

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 <b>Burlington Resources, a Wholly Owned Subsidiary of ConocoPhillips Company</b>	Contact <b>Lisa Hunter</b>
Address <b>3401 East 30<sup>th</sup> St, Farmington, NM</b>	Telephone No. <b>(505) 258-1607</b>
Facility Name: <b>San Juan 28-7 85</b>	Facility Type: <b>Gas well</b>

Surface Owner <b>BLM</b>	Mineral Owner <b>FED</b>	API No. <b>3003906900</b>
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#### LOCATION OF RELEASE

Unit Letter <b>G</b>	Section <b>25</b>	Township <b>27</b>	Range <b>6</b>	Feet from the <b>1840</b>	North/South Line <b>North</b>	Feet from the <b>1460</b>	East/West Line <b>East</b>	County <b>Rio Arriba</b>
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Latitude 36.60854 Longitude -107.60944

#### NATURE OF RELEASE

Type of Release <b>Hydrocarbon</b>	Volume of Release <b>Unknown</b>	Volume Recovered <b>30 c/yds</b>
Source of Release <b>BGT</b>	Date and Hour of Occurrence <b>Unknown</b>	Date and Hour of Discovery <b>10-21-2016</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? <b>N/A</b>	
By Whom? <b>N/A</b>	Date and Hour <b>N/A</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>N/A</b>	

**OIL CONS. DIV DIST. 3**

**JUN 15 2017**

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

Describe Cause of Problem and Remedial Action Taken.\*  
Historic contamination was encountered after soil sample was taken on 10-21-16 during a BGT Resample Project.

Describe Area Affected and Cleanup Action Taken.\*  
Delineation of the BGT area on 12-5-17 indicates a 10'x18' x 6' area that will be excavated to at or below action levels.

**Historical hydrocarbon impacted soil was found during the BGT closure for the subject well. The excavation was 10' x 18' x 5' in depth and 30 c/yds of soil was transported to IEI land farm. NMOCD approved COPC request to spray potassium permanganate and backfill – no further action required. The closure report and laboratory analysis is attached for review. Risk Rank:**

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.

#### OIL CONSERVATION DIVISION

Signature: 	Approved by Environmental Specialist: 
Printed Name: <b>Lisa Hunter</b>	Approval Date: <b>7/31/2017</b> Expiration Date:
Title: <b>Field Environmental Specialist</b>	Conditions of Approval:
E-mail Address: <b>Lisa.Hunter@cop.com</b>	Attached <input type="checkbox"/>
Date: <b>06-14-17</b> Phone: <b>505-258-1607</b>	

**NF-1702339600**

\* Attach Additional Sheets If Necessary

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## Fields, Vanessa, EMNRD

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**From:** Thomas, Leigh <l1thomas@blm.gov>  
**Sent:** Monday, May 8, 2017 8:29 AM  
**To:** Hunter, Lisa  
**Cc:** Smith, Cory, EMNRD; Fields, Vanessa, EMNRD; Spearman, Bobby E  
**Subject:** Re: Preliminary Laboratory Analytical Results for San Juan 28-7 Unit 85 Excavation

The BLM concurs with NMOCD and approves COPC to spray the site with Potassium Permanganate and backfill the site.

If you have any questions please let me know.

Thank you  
Whitney Thomas

On Mon, May 8, 2017 at 7:34 AM, Hunter, Lisa <[Lisa.Hunter@conocophillips.com](mailto:Lisa.Hunter@conocophillips.com)> wrote:

Thank you!

*Lisa Hunter*

Field Environmental Specialist  
ConocoPhillips Company  
505.258.1607  
[Lisa.Hunter@cop.com](mailto:Lisa.Hunter@cop.com)

*"Archaeology permits us to see small moments in time to witness events in everyday lives not recorded by history."*

**From:** Smith, Cory, EMNRD [mailto:[Cory.Smith@state.nm.us](mailto:Cory.Smith@state.nm.us)]  
**Sent:** Monday, May 08, 2017 7:32 AM  
**To:** Hunter, Lisa <[Lisa.Hunter@conocophillips.com](mailto:Lisa.Hunter@conocophillips.com)>; Fields, Vanessa, EMNRD <[Vanessa.Fields@state.nm.us](mailto:Vanessa.Fields@state.nm.us)>  
**Cc:** Spearman, Bobby E <[Robert.E.Spearman@conocophillips.com](mailto:Robert.E.Spearman@conocophillips.com)>; whitney thomas ([l1thomas@blm.gov](mailto:l1thomas@blm.gov)) <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>  
**Subject:** [EXTERNAL]RE: Preliminary Laboratory Analytical Results for San Juan 28-7 Unit 85 Excavation

Lisa,

OCD approves of COPC plan to spray potassium Permanganate and backfill the excavation.

Please include this approval in your final C-141.

OCD approval does not relive COPC of any requirements imposed by other regulatory agencies.

Cory Smith

Environmental Specialist

Oil Conservation Division

Energy, Minerals, & Natural Resources

1000 Rio Brazos, Aztec, NM 87410

(505)334-6178 ext 115

[cory.smith@state.nm.us](mailto:cory.smith@state.nm.us)

**From:** Hunter, Lisa [<mailto:Lisa.Hunter@conocophillips.com>]

**Sent:** Friday, May 5, 2017 10:49 AM

**To:** Fields, Vanessa, EMNRD <[Vanessa.Fields@state.nm.us](mailto:Vanessa.Fields@state.nm.us)>; Smith, Cory, EMNRD <[Cory.Smith@state.nm.us](mailto:Cory.Smith@state.nm.us)>

**Cc:** Spearman, Bobby E <[Robert.E.Spearman@conocophillips.com](mailto:Robert.E.Spearman@conocophillips.com)>; whitney thomas ([l1thomas@blm.gov](mailto:l1thomas@blm.gov)) <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>

**Subject:** FW: Preliminary Laboratory Analytical Results for San Juan 28-7 Unit 85 Excavation

Below are the **field results** for the San Juan 28-7 Unit 85 Excavation Clearance conducted on May 3, 2017. Site rank is 10, however, at the request of NMOCD, strictest closure requirements specified in NMAC 19.15.17.13E Table 1 were to be utilized. All samples are 5-point composite samples. Excavation extent was 10 ft by 18 ft by 5 ft deep and was terminated on sandstone.

**Field Sample Results:**

Sample ID	Sample Location	Date	OVM (ppm)	Field TPH (mg/kg)
<b>NMOCD Action Level</b>			<b>100</b>	<b>100</b>
SC-1	North Wall	5/3/17	0.3	105
SC-2	South Wall	5/3/17	0.0	27.6

*SC-3	East Wall	5/3/17	0.2	<b>211</b>
SC-4	West Wall	5/3/17	0.4	<b>69.2</b>
*SC-5	Base	5/3/17	53.3	<b>324</b>

Samples SC-3 and SC-5 were submitted for a same-day turnaround time for 8021 BTEX and 8015 TPH (GRO/DRO/MRO). Attached is the preliminary lab report for SC-3 and SC-5. Although the TPH levels are a little above the 100ppm (SC-3: 128 mg/kg & SC-5: 188 mg/kg), Total BTEX is Non-Detect, and the base is terminated at a hard sandstone and is excavated to maximum depth practicable.

Due to Non-Detect BTEX levels, COPC believes the residual contaminants do not pose a present or foreseeable threat or an environmental risk to water, humans or animals, COPC requests at this time that the base be sprayed with Potassium Permanganate and backfill the excavation with clean soil.

Please let me know if you have any questions.

Thanks,

*Lisa Hunter*

Field Environmental Specialist

ConocoPhillips Company

505.258.1607

[Lisa.Hunter@cop.com](mailto:Lisa.Hunter@cop.com)

*"Archaeology permits us to see small moments in time to witness events in everyday lives not recorded by history."*

**From:** Corwin Lameman [<mailto:clameman@animasenvironmental.com>]

**Sent:** Thursday, May 04, 2017 2:27 PM

**To:** Hunter, Lisa <[Lisa.Hunter@conocophillips.com](mailto:Lisa.Hunter@conocophillips.com)>

**Cc:** Spearman, Bobby E <[Robert.E.Spearman@conocophillips.com](mailto:Robert.E.Spearman@conocophillips.com)>; Elizabeth McNally <[emcnally@animasenvironmental.com](mailto:emcnally@animasenvironmental.com)>

**Subject:** [EXTERNAL]Preliminary Laboratory Analytical Results for San Juan 28-7 Unit 85 Excavation

Afternoon Lisa,

Please find attached the preliminary laboratory analytical results for the San Juan 28-7 Unit 85 excavation clearance. The results are for the soil composite samples of SC-3 and SC-5 from May 3, 2017. Benzene and total BTEX concentrations were below the NMOCD action levels of 10 mg/kg and 50 mg/kg. Laboratory analytical results reported TPH concentrations above the NMOCD action level of 100 mg/kg. The TPH-GRO concentrations results for both samples were non-detect. However, the combined results of both TPH-DRO and TPH-MRO had concentrations of 128 mg/kg in SC-3 and 188 mg/kg in SC-5. If you have any questions please let us know.

Thanks,

Corwin Lameman

Staff Geologist/ Draft Technician

(Cell) 505.486.4062

Animas Environmental Services, LLC.

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

604 W Pinon St, Farmington NM (Tel) 505.564.2281

1911 N Main St, Ste 206, Durango CO (Tel) 970.403.3084

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Whitney Thomas  
Natural Resource Specialist  
Farmington Field Office  
6251 North College Boulevard  
Suite A  
Farmington, NM 87402  
Office: 505-564-7680  
Cell: 505-635-9796  
email: [l1thomas@blm.gov](mailto:l1thomas@blm.gov)



June 6, 2017

Lisa Hunter and Robert Spearman  
ConocoPhillips  
San Juan Business Unit  
505) 326-9786 / (505) 320-3045

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

**RE: Below Grade Tank Closure, Release Assessment and Final Excavation Report  
San Juan 28-7 Unit 85  
Rio Arriba County, New Mexico**

Dear Ms. Hunter and Mr. Spearman:

On October 21 and December 5, 2016, and May 3, 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) San Juan 28-7 Unit 85 located in Rio Arriba County, New Mexico. An initial release assessment was completed on December 5, 2016, and the final excavation was completed by COP contractors prior to AES' arrival on location on May 3, 2017.

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## 1.0 Site Information

### 1.1 Location

Site Name – San Juan 28-7 Unit 85

Legal Description – NE¼ NE¼, Section 6, T27N, R7W, Rio Arriba County, New Mexico

Well Latitude/Longitude – N36.60844 and W107.60919, respectively

BGT Latitude/Longitude – N36.60854 and W107.60944, respectively

Land Jurisdiction – Bureau of Land Management (BLM)

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map, 2016 and 2017

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

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

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

## **1.2 NMOCD Ranking**

Prior to site work, the New Mexico Oil Conservation Division (NMOCD) and New Mexico Office of the State Engineer (NMOSE) databases were reviewed, and a site-specific hydrogeology report dated December 2008 reported the depth to groundwater at 84 feet below ground surface (bgs). However, at the request of the NMOCD, the most stringent sample result criteria were applied to this BGT. Note these criteria normally apply to sites with a depth to groundwater of 0 to 50 feet.

## **1.3 Assessment**

AES was initially contacted by Robert Spearman of COP on October 17, 2016, and on October 21, 2016, Corwin Lameman and Sam Glasses of AES traveled to the location. Soil sampling consisted of collection of one soil sample (BGT S-1) from below the former BGT footprint. Soil sample results for BGT S-1 were above the action levels, and a release was confirmed.

On December 5, 2016, AES personnel returned to the location to complete the release assessment field work. The assessment included collection and field sampling of eight samples from eight soil borings (SB-1 through SB-8). Based on field sampling results, AES recommended excavation of the release area. Sample locations are shown on Figure 3.

On May 3, 2017, AES returned to the location to collect confirmation soil samples of the excavation extents. The field sampling activities included collection of five confirmation soil samples (SC-1 through SC-5) from the walls and base of the excavation. The area of the final excavation measured approximately 10 feet by 18 feet by 5 feet in depth. Note that the depth of the excavation was limited due to a confining sandstone unit around 5 feet bgs. Sample locations and final excavation extents are presented on Figure 4.

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## **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 S-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. Soil sample BGT S-1 was laboratory analyzed for:

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

Soil samples SC-1 through SC-5 were laboratory analyzed for:

- BTEX per USEPA Method 8021B; and
- TPH as gasoline range, diesel range, and motor oil range organics (GRO/DRO/MRO) per USEPA Method 8015.

## **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 3 and 4. The AES Field Sampling Reports and laboratory analytical reports are attached.

Table 1. Soil Field VOCs and TPH Results  
San Juan 28-7 Unit 85 Release Assessment and Final Excavation  
December 2016 and May 2017

<b>Sample ID</b>	<b>Date Sampled</b>	<b>Depth below BGT (ft)</b>	<b>VOCs OVM Reading (ppm)</b>	<b>Field TPH (418.1) (mg/kg)</b>
<i>NMOCD Action Level</i>			<i>--*</i>	<i>100*</i>
SB-1	12/5/16	5	179	<b>3,690</b>
SB-2	12/5/16	5	0.1	<20.0
SB-3	12/5/16	2	0.0	<20.0
SB-4	12/5/16	5.75	637	<b>2,840</b>
SB-5	12/5/16	5	0.0	<20.0
SB-6	12/5/16	1.25	0.0	NA
SB-7	12/5/16	5.5	0.0	<20.0
SB-8	12/5/16	1.25	0.0	NA
SC-1	5/3/17	0 to 5	0.3	<b>105</b>
SC-2	5/3/17	0 to 5	0.0	27.6
SC-3	5/3/17	0 to 5	0.2	<b>211</b>
SC-4	5/3/17	0 to 5	0.4	69.2
SC-5	5/3/17	5	53.3	<b>324</b>

NA – not analyzed

\*Action level determined by *NMAC 19.15.17.13 Table 1*

Table 2. Soil Laboratory Analytical Results – Benzene, Total BTEX, TPH, and Chlorides  
San Juan 28-7 Unit 85 BGT Closure and Final Excavation  
October 2016 and May 2017

<b>Sample ID</b>	<b>Date Sampled</b>	<b>Sample Depth (ft bgs)</b>	<b>Benzene (mg/kg)</b>	<b>Total BTEX (mg/kg)</b>	<b>TPH 418.1</b>	<b>TPH-GRO (mg/kg)</b>	<b>TPH-DRO (mg/kg)</b>	<b>TPH-MRO (mg/kg)</b>	<b>Chlorides (mg/kg)</b>
<b>NMOCD Action Level</b>			<b>10*</b>	<b>50*</b>	<b>100*</b>		<b>100*</b>		<b>600*</b>
BGT S-1	10/21/16	5.5	<0.024	0.21	5,000	45	2,400	1,000	<30
SC-1	5/3/17	0 to 5	<0.014	<0.130	NA	<2.9	44	67	NA
SC-2	5/3/17	0 to 5	<0.015	<0.134	NA	<3.0	<9.6	<48	NA
SC-3	5/3/17	0 to 5	<0.014	<0.122	NA	<2.7	47	81	NA
SC-4	5/3/17	0 to 5	<0.017	<0.150	NA	<3.3	34	69	NA
SC-5	5/3/17	5	<0.016	<0.145	NA	<3.2	110	78	NA

NA – not analyzed

\*Action level determined by NMAC 19.15.17.13 Table 1

### 3.0 Conclusions and Recommendations

#### 3.1 BGT Closure

On October 21, 2016, AES conducted BGT closure sampling at the location. NMOCD action levels for BGT closures are specified in New Mexico Administrative Code (NMAC) 19.15.17.13 Table 1, and for this location the most stringent action levels were utilized per NMOCD. BGT closure sampling laboratory analytical results were below the NMOCD action levels of 10 mg/kg for benzene and 50 mg/kg for total BTEX. In contrast, results exceeded the NMOCD action level of 100 mg/kg for TPH, with BGT S-1 reporting laboratory concentrations of 5,000 mg/kg (TPH 418.1) and 3,445 mg/kg (TPH as GRO/DRO/MRO). Chloride concentrations in BGT S-1 were reported below the NMOCD action level of 600 mg/kg, with less than 30 mg/kg. Based on lab concentrations, a release was confirmed at the former BGT at the San Juan 28-7 Unit 85 location.

#### 3.2 Release Assessment and Excavation Clearance

On December 5, 2016, AES completed a release assessment at the location. Release assessment field sampling results above the NMOCD action level of 100 mg/kg TPH were reported in SB-1 and SB-4. The highest field TPH concentration was reported in SB-1, with a concentration of 3,690 mg/kg TPH. Excavation of the release area was recommended.

On May 3, 2017, final clearance of the excavation area was completed. Field sampling results of the excavation extents showed field TPH concentrations exceeded the applicable NMOCD action level of 100 mg/kg in SC-1 (north wall), SC-3 (east wall), and SC-5 (base). The highest field TPH concentration was reported in SC-5, with a concentration of 324 mg/kg TPH. Additionally, laboratory analytical results reported TPH concentrations (as GRO/DRO/MRO) in SC-1, SC-3, and SC-5, as well as SC-4 (west wall), as above NMOCD action levels. The highest laboratory TPH concentration was reported in SC-5, at a concentration of 188 mg/kg TPH. Note that the MRO concentration in SC-1, SC-3, SC-4 and SC-5 made up a significant portion of the total TPH concentration for each sample. MRO is generally considered to be significantly less mobile in the subsurface than GRO and DRO. Combined GRO/DRO concentrations for the samples were below 100 mg/kg, with the exception of SC-5 (110 mg/kg DRO). Laboratory analytical results reported benzene and total BTEX concentrations 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 San Juan 28-7 Unit 85, benzene and total BTEX were below the applicable NMOCD action levels for the final base and sidewalls. In contrast, TPH exceeded the NMOCD action level for the base and all sidewalls, except at SC-2. However, NMOCD granted approval to spray with a potassium permanganate solution and backfill the excavation, and 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, 2016 and 2017
- Figure 3. BGT Closure and Release Assessment Sample Locations and Results, October and December 2016

Figure 4. Final Excavation Sample Locations and Results, May 2017

AES Field Sampling Report 120516

AES Field Sampling Report 050317

Hall Laboratory Analytical Report 1610B75

Hall Laboratory Analytical Report 1705220

Hall Laboratory Analytical Report 1705221

R:\Animas 2000\Dropbox (Animas Environmental)\0000 AES Server Client Projects Dropbox\2017 Client Projects\ConocoPhillips\SJ 28-7 Unit 85\San Juan 28-7 Unit 85 BGT Closure, Release, and Excavation Report 060617.docx

## Figures



**FIGURE 1**

**TOPOGRAPHIC SITE LOCATION MAP**

ConocoPhillips  
SAN JUAN 28-7 UNIT 85  
NE¼, NE¼, SECTION 6, T27N, R7W  
RIO ARriba COUNTY, NEW MEXICO  
N36.60844, W107.60919



**animas  
environmental  
services**

Farmington, NM • Durango, CO  
animasenvironmental.com

**DRAWN BY:**  
C. Lameman

**DATE DRAWN:**  
December 15, 2016

**REVISIONS BY:**  
C. Lameman

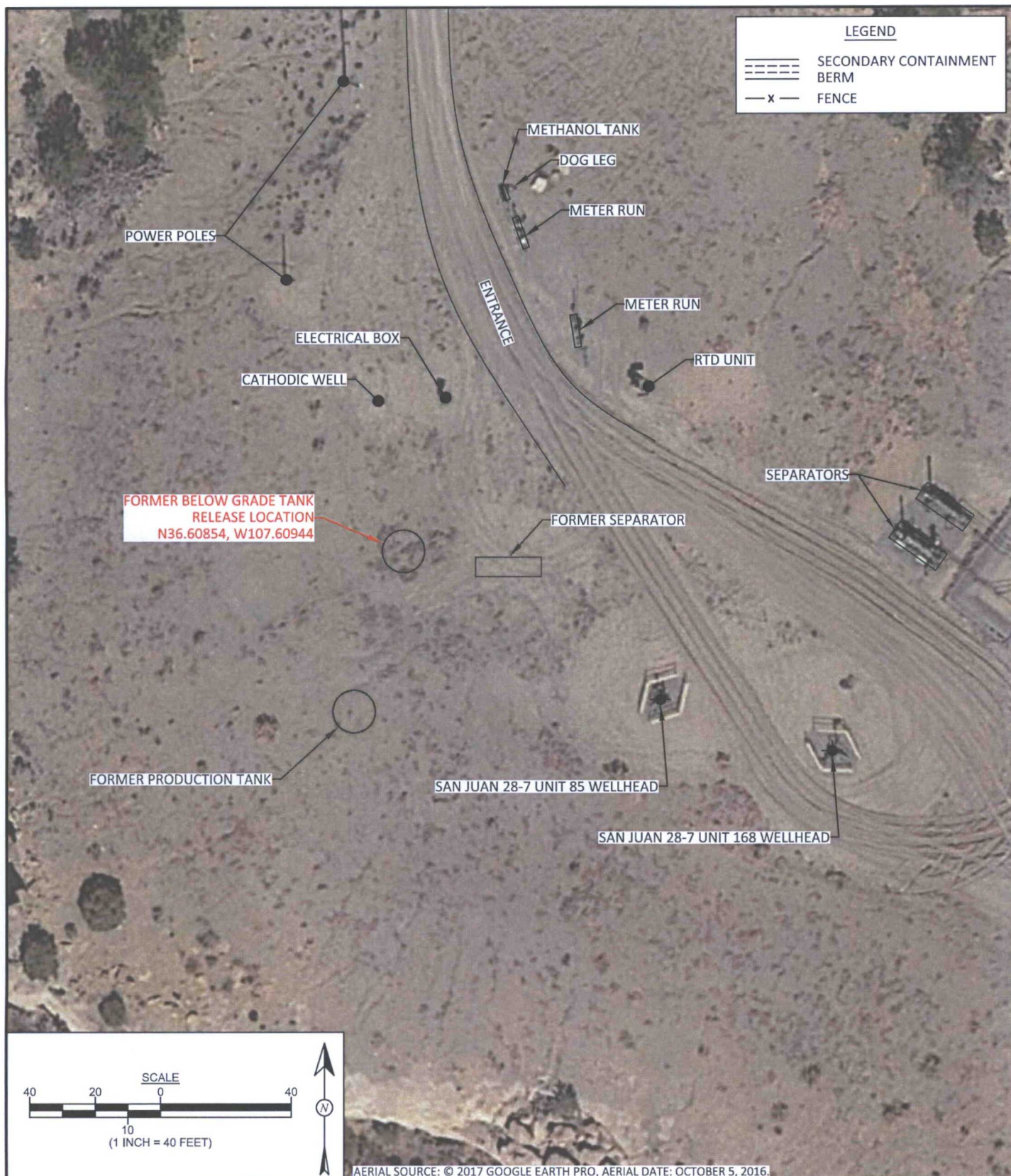
**DATE REVISED:**  
May 31, 2017

**CHECKED BY:**  
D. Reese

**DATE CHECKED:**  
May 31, 2017

**APPROVED BY:**  
E. McNally

**DATE APPROVED:**  
May 31, 2017



## FIGURE 2

### AERIAL SITE MAP 2016 AND 2017

ConocoPhillips  
SAN JUAN 28-7 UNIT 85  
NE¼ NE¼, SECTION 6, T27N, R7W  
RIO ARriba COUNTY, NEW MEXICO  
N36.60844, W107.60919



animas  
environmental  
services

Farmington, NM • Durango, CO  
animasenvironmental.com

**DRAWN BY:**  
C. Lameman

**DATE DRAWN:**  
December 15, 2016

**REVISIONS BY:**  
C. Lameman

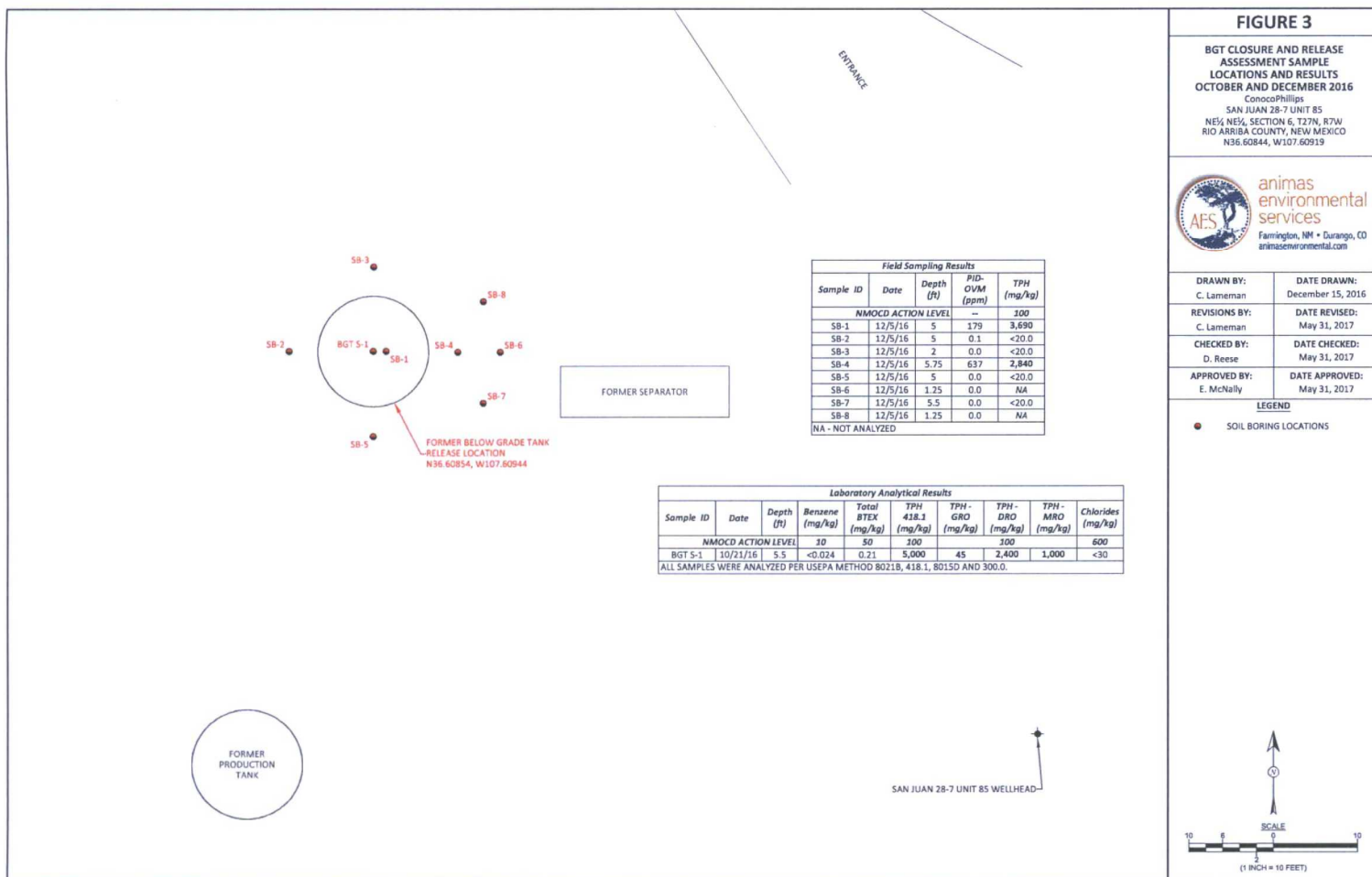
**DATE REVISED:**  
May 31, 2017

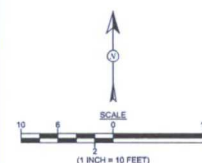
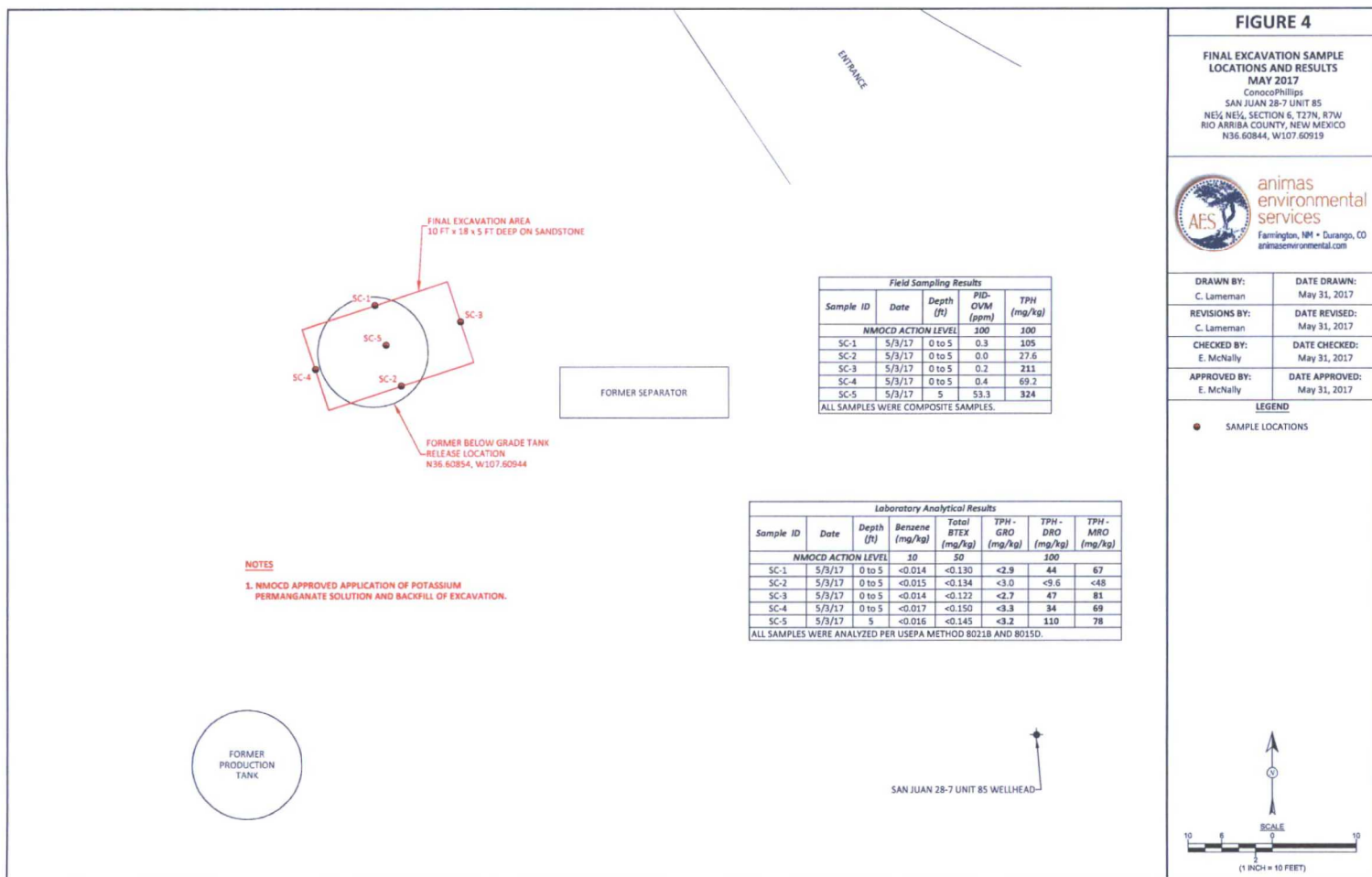
**CHECKED BY:**  
D. Reese

**DATE CHECKED:**  
May 31, 2017

**APPROVED BY:**  
E. McNally

**DATE APPROVED:**  
May 31, 2017





## Sampling Reports

# Field Screening Release Assessment Field Report

Date: 12-5-16

Client: Onoco Phillips AES Personnel: S. Glasses  
 Well or Lease Name: San Juan 28-7 85 C. Lameman  
 CoP Onsite Supervisor: Corwin Lameman Beginning mileage: 52636  
 Site Arrival Time: 0930 Ending Mileage: 52712  
 Site Departure Time: 1440 Release Source: Historic BGT  
 Well Head (GPS): 36.60844, -107.60919  
 Land Jurisdiction: BLM Release Location (GPS): 36.60854, -107.60944  
 County/State: San Juan / NM  
 Site Rank: 10

Billing Info:  
 WO #: 21739267  
 Supervisor: Schauphok  
 USER: KATLW  
 Area: 7  
 Activity Code:   
 Ordered by: Bobby Spearman

Equipment in place: 2 Production Tanks, 2 Separators  
2 WH, 1 BGT, 2 Meter Runs  
 Photos taken:

Buck Machine #	/		
Concentration	50 mg/kg	100 mg/kg	500 mg/kg
Calibration ABS Values	0.075	0.131	0.653

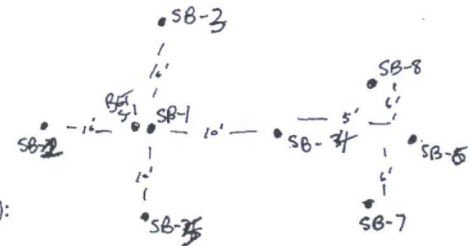
Project Details: was a BGT Regulatory sample. Laboratory Results  
were higher than BGT closure.  
Delineation was required.

Site Sketch (DOES NOT REPLACE SITE MAP) and Current Excavation Dimensions:

See Aerial Map As Well

Horizontal (Cross-Section View):

Vertical (Plan View):



Initial Recommendations:

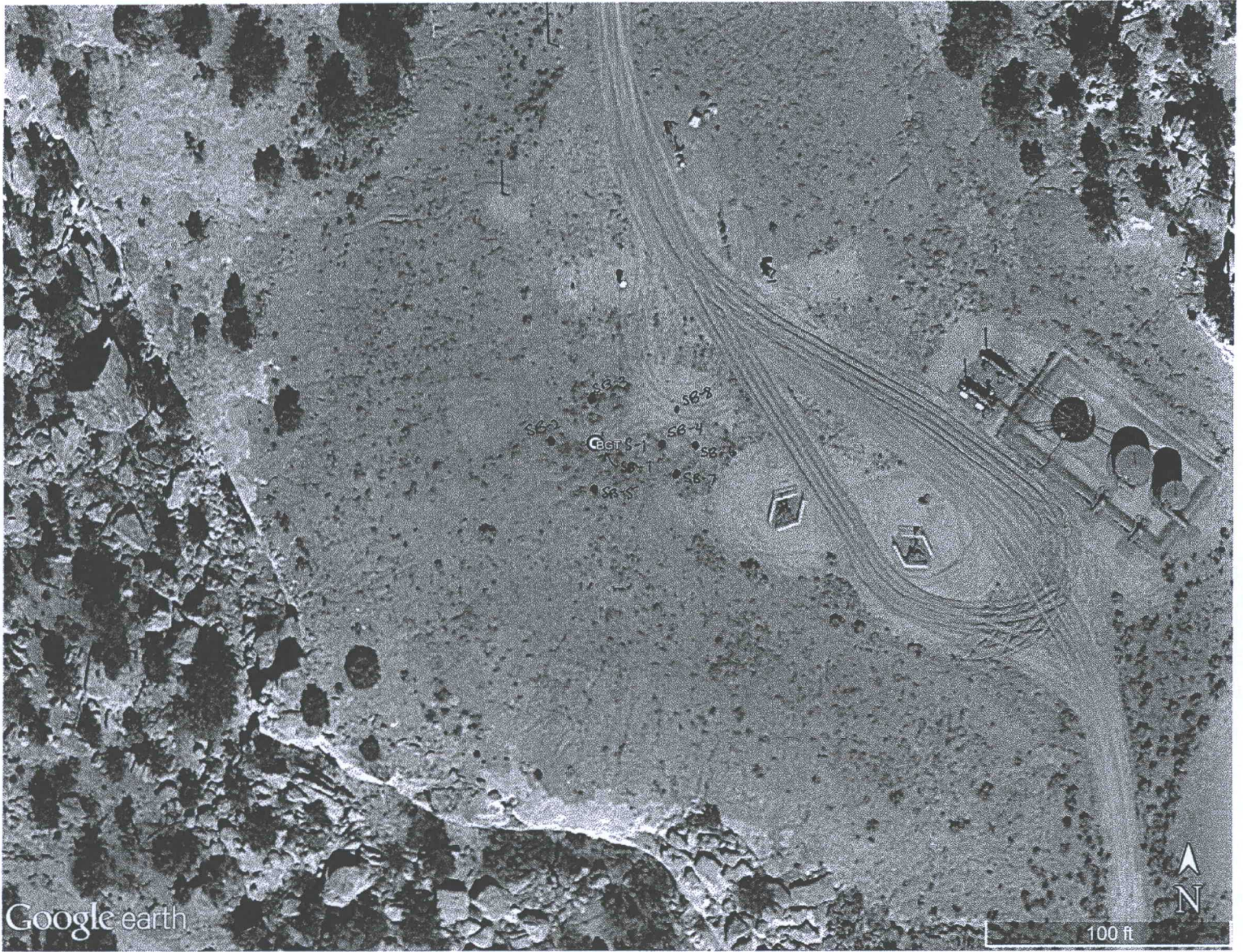
Limitations: sandstone and shale ranging from 1.5' to 5.5'

AES personnel: S.6 classes, C. Lauerman

[illegible]

\*Include Benzene readings in the notes section initially and transfer to Limitations if Benzene is a problem on the location.

Animas Environmental Services, LLC  
604 W Pinon St. Farmington, NM 87401 office # 505-564-2281  
1911 N Main, Ste 280, Durango, CO 81301



# Field Screening Release Assessment Field Report

Date: 5-3-17

Client: COPC AES Personnel: B. Lammeman  
 Well or Lease Name: San Juan 28-7 Unit 85  
 CoP Onsite Supervisor: Eduardo Montoya Beginning mileage: 54312  
 Site Arrival Time: 833 Ending Mileage: 54388  
 Site Departure Time: 1109 Release Source: Historic B6T  
 Land Jurisdiction: BLM Well Head (GPS): 36.60844, -107.60919  
 County/State: SJ / NM Release Location (GPS): 36.60854, -107.60944  
 Site Rank: 10 But under 100  
Stringent per NMED  
 Equipment in place: Prod. tank, B6T, 2 Sep, 2WH, Meter Run  
RTD  
 Photos taken: \_\_\_\_\_

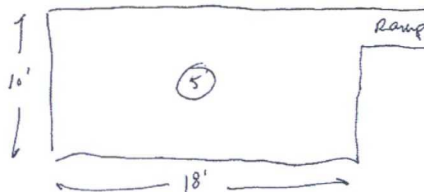
Billing Info:  
 WO #: 10398827  
 Supervisor: Randy Smith  
 USER: KAITLN  
 Area: 7  
 Activity Code: —  
 Ordered by: Lisa Hunter /  
Eduardo Montoya  
per Randy

Buck Machine #	1		
Concentration	50 mg/kg	100 mg/kg	500 mg/kg
Calibration ABS Values	0.078	0.156	0.791

Project Details: Excavation Clearance for Historic B6T.

Site Sketch (DOES NOT REPLACE SITE MAP) and Current Excavation Dimensions:

Horizontal (Cross-Section View):



Vertical (Plan View):

Initial Recommendations:

Limitations: Excavation on SS e S'

Well or Lease Name: *San Juan 28-7 Unit 85*

AES personnel: C. Lomen

$< 100$

[illegible]

\*Include Benzene readings in the notes section initially and transfer to Limitations if Benzene is a problem on the location.

Animas Environmental Services, LLC  
604 W Pinon St. Farmington, NM 87401 office # 505-564-2281  
1911 N Main, Ste 206, Durango, CO 81301

2 of \_\_\_\_\_

Release Assessment Field Form 012617.xlsx

## Analytical Reports



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

November 03, 2016

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

RE: COPC San Juan 28-7 UNIT 85

OrderNo.: 1610B75

Dear Emilee Skyles:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/22/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1610B75

Date Reported: 11/3/2016

**CLIENT:** Animas Environmental**Client Sample ID:** BGT S-1**Project:** COPC San Juan 28-7 UNIT 85**Collection Date:** 10/21/2016 2:13:00 PM**Lab ID:** 1610B75-001**Matrix:** SOIL**Received Date:** 10/22/2016 8:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>MAB</b>
Petroleum Hydrocarbons, TR	5000	190		mg/Kg	10	10/26/2016	28272
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	10/31/2016 2:12:47 PM	28379
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	2400	99		mg/Kg	10	10/27/2016 1:22:03 PM	28288
Motor Oil Range Organics (MRO)	1000	490		mg/Kg	10	10/27/2016 1:22:03 PM	28288
Surr: DNOP	0	70-130	S	%Rec	10	10/27/2016 1:22:03 PM	28288
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	45	4.8		mg/Kg	1	10/26/2016 1:21:45 PM	28268
Surr: BFB	321	68.3-144	S	%Rec	1	10/26/2016 1:21:45 PM	28268
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	10/26/2016 1:21:45 PM	28268
Toluene	ND	0.048		mg/Kg	1	10/26/2016 1:21:45 PM	28268
Ethylbenzene	ND	0.048		mg/Kg	1	10/26/2016 1:21:45 PM	28268
Xylenes, Total	0.21	0.096		mg/Kg	1	10/26/2016 1:21:45 PM	28268
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	10/26/2016 1:21:45 PM	28268

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1610B75

03-Nov-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 UNIT 85

Sample ID	MB-28379	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	28379	RunNo:	38358					
Prep Date:	10/31/2016	Analysis Date:	10/31/2016	SeqNo:	1197670	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-28379	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	28379	RunNo:	38358					
Prep Date:	10/31/2016	Analysis Date:	10/31/2016	SeqNo:	1197671	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.1	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                                    |
| 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#: 1610B75

03-Nov-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 UNIT 85

Sample ID	MB-28272	SampType:	MBLK	TestCode:	EPA Method 418.1: TPH					
Client ID:	PBS	Batch ID:	28272	RunNo:	38229					
Prep Date:	10/25/2016	Analysis Date:	10/26/2016	SeqNo:	1193363	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-28272	SampType:	LCS	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS	Batch ID:	28272	RunNo:	38229					
Prep Date:	10/25/2016	Analysis Date:	10/26/2016	SeqNo:	1193364	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	112	80.7	121			

Sample ID	LCSD-28272	SampType:	LCSD	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS02	Batch ID:	28272	RunNo:	38229					
Prep Date:	10/25/2016	Analysis Date:	10/26/2016	SeqNo:	1193365	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	113	80.7	121	1.22	20	

## 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#: 1610B75

03-Nov-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 UNIT 85

Sample ID	LCS-28288	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	28288	RunNo:	38253					
Prep Date:	10/26/2016	Analysis Date:	10/27/2016	SeqNo:	1193973	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.4	62.6	124			
Surr: DNOP	4.7		5.000		94.1	70	130			

Sample ID	MB-28288	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	28288	RunNo:	38253					
Prep Date:	10/26/2016	Analysis Date:	10/27/2016	SeqNo:	1193974	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		103	70	130			

## Qualifiers:

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1610B75

03-Nov-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 UNIT 85

Sample ID	MB-28268	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	28268	RunNo:	38235					
Prep Date:	10/25/2016	Analysis Date:	10/26/2016	SeqNo:	1193447	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	860		1000		86.3	68.3	144			

Sample ID	LCS-28268	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	28268	RunNo:	38235					
Prep Date:	10/25/2016	Analysis Date:	10/26/2016	SeqNo:	1193448	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	74.6	123			
Surr: BFB	970		1000		97.1	68.3	144			

## 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#: 1610B75

03-Nov-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 UNIT 85

Sample ID	MB-28268		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	28268		RunNo:	38235			
Prep Date:	10/25/2016		Analysis Date:	10/26/2016		SeqNo:	1193477		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	1.0		1.000		101	80	120			

Sample ID	LCS-28268		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	28268		RunNo:	38235			
Prep Date:	10/25/2016		Analysis Date:	10/26/2016		SeqNo:	1193478		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.3	75.2	115			
Toluene	0.99	0.050	1.000	0	99.1	80.7	112			
Ethylbenzene	1.0	0.050	1.000	0	100	78.9	117			
Xylenes, Total	3.0	0.10	3.000	0	99.7	79.2	115			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
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: 1610B75

RcptNo: 1

Received by/date:

Logged By: Lindsay Mangin

10/22/2016 8:20:00 AM

Completed By: Lindsay Mangin

10/25/2016 9:20:05 AM

Reviewed By:

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No.	Seal Date	Signed By
1	3.4	Good	Yes			

Client: **Animas Environmental Services, LLC**

Mailing Address: 604 W Pinon St.  
Farmington, NM 87401

Phone #: 505-564-2281

Email or Fax#: [eskyles@animasenvironmental.com](mailto:eskyles@animasenvironmental.com)

QA/QC Package:

X Standard

☐ Level 4 (Full Validation)

**Accreditation:**

☐ NELAP

☐ Other☐ EDD (Type)

**Turn-Around Time:**

1X Standard

☐ **Rush**

Project Name:

COPC SAN JUAN 28-7 UNIT 85

Project #:

**Project Manager:**

E. Skyles

Sampler: CL/SG

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.4

Date \_\_\_\_\_

Time

### Matrix

Sample Request ID

Container  
Type and #Preservative  
Type

HEAL No.

10/21/16

14:13

## SOIL

BGT S-1

1 - 4 oz.

cool

1610B75  
-001

BTEX - 8021B

TPH - EPA 418.1

TPH - 8015

Chlorides - 300.0

Air Bubbles (Y or N)

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

Remarks: Bill to Conoco Phillips  
WO # 21739267  
Supervisor: Schaaphok  
USERID: KAITLW  
Area: 7  
Ordered by: Bobby Spearman

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



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

May 05, 2017

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

RE: COPC San Juan 28 7 Unit 85

OrderNo.: 1705220

Dear Corwin Lameman:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/4/2017 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1705220

Date Reported: 5/5/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Animas Environmental**Client Sample ID:** SC-3**Project:** COPC San Juan 28 7 Unit 85**Collection Date:** 5/3/2017 8:53:00 AM**Lab ID:** 1705220-001**Matrix:** MEOH (SOIL)**Received Date:** 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	47	9.5		mg/Kg	1	5/4/2017 12:42:20 PM	31564
Motor Oil Range Organics (MRO)	81	47		mg/Kg	1	5/4/2017 12:42:20 PM	31564
Surr: DNOP	85.4	70-130		%Rec	1	5/4/2017 12:42:20 PM	31564
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.7		mg/Kg	1	5/4/2017 11:03:34 AM	G42543
Surr: BFB	93.4	54-150		%Rec	1	5/4/2017 11:03:34 AM	G42543
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.014		mg/Kg	1	5/4/2017 11:03:34 AM	B42543
Toluene	ND	0.027		mg/Kg	1	5/4/2017 11:03:34 AM	B42543
Ethylbenzene	ND	0.027		mg/Kg	1	5/4/2017 11:03:34 AM	B42543
Xylenes, Total	ND	0.054		mg/Kg	1	5/4/2017 11:03:34 AM	B42543
Surr: 4-Bromofluorobenzene	106	66.6-132		%Rec	1	5/4/2017 11:03:34 AM	B42543

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

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

## Analytical Report

Lab Order 1705220

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental

Client Sample ID: SC-5

Project: COPC San Juan 28 7 Unit 85

Collection Date: 5/3/2017 9:07:00 AM

Lab ID: 1705220-002

Matrix: MEOH (SOIL)

Received Date: 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	110	9.5		mg/Kg	1	5/4/2017 12:14:35 PM	31564
Motor Oil Range Organics (MRO)	78	48		mg/Kg	1	5/4/2017 12:14:35 PM	31564
Surr: DNOP	85.9	70-130		%Rec	1	5/4/2017 12:14:35 PM	31564
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	5/4/2017 11:26:57 AM	G42543
Surr: BFB	96.4	54-150		%Rec	1	5/4/2017 11:26:57 AM	G42543
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.016		mg/Kg	1	5/4/2017 11:26:57 AM	B42543
Toluene	ND	0.032		mg/Kg	1	5/4/2017 11:26:57 AM	B42543
Ethylbenzene	ND	0.032		mg/Kg	1	5/4/2017 11:26:57 AM	B42543
Xylenes, Total	ND	0.065		mg/Kg	1	5/4/2017 11:26:57 AM	B42543
Surr: 4-Bromofluorobenzene	105	66.6-132		%Rec	1	5/4/2017 11:26:57 AM	B42543

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#: 1705220

05-May-17

**Client:** Animas Environmental  
**Project:** COPC San Juan 28 7 Unit 85

Sample ID	MB-31564	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	31564	RunNo:	42525					
Prep Date:	5/4/2017	Analysis Date:	5/4/2017	SeqNo:	1337677	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	8.1		10.00		81.1	70	130			

Sample ID	LCS-31564	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	31564	RunNo:	42525					
Prep Date:	5/4/2017	Analysis Date:	5/4/2017	SeqNo:	1337679	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	45	10	50.00	0	90.6	63.8	116			
Surr: DNOP	4.6		5.000		92.2	70	130			

Sample ID	MB-31549	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	31549	RunNo:	42525					
Prep Date:	5/3/2017	Analysis Date:	5/4/2017	SeqNo:	1338403	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: DNOP	8.3		10.00		83.4	70	130			
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Sample ID	LCS-31549	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	31549	RunNo:	42525					
Prep Date:	5/3/2017	Analysis Date:	5/4/2017	SeqNo:	1338404	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: DNOP	4.5		5.000		90.5	70	130			
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### 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#: 1705220

05-May-17

**Client:** Animas Environmental  
**Project:** COPC San Juan 28 7 Unit 85

Sample ID <b>RB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>G42543</b>		RunNo: <b>42543</b>							
Prep Date:	Analysis Date: <b>5/4/2017</b>		SeqNo: <b>1338389</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.0	54	150			

Sample ID <b>2.5UG GRO LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>G42543</b>		RunNo: <b>42543</b>							
Prep Date:	Analysis Date: <b>5/4/2017</b>		SeqNo: <b>1338390</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.3	76.4	125			
Surr: BFB	1000		1000		101	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                                    |
| 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#: 1705220

05-May-17

**Client:** Animas Environmental  
**Project:** COPC San Juan 28 7 Unit 85

Sample ID <b>RB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>PBS</b>	Batch ID: <b>B42543</b>		RunNo: <b>42543</b>							
Prep Date:	Analysis Date: <b>5/4/2017</b>		SeqNo: <b>1338395</b>		Units: <b>mg/Kg</b>					
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	1.0		1.000		103	66.6	132			

Sample ID <b>100NG BTEX LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8021B: Volatiles</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>B42543</b>		RunNo: <b>42543</b>							
Prep Date:	Analysis Date: <b>5/4/2017</b>		SeqNo: <b>1338396</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.3	80	120			
Toluene	0.92	0.050	1.000	0	92.0	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.5	80	120			
Xylenes, Total	2.8	0.10	3.000	0	95.0	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	66.6	132			

### 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 |



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: 1705220

RcptNo: 1

Received By: Ashley Gallegos

5/4/2017 7:00:00 AM

*AG*

Completed By: Ashley Gallegos

5/4/2017 7:50:19 AM

*AG*

Reviewed By: ENM

05/04/17

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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 # of preserved bottles checked for pH: ( $<2$  or  $>12$  unless noted)
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No Adjusted?
14. Is it clear what analyses were requested? Yes ☒ No
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			

<b>Chain-of-Custody Record</b>		Turn-Around Time:
Client: <b>Animas Environmental Services, LLC</b>	<input type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush <u>SAME DAY</u>	
Mailing Address: <b>604 W Pinon St.</b>	Project Name: <b>COPC SAN JUAN 28-7 UNIT 85</b>	
<b>Farmington, NM 87401</b>	Project #: _____	
Phone #: <b>505-564-2281</b>	Project Manager: <b>C. Lameman/ E. McNally</b>	
Email or Fax#: <u>eskyles@animasenvironmental.com</u>	QA/QC Package: <b>clameman</b>	
<b>X Standard</b> <input type="checkbox"/> Level 4 (Full Validation)	Sampler: <b>CL</b> On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Accreditation: <input type="checkbox"/> NELAP <input type="checkbox"/> Other _____	Sample Temperature: <b>1-1+0.5(CF) = 1-1</b>	
<input type="checkbox"/> EDD (Type) _____		

☐ Standard ☒ Rush **SAME DAY**

COPC SAN JUAN 28-7 UNIT 85

Project Manager:

C. Lameman/ E. McNally

Sampler: CL

On Ice: ☒ Yes ☐ No

Sample Temperature:  $1.1 + 0.5(C_F) = 1.4$

[illegible]

Date: 5/3/17	Time: 1519	Relinquished by: Cain	Received by: Charlotte White	Date 5/3/17	Time 1519
Date: 5/3/17	Time: 1858	Relinquished by: Charlotte White	Received by: [Signature]	Date 05/04/17	Time 0700

Remarks: Bill to Conoco Phillips  
WO # 1039827  
Supervisor: Randy Smith  
USERID: KAITLW  
Area: 7  
Ordered by: Lisa Hunter/Edwards Montoya

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



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

May 10, 2017

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

RE: COPC San Juan 28-7 Unit 85

OrderNo.: 1705221

Dear Corwin Lameman:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/4/2017 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](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 1705221

Date Reported: 5/10/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental

Client Sample ID: SC-1

Project: COPC San Juan 28-7 Unit 85

Collection Date: 5/3/2017 8:53:00 AM

Lab ID: 1705221-001

Matrix: MEOH (SOIL)

Received Date: 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	44	9.8		mg/Kg	1	5/9/2017 12:12:10 PM	31596
Motor Oil Range Organics (MRO)	67	49		mg/Kg	1	5/9/2017 12:12:10 PM	31596
Surr: DNOP	87.5	70-130		%Rec	1	5/9/2017 12:12:10 PM	31596
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	5/4/2017 2:31:16 PM	G42544
Surr: BFB	99.6	54-150		%Rec	1	5/4/2017 2:31:16 PM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.014		mg/Kg	1	5/4/2017 2:31:16 PM	B42544
Toluene	ND	0.029		mg/Kg	1	5/4/2017 2:31:16 PM	B42544
Ethylbenzene	ND	0.029		mg/Kg	1	5/4/2017 2:31:16 PM	B42544
Xylenes, Total	ND	0.058		mg/Kg	1	5/4/2017 2:31:16 PM	B42544
Surr: 4-Bromofluorobenzene	116	66.6-132		%Rec	1	5/4/2017 2:31:16 PM	B42544

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

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

**Analytical Report**

Lab Order 1705221

Date Reported: 5/10/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Animas Environmental**Client Sample ID:** SC-2**Project:** COPC San Juan 28-7 Unit 85**Collection Date:** 5/3/2017 9:07:00 AM**Lab ID:** 1705221-002**Matrix:** MEOH (SOIL)**Received Date:** 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/9/2017 11:44:11 AM	31596
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/9/2017 11:44:11 AM	31596
Surr: DNOP	87.3	70-130		%Rec	1	5/9/2017 11:44:11 AM	31596
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	5/4/2017 4:07:07 PM	G42544
Surr: BFB	94.5	54-150		%Rec	1	5/4/2017 4:07:07 PM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.015		mg/Kg	1	5/4/2017 4:07:07 PM	B42544
Toluene	ND	0.030		mg/Kg	1	5/4/2017 4:07:07 PM	B42544
Ethylbenzene	ND	0.030		mg/Kg	1	5/4/2017 4:07:07 PM	B42544
Xylenes, Total	ND	0.059		mg/Kg	1	5/4/2017 4:07:07 PM	B42544
Surr: 4-Bromofluorobenzene	109	66.6-132		%Rec	1	5/4/2017 4:07:07 PM	B42544

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

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

**Analytical Report**

Lab Order 1705221

Date Reported: 5/10/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Animas Environmental**Client Sample ID:** SC-4**Project:** COPC San Juan 28-7 Unit 85**Collection Date:** 5/3/2017 9:02:00 AM**Lab ID:** 1705221-003**Matrix:** MEOH (SOIL)**Received Date:** 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	34	9.4		mg/Kg	1	5/9/2017 12:40:00 PM	31596
Motor Oil Range Organics (MRO)	69	47		mg/Kg	1	5/9/2017 12:40:00 PM	31596
Surr: DNOP	90.6	70-130		%Rec	1	5/9/2017 12:40:00 PM	31596
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	5/4/2017 4:31:05 PM	G42544
Surr: BFB	96.6	54-150		%Rec	1	5/4/2017 4:31:05 PM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.017		mg/Kg	1	5/4/2017 4:31:05 PM	B42544
Toluene	ND	0.033		mg/Kg	1	5/4/2017 4:31:05 PM	B42544
Ethylbenzene	ND	0.033		mg/Kg	1	5/4/2017 4:31:05 PM	B42544
Xylenes, Total	ND	0.067		mg/Kg	1	5/4/2017 4:31:05 PM	B42544
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	5/4/2017 4:31:05 PM	B42544

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705221

10-May-17

**Client:** Animas Environmental  
**Project:** COPC San Juan 28-7 Unit 85

Sample ID	<b>MB-31596</b>		SampType:	<b>MBLK</b>		TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>			
Client ID:	<b>PBS</b>		Batch ID:	<b>31596</b>		RunNo:	<b>42598</b>			
Prep Date:	<b>5/5/2017</b>		Analysis Date:	<b>5/8/2017</b>		SeqNo:	<b>1340115</b>	Units:	<b>mg/Kg</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		103	70	130			

Sample ID	<b>LCS-31596</b>		SampType:	<b>LCS</b>		TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>			
Client ID:	<b>LCSS</b>		Batch ID:	<b>31596</b>		RunNo:	<b>42598</b>			
Prep Date:	<b>5/5/2017</b>		Analysis Date:	<b>5/8/2017</b>		SeqNo:	<b>1340286</b>	Units:	<b>mg/Kg</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.0	63.8	116			
Surr: DNOP	4.9		5.000		97.2	70	130			

Sample ID	<b>1705221-001AMS</b>		SampType:	<b>MS</b>		TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>			
Client ID:	<b>SC-1</b>		Batch ID:	<b>31596</b>		RunNo:	<b>42630</b>			
Prep Date:	<b>5/5/2017</b>		Analysis Date:	<b>5/9/2017</b>		SeqNo:	<b>1341935</b>	Units:	<b>mg/Kg</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	97	9.6	48.03	44.13	109	51.6	130			
Surr: DNOP	4.6		4.803		96.0	70	130			

Sample ID	<b>1705221-001AMSD</b>		SampType:	<b>MSD</b>		TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>			
Client ID:	<b>SC-1</b>		Batch ID:	<b>31596</b>		RunNo:	<b>42630</b>			
Prep Date:	<b>5/5/2017</b>		Analysis Date:	<b>5/9/2017</b>		SeqNo:	<b>1341936</b>	Units:	<b>mg/Kg</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	77	9.7	48.40	44.13	66.9	51.6	130	23.2	20	R
Surr: DNOP	4.6		4.840		95.8	70	130	0	0	

Sample ID	<b>LCS-31616</b>		SampType:	<b>LCS</b>		TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>			
Client ID:	<b>LCSS</b>		Batch ID:	<b>31616</b>		RunNo:	<b>42630</b>			
Prep Date:	<b>5/8/2017</b>		Analysis Date:	<b>5/9/2017</b>		SeqNo:	<b>1342303</b>	Units:	<b>%Rec</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		91.5	70	130			

Sample ID	<b>MB-31616</b>		SampType:	<b>MBLK</b>		TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>			
Client ID:	<b>PBS</b>		Batch ID:	<b>31616</b>		RunNo:	<b>42630</b>			
Prep Date:	<b>5/8/2017</b>		Analysis Date:	<b>5/9/2017</b>		SeqNo:	<b>1342304</b>	Units:	<b>%Rec</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

## 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#: 1705221

10-May-17

Client: Animas Environmental  
Project: COPC San Juan 28-7 Unit 85

Sample ID	MB-31616	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	31616		RunNo:	42630				
Prep Date:	5/8/2017	Analysis Date:	5/9/2017		SeqNo:	1342304	Units:	%Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.9		10.00		88.6	70	130			

## Qualifiers:

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1705221

10-May-17

**Client:** Animas Environmental  
**Project:** COPC San Juan 28-7 Unit 85

Sample ID <b>RB</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>G42544</b>		RunNo: <b>42544</b>							
Prep Date:	Analysis Date: <b>5/4/2017</b>		SeqNo: <b>1338370</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	54	150			

Sample ID <b>2.5UG GRO LCS</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>G42544</b>		RunNo: <b>42544</b>							
Prep Date:	Analysis Date: <b>5/4/2017</b>		SeqNo: <b>1338371</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.3	76.4	125			
Surr: BFB	1100		1000		111	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                                    |
| 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#: 1705221

10-May-17

**Client:** Animas Environmental  
**Project:** COPC San Juan 28-7 Unit 85

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B42544	RunNo:	42544					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338380	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	1.2		1.000		123	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B42544	RunNo:	42544					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338381	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.6	80	120			
Toluene	0.95	0.050	1.000	0	95.3	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.4	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.3	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		119	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  
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  
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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: 1705221

RcptNo: 1

Received By: Ashley Gallegos

5/4/2017 7:00:00 AM

*AG*

Completed By: Ashley Gallegos

5/4/2017 8:05:04 AM

*AG*

Reviewed By: ENM

05/04/17

### Chain of Custody

- |  |   |    |   |
|--|---|----|---|
| 1. Custody seals intact on sample bottles? | Yes                                     | No | Not Present <input checked="" type="checkbox"/> |
| 2. Is Chain of Custody complete?           | Yes <input checked="" type="checkbox"/> | No | Not Present                                     |
| 3. How was the sample delivered?           | Courier                                 |    |   |

### Log In

- |  |   |  |  |
|--|---|--|--|
| 4. Was an attempt made to cool the samples?  | Yes <input checked="" type="checkbox"/> | No                                     | NA   |
| 5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to $6.0^{\circ}\text{C}$ | Yes <input checked="" type="checkbox"/> | No                                     | NA   |
| 6. Sample(s) in proper container(s)?   | Yes <input checked="" type="checkbox"/> | No                                     |  |
| 7. Sufficient sample volume for indicated test(s)?   | Yes <input checked="" type="checkbox"/> | No                                     |  |
| 8. Are samples (except VOA and ONG) properly preserved?  | Yes <input checked="" type="checkbox"/> | No                                     |  |
| 9. Was preservative added to bottles?  | Yes                                     | No <input checked="" type="checkbox"/> | NA   |
| 10. VOA vials have zero headspace?   | Yes                                     | No                                     | No VOA Vials <input checked="" type="checkbox"/> |
| 11. Were any sample containers received broken?  | Yes                                     | No <input checked="" type="checkbox"/> | # of preserved bottles checked for pH:           |
| 12. Does paperwork match bottle labels?<br>(Note discrepancies on chain of custody)            | Yes <input checked="" type="checkbox"/> | No                                     | ( $<2$ or $>12$ unless noted)                    |
| 13. Are matrices correctly identified on Chain of Custody?                                     | Yes <input checked="" type="checkbox"/> | No                                     | Adjusted?  |
| 14. Is it clear what analyses were requested?  | Yes <input checked="" type="checkbox"/> | No                                     |  |
| 15. Were all holding times able to be met?<br>(If no, notify customer for authorization.)      | Yes <input checked="" type="checkbox"/> | No                                     | 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	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#: ~~eskyles~~<sup>es</sup>@animasenvironmental.com

QA/QC Package: *claneman*

☒ Standard ☐ Level 4 (Full Validation)

**Accreditation:**

☐ NELAP      ☐ Other☐ EDD (Type) \_\_\_\_\_

**Turn-Around Time:**

☐ Standard ☒ Rush 3-DAY TAT

Project Name:

COPC SAN JUAN 28-7 UNIT 85

Project #:

**Project Manager:**

C. Lameman/ E. McNally

Sampler: CL

On Ice: ☒ Yes ☐ No

Sample Temperature:  $1.1 \pm 0.5 = 1.1$


[illegible]

Date:	Time:	Relinquished by:
5/3/17	1519	Carli L...

Received by:	Date	Time
Christa Wack	5/31/7	1519

Remarks: Bill to Conoco Phillips  
WO # 10312827  
Supervisor: Randy Smith  
USERID: KAITLW  
Area: 7  
Ordered by: Lisa Hunter / *Edmundo Montoya* *Call w/ Questions*

Date: 5/31/17	Time: 1858	Relinquished by: Christopher Wheeler
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Received by:	Date	Time
	05/04/17	0700

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.