

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

SEP 13 2017

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 ConocoPhillips Company	Contact Clara Cardoza
Address 3401 East 30th St, Farmington, NM	Telephone No. (505) 564-0733
Facility Name: Redfern 4 (P&AWell)	Facility Type: Gas Well

Surface Owner BLM	Mineral Owner BLM (NM-021116)	API No. 3004507441
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LOCATION OF RELEASE

Unit Letter I	Section 16	Township 28N	Range 11W	Feet from the 1580	North/South Line South	Feet from the 1010	East/West Line East	County San Juan
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Latitude 36.65921 Longitude -108.00308

NATURE OF RELEASE

Type of Release Hydrocarbon (Historic)	Volume of Release Unknown	Volume Recovered 0
Source of Release Unknown	Date and Hour of Occurrence Unknown	Date and Hour of Discovery January 26, 2017 @ 10:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? BLM (Whitney Thomas) & OCD (Vanessa Fields)	
By Whom? Lisa Hunter	Date and Hour January 27, 2017 @ 2:21 p.m. & 2:30 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

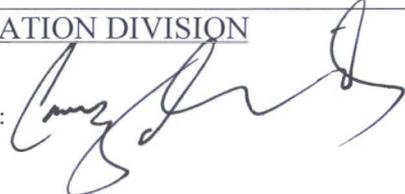
During facility stripping of the P&A well Redfern 4 on January 26th, a large area of contamination has been discovered. Initial field assessment estimates contaminated area at approximately 65ft x 100ft x 10ft or sandstone. Early assessment also indicates the west end of contamination may be off location. Archaeological assessment for 100ft buffer has been ordered. Site Rank: 10

Describe Area Affected and Cleanup Action Taken.*

ConocoPhillips will assess the soil to determine a path forward for clean-up if necessary.

Historical hydrocarbon impacted soil was found during the BGT P&A closure. The excavation was approximately 73 ft x 76 ft x 3-10.5 ft in depth and approximately 1,800 yd3 of soil was transported to Envirotech land farm. The closure report and laboratory analysis 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: 	<u>OIL CONSERVATION DIVISION</u>	
	Approved by Environmental Specialist: 	
Printed Name: Clara Cardoza	Approval Date: <u>11/8/17</u>	Expiration Date:
Title: Environmental Specialist	Conditions of Approval:	
E-mail Address: <u>ccardoza@hilcorp.com</u>	Attached <input type="checkbox"/>	
Date: September 6, 2017	Phone: (505) 564-0733	

* Attach Additional Sheets If Necessary

#NMF 1705229548

48



August 4, 2017

Lisa Hunter
Hilcorp Energy Company
lhunter@hilcorp.com
(505) 258-1607

**RE: Below Grade Tank Closure, Release Assessment and Final Excavation Report
Redfern 4
San Juan County, New Mexico**

Dear Ms. Hunter:

On January 26 and July 27, 2017, Animas Environmental Services, LLC (AES) completed below grade tank (BGT) closure sampling, a release assessment, and environmental clearance of the final excavation limits at the ConocoPhillips (COP) Redfern 4 located in San Juan County, New Mexico. An initial release assessment was completed on January 26, 2017, and the final excavation was completed by COP contractors prior to AES' arrival on location on July 27, 2017.

1.0 Site Information

1.1 Location

Site Name – Redfern 4

Legal Description – NE¼ SE¼, Section 16, T28N, R11W, San Juan County, New Mexico

Well Latitude/Longitude – N36.65942 and W108.00363, respectively

BGT Latitude/Longitude – N36.65919 and W108.00368, respectively

Land Jurisdiction – Bureau of Land Management (BLM)

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map, January 2017

1.2 NMOCD Ranking

In accordance with New Mexico Oil Conservation Division (NMOCD) release protocols, action levels were established per NMOCD *Guidelines for Remediation of Leaks, Spills, and Releases* (August 1993) prior to site work. The release was given a ranking score of 10 based on the following factors:

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

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

- **Depth to Groundwater:** A Site Specific Hydrogeology report dated July 2008 reported the depth to groundwater as 157 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:** Unnamed minor washes which discharge to Kutz Canyon Wash are located approximately 250 feet northwest and 350 feet southeast of the location. (10 points).

1.3 Assessment

AES was initially contacted by Lisa Hunter, COP representative, on January 18, 2017, and on January 26, 2017, Corwin Lameman of AES traveled to the location. Soil sampling consisted of collection of one 5-point soil sample (BGT SC-1) composited from four perimeter locations and one center location from below the BGT liner at the BGT footprint. Soil sample results for BGT SC-1 were above the action levels, and a release was confirmed.

On the same day, AES personnel completed the release assessment field work. The assessment included collection and field sampling of 22 soil samples from 9 assessment trenches (TH-1 through TH-9). Based on field sampling results, AES recommended excavation of the release area. Sample locations are shown on Figure 3.

On July 27, 2017, AES returned to the location to collect confirmation soil samples of the excavation extents. The field sampling activities included collection of nine confirmation soil samples (SC-1 through SC-9) from the walls and base of the excavation. The area of the final excavation measured approximately 73 feet by 76 feet by 3 to 10.5 feet in depth. Note that the depth of the excavation was limited due to a confining sandstone unit around 3 to 10.5 feet bgs. Sample locations and final excavation extents are presented on Figure 4.

2.0 Soil Sampling

2.1 Field Sampling

2.1.1 Volatile Organic Compounds

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

2.1.2 Total Petroleum Hydrocarbons

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

2.1.3 Chlorides

Soil sample BGT SC-1 was field screened for chlorides using Chloride Drop Count Titration with silver nitrate. Sampling and analysis methods followed procedures provided by Hach Company.

2.2 Laboratory Analyses

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

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per USEPA Method 8260B (BGT-SC-1) or USEPA Method 8021B (SC-1 through SC-9);
- TPH as gasoline range, diesel range, and motor oil range organics (GRO/DRO/MRO) per USEPA Method 8015;
- TPH per USEPA Method 418.1; and
- Chlorides per USEPA Method 300.0.

2.3 Field and Laboratory Analytical Results

Field sampling results and laboratory analytical results are summarized in Tables 1 and 2, respectively, and on Figures 2 through 4. The AES Field Sampling Reports and laboratory analytical reports are attached.

Table 1. Soil Field VOCs, TPH, and Chloride Results
Redfern 4 BGT Closure, Release Assessment and Final Excavation
January and July 2017

Sample ID	Date Sampled	Depth below BGT (ft)	VOCs OVM	Field TPH	Field Chlorides
			Reading (ppm)	(418.1) (mg/kg)	(mg/kg)
		NMOCDC Action Level	NE/100*	100/1,000*	250/NE*
BGT SC-1	1/26/17	0.5	1,075	3,010	60
TH-1	1/26/17	7	15.6	25.9	NA
		10	31.9	27.4	NA
TH-2	1/26/17	5	43.6	<20.0	NA
		10	45.0	<20.0	NA
TH-3	1/26/17	3	25.7	NA	NA
		7	3,289	1,440	NA
		10	916	294	NA
TH-4	1/26/17	4	1.3	NA	NA
		6	4.9	187	NA
		10	16.4	152	NA
TH-5	1/26/17	2	8.9	NA	NA
		6.5	3.2	<20.0	NA
TH-6	1/26/17	9	2.3	22.8	NA
		5	2.9	NA	NA
TH-7	1/26/17	9	2.3	<20.0	NA
		4	35.9	NA	NA
TH-8	1/26/17	6	2,654	>3,060	NA
		10	967	371	NA
TH-9	1/26/17	5	3,021	NA	NA
		9	1,331	370	NA
SC-1	7/27/17	2	3,408	NA	NA
		3	1,954	1,050	NA
SC-2	7/27/17	0 to 9.5	1,165	1,190	NA
SC-3	7/27/17	0 to 7	14.6	71.4	NA
SC-3	7/27/17	0 to 3	1,037	331	NA

Sample ID	Date Sampled	Depth below BGT (ft)	VOCs OVM Reading (ppm)	Field TPH (418.1) (mg/kg)	Field Chlorides (mg/kg)
NMOCD Action Level			NE/100*	100/1,000*	250/NE*
SC-4	7/27/17	0 to 3	885	1,120	NA
SC-5	7/27/17	0 to 5.5	10.4	259	NA
SC-6	7/27/17	0 to 10.5	20.7	68.6	NA
SC-7	7/27/17	0 to 8	38.2	310	NA
SC-8	7/27/17	8.5 to 10.5	20.7	76.9	NA
SC-9	7/27/17	3 to 5.5	60.5	71.4	NA

NA – not analyzed

NE – not established

*Action level determined by NMAC 19.15.17.13 Table 1

Table 2. Soil Laboratory Analytical Results – Benzene, Total BTEX, TPH, and Chlorides
 Redfern 4 BGT Closure and Final Excavation
 January and July 2017

Sample ID	Date Sampled	Sample Depth (ft bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH 418.1 (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-MRO (mg/kg)	Chlorides (mg/kg)
NMOCD Action Level			0.2/10*	50*	100/1,000*	100/1,000*			250/NE*
BGT SC-1	1/26/17	0.5	<0.27	8.52	3,700	520	1,300	360	<30
SC-1	7/27/17	0 to 9.5	<0.081	1.3	NA	31	450	190	550
SC-2	7/27/17	0 to 7	<0.016	<0.144	NA	<3.2	<10	<50	420
SC-3	7/27/17	0 to 3	0.020	0.262	NA	28	140	51	340
SC-4	7/27/17	0 to 3	<0.017	0.46	NA	32	470	310	1,700
SC-5	7/27/17	0 to 5.5	<0.018	<0.161	NA	<3.6	73	110	1,400
SC-6	7/27/17	0 to 10.5	<0.018	<0.163	NA	<3.6	<9.2	<46	640
SC-7	7/27/17	0 to 8	<0.022	<0.194	NA	<4.3	370	380	1,000
SC-8	7/27/17	8.5 to 10.5	<0.017	0.041	NA	<3.4	<9.5	<47	120
SC-9	7/27/17	3 to 5.5	<0.017	<0.152	NA	<3.4	<10	<50	130

NA – not analyzed

NE – not established

*Action level determined by *NMAC 19.15.17.13 Table 1*

3.0 Conclusions and Recommendations

3.1 BGT Closure

On January 26, 2017, AES conducted BGT closure sampling at the location. NMOCD action levels for BGT closures 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. BGT closure sampling results were above the NMOCD action levels of 100 mg/kg for TPH, with BGT SC-1 reporting field concentrations of 3,010 mg/kg TPH (418.1) and laboratory analytical results of 3,700 mg/kg TPH (418.1) and 2,180 mg/kg TPH (8015), respectively. Chloride concentrations in BGT SC-1 were reported below the NMOCD action level of 250 mg/kg, with less than 30 mg/kg. Based on field and laboratory concentrations, a release was confirmed at the BGT at the Redfern 4 location.

3.2 Release Assessment

On the same day, AES completed a release assessment at the location. Release assessment field sampling results above the NMOCD action level of 1,000 mg/kg TPH were reported in TH-3, TH-7, and TH-9. The highest field TPH concentration was reported in TH-7, with a concentration greater than 3,060 mg/kg TPH. Excavation of the release area was recommended, and COP utilized soil shredding to treat petroleum contaminated soils.

3.3 Excavation Clearance

On July 27, 2017, final clearance of the excavation area was completed. Field sampling results of the excavation extents showed field TPH concentrations slightly exceeded the applicable NMOCD action level of 1,000 mg/kg in SC-1 (1,190 mg/kg) and SC-4 (1,120 mg/kg). However, laboratory analytical results reported benzene, total BTEX, and TPH concentrations (as GRO/DRO/MRO) in all samples as below NMOCD action levels.

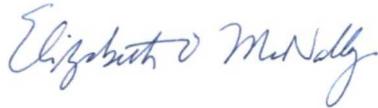
Based on the final field sampling and laboratory analytical results of the excavation of petroleum contaminated soils at the Redfern 4, benzene, total BTEX, and TPH concentrations were below the applicable NMOCD action levels for the final sidewalls and base of the excavation. No further work is recommended.

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

Sincerely,



David J. Reese
Environmental Scientist

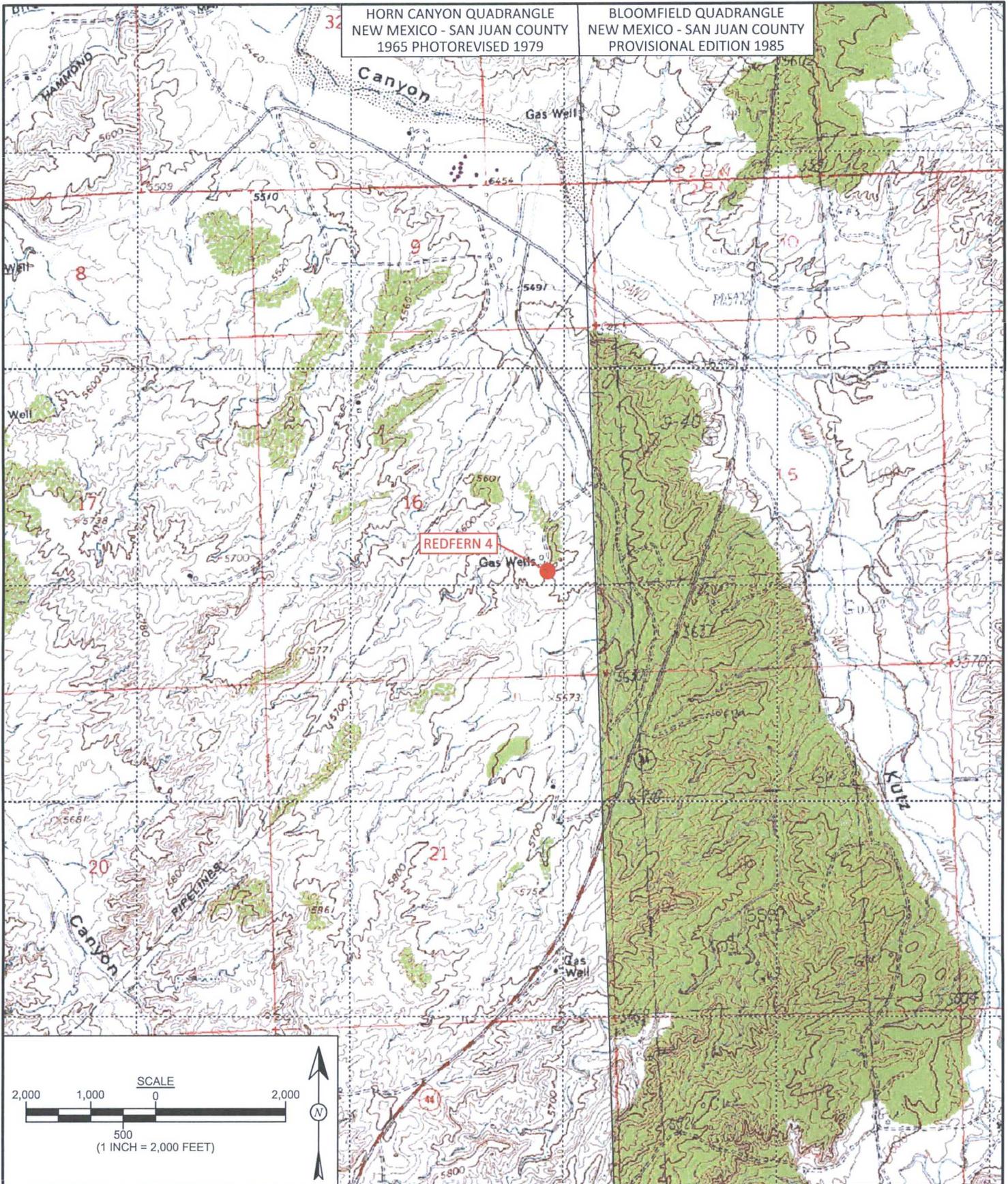


Elizabeth McNally, P.E.

Attachments:

- Figure 1. Topographic Site Location Map
- Figure 2. Aerial Site Map, January 2017
- Figure 3. Release Assessment Sample Locations and Results, January 2017
- Figure 4. Final Excavation Sample Locations and Results, July 2017
- AES Field Sampling Reports 012617 (BGT), 012617 (Release Assessment), 072717
- Hall Laboratory Analytical Reports 1701B29, 1707E29, 1707E30

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DRAWN BY: C. Lameman	DATE DRAWN: February 2, 2017
REVISIONS BY: C. Lameman	DATE REVISED: July 28, 2017
CHECKED BY: E. McNally	DATE CHECKED: July 28, 2017
APPROVED BY: E. McNally	DATE APPROVED: July 28, 2017

FIGURE 1

TOPOGRAPHIC SITE LOCATION MAP
ConocoPhillips
REDFERN 4
NE¼ SE¼, SECTION 16, T28N, R11W
SAN JUAN COUNTY, NEW MEXICO
N36.65942, W108.00363

Field Sampling Results					
Sample ID	Date	Depth (ft)	PID-OVM (ppm)	TPH (mg/kg)	Chlorides (mg/kg)
NMOCD ACTION LEVEL			--	100	250
BGT SC-1	1/26/17	0.5	1,075	3,010	60

BGT SC-1 IS A 5-POINT COMPOSITE SAMPLE.

LEGEND	
	SAMPLE LOCATIONS
	SECONDARY CONTAINMENT BERM
	FENCE

Laboratory Analytical Results									
Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-MRO (mg/kg)	TPH 418.1 (mg/kg)	Chlorides (mg/kg)
NMOCD ACTION LEVEL			0.2	50	100		100	250	
BGT SC-1	1/26/17	0.5	<0.27	8.52	520	1,300	360	3,700	<30

SAMPLE WAS ANALYZED PER USEPA METHOD 8260B, 8015D, 418.1 AND 300.0.



AERIAL SOURCE: © 2017 GOOGLE EARTH PRO, AERIAL DATE: MARCH 15, 2015.



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DRAWN BY: C. Lameman	DATE DRAWN: February 2, 2016
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CHECKED BY: D. Reese	DATE CHECKED: August 4, 2017
APPROVED BY: E. McNally	DATE APPROVED: August 4, 2017

FIGURE 2

AERIAL SITE MAP BELOW GRADE TANK CLOSURE JANUARY 2017

ConocoPhillips
REDFERN 4

NE¼ SE¼, SECTION 16, T28N, R11W
SAN JUAN COUNTY, NEW MEXICO
N36.65942, W108.00363



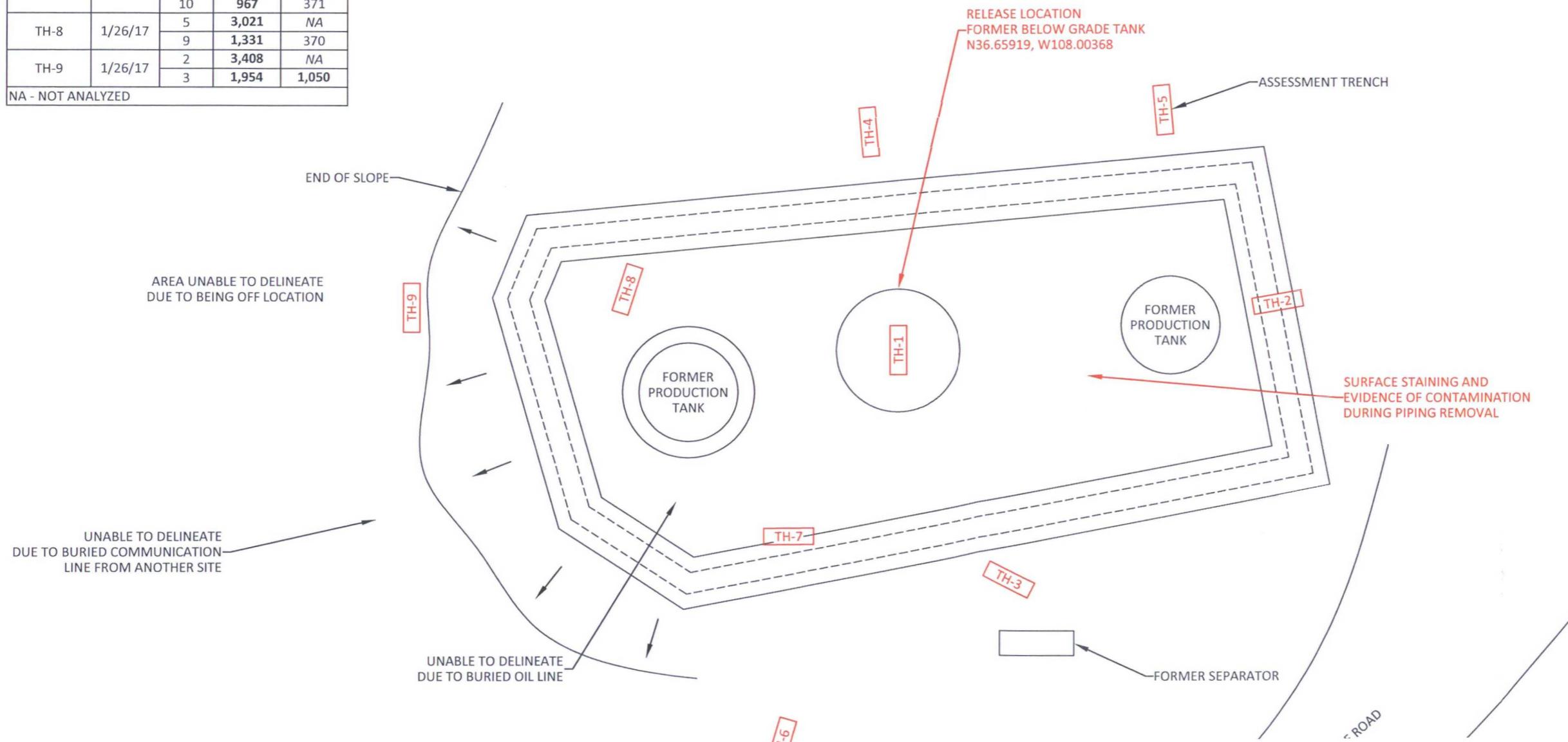
DRAWN BY: C. Lameman	DATE DRAWN: January 26, 2017
REVISIONS BY: S. Glasses	DATE REVISED: August 7, 2017
CHECKED BY: E. McNally	DATE CHECKED: August 7, 2017
APPROVED BY: E. McNally	DATE APPROVED: August 7, 2017

LEGEND

- FORMER SECONDARY CONTAINMENT BERM
- FENCE
- SLOPE DIRECTION

		10	21.9	21.4
TH-2	1/26/17	5	43.6	<20.0
		10	45.0	<20.0
TH-3	1/26/17	3	25.7	NA
		7	3,289	1,440
		10	916	294
TH-4	1/26/17	4	1.3	NA
		6	4.9	187
		10	16.4	152
TH-5	1/26/17	2	8.9	NA
		6.5	3.2	<20.0
		9	2.3	22.8
TH-6	1/26/17	5	2.9	NA
		9	2.3	<20.0
TH-7	1/26/17	4	35.9	NA
		6	2,654	>3,060
		10	967	371
TH-8	1/26/17	5	3,021	NA
		9	1,331	370
TH-9	1/26/17	2	3,408	NA
		3	1,954	1,050

NA - NOT ANALYZED



LIMITATIONS:

1. AREA WEST OF LOCATION NOT DELINEATED DUE TO POTENTIAL SOIL CONTAMINATION CONTINUING OFF THE LOCATION.
2. AREA SOUTHWEST OF LOCATION NOT DELINEATED DUE TO BURIED OIL LINES AND COMMUNICATION LINES.



Field Sampling Results				
Sample ID	Date	Depth (ft)	PID-OVM (ppm)	TPH (mg/kg)
NMOCD ACTION LEVEL			100	1,000
SC-1	7/27/17	0 to 9.5	1,165	1,190
SC-2	7/27/17	0 to 7	14.6	71.4
SC-3	7/27/17	0 to 3	1,037	331
SC-4	7/27/17	0 to 3	885	1,120
SC-5	7/27/17	0 to 5.5	10.4	259
SC-6	7/27/17	0 to 10.5	20.7	68.6
SC-7	7/27/17	0 to 8	38.2	310
SC-8	7/27/17	8.5 to 10.5	20.7	76.9
SC-9	7/27/17	3 to 5.5	60.5	71.4

Laboratory Analytical Results								
Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)	TPH - MRO (mg/kg)	Chlorides (mg/kg)
NMOCD ACTION LEVEL			10	50	1,000			NE
SC-1	7/27/17	0 to 9.5	<0.081	1.3	31	450	190	550
SC-2	7/27/17	0 to 7	<0.016	<0.144	<3.2	<10	<50	420
SC-3	7/27/17	0 to 3	0.020	0.262	28	140	51	340
SC-4	7/27/17	0 to 3	<0.017	0.46	32	470	310	1,700
SC-5	7/27/17	0 to 5.5	<0.018	<0.161	<3.6	73	110	1,400
SC-6	7/27/17	0 to 10.5	<0.018	<0.163	<3.6	<9.2	<46	640
SC-7	7/27/17	0 to 8	<0.022	<0.194	<4.3	370	380	1,000
SC-8	7/27/17	8.5 to 10.5	<0.017	0.041	<3.4	<9.5	<47	120
SC-9	7/27/17	3 to 5.5	<0.017	<0.152	<3.4	<10	<50	130

ALL SAMPLES WERE ANALYZED PER USEPA METHOD 8021B, 8015D AND 300.0.

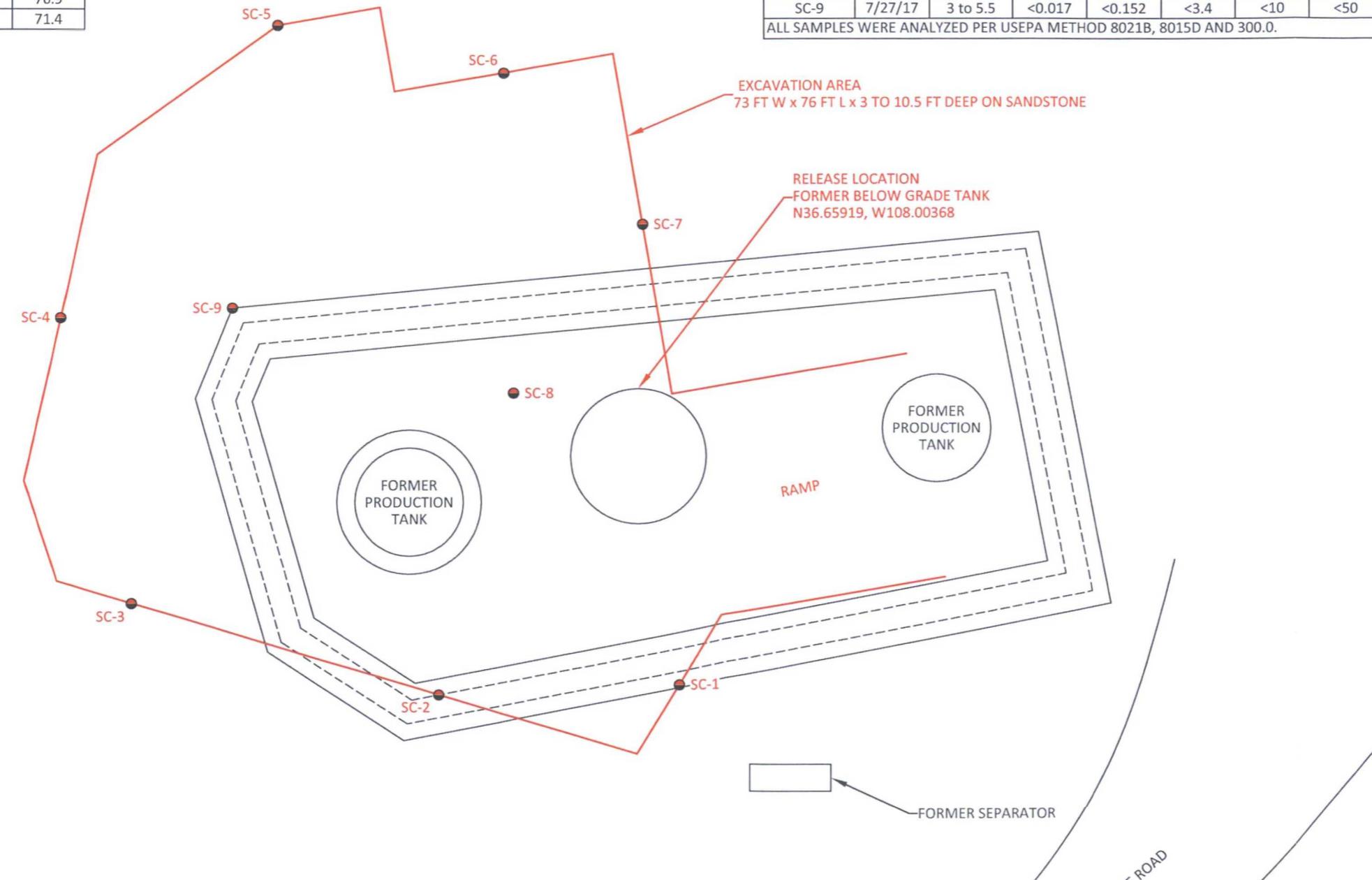
Conoco Phillips
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DRAWN BY: C. Lameman	DATE DRAWN: July 28, 2017
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APPROVED BY: E. McNally	DATE APPROVED: August 3, 2017

LEGEND

- COMPOSITE SAMPLE LOCATIONS
- FORMER SECONDARY CONTAINMENT BERM



AES Field Sampling Report

Animas Environmental Services, LLC



Client: ConocoPhillips

Project Location: Redfern 4

Date: 1/26/2017

Matrix: Soil

Sample ID	Collection Date	Collection Time	Sample Location	OVM (ppm)	Field Chloride (mg/kg)	Field TPH* (mg/kg)	Field TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials
BGT SC-1	1/26/2017	10:05	Composite	1,075	60	3,010	10:30	20.0	1	CL

DF Dilution Factor

NA Not Analyzed

PQL Practical Quantitation Limit

*Field TPH concentrations recorded may be below PQL.

Field Chloride - Quantab Chloride Titrators or Drop Count

Titration with Silver Nitrate

Total Petroleum Hydrocarbons - USEPA 418.1

Analyst:

AES Field Sampling Report

Animas Environmental Services, LLC



Client: ConocoPhillips

Project Location: Redfern 4

Date: 1/26/2017

Matrix: Soil

Sample ID	Collection Date	Collection Time	OVM (ppm)	Field TPH* (mg/kg)	Field TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials
TH-1 @ 7'	1/26/2017	11:05	15.6	25.9	11:37	20.0	1	CL
TH-1 @ 10'	1/26/2017	11:20	31.9	27.4	11:40	20.0	1	CL
TH-2 @ 5'	1/26/2017	11:50	43.6	<20.0	12:19	20.0	1	CL
TH-2 @ 10'	1/26/2017	12:05	45.0	<20.0	12:22	20.0	1	CL
TH-3 @ 3'	1/26/2017	13:40	25.7	<i>Not Analyzed for TPH</i>				
TH-3 @ 7'	1/26/2017	13:45	3,289	1,440	13:24	20.0	1	CL
TH-3 @ 10'	1/26/2017	13:02	916	294	13:26	20.0	1	CL
TH-4 @ 4'	1/26/2017	13:30	1.3	<i>Not Analyzed for TPH</i>				
TH-4 @ 6'	1/26/2017	13:35	4.9	187	14:17	20.0	1	CL
TH-4 @ 10'	1/26/2017	13:42	16.4	152	14:20	20.0	1	CL
TH-5 @ 2'	1/26/2017	14:00	8.9	<i>Not Analyzed for TPH</i>				
TH-5 @ 6.5'	1/26/2017	14:05	3.2	<20.0	15:30	20.0	1	CL
TH-5 @ 9'	1/26/2017	14:10	2.3	22.8	15:33	20.0	1	CL
TH-6 @ 5'	1/26/2017	14:25	2.9	<i>Not Analyzed for TPH</i>				

Sample ID	Collection Date	Collection Time	OVM (ppm)	Field TPH* (mg/kg)	Field TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials
TH-6 @ 9'	1/26/2017	14:30	2.3	<20.0	15:35	20.0	1	CL
TH-7 @ 4'	1/26/2017	14:45	35.9	<i>Not Analyzed for TPH</i>				
TH-7 @ 6'	1/26/2017	14:50	2,654	>3,060	15:40	20.0	1	CL
TH-7 @ 10'	1/26/2017	15:05	967	371	15:42	20.0	1	CL
TH-8 @ 5'	1/26/2017	14:00	3,021	<i>Not Analyzed for TPH</i>				
TH-8 @ 9'	1/26/2017	14:15	1,331	370	18:11	20.0	1	CL
TH-9 @ 2'	1/26/2017	14:20	3,408	<i>Not Analyzed for TPH</i>				
TH-9 @ 3'	1/26/2017	14:22	1,954	1,050	18:14	20.0	1	CL

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:



AES Field Sampling Report

Animas Environmental Services, LLC



Client: ConocoPhillips

Project Location: Redfern 4

Date: 7/27/2017

Matrix: Soil

Sample ID	Collection Date	Collection Time	Sample Location	OVM (ppm)	Field TPH* (mg/kg)	Field TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SC-1	7/27/2017	8:50	SE Wall	1,165	1,190	9:42	20.0	1	CL
SC-2	7/27/2017	8:55	South Wall	14.6	71.4	9:46	20.0	1	CL
SC-3	7/27/2017	9:00	SW Wall	1,037	331	9:51	20.0	1	CL
SC-4	7/27/2017	9:35	West Wall	885	1,120	10:23	20.0	1	CL
SC-5	7/27/2017	9:05	NW Wall	10.4	259	9:56	20.0	1	CL
SC-6	7/27/2017	9:10	NE Wall	20.7	68.6	10:00	20.0	1	CL
SC-7	7/27/2017	9:25	East Wall	38.2	310	10:27	20.0	1	CL
SC-8	7/27/2017	9:45	East Base	20.7	76.9	10:31	20.0	1	CL
SC-9	7/27/2017	9:40	West Base	60.5	71.4	10:35	20.0	1	CL

DF Dilution Factor

NA Not Analyzed

PQL Practical Quantitation Limit

*TPH concentrations recorded may be below PQL.

Total Petroleum Hydrocarbons - USEPA 418.1

Analyst:



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

February 03, 2017

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

RE: COPC Redfern 4

OrderNo.: 1701B29

Dear Corwin Lameman:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/27/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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.

Analytical Report
 Lab Order 1701B29
 Date Reported: 2/3/2017

CLIENT: Animas Environmental

Client Sample ID: BGT SC-1

Project: COPC Redfern 4

Collection Date: 1/26/2017 10:05:00 AM

Lab ID: 1701B29-001

Matrix: MEOH (SOIL)

Received Date: 1/27/2017 8:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH Analyst: MAB							
Petroleum Hydrocarbons, TR	3700	200		mg/Kg	10	1/30/2017	29921
EPA METHOD 300.0: ANIONS Analyst: MRA							
Chloride	ND	30		mg/Kg	20	1/27/2017 4:12:28 PM	29934
EPA METHOD 8015D MOD: GASOLINE RANGE Analyst: AG							
Gasoline Range Organics (GRO)	520	53		mg/Kg	20	1/30/2017 3:40:28 PM	R40362
Surr: BFB	97.3	70-130		%Rec	20	1/30/2017 3:40:28 PM	R40362
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: MAB							
Diesel Range Organics (DRO)	1300	38		mg/Kg	4	2/2/2017 12:05:08 PM	29954
Motor Oil Range Organics (MRO)	360	190		mg/Kg	4	2/2/2017 12:05:08 PM	29954
Surr: DNOP	123	70-130		%Rec	4	2/2/2017 12:05:08 PM	29954
EPA METHOD 8260B: VOLATILES SHORT LIST Analyst: AG							
Benzene	ND	0.27		mg/Kg	20	1/30/2017 3:40:28 PM	A40362
Toluene	0.42	0.27		mg/Kg	20	1/30/2017 3:40:28 PM	A40362
Ethylbenzene	1.1	0.27		mg/Kg	20	1/30/2017 3:40:28 PM	A40362
Xylenes, Total	7.0	1.1		mg/Kg	20	1/30/2017 3:40:28 PM	A40362
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	20	1/30/2017 3:40:28 PM	A40362
Surr: 4-Bromofluorobenzene	85.2	70-130		%Rec	20	1/30/2017 3:40:28 PM	A40362
Surr: Dibromofluoromethane	117	70-130		%Rec	20	1/30/2017 3:40:28 PM	A40362
Surr: Toluene-d8	98.3	70-130		%Rec	20	1/30/2017 3:40:28 PM	A40362

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	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701B29

03-Feb-17

Client: Animas Environmental

Project: COPC Redfern 4

Sample ID	MB-29934	SampType:	mbk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	29934	RunNo:	40365					
Prep Date:	1/27/2017	Analysis Date:	1/27/2017	SeqNo:	1265328	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-29934	SampType:	Ics	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	29934	RunNo:	40365					
Prep Date:	1/27/2017	Analysis Date:	1/27/2017	SeqNo:	1265329	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.9	90	110			

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

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701B29

03-Feb-17

Client: Animas Environmental

Project: COPC Redfern 4

Sample ID	MB-29921	SampType:	MBLK	TestCode:	EPA Method 418.1: TPH					
Client ID:	PBS	Batch ID:	29921	RunNo:	40360					
Prep Date:	1/27/2017	Analysis Date:	1/30/2017	SeqNo:	1265077	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-29921	SampType:	LCS	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS	Batch ID:	29921	RunNo:	40360					
Prep Date:	1/27/2017	Analysis Date:	1/30/2017	SeqNo:	1265078	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	105	61.7	138			

Sample ID	LCSD-29921	SampType:	LCSD	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS02	Batch ID:	29921	RunNo:	40360					
Prep Date:	1/27/2017	Analysis Date:	1/30/2017	SeqNo:	1265079	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	105	61.7	138	0	20	

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
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701B29

03-Feb-17

Client: Animas Environmental

Project: COPC Redfern 4

Sample ID	LCS-29954	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	29954	RunNo:	40391					
Prep Date:	1/30/2017	Analysis Date:	1/31/2017	SeqNo:	1266205	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	63.8	116			
Surr: DNOP	5.3		5.000		106	70	130			

Sample ID	MB-29954	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	29954	RunNo:	40391					
Prep Date:	1/30/2017	Analysis Date:	1/31/2017	SeqNo:	1266207	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	10		10.00		102	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

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701B29

03-Feb-17

Client: Animas Environmental

Project: COPC Redfern 4

Sample ID	rb	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List						
Client ID:	PBS	Batch ID: A40362		RunNo: 40362						
Prep Date:		Analysis Date: 1/30/2017		SeqNo: 1265201		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.9	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.8	70	130			
Surr: Dibromofluoromethane	0.56		0.5000		112	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			

Sample ID	100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: Volatiles Short List						
Client ID:	LCSS	Batch ID: A40362		RunNo: 40362						
Prep Date:		Analysis Date: 1/30/2017		SeqNo: 1265823		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	110	70	130			
Toluene	0.98	0.050	1.000	0	98.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.48		0.5000		95.8	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.1	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.49		0.5000		98.2	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
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1701B29

03-Feb-17

Client: Animas Environmental

Project: COPC Redfern 4

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS	Batch ID:	R40362	RunNo:	40362					
Prep Date:		Analysis Date:	1/30/2017	SeqNo:	1265206	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	500		500.0		99.7	70	130			

Sample ID	2.5ug gro lcs	SampType:	LCS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS	Batch ID:	R40362	RunNo:	40362					
Prep Date:		Analysis Date:	1/30/2017	SeqNo:	1265794	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	62.9	123			
Surr: BFB	500		500.0		100	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
- W Sample container temperature is out of limit as specified



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

Sample Log-In Check List

Client Name: **Animas Environmental**

Work Order Number: **1701B29**

RcptNo: **1**

Received by/date: *RE* *01/27/17*

Logged By: **Ashley Gallegos** 1/27/2017 8:40:00 AM *AG*

Completed By: **Ashley Gallegos** 1/27/2017 9:13:36 AM *AG*

Reviewed By: *AJ* *1/27/17*

Chain of Custody

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

Log In

- 4. Was an attempt made to cool the samples? Yes No NA
- 5. Were all samples received at a temperature of >0° 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? (Note discrepancies on chain of custody) Yes No
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			



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

August 01, 2017

Corwin Lameman
Animas Environmental
604 Pinon Street
Farmington, NM 87401
TEL:
FAX

RE: COPC Redfern 4

OrderNo.: 1707E29

Dear Corwin Lameman:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/28/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1707E29

Date Reported: 8/1/2017

CLIENT: Animas Environmental

Client Sample ID: SC-1

Project: COPC Redfern 4

Collection Date: 7/27/2017 8:50:00 AM

Lab ID: 1707E29-001

Matrix: MEOH (SOIL) Received Date: 7/28/2017 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	550	30		mg/Kg	20	7/28/2017 10:38:51 AM	33064
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	450	9.9		mg/Kg	1	7/28/2017 12:15:50 PM	33061
Motor Oil Range Organics (MRO)	190	50		mg/Kg	1	7/28/2017 12:15:50 PM	33061
Surr: DNOP	104	70-130		%Rec	1	7/28/2017 12:15:50 PM	33061
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	31	16		mg/Kg	5	7/28/2017 10:40:42 AM	G44585
Surr: BFB	144	54-150		%Rec	5	7/28/2017 10:40:42 AM	G44585
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.081		mg/Kg	5	7/28/2017 10:40:42 AM	B44585
Toluene	ND	0.16		mg/Kg	5	7/28/2017 10:40:42 AM	B44585
Ethylbenzene	ND	0.16		mg/Kg	5	7/28/2017 10:40:42 AM	B44585
Xylenes, Total	1.3	0.33		mg/Kg	5	7/28/2017 10:40:42 AM	B44585
Surr: 4-Bromofluorobenzene	117	66.6-132		%Rec	5	7/28/2017 10:40:42 AM	B44585

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

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1707E29
 Date Reported: 8/1/2017

CLIENT: Animas Environmental

Client Sample ID: SC-4

Project: COPC Redfern 4

Collection Date: 7/27/2017 9:35:00 AM

Lab ID: 1707E29-002

Matrix: MEOH (SOIL)

Received Date: 7/28/2017 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	1700	75		mg/Kg	50	7/28/2017 11:53:18 AM	33064
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	470	9.5		mg/Kg	1	7/28/2017 12:40:34 PM	33061
Motor Oil Range Organics (MRO)	310	48		mg/Kg	1	7/28/2017 12:40:34 PM	33061
Surr: DNOP	96.4	70-130		%Rec	1	7/28/2017 12:40:34 PM	33061
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	32	3.4		mg/Kg	1	7/28/2017 11:04:30 AM	G44585
Surr: BFB	373	54-150	S	%Rec	1	7/28/2017 11:04:30 AM	G44585
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	7/28/2017 11:04:30 AM	B44585
Toluene	ND	0.034		mg/Kg	1	7/28/2017 11:04:30 AM	B44585
Ethylbenzene	ND	0.034		mg/Kg	1	7/28/2017 11:04:30 AM	B44585
Xylenes, Total	0.46	0.067		mg/Kg	1	7/28/2017 11:04:30 AM	B44585
Surr: 4-Bromofluorobenzene	125	66.6-132		%Rec	1	7/28/2017 11:04:30 AM	B44585

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E29
01-Aug-17

Client: Animas Environmental
Project: COPC Redfern 4

Sample ID	MB-33064	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	33064	RunNo:	44581					
Prep Date:	7/28/2017	Analysis Date:	7/28/2017	SeqNo:	1410134	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-33064	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	33064	RunNo:	44581					
Prep Date:	7/28/2017	Analysis Date:	7/28/2017	SeqNo:	1410135	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.8	90	110			

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
- PQL Practical Quantitative Limit
- 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
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E29
01-Aug-17

Client: Animas Environmental
Project: COPC Redfern 4

Sample ID	LCS-33061	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	33061	RunNo:	44578					
Prep Date:	7/28/2017	Analysis Date:	7/28/2017	SeqNo:	1409395	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.2	73.2	114			
Surr: DNOP	4.0		5.000		80.2	70	130			

Sample ID	MB-33061	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	33061	RunNo:	44578					
Prep Date:	7/28/2017	Analysis Date:	7/28/2017	SeqNo:	1409398	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		97.4	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
- PQL Practical Quantitative Limit
- 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
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E29

01-Aug-17

Client: Animas Environmental

Project: COPC Redfern 4

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G44585	RunNo:	44585					
Prep Date:		Analysis Date:	7/28/2017	SeqNo:	1409798	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	1000		1000		101	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G44585	RunNo:	44585					
Prep Date:		Analysis Date:	7/28/2017	SeqNo:	1409799	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.2	76.4	125			
Surr: BFB	1100		1000		109	54	150			

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
- PQL Practical Quantitative Limit
- 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
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E29
01-Aug-17

Client: Animas Environmental
Project: COPC Redfern 4

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B44585	RunNo:	44585					
Prep Date:		Analysis Date:	7/28/2017	SeqNo:	1409814	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		113	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B44585	RunNo:	44585					
Prep Date:		Analysis Date:	7/28/2017	SeqNo:	1409815	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	85.0	80	120			
Toluene	0.85	0.050	1.000	0	84.6	80	120			
Ethylbenzene	0.86	0.050	1.000	0	86.3	80	120			
Xylenes, Total	2.6	0.10	3.000	0	86.4	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		115	66.6	132			

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
- PQL Practical Quantitative Limit
- 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
- W Sample container temperature is out of limit as specified

Client Name: Animas Environmental Work Order Number: 1707E29 RcptNo: 1

Received By: Erin Melendrez 7/28/2017 8:50:00 AM
 Completed By: Ashley Gallegos 7/28/2017 9:07:38 AM
 Reviewed By: *[Signature]* 7/28/17

UAG
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?
(Note discrepancies on chain of custody) Yes No
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes No

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			



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

August 04, 2017

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

RE: COPC Redfern 4

OrderNo.: 1707E30

Dear Corwin Lameman:

Hall Environmental Analysis Laboratory received 7 sample(s) on 7/28/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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 white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1707E30
 Date Reported: 8/4/2017

CLIENT: Animas Environmental Services

Client Sample ID: SC-2

Project: COPC Redfern 4

Collection Date: 7/27/2017 8:55:00 AM

Lab ID: 1707E30-001

Matrix: MEOH (SOIL)

Received Date: 7/28/2017 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	420	30		mg/Kg	20	7/31/2017 12:14:26 PM	33090
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/31/2017 8:45:42 PM	33075
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/31/2017 8:45:42 PM	33075
Surr: DNOP	92.1	70-130		%Rec	1	7/31/2017 8:45:42 PM	33075
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	7/28/2017 1:51:26 PM	G44585
Surr: BFB	103	54-150		%Rec	1	7/28/2017 1:51:26 PM	G44585
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.016		mg/Kg	1	7/28/2017 1:51:26 PM	B44585
Toluene	ND	0.032		mg/Kg	1	7/28/2017 1:51:26 PM	B44585
Ethylbenzene	ND	0.032		mg/Kg	1	7/28/2017 1:51:26 PM	B44585
Xylenes, Total	ND	0.064		mg/Kg	1	7/28/2017 1:51:26 PM	B44585
Surr: 4-Bromofluorobenzene	114	66.6-132		%Rec	1	7/28/2017 1:51:26 PM	B44585

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

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1707E30
 Date Reported: 8/4/2017

CLIENT: Animas Environmental Services

Client Sample ID: SC-3

Project: COPC Redfern 4

Collection Date: 7/27/2017 9:00:00 AM

Lab ID: 1707E30-002

Matrix: MEOH (SOIL)

Received Date: 7/28/2017 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	340	30		mg/Kg	20	7/31/2017 12:51:39 PM	33090
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	140	9.3		mg/Kg	1	7/31/2017 10:00:34 PM	33075
Motor Oil Range Organics (MRO)	51	47		mg/Kg	1	7/31/2017 10:00:34 PM	33075
Surr: DNOP	88.0	70-130		%Rec	1	7/31/2017 10:00:34 PM	33075
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	28	3.5		mg/Kg	1	7/28/2017 2:15:18 PM	G44585
Surr: BFB	246	54-150	S	%Rec	1	7/28/2017 2:15:18 PM	G44585
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.020	0.017		mg/Kg	1	7/28/2017 2:15:18 PM	B44585
Toluene	ND	0.035		mg/Kg	1	7/28/2017 2:15:18 PM	B44585
Ethylbenzene	0.052	0.035		mg/Kg	1	7/28/2017 2:15:18 PM	B44585
Xylenes, Total	0.19	0.069		mg/Kg	1	7/28/2017 2:15:18 PM	B44585
Surr: 4-Bromofluorobenzene	123	66.6-132		%Rec	1	7/28/2017 2:15:18 PM	B44585

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1707E30
 Date Reported: 8/4/2017

CLIENT: Animas Environmental Services

Client Sample ID: SC-5

Project: COPC Redfern 4

Collection Date: 7/27/2017 9:05:00 AM

Lab ID: 1707E30-003

Matrix: MEOH (SOIL)

Received Date: 7/28/2017 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1400	75		mg/Kg	50	8/2/2017 11:10:14 AM	33090
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	73	9.7		mg/Kg	1	7/31/2017 10:25:43 PM	33075
Motor Oil Range Organics (MRO)	110	48		mg/Kg	1	7/31/2017 10:25:43 PM	33075
Surr: DNOP	88.3	70-130		%Rec	1	7/31/2017 10:25:43 PM	33075
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	7/28/2017 2:39:04 PM	G44585
Surr: BFB	105	54-150		%Rec	1	7/28/2017 2:39:04 PM	G44585
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	7/28/2017 2:39:04 PM	B44585
Toluene	ND	0.036		mg/Kg	1	7/28/2017 2:39:04 PM	B44585
Ethylbenzene	ND	0.036		mg/Kg	1	7/28/2017 2:39:04 PM	B44585
Xylenes, Total	ND	0.071		mg/Kg	1	7/28/2017 2:39:04 PM	B44585
Surr: 4-Bromofluorobenzene	114	66.6-132		%Rec	1	7/28/2017 2:39:04 PM	B44585

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1707E30
 Date Reported: 8/4/2017

CLIENT: Animas Environmental Services

Client Sample ID: SC-6

Project: COPC Redfern 4

Collection Date: 7/27/2017 9:10:00 AM

Lab ID: 1707E30-004

Matrix: MEOH (SOIL)

Received Date: 7/28/2017 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	640	30		mg/Kg	20	7/31/2017 1:16:28 PM	33090
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/31/2017 10:50:38 PM	33075
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/31/2017 10:50:38 PM	33075
Surr: DNOP	101	70-130		%Rec	1	7/31/2017 10:50:38 PM	33075
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	7/28/2017 3:03:01 PM	G44585
Surr: BFB	101	54-150		%Rec	1	7/28/2017 3:03:01 PM	G44585
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	7/28/2017 3:03:01 PM	B44585
Toluene	ND	0.036		mg/Kg	1	7/28/2017 3:03:01 PM	B44585
Ethylbenzene	ND	0.036		mg/Kg	1	7/28/2017 3:03:01 PM	B44585
Xylenes, Total	ND	0.073		mg/Kg	1	7/28/2017 3:03:01 PM	B44585
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	7/28/2017 3:03:01 PM	B44585

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1707E30
 Date Reported: 8/4/2017

CLIENT: Animas Environmental Services
Project: COPC Redfern 4
Lab ID: 1707E30-005

Client Sample ID: SC-7
Collection Date: 7/27/2017 9:25:00 AM
Received Date: 7/28/2017 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1000	30		mg/Kg	20	7/31/2017 1:28:52 PM	33090
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	370	9.6		mg/Kg	1	7/31/2017 11:15:43 PM	33075
Motor Oil Range Organics (MRO)	380	48		mg/Kg	1	7/31/2017 11:15:43 PM	33075
Surr: DNOP	97.9	70-130		%Rec	1	7/31/2017 11:15:43 PM	33075
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	7/28/2017 4:38:45 PM	G44585
Surr: BFB	108	54-150		%Rec	1	7/28/2017 4:38:45 PM	G44585
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.022		mg/Kg	1	7/28/2017 4:38:45 PM	B44585
Toluene	ND	0.043		mg/Kg	1	7/28/2017 4:38:45 PM	B44585
Ethylbenzene	ND	0.043		mg/Kg	1	7/28/2017 4:38:45 PM	B44585
Xylenes, Total	ND	0.086		mg/Kg	1	7/28/2017 4:38:45 PM	B44585
Surr: 4-Bromofluorobenzene	114	66.6-132		%Rec	1	7/28/2017 4:38:45 PM	B44585

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services
Project: COPC Redfern 4
Lab ID: 1707E30-006

Client Sample ID: SC-8
Collection Date: 7/27/2017 9:45:00 AM
Received Date: 7/28/2017 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	120	30		mg/Kg	20	7/31/2017 2:06:05 PM	33090
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/31/2017 11:40:37 PM	33075
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/31/2017 11:40:37 PM	33075
Surr: DNOP	89.3	70-130		%Rec	1	7/31/2017 11:40:37 PM	33075
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	7/28/2017 5:02:37 PM	G44585
Surr: BFB	103	54-150		%Rec	1	7/28/2017 5:02:37 PM	G44585
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	7/28/2017 5:02:37 PM	B44585
Toluene	0.041	0.034		mg/Kg	1	7/28/2017 5:02:37 PM	B44585
Ethylbenzene	ND	0.034		mg/Kg	1	7/28/2017 5:02:37 PM	B44585
Xylenes, Total	ND	0.067		mg/Kg	1	7/28/2017 5:02:37 PM	B44585
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	7/28/2017 5:02:37 PM	B44585

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1707E30
 Date Reported: 8/4/2017

CLIENT: Animas Environmental Services

Client Sample ID: SC-9

Project: COPC Redfern 4

Collection Date: 7/27/2017 9:40:00 AM

Lab ID: 1707E30-007

Matrix: MEOH (SOIL)

Received Date: 7/28/2017 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	130	30		mg/Kg	20	7/31/2017 2:18:30 PM	33090
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/1/2017 12:05:42 AM	33075
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/1/2017 12:05:42 AM	33075
Surr: DNOP	88.1	70-130		%Rec	1	8/1/2017 12:05:42 AM	33075
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	7/28/2017 5:26:30 PM	G44585
Surr: BFB	101	54-150		%Rec	1	7/28/2017 5:26:30 PM	G44585
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	7/28/2017 5:26:30 PM	B44585
Toluene	ND	0.034		mg/Kg	1	7/28/2017 5:26:30 PM	B44585
Ethylbenzene	ND	0.034		mg/Kg	1	7/28/2017 5:26:30 PM	B44585
Xylenes, Total	ND	0.067		mg/Kg	1	7/28/2017 5:26:30 PM	B44585
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	7/28/2017 5:26:30 PM	B44585

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E Value above quantitation range
H	Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL	Practical Quantitative Limit	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E30

04-Aug-17

Client: Animas Environmental Services

Project: COPC Redfern 4

Sample ID	MB-33090	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	33090	RunNo:	44609					
Prep Date:	7/31/2017	Analysis Date:	7/31/2017	SeqNo:	1411294	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-33090	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	33090	RunNo:	44609					
Prep Date:	7/31/2017	Analysis Date:	7/31/2017	SeqNo:	1411295	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.3	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E30

04-Aug-17

Client: Animas Environmental Services

Project: COPC Redfern 4

Sample ID	LCS-33075	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	33075	RunNo:	44604					
Prep Date:	7/28/2017	Analysis Date:	7/31/2017	SeqNo:	1410830	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.2	73.2	114			
Surr: DNOP	4.4		5.000		87.2	70	130			

Sample ID	MB-33075	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	33075	RunNo:	44604					
Prep Date:	7/28/2017	Analysis Date:	7/31/2017	SeqNo:	1410831	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	8.5		10.00		85.3	70	130			

Sample ID	1707E30-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-2	Batch ID:	33075	RunNo:	44603					
Prep Date:	7/28/2017	Analysis Date:	7/31/2017	SeqNo:	1410913	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	9.6	47.76	0	85.9	55.8	122			
Surr: DNOP	4.3		4.776		90.1	70	130			

Sample ID	1707E30-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-2	Batch ID:	33075	RunNo:	44603					
Prep Date:	7/28/2017	Analysis Date:	7/31/2017	SeqNo:	1410914	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.8	48.88	0	90.9	55.8	122	10.1	20	
Surr: DNOP	4.0		4.888		82.3	70	130	0	0	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E30

04-Aug-17

Client: Animas Environmental Services

Project: COPC Redfern 4

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G44585	RunNo:	44585					
Prep Date:		Analysis Date:	7/28/2017	SeqNo:	1409798	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	1000		1000		101	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G44585	RunNo:	44585					
Prep Date:		Analysis Date:	7/28/2017	SeqNo:	1409799	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.2	76.4	125			
Surr: BFB	1100		1000		109	54	150			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Detection Limit |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E30
04-Aug-17

Client: Animas Environmental Services
Project: COPC Redfern 4

Sample ID	RB	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles						
Client ID:	PBS	Batch ID: B44585		RunNo: 44585						
Prep Date:		Analysis Date: 7/28/2017		SeqNo: 1409814		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		113	66.6	132			

Sample ID	100NG BTEX LCS	SampType: LCS		TestCode: EPA Method 8021B: Volatiles						
Client ID:	LCSS	Batch ID: B44585		RunNo: 44585						
Prep Date:		Analysis Date: 7/28/2017		SeqNo: 1409815		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	85.0	80	120			
Toluene	0.85	0.050	1.000	0	84.6	80	120			
Ethylbenzene	0.86	0.050	1.000	0	86.3	80	120			
Xylenes, Total	2.6	0.10	3.000	0	86.4	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		115	66.6	132			

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
- PQL Practical Quantitative Limit
- 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
- W Sample container temperature is out of limit as specified

Client Name: Animas Environmental

Work Order Number: 1707E30

RcptNo: 1

Received By: Erin Melendrez

7/28/2017 8:50:00 AM

EM

Completed By: Ashley Gallegos

7/28/2017 9:17:05 AM

AG

Reviewed By: ENM

7/28/17

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes No NA
5. Were all samples received at a temperature of >0° 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
 (Note discrepancies on chain of custody)
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
 (If no, notify customer for authorization.)

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

Special Handling (if applicable)

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

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

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			

Chain-of-Custody Record

Client: **Animas Environmental Services, LLC**

Mailing Address: **604 W Pinon St.**

Farmington, NM 87401

Phone #: **505-564-2281**

Email or Fax#: **clameman@animasenvironmental.com**

QA/QC Package:

Standard Level 4 (Full Validation)

Accreditation:

NELAP Other _____

EDD (Type) _____

Standard Rush_3-Day TAT

Project Name:

COPC Redfern 4

Project #:

Project Manager:

C. Lameman/E. McNally

Sampler: **CL/SJ**

On Ice: Yes No

Sample Temperature: **2.1**



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 - 8021B	TPH - EPA 8015 (GRO/DROMRO)	Chlorides - 300.0											Air Bubbles (Y or N)					
7/27/17	8:55	SOIL	SC-2	MeOH Kit 2 - 4 oz jars	MeOH cool	1707E30 -001	X	X	X																
7/27/17	9:00	SOIL	SC-3	MeOH Kit 2 - 4 oz jars	MeOH cool	-002	X	X	X																
7/27/17	9:05	SOIL	SC-5	MeOH Kit 2 - 4 oz jars	MeOH cool	-003	X	X	X																
7/27/17	9:10	SOIL	SC-6	MeOH Kit 2 - 4 oz jars	MeOH cool	-004	X	X	X																
7/27/17	9:25	SOIL	SC-7	MeOH Kit 2 - 4 oz jars	MeOH cool	-005	X	X	X																
7/27/17	9:45	SOIL	SC-8	MeOH Kit 2 - 4 oz jars	MeOH cool	-006	X	X	X																
7/27/17	9:40	SOIL	SC-9	MeOH Kit 2 - 4 oz jars	MeOH cool	-007	X	X	X																

Date: **7/27/17** Time: **1644** Relinquished by: *Cari*

Received by: *Christine Walter* Date: **7/27/17** Time: **1644**

Remarks: Bill to Conoco Phillips
 WO #: 10390391
 Supervisor: Chad Perkins
 USERID: KAITLW
 Area: 2
 Ordered by: Lisa Hunter
 Call with Questions

Date: **7/27/17** Time: **1840** Relinquished by: *Christine Walter*

Received by: *[Signature]* Date: **7/28/17** Time: **0850**

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.