5	35.7
SC-8*	04/3/12	2 to 5	24.5	1,740

Sample ID	Date Sampled	Sample Depth (ft bgs)	VOCs via OVM (ppm)	Field TPH (mg/kg)
SC-9*	04/3/12	2 to 5	4.0	1,960

NA – Not Analyzed; **Samples represent final excavation extents;*
Action level determined by the NMOCD ranking score per *NMOCD Guidelines for Leaks, Spills, and Releases* (August 1993)

Laboratory analytical results from RSC-1 collected on March 30, 2012, showed reported TPH concentrations at 3,600 mg/kg DRO and 28,000 mg/kg MRO. GRO concentrations were below laboratory detection limits of 5.0 mg/kg. TCLP metals were all reported below laboratory detection limits. The laboratory analytical report is attached.

3.0 Conclusions

AES conducted an initial assessment of a historical release associated with the former production and waste tanks and with the pump jack at the Huerfano #182, located in San Juan County, New Mexico, on March 30, 2012.

Action levels for releases are determined by the NMOCD ranking score per *NMOCD Guidelines for Leaks, Spills, and Releases* (August 1993). Field TPH concentrations from the initial release assessment on March 30, 2012, were above the NMOCD action level in TH-2 through TH-4 and TH-8. Based on field screening results and visible staining at the site, a final excavation was completed at the location.

On April 3, 2012, petroleum hydrocarbon contaminated soil was removed from the location near the production and waste tank area and from the area near the pump jack. Field screening results of the excavation extents showed VOC and TPH concentrations below applicable NMOCD action levels for all four walls and the base of the excavation located near the former tanks. A composite sample of the excavation near the former pump jack also showed VOC and TPH concentrations below applicable NMOCD action levels.

Based on the final field screening results of the excavation of petroleum contaminated soils at the Huerfano #182 on April 3, 2012, no further work is recommended.

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

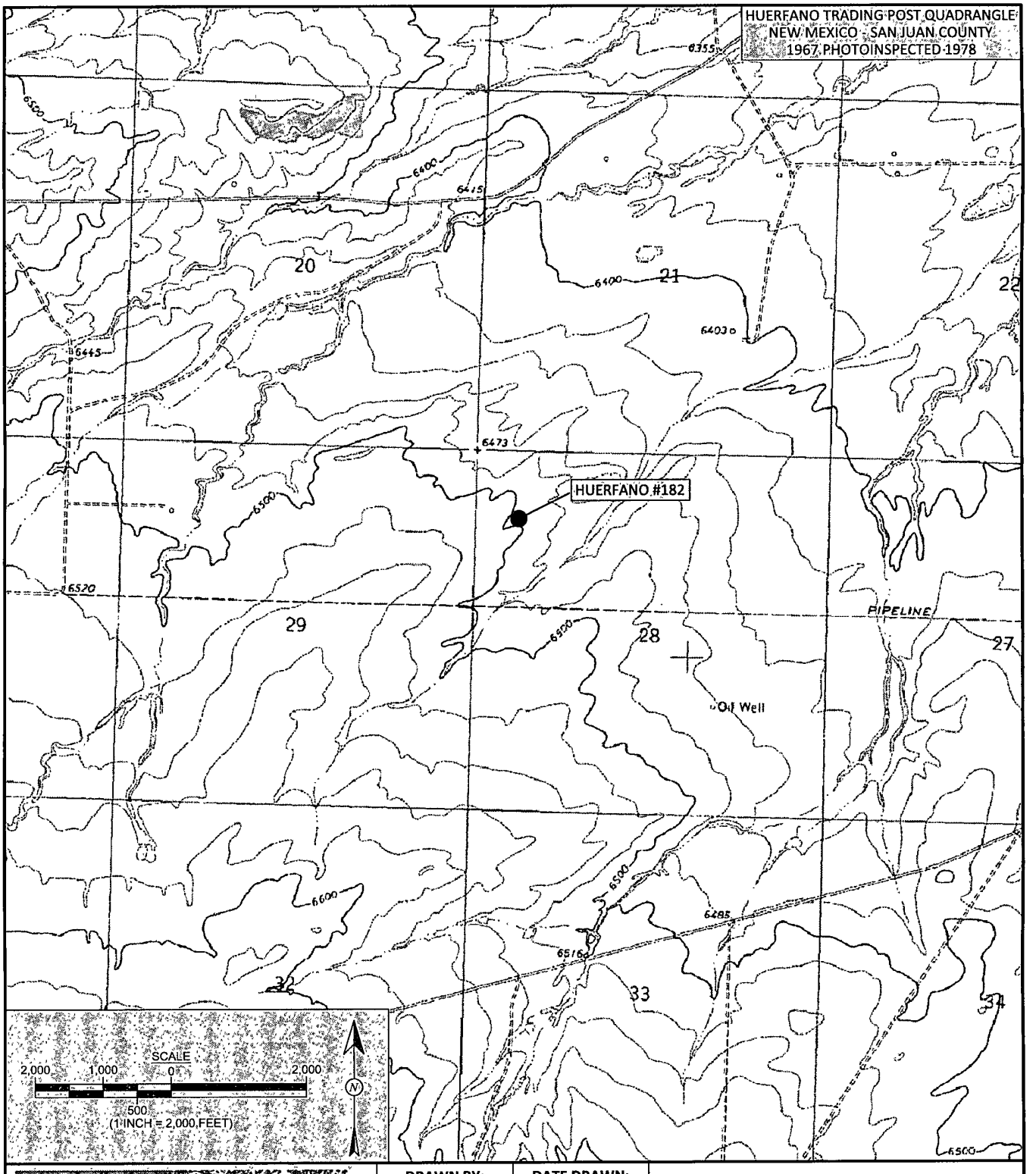
Sincerely,

Deborah Watson, Geologist
Project Manager

Elizabeth McNally, PE

Attachments:
Figure 1. Topographic Site Location Map
Figure 2. Aerial Site Location Map
Figure 3. Initial Release Assessment Soil Sample Locations and Results, March 2012
Figure 4. Final Excavation Soil Sample Locations and Results, April 2012
AES Field Screening Report 033012
AES Field Screening Report 040312
Hall Laboratory Analytical Reports #1204013

S:\Animas 2000\2012 Projects\Conoco Phillips\Huerfano #182\reports\Huerfano #182 Release Assessment and Final Excavation Report 050812.docx

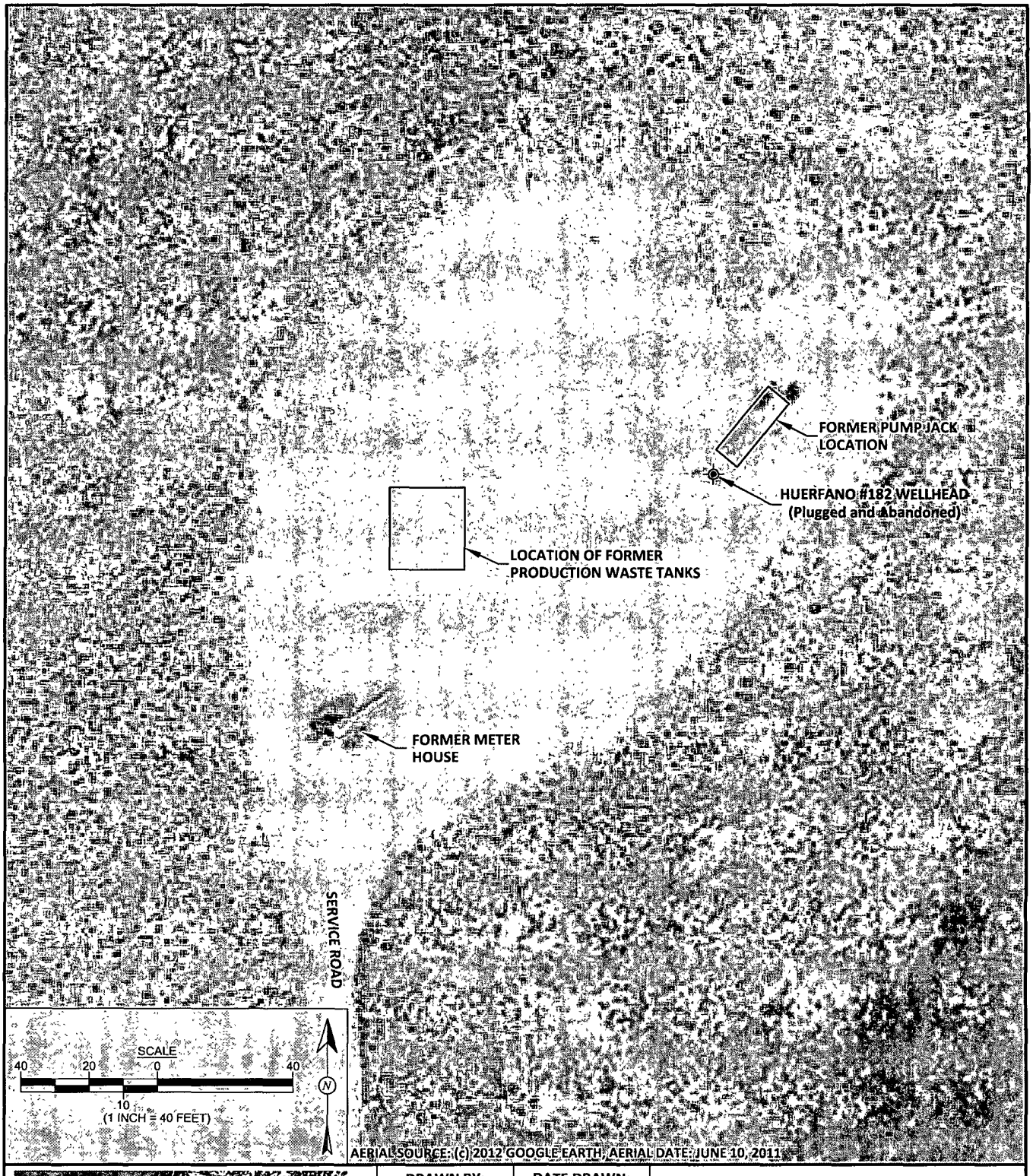


Animas Environmental Services, LLC

DRAWN BY: C. Lameman	**DATE DRAWN:** April 2, 2012
REVISIONS BY: C. Lameman	**DATE REVISED:** April 2, 2012
CHECKED BY: T. Ross	**DATE CHECKED:** April 2, 2012
APPROVED BY: E. McNally	**DATE APPROVED:** April 2, 2012

FIGURE 1

TOPOGRAPHIC SITE LOCATION MAP
ConocoPhillips
HUERFANO #182
SAN JUAN COUNTY, NEW MEXICO
NW¼, NW¼, SECTION 28, T26N, R9W
N36.46379, W107.80001

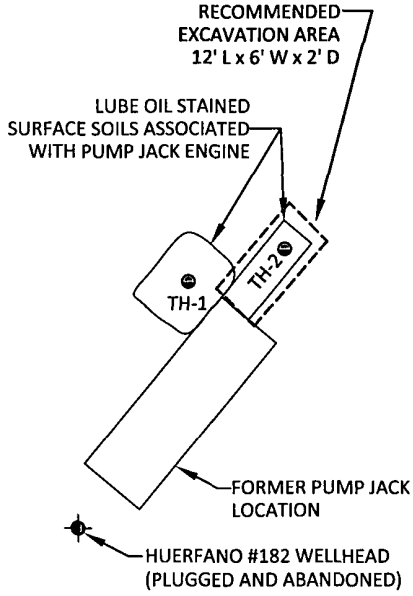


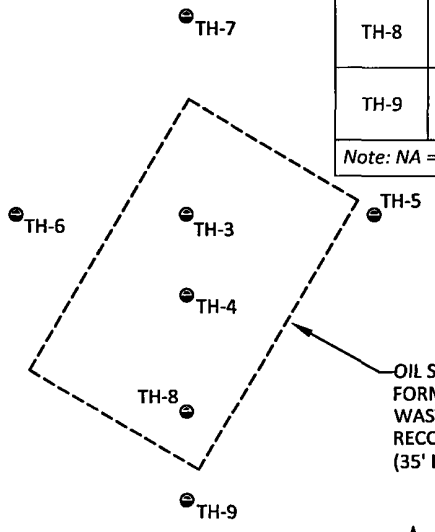
Animas Environmental Services, LLC

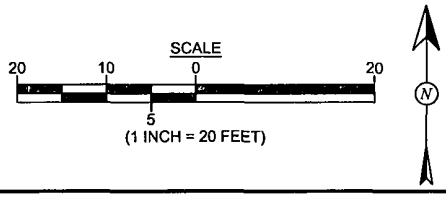
DRAWN BY: C. Lameman	**DATE DRAWN:** April 2, 2012	**FIGURE 2**
REVISIONS BY: C. Lameman	**DATE REVISED:** April 2, 2012	**AERIAL SITE LOCATION MAP** ConocoPhillips HUERFANO #182 SAN JUAN COUNTY, NEW MEXICO NW¼, NW¼, SECTION 28, T26N, R9W N36.46379, W107.80001
CHECKED BY: T. Ross	**DATE CHECKED:** April 2, 2012	
APPROVED BY: R. Kennemer	**DATE APPROVED:** April 2, 2012	

SOIL FIELD SCREENING RESULTS				
Sample ID	*Date*	*Depth (ft)*	*OVM-PID (ppm)*	*Field TPH 418.1 (mg/kg)*
RSC-1	3/30/12	Surface	1.0	NA
TH-1	3/30/12	2	0.9	1,030
		4	1.9	70.7
TH-2	3/30/12	Surface	0.6	**10,010**
		2	0.3	341
		4	0.7	90.2
TH-3	3/30/12	Surface	4.1	**59,200**
		2	1.0	1,100
		4	2.1	1,440
TH-4	3/30/12	Surface	1.4	993
		2	5.2	**11,500**
		4	6.3	2,640
TH-5	3/30/12	2	0.2	433
		4	1.5	58.2
TH-6	3/30/12	2	3.0	51.2
		4	2.2	72.1
TH-7	3/30/12	2	3.1	55.4
		4	2.3	45.6
TH-8	3/30/12	2	18.2	**39,800**
		4	4.4	925
TH-9	3/30/12	2	0.4	98.5
		4	3.2	77.7
Note: NA = Not Analyzed				

LEGEND
- TEST HOLE LOCATIONS







NOTES AND RECOMMENDATIONS

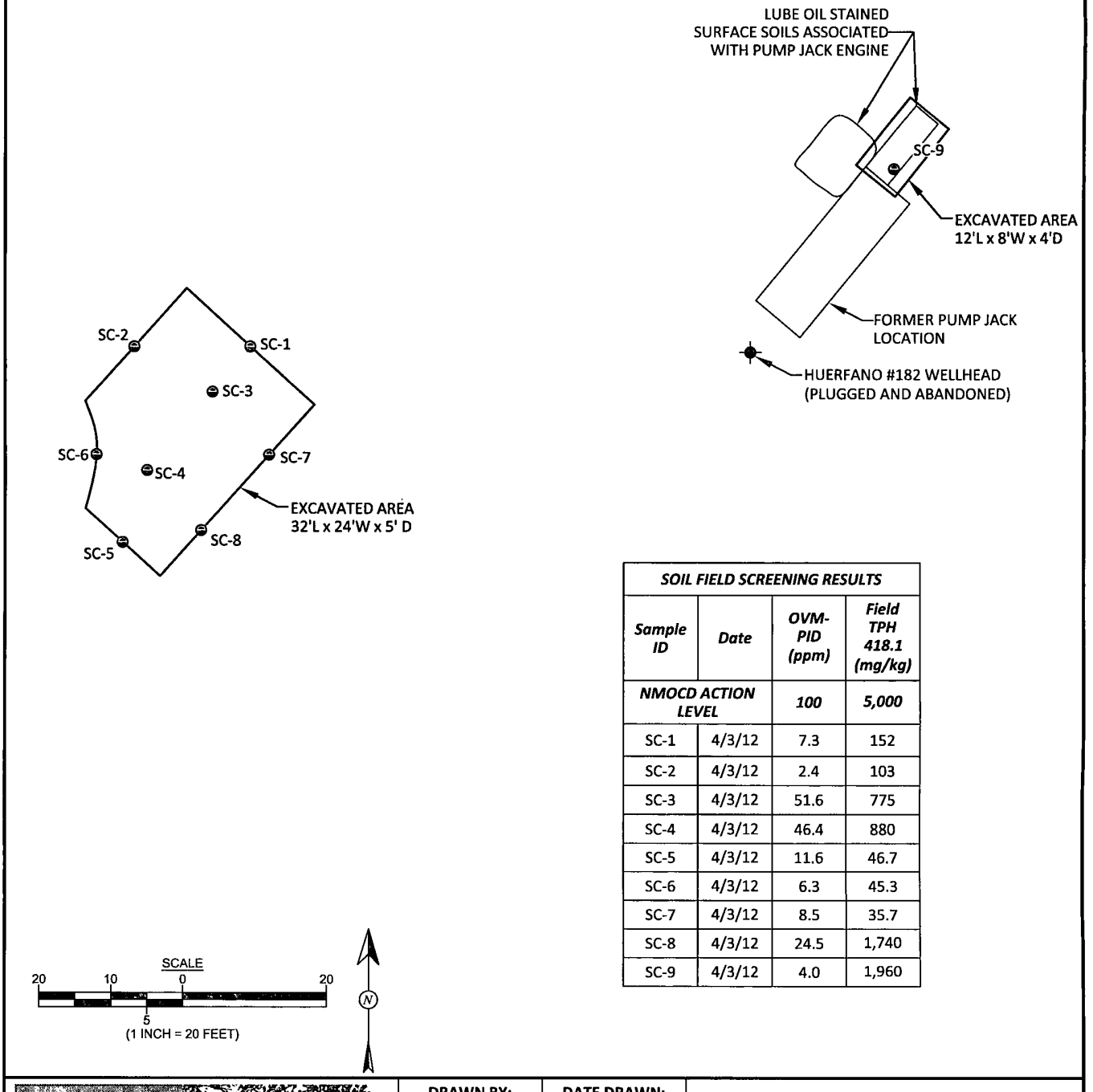
1. NMOCD RISK RANKING IS "0".
2. RSC-1 IS A 5-POINT COMPOSITE SAMPLE COLLECTED FROM THE SURFACE AT TH-1 AND TH-2 AND SUBMITTED FOR LABORATORY TCLP METALS ANALYSIS.
3. RECOMMENDED TO EXCAVATE NOTED AREAS, BUT SEGREGATE LUBE OIL AND PRODUCTION OIL CONTAMINATED SOILS UNTIL TCLP METALS ANALYSIS RESULTS ARE RECEIVED AND WASTE CHARACTERIZATION IS COMPLETE.
4. A PID-OVM ACTION LEVEL OF 100 ppm AND A TPH SCREENING LEVEL OF 5,000 mg/kg SHOULD BE USED TO DETERMINE FINAL EXCAVATION DEPTH AND HORIZONTAL EXTENT.

Animas Environmental Services, LLC

DRAWN BY: C. Lameman	**DATE DRAWN:** April 2, 2012
REVISIONS BY: C. Lameman	**DATE REVISED:** April 2, 2012
CHECKED BY: T. Ross	**DATE CHECKED:** April 2, 2012
APPROVED BY: E. McNally	**DATE APPROVED:** May 8, 2012

FIGURE 3

INITIAL RELEASE ASSESSMENT
SOIL SAMPLE LOCATIONS AND RESULTS MARCH 2012
ConocoPhillips
HUERFANO #182
SAN JUAN COUNTY, NEW MEXICO
NW¼, NW¼, SECTION 28, T26N, R9W
N36.46379, W107.80001



SOIL FIELD SCREENING RESULTS			
Sample ID	*Date*	*OVM-PID (ppm)*	*Field TPH 418.1 (mg/kg)*
NMOCD ACTION LEVEL		*100*	*5,000*
SC-1	4/3/12	7.3	152
SC-2	4/3/12	2.4	103
SC-3	4/3/12	51.6	775
SC-4	4/3/12	46.4	880
SC-5	4/3/12	11.6	46.7
SC-6	4/3/12	6.3	45.3
SC-7	4/3/12	8.5	35.7
SC-8	4/3/12	24.5	1,740
SC-9	4/3/12	4.0	1,960

Animas Environmental Services, LLC

DRAWN BY: C. Lameman	**DATE DRAWN:** April 2, 2012
REVISIONS BY: C. Lameman	**DATE REVISED:** April 6, 2012
CHECKED BY: D. Watson	**DATE CHECKED:** April 6, 2012
APPROVED BY: E. McNally	**DATE APPROVED:** May 8, 2012

FIGURE 4

FINAL EXCAVATION SOIL SAMPLE LOCATIONS AND RESULTS APRIL 2012

ConocoPhillips
HUERFANO #182
SAN JUAN COUNTY, NEW MEXICO
NW¼, NW¼, SECTION 28, T26N, R9W
N36.46379, W107.80001

AES Field Screening Report

Animas Environmental Services, LLC
www.animasenvironmental.com
624 E. Comanche
Farmington, NM 87401
505-564-2281
Durango, Colorado
970-403-3274

Client: ConocoPhillips

Project Location: Huerfano #182

Date: 3/30/2012

Matrix: Soil

Sample ID	Collection Date	Collection Time	OVM (ppm)	Time of Sample Analysis	Field TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
RSC-1	3/30/2012	7:45	1.0					
TH-1 @ 2'	3/30/2012	8:00	0.9	9:29	1,030	20.0	1	DAW
TH-1 @ 4'	3/30/2012	8:03	1.9	9:31	70.7	20.0	1	DAW
TH-2 @ 0'	3/30/2012	8:08	0.6	9:38	10,010	200	10	DAW
TH-2 @ 2'	3/30/2012	8:05	0.3	9:41	341	20.0	1	DAW
TH-2 @ 4'	3/30/2012	8:06	0.7	9:44	90.2	20.0	1	DAW
TH-3 @ 0'	3/30/2012	8:12	4.1	9:51	59,200	2,000	100	DAW
TH-3 @ 2'	3/30/2012	8:18	1.0	9:55	1,100	20.0	1	DAW
TH-3 @ 4'	3/30/2012	8:20	2.1	9:58	1,440	20.0	1	DAW
TH-4 @ 0'	3/30/2012	8:22	1.4	10:00	933	20.0	1	DAW
TH-4 @ 2'	3/30/2012	8:25	5.2	10:07	11,500	200	10	DAW
TH-4 @ 4'	3/30/2012	8:30	6.3	10:10	2,640	20.0	1	DAW
TH-5 @ 2'	3/30/2012	9:20	0.2	10:56	433	20.0	1	DAW
TH-5 @ 4'	3/30/2012	9:23	1.5	10:59	58.2	20.0	1	DAW
TH-6 @ 2'	3/30/2012	9:29	3.0	11:03	51.2	20.0	1	DAW
TH-6 @ 4'	3/30/2012	9:34	2.2	11:06	72.1	20.0	1	DAW
TH-7 @ 2'	3/30/2012	9:38	3.1	11:08	55.4	20.0	1	DAW
TH-7 @ 4'	3/30/2012	9:42	2.3	11:11	45.6	20.0	1	DAW
TH-8 @ 2'	3/30/2012	9:48	18.2	11:26	39,800	2,000	100	DAW
TH-8 @ 4'	3/30/2012	9:50	4.4	11:37	925	20.0	1	DAW
TH-9 @ 2'	3/30/2012	9:54	0.4	11:39	98.5	20.0	1	DAW
TH-9 @ 4'	3/30/2012	9:57	3.2	11:47	77.7	20.0	1	DAW

AES Field Screening Report

Animas Environmental Services, LLC
www.animasenvironmental.com
624 E. Comanche
Farmington, NM 87401
505-564-2281
Durango, Colorado
970-403-3274

Client: ConocoPhillips

Project Location: Huerfano #182

Date: 3/30/2012

Matrix: Soil

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 analyzed on March 31, 2012*

Analyst: Deborah Watson

AES Field Screening Report

Animas Environmental Services, LLC
www.animasenvironmental.com
624 E. Comanche
Farmington, NM 87401
505-564-2281
Durango, Colorado
970-403-3274

Client: ConocoPhillips

Project Location: Huerfano #182

Date: 4/3/2012

Matrix: Soil

Sample ID	Collection Date	Collection Time	OVM (ppm)	Time of Sample Analysis	Field TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SC-1	4/3/2012	10:10	7.3	9:29	152	20.0	1	DAW
SC-2	4/3/2012	10:40	2.4	9:31	103	20.0	1	DAW
SC-3	4/3/2012	10:43	51.6	9:38	775	20.0	1	DAW
SC-4	4/3/2012	10:46	46.4	9:41	880	20.0	1	DAW
SC-5	4/3/2012	10:49	11.6	9:44	46.7	20.0	1	DAW
SC-6	4/3/2012	10:51	6.3	9:51	45.3	20.0	1	DAW
SC-7	4/3/2012	10:54	8.5	9:55	35.7	20.0	1	DAW
SC-8	4/3/2012	10:56	24.5	9:58	1,740	20.0	1	DAW
SC-9	4/3/2012	12:05	4.0	10:00	1,960	20.0	1	DAW

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 analyzed on March 24 and 25.*

Analyst: Deborah Watson

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

April 05, 2012

Ross Kennemer
Animas Environmental Services
624 East Comanche
Farmington, NM 87401
TEL: (505) 564-2281
FAX (505) 324-2022

RE: COP Huerfano #182 OrderNo.: 1204013

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/31/2012 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 or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1204013**
Date Reported: **4/5/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Project: COP Huerfano #182
Lab ID: 1204013-001 **Matrix:** SOIL

Client Sample ID: SC-1
Collection Date: 3/30/2012 7:45:00 AM
Received Date: 3/31/2012 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	3,600	2,000		mg/Kg	200	4/3/2012 2.04:33 PM
Motor Oil Range Organics (MRO)	28,000	10,000		mg/Kg	200	4/3/2012 2 04:33 PM
Surr: DNOP	0	77.4-131	S	%REC	200	4/3/2012 2:04.33 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/3/2012 4:40.24 PM
Surr: BFB	95 5	69.7-121		%REC	1	4/3/2012 4:40:24 PM
MERCURY, TCLP						Analyst: **JLF**
Mercury	ND	0 020		mg/L	1	4/3/2012 5:32.21 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	4/4/2012 9 01:52 AM
Barium	ND	100		mg/L	1	4/4/2012 9.01:52 AM
Cadmium	ND	1.0		mg/L	1	4/4/2012 9:01 52 AM
Chromium	ND	5.0		mg/L	1	4/4/2012 9:01:52 AM
Lead	ND	5 0		mg/L	1	4/4/2012 9:01:52 AM
Selenium	ND	1.0		mg/L	1	4/5/2012 1:02:24 PM
Silver	ND	5.0		mg/L	1	4/4/2012 9.01:52 AM

Qualifiers:

*/X	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1204013**

05-Apr-12

Client: Animas Environmental Services

Project: COP Huerfano #182

Sample ID **MB-1329**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **1329**	RunNo: **1841**
Prep Date: **4/2/2012**	Analysis Date: **4/2/2012**	SeqNo: **51483** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr. DNOP	9.7		10.00		97.0	77.4	131			

Sample ID **LCS-1329**	SampType: **LCS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **1329**	RunNo: **1841**
Prep Date: **4/2/2012**	Analysis Date: **4/2/2012**	SeqNo: **51484** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	82.9	62.7	139			
Surr: DNOP	4.3		5 000		86 8	77.4	131			

Sample ID **1203B60-001BMS**	SampType: **MS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **BatchQC**	Batch ID: **1329**	RunNo: **1863**
Prep Date: **4/2/2012**	Analysis Date: **4/3/2012**	SeqNo: **52106** Units: **mg/Kg-dry**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	12	61 71	0	90.1	57.2	146			
Surr: DNOP	5.3		6.171		86 3	77.4	131			

Sample ID **1203B60-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **BatchQC**	Batch ID: **1329**	RunNo: **1863**
Prep Date: **4/2/2012**	Analysis Date: **4/3/2012**	SeqNo: **52107** Units: **mg/Kg-dry**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	12	62.13	0	86.4	57.2	146	3.51	26 7	
Surr. DNOP	5 3		6 213		85 0	77 4	131	0	0	

Qualifiers:

- */X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1204013**

05-Apr-12

Client: Animas Environmental Services

Project: COP Huerfano #182

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBS**	Batch ID: **R1876**	RunNo: **1876**
Prep Date:	Analysis Date: **4/3/2012**	SeqNo: **52521** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr. BFB	940		1,000		93.6	69.7	121			

Sample ID **2.5UG GRO LCS**	SampType. **LCS**	TestCode. **EPA Method 8015B: Gasoline Range**
Client ID. **LCSS**	Batch ID. **R1876**	RunNo: **1876**
Prep Date:	Analysis Date: **4/3/2012**	SeqNo: **52522** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	98.5	133			
Surr: BFB	1,000		1,000		102	69.7	121			

Sample ID **1204001-001AMS**	SampType. **MS**	TestCode. **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **R1876**	RunNo: **1876**
Prep Date:	Analysis Date: **4/3/2012**	SeqNo: **52703** Units **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	85.4	147			
Surr: BFB	1,000		1,000		102	69.7	121			

Sample ID **1204001-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **R1876**	RunNo: **1876**
Prep Date.	Analysis Date: **4/3/2012**	SeqNo. **52704** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5 0	25 00	0	104	85 4	147	2.77	19 2	
Surr: BFB	1,000		1,000		103	69.7	121	0	0	

Sample ID **MB-1341**	SampType: **MBLK**	TestCode. **EPA Method 8015B: Gasoline Range**
Client ID: **PBS**	Batch ID: **1341**	RunNo: **1876**
Prep Date **4/2/2012**	Analysis Date: **4/4/2012**	SeqNo: **52706** Units. **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr. BFB	970		1,000		97.1	69.7	121			

Sample ID **LCS-1341**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSS**	Batch ID: **1341**	RunNo **1876**
Prep Date: **4/2/2012**	Analysis Date: **4/4/2012**	SeqNo: **52707** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1,000		1,000		104	69 7	121			

Qualifiers:

- */X Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1204013**

05-Apr-12

Client: Animas Environmental Services

Project: COP Huerfano #182

Sample ID	**1204004-001AMS**	SampType: **MS**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID:	**BatchQC**	Batch ID: **1341**			RunNo: **1876**					
Prep Date:	**4/2/2012**	Analysis Date: **4/4/2012**			SeqNo: **52712**		Units: **%REC**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1,000		932.8		109	69.7	121			

Sample ID	**1204004-001AMSD**	SampType: **MSD**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID:	**BatchQC**	Batch ID: **1341**			RunNo: **1876**					
Prep Date:	**4/2/2012**	Analysis Date: **4/4/2012**			SeqNo: **52713**		Units: **%REC**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1,000		948.8		107	69.7	121	0	0	

Qualifiers:

*/X	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1204013**

05-Apr-12

Client: Animas Environmental Services

Project: COP Huerfano #182

Sample ID **MB-1352**	SampType: **MBLK**	TestCode: **MERCURY, TCLP**
Client ID: **PBW**	Batch ID: **1352**	RunNo: **1886**
Prep Date. **4/3/2012**	Analysis Date: **4/3/2012**	SeqNo: **52623** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020								

Sample ID **LCS-1352**	SampType: **LCS**	TestCode: **MERCURY, TCLP**
Client ID: **LCSW**	Batch ID: **1352**	RunNo: **1886**
Prep Date: **4/3/2012**	Analysis Date: **4/3/2012**	SeqNo: **52624** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	99.4	80	120			

Sample ID **1203B50-003AMS**	SampType: **MS**	TestCode: **MERCURY, TCLP**
Client ID: **BatchQC**	Batch ID: **1352**	RunNo: **1886**
Prep Date: **4/3/2012**	Analysis Date: **4/3/2012**	SeqNo: **52626** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	102	75	125			

Sample ID **1203B50-003AMSD**	SampType: **MSD**	TestCode: **MERCURY, TCLP**
Client ID: **BatchQC**	Batch ID: **1352**	RunNo: **1886**
Prep Date: **4/3/2012**	Analysis Date: **4/3/2012**	SeqNo: **52627** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	100	75	125	0	20	

Qualifiers:

- */X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1204013**

05-Apr-12

Client: Animas Environmental Services

Project: COP Huerfano #182

Sample ID **MB-1350**	SampType. **MBLK**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **PBW**	Batch ID: **1350**	RunNo: **1894**
Prep Date: **4/3/2012**	Analysis Date: **4/4/2012**	SeqNo: **52833** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0								
Barium	ND	100								
Cadmium	ND	1 0								
Chromium	ND	5 0								
Lead	ND	5.0								
Silver	ND	5.0								

Sample ID **LCS-1350**	SampType. **LCS**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **LCSW**	Batch ID: **1350**	RunNo: **1894**
Prep Date. **4/3/2012**	Analysis Date: **4/4/2012**	SeqNo. **52834** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	109	80	120			
Barium	ND	100	0.5000	0	92.4	80	120			
Cadmium	ND	1.0	0.5000	0	99.6	80	120			
Chromium	ND	5.0	0 5000	0	91.6	80	120			
Lead	ND	5.0	0.5000	0	92 1	80	120			
Silver	ND	5.0	0.1000	0.003000	103	80	120			

Sample ID **1204006-003AMS**	SampType: **MS**	TestCode **EPA Method 6010B: TCLP Metals**
Client ID: **BatchQC**	Batch ID. **1350**	RunNo: **1894**
Prep Date: **4/3/2012**	Analysis Date: **4/4/2012**	SeqNo: **52848** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	107	75	125			
Cadmium	ND	1.0	0.5000	0	102	75	125			
Chromium	ND	5.0	0.5000	0	92.1	75	125			
Lead	ND	5 0	0.5000	0 01166	92.0	75	125			

Sample ID **1204006-003AMSD**	SampType: **MSD**	TestCode. **EPA Method 6010B: TCLP Metals**
Client ID: **BatchQC**	Batch ID: **1350**	RunNo: **1894**
Prep Date: **4/3/2012**	Analysis Date. **4/4/2012**	SeqNo: **52849** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0	105	75	125	0	20	
Cadmium	ND	1.0	0.5000	0	99 5	75	125	0	20	
Chromium	ND	5 0	0.5000	0	89.3	75	125	0	20	
Lead	ND	5.0	0.5000	0 01166	89.4	75	125	0	20	

Qualifiers:

- */X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1204013**

05-Apr-12

Client: Animas Environmental Services

Project: COP Huerfano #182

Sample ID **MB-1350**	SampType: **MBLK**	TestCode: **EPA Method 6010B: TCLP Metals**
Client ID: **PBW**	Batch ID: **1350**	RunNo: **1931**
Prep Date: **4/3/2012**	Analysis Date: **4/5/2012**	SeqNo: **53781** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	1.0								

Sample ID **LCS-1350**	SampType: **LCS**	TestCode **EPA Method 6010B: TCLP Metals**
Client ID. **LCSW**	Batch ID: **1350**	RunNo: **1931**
Prep Date. **4/3/2012**	Analysis Date: **4/5/2012**	SeqNo: **53782** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	1.0	0.5000	0	103	80	120			

Qualifiers:

*/X	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Animas Environmental — Work Order Number: 1204013

Received by/date: AF 03/31/12

Logged By: Lindsay Mangin — 3/31/2012 10:30:00 AM

Completed By: Lindsay Mangin — 4/2/2012 6:48:25 AM

Reviewed By: AF 04/02/12

Chain of Custody

1. Were seals intact? — Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? — Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? — Courier

Log In

4. Coolers are present? (see 19. for cooler specific information) — Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? — Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C — Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? — Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? — Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? — Yes ☑ No ☐
10. Was preservative added to bottles? — Yes ☐ No ☑ NA ☐
11. VOA vials have zero headspace? — Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? — Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) — Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? — Yes ☑ No ☐
15. Is it clear what analyses were requested? — Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) — Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. 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: _____

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.2	Good	Yes			

Chain-of-Custody Record

Client: Animas Environmental Services LLC

Mailing Address: 624 E Comanche Farmington NM 87401

Phone #: 505 564 2281

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush

Project Name: CDP Huerfano #182

Project #:

Project Manager: R. Kennemer

Sampler: T. Ross

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1204073
3-30-12	945	Soil	SC-1	2-4oz	non	-001

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel) MRO	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals TCLP	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
		X				X									

Date	Time	Relinquished by:	Received by:	Date	Time
3/30/12	1640	Tami Ross	Christine Walters	3/30/12	1646
3/30/12	1710	Christine Walters		3/31/12	10:30

Remarks: Bill to ConocoPhillips

WO # 8930447

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.