

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

SEP 02 2015

Form C-141  
Revised August 8, 2011

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

## Release Notification and Corrective Action

## OPERATOR

☐ Initial Report ☒ Final Report

Name of Company <b>Burlington Resources Oil &amp; Gas Company</b>	Contact <b>Crystal Tafoya</b>
Address <b>3401 East 30<sup>th</sup> St, Farmington, NM</b>	Telephone No. <b>(505) 326-9837</b>
Facility Name: <b>McGrath 3</b>	Facility Type: <b>Gas Well</b>
Surface Owner Fee	Mineral Owner Fee
API No. <b>30-045-08709</b>	

## LOCATION OF RELEASE

Unit Letter <b>J</b>	Section <b>3</b>	Township <b>29N</b>	Range <b>12W</b>	Feet from the <b>1650</b>	North/South Line <b>South</b>	Feet from the <b>1650</b>	East/West Line <b>East</b>	County <b>San Juan</b>
-------------------------	---------------------	------------------------	---------------------	------------------------------	----------------------------------	------------------------------	-------------------------------	---------------------------

Latitude **36.7523** Longitude **-108.08221**

## NATURE OF RELEASE

Type of Release <b>Produced Water</b>	Volume of Release <b>Unknown</b>	Volume Recovered <b>Unknown</b>
Source of Release <b>Below Grade Tank</b>	Date and Hour of Occurrence <b>Unknown</b>	Date and Hour of Discovery <b>March 13, 2013</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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.\*  
N/A

Describe Cause of Problem and Remedial Action Taken.\*

**Below-Grade Tank Closure activities with samples taken resulting in constituents exceeded standards outlined by 19.15.17.13 NMAC.**

Describe Area Affected and Cleanup Action Taken.\*

**NMOCD action levels for releases are specified in NMOCD's Guidelines for Leaks, Spills and Releases and the release was assigned a ranking score of 10. Samples were collected and analytical results for chlorides exceeded applicable NMOCD action levels. Brandon Powell was contacted on 3/15/13 and approved leaving the chlorides in place. No further work will be performed. The final report is attached for review.**

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: <b>Crystal Tafoya</b>	Approved by Environmental Specialist: 	
Title: <b>Field Environmental Specialist</b>	Approval Date: <b>3/28/14</b>	Expiration Date:
E-mail Address: <b>crystal.tafoya@conocophillips.com</b>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>2/25/2015</b> Phone: <b>(505) 326-9837</b>		

\* Attach Additional Sheets If Necessary

#NCS 160 883 8927

16





Animas Environmental Services, LLC

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

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

Durango, Colorado  
970-403-3084

May 6, 2013

Crystal Tafoya  
ConocoPhillips  
San Juan Business Unit  
Office 214-05  
5525 Hwy 64  
Farmington, New Mexico 87401

**RE: Below Grade Tank Closure Report  
McGrath #3  
San Juan County, New Mexico**

Dear Ms. Tafoya:

Animas Environmental Services, LLC (AES) is pleased to provide the final report associated with the below grade tank (BGT) closure at ConocoPhillips (CoP) McGrath #3, located in San Juan County, New Mexico. Tank removal had been completed by CoP contractors prior to AES' arrival at the location.

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## 1.0 Site Information

### 1.1 Location

Site Name – McGrath #3

Legal Description – NW¼ SE¼, Section 3, T29N, R12W, San Juan County, New Mexico

Well Latitude/Longitude – N36.75248 and W108.08277, respectively

BGT Latitude/Longitude – N36.75237 and W108.08302, respectively

Land Jurisdiction – Private

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map, March 2013

### 1.2 NMOCD Ranking

Prior to site work, the New Mexico Oil Conservation Division (NMOCD) database was reviewed, and pit remediation and closure report dated June 1999 for the McGrath #3 reported the depth to groundwater as greater than 100 feet below ground surface (bgs). The New Mexico Office of the State Engineer (NMOSE) database was reviewed for nearby water wells, and no registered water wells were reported to be located within 1,000 feet of the location. Additionally, Google Earth and the New Mexico Tech Petroleum Recovery Research Center online mapping tool

(<http://ford.nmt.edu/react/project.html>) were accessed to aid in the identification of downgradient surface water.

Once on site, AES personnel further assessed the ranking using topographical interpretation, Global Positioning System (GPS) elevation readings, and visual reconnaissance. AES personnel concluded that depth to groundwater at the site was greater than 100 feet bgs. An unnamed wash, which ultimately discharges to the San Juan River, is located approximately 700 feet south of the location. Based on this information, the location was assessed a ranking score of 10.

### **1.3 BGT Closure Assessment**

AES was initially contacted by Bruce Yazzie, CoP representative, on March 13, 2013, and on March 14, 2013, Corwin Lameman and Anna Riling of AES mobilized to the location. AES personnel collected six soil samples from below the BGT liner. Four samples were collected from the perimeter of the BGT footprint, one sample was collected from the center of the BGT footprint, and one sample was composited from the four perimeter samples and one center sample.

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## **2.0 Soil Sampling**

On March 14, 2013, AES personnel conducted field screening and collected five soil samples (S-1 through S-5) and one 5-point composite (SC-1) from below the BGT. Soil samples were collected from approximately 0.5 feet below the former BGT for field screening of volatile organic compounds (VOCs) and total petroleum hydrocarbon (TPH). Soil sample SC-1 was field screened for chloride and was submitted for confirmation laboratory analysis. Soil sample locations are included on Figure 2.

### **2.1 Field Screening**

#### **2.1.1 Volatile Organic Compounds**

A portion of each sample was utilized for field screening of VOC vapors 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 TPH per USEPA Method 418.1 using a Buck Scientific Model HC-404 Total Hydrocarbon Analyzer Infrared Spectrometer (Buck). A 3-point calibration was completed prior to conducting soil analyses. Field analytical protocol followed AES's *Standard Operating Procedure: Field Analysis Total Petroleum Hydrocarbons per EPA Method 418.1*.



### 2.1.3 Chlorides

Soil sample 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 composite soil sample SC-1 collected for laboratory analysis was placed into a new, clean, laboratory-supplied container, which was then labeled, placed on ice, and logged onto a sample chain of custody record. The sample was maintained on ice until delivery to the analytical laboratory, Hall Environmental Analysis Laboratory (Hall), in Albuquerque, New Mexico. Soil sample SC-1 was laboratory analyzed for:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per U.S. Environmental Protection Agency (USEPA) Method 8260B; and
- Chloride per USEPA Method 300.0.

## 2.3 Field and Laboratory Analytical Results

Field screening readings for VOCs via OVM ranged from 10.1 ppm in S-1 up to 33.0 ppm in S-5. Field TPH concentrations ranged from 26.1 mg/kg in S-3 up to 75.8 mg/kg in S-1. The field chloride concentration in SC-1 was greater than 400 mg/kg. Field screening results are summarized in Table 1 and presented on Figure 2. The AES Field Screening Report is attached.

Table 1. Soil Field Screening VOCs, TPH, and Chloride Results  
McGrath #3 BGT Closure, March 2013

<i>Sample ID</i>	<i>Date Sampled</i>	<i>Depth below BGT (ft)</i>	<i>VOCs OVM Reading (ppm)</i>	<i>Field TPH (mg/kg)</i>	<i>Field Chlorides (mg/kg)</i>
<b>NMOCD Action Level (NMAC 19.15.17.13E)</b>			<b>--</b>	<b>100</b>	<b>250</b>
S-1	03/14/13	0.5	10.1	75.8	NA
S-2	03/14/13	0.5	28.0	28.8	NA
S-3	03/14/13	0.5	11.7	26.1	NA
S-4	03/14/13	0.5	24.5	47.6	NA
S-5	03/14/13	0.5	33.0	31.5	NA
SC-1	03/14/13	0.5	NA	NA	>400

NA - not analyzed

Laboratory analytical results reported benzene and total BTEX concentrations in SC-1 as less than 0.050 mg/kg and 0.25 mg/kg, respectively. The laboratory chloride concentration was reported at 4,200 mg/kg. Laboratory analytical results are summarized in Table 2 and included on Figure 2. Laboratory analytical reports are attached.

Table 2. Soil Laboratory Analytical Results  
McGrath #3 BGT Closure, March 2013

Sample ID	Date Sampled	Depth (ft)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH- GRO (mg/kg)	TPH- DRO (mg/kg)	Chlorides (mg/kg)
<b>NMOCD Action Level (NMAC 19.15.17.13E)</b>			<b>0.2</b>	<b>50</b>	<b>100</b>		<b>250</b>
SC-1	03/14/13	0.5	<0.050	<0.25	NA	NA	4,200

NA - not analyzed

### 3.0 Conclusions and Recommendations

NMOCD action levels for BGT closures are specified in New Mexico Administrative Code (NMAC) 19.15.17.13E. Field TPH concentrations were below the NMOCD action level of 100 mg/kg, with the highest concentration reported in S-1 with 75.8 mg/kg. Benzene and total BTEX concentrations in SC-1 were below the NMOCD action levels of 0.2 mg/kg and 50 mg/kg, respectively. Chloride concentrations in SC-1 were above the NMOCD action level of 250 mg/kg with 4,200 mg/kg. Crystal Tafoya of CoP consulted with Brandon Powell of NMOCD and received approval to leave soils in place on March 15, 2013. No further work is recommended at this time for chloride impacted soils beneath the former BGT at the McGrath #3.

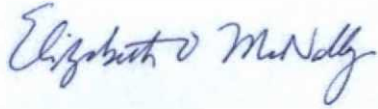
If you have any questions about this report or site conditions, please do not hesitate to contact Deborah Watson at (505) 564-2281.

Sincerely,



Kelsey Christiansen  
Environmental Scientist





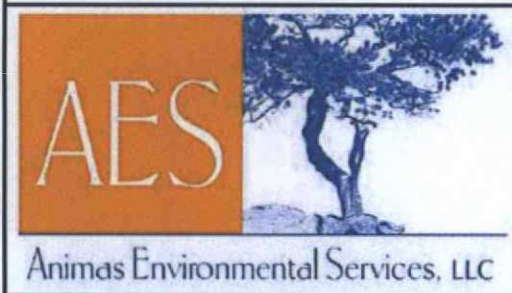
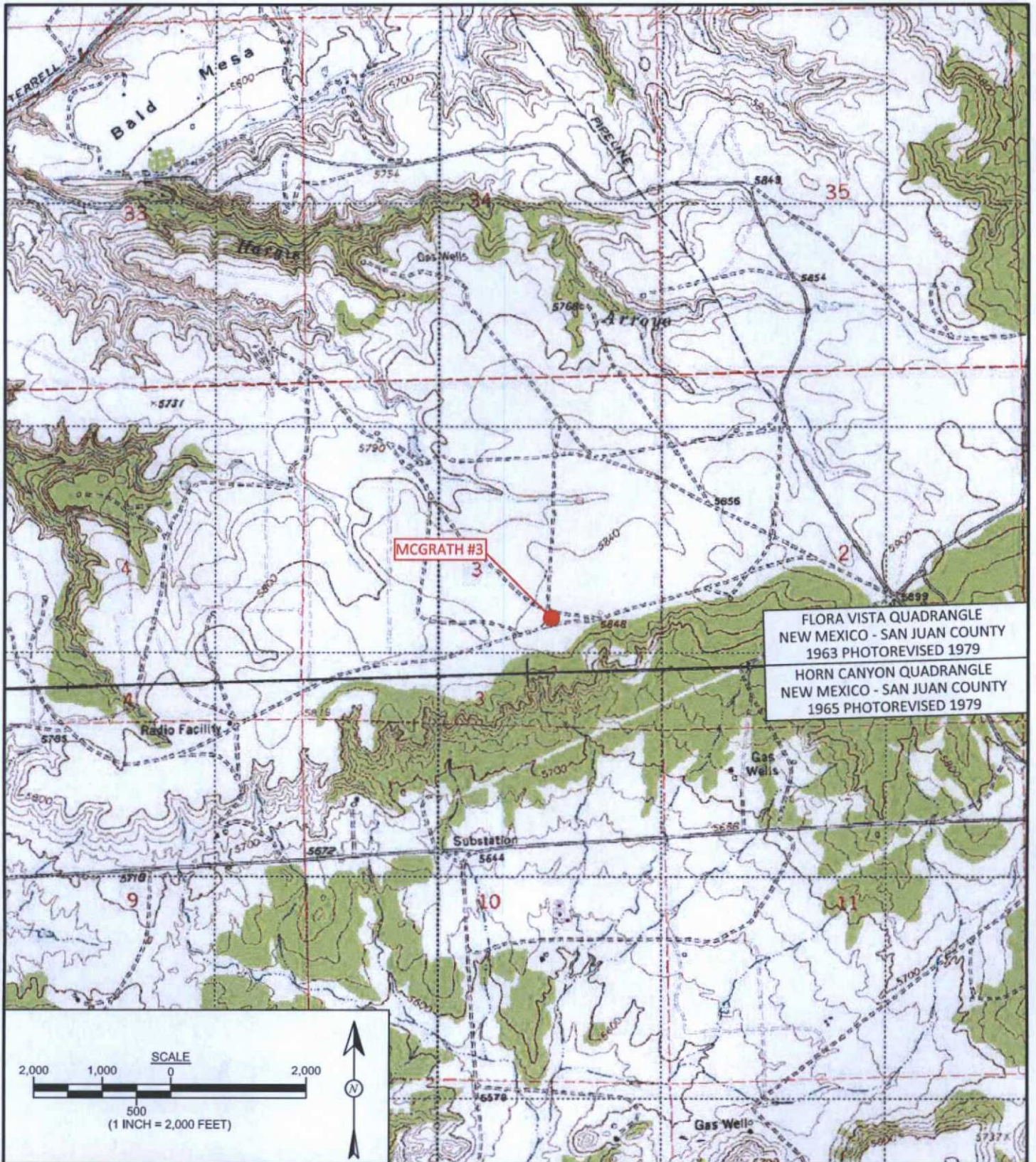
Elizabeth McNally, P.E.

Attachments:

- Figure 1. Topographic Site Location Map
- Figure 2. Aerial Site Map, March 2013
- AES Field Screening Report 031413
- Hall Analytical Report 1303597

R:\Animas 2000\Dropbox\2013 Projects\ConocoPhillips\McGrath #3\McGrath #3 BGT Closure Report  
050613.docx





<b>DRAWN BY:</b> K. Christiansen	<b>DATE DRAWN:</b> April 9, 2013
<b>REVISIONS BY:</b> K. Christiansen	<b>DATE REVISED:</b> April 9, 2013
<b>CHECKED BY:</b> D. Watson	<b>DATE CHECKED:</b> April 3, 2013
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> April 3, 2013

<b>FIGURE 1</b>
<b>TOPOGRAPHIC SITE LOCATION MAP</b> ConocoPhillips MCGRATH #3 NW¼, SE¼, SECTION 3, T29N, R12W SAN JUAN COUNTY, NEW MEXICO N36.75248, W108.08277



3721

## LEGEND

● SAMPLE LOCATIONS

## Field Screening Results

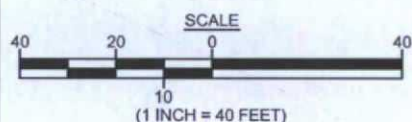
Sample ID	Date	OVM-PID (ppm)	TPH (mg/kg)	Chlorides (mg/kg)
<b>NMOCD ACTION LEVEL</b>		--	100	250
S-1	3/14/13	10.1	75.8	NA
S-2	3/14/13	28.0	28.8	NA
S-3	3/14/13	11.7	26.1	NA
S-4	3/14/13	24.5	47.6	NA
S-5	3/14/13	33.0	31.5	NA
SC-1	3/14/13	NA	NA	480

SC-1 IS A 5-POINT COMPOSITE SAMPLE OF S-1 THROUGH S-5. NA - NOT ANALYZED

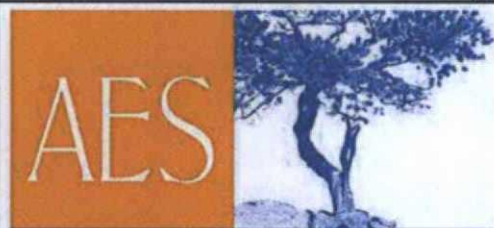
## Laboratory Analytical Results

Sample ID	Date	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)	Chlorides (mg/kg)
<b>NMOCD ACTION LEVEL</b>		0.2	50	100		250
SC-1	3/14/13	<0.050	<0.25	NA	NA	4,200

SAMPLE WAS ANALYZED PER EPA METHOD 8260B AND 300.0. NA- NOT ANALYZED



AERIAL SOURCE: © 2012 MICROSOFT CORPORATION - AVAILABLE EXCLUSIVELY BY DIGITALGLOBE



Animas Environmental Services, LLC

## DRAWN BY:

K. Christiansen

## DATE DRAWN:

April 9, 2013

## REVISIONS BY:

K. Christiansen

## DATE REVISED:

April 9, 2013

## CHECKED BY:

D. Watson

## DATE CHECKED:

April 13, 2013

## APPROVED BY:

E. McNally

## DATE APPROVED:

April 13, 2013

## FIGURE 2

**AERIAL SITE MAP  
BELOW GRADE TANK CLOSURE  
MARCH 2013**  
ConocoPhillips  
MCGRATH #3  
NW¼ SE¼, SECTION 3, T29N, R12W  
SAN JUAN COUNTY, NEW MEXICO  
N36.75248, W108.08277



# AES Field Screening Report



Animas Environmental Services, LLC

www.animasenvironmental.com

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

Durango, Colorado  
970-403-3084

Client: ConocoPhillips

Project Location: McGrath #3

Date: 3/14/2013

Matrix: Soil

Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	Field Chloride (mg/kg)	Field TPH Analysis Time	Field TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
S-1	3/14/2013	12:10	North	10.1	NA	12:47	75.8	20.0	1	CL
S-2	3/14/2013	12:11	South	28.0	NA	12:51	28.8	20.0	1	CL
S-3	3/14/2013	12:12	East	11.7	NA	12:56	26.1	20.0	1	CL
S-4	3/14/2013	12:13	West	24.5	NA	13:23	47.6	20.0	1	CL
S-5	3/14/2013	12:14	Center	33.0	NA	13:06	31.5	20.0	1	CL
SC-1	3/14/2013	12:15	Composite	NA	>400	Not Analyzed for TPH.				

Field Chloride - Quantab Chloride Titrators or Drop Count Titration with

PQL Practical Quantitation Limit  
ND Not Detected at the Reporting Limit  
NA Not Analyzed  
DF Dilution Factor

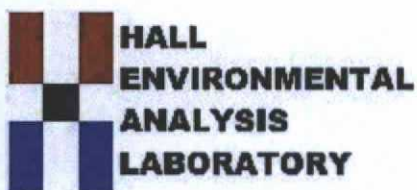
Silver Nitrate  
Total Petroleum Hydrocarbons - USEPA 418.1

\*Field TPH concentrations recorded may be below PQL.

Analyst:

*Carin*





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)

March 20, 2013

Debbie Watson

Animas Environmental Services

624 East Comanche

Farmington, NM 87401

TEL: (505) 486-4071

FAX

RE: COP McGrath #3

OrderNo.: 1303597

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/15/2013 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. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. 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.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109



**Analytical Report**

Lab Order 1303597

Date Reported: 3/20/2013

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Animas Environmental Services**Client Sample ID:** SC-1**Project:** COP McGrath #3**Collection Date:** 3/14/2013 12:15:00 PM**Lab ID:** 1303597-001**Matrix:** MEOH (SOIL)**Received Date:** 3/15/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: JRR
Chloride	4200	300		mg/Kg	200	3/15/2013 12:31:46 PM
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>						Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	3/15/2013 12:40:56 PM
Toluene	ND	0.050		mg/Kg	1	3/15/2013 12:40:56 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/15/2013 12:40:56 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/15/2013 12:40:56 PM
Surr: 1,2-Dichloroethane-d4	84.9	70-130		%REC	1	3/15/2013 12:40:56 PM
Surr: 4-Bromofluorobenzene	94.8	70-130		%REC	1	3/15/2013 12:40:56 PM
Surr: Dibromofluoromethane	91.1	70-130		%REC	1	3/15/2013 12:40:56 PM
Surr: Toluene-d8	99.8	70-130		%REC	1	3/15/2013 12:40:56 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1303597

20-Mar-13

Client: Animas Environmental Services

Project: COP McGrath #3

Sample ID	MB-6497	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	6497	RunNo:	9234					
Prep Date:	3/15/2013	Analysis Date:	3/15/2013	SeqNo:	262730	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-6497	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	6497	RunNo:	9234					
Prep Date:	3/15/2013	Analysis Date:	3/15/2013	SeqNo:	262731	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.3	90	110			

Sample ID	1303523-001AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	6497	RunNo:	9234					
Prep Date:	3/15/2013	Analysis Date:	3/15/2013	SeqNo:	262733	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	7.5	15.00	0	94.6	64.4	117			

Sample ID	1303523-001AMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	6497	RunNo:	9234					
Prep Date:	3/15/2013	Analysis Date:	3/15/2013	SeqNo:	262734	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	7.5	15.00	0	94.0	64.4	117	0.689	20	

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2  
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1303597

20-Mar-13

Client: Animas Environmental Services

Project: COP McGrath #3

Sample ID	5ml-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	PBS	Batch ID:	R9211	RunNo:	9211					
Prep Date:		Analysis Date:	3/15/2013	SeqNo:	262458	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		88.0	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.0	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		92.6	70	130			
Surr: Toluene-d8	0.46		0.5000		92.7	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS	Batch ID:	R9211	RunNo:	9211					
Prep Date:		Analysis Date:	3/15/2013	SeqNo:	262459	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	104	70	130			
Toluene	0.95	0.050	1.000	0	95.0	80	120			
Surr: 1,2-Dichloroethane-d4	0.46		0.5000		91.9	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.8	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		92.5	70	130			
Surr: Toluene-d8	0.46		0.5000		92.1	70	130			

Sample ID	mb-6467	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	PBS	Batch ID:	6467	RunNo:	9211					
Prep Date:	3/13/2013	Analysis Date:	3/15/2013	SeqNo:	262469	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.43		0.5000		87.0	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.2	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		91.1	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			

Sample ID	lcs-6467	SampType:	LCS	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS	Batch ID:	6467	RunNo:	9211					
Prep Date:	3/13/2013	Analysis Date:	3/15/2013	SeqNo:	262470	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.9	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.5000		88.0	70	130			
Surr: Dibromofluoromethane	0.46		0.5000		91.5	70	130			
Surr: Toluene-d8	0.53		0.5000		106	70	130			

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2  
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1303597

20-Mar-13

Client: Animas Environmental Services

Project: COP McGrath #3

Sample ID	1303523-001ams	SampType:	MS	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	BatchQC	Batch ID:	6467	RunNo:	9211					
Prep Date:	3/13/2013	Analysis Date:	3/15/2013	SeqNo:	262475	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.42		0.4744		88.3	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.4744		87.6	70	130			
Surr: Dibromofluoromethane	0.45		0.4744		94.6	70	130			
Surr: Toluene-d8	0.48		0.4744		100	70	130			

Sample ID	1303523-001amsd	SampType:	MSD	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	BatchQC	Batch ID:	6467	RunNo:	9211					
Prep Date:	3/13/2013	Analysis Date:	3/15/2013	SeqNo:	262476	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.43		0.4753		89.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.43		0.4753		89.4	70	130	0	0	
Surr: Dibromofluoromethane	0.45		0.4753		95.1	70	130	0	0	
Surr: Toluene-d8	0.47		0.4753		99.3	70	130	0	0	

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2  
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

# Sample Log-In Check List

Client Name:	Animas Environmental	Work Order Number:	1303597
Received by/date:	<i>[Signature]</i> 03/15/13		
Logged By:	Lindsay Mangin	3/15/2013 10:00:00 AM	<i>[Signature]</i>
Completed By:	Lindsay Mangin	3/15/2013 10:05:16 AM	<i>[Signature]</i>
Reviewed By:	<i>[Signature]</i> 03/15/13		

## Chain of Custody

- Were seals intact? Yes ☒ No ☐ Not Present ☐
- Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
- How was the sample delivered? Courier

## Log In

- Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐
- Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
- Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
- Sample(s) in proper container(s)? Yes ☒ No ☐
- Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
- Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
- Was preservative added to bottles? Yes ☐ No ☒ NA ☐
- VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
- Were any sample containers received broken? Yes ☐ No ☒
- Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
- Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
- Is it clear what analyses were requested? Yes ☒ No ☐
- Were all holding times able to be met?  
(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)

- 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:

- Additional remarks:

## 19. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.4	Good	Yes			



