

District I  
1625 N French Dr Hobbs NM 88240  
District II  
811 S First St 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  
Department  
Oil Conservation Division  
1220 South St Francis Dr  
Santa Fe NM 87505

Form C 144  
Revised June 6 2013

For temporary pits below grade tanks and multi well fluid management pits submit to the appropriate NMOCD District Office  
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office

Pit, Below-Grade Tank, or  
Proposed Alternative Method Permit or Closure Plan Application

- Type of action
- Below grade tank registration
  - Permit of a pit or proposed alternative method
  - Closure of a pit below grade tank or proposed alternative method
  - Modification to an existing permit/or registration
  - Closure plan only submitted for an existing permitted or non permitted pit below grade tank or proposed alternative method

15877

**Instructions** Please submit one application (Form C 144) per individual pit below grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water ground water or the environment Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules regulations or ordinances

1 Operator Burlington Resources Oil & Gas Company, LP OGRID # 14538

Address PO BOX 4289, Farmington, NM 87499

Facility or well name SAN JUAN 29 7 UNIT 52

API Number 30 039 07664

OCD Permit Number \_\_\_\_\_

U/L or Qtr/Qtr H Section 7 Township 29N Range 7W County Rio Arriba

Center of Proposed Design Latitude 36 74303 N Longitude 107 60645 W NAD  1927  1983

Surface Owner  Federal  State  Private  Tribal Trust or Indian Allotment

OIL CONS DIV DIST 3

MAR 29 2017

2  Pit Subsection F G or J of 19 15 17 11 NMAC

Temporary  Drilling  Workover

Permanent  Emergency  Cavitation  P&A  Multi Well Fluid Management

Low Chloride Drilling Fluid  yes  no

Lined  Unlined Liner type Thickness \_\_\_\_\_ mil  LLDPE  HDPE  PVC  Other \_\_\_\_\_

String Reinforced

Liner Seams  Welded  Factory  Other \_\_\_\_\_ Volume \_\_\_\_\_ bbl Dimensions L \_\_\_\_\_ x W \_\_\_\_\_ x D \_\_\_\_\_

\* 72 hour notification not provided

3  Below grade tank Subsection I of 19 15 17 11 NMAC

Volume 120 bbl Type of fluid Produced Water

Tank Construction material Metal

Secondary containment with leak detection  Visible sidewalls liner 6 inch lift and automatic overflow shut off

Visible sidewalls and liner  Visible sidewalls only  Other \_\_\_\_\_

Liner type Thickness \_\_\_\_\_ mil  HDPE  PVC  Other UNSPECIFIED

4  Alternative Method

Submittal of an exception request is required Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

5 **Fencing** Subsection D of 19 15 17 11 NMAC (Applies to permanent pits temporary pits and below grade tanks)

Chain link six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence school hospital institution or church)

Four foot height four strands of barbed wire evenly spaced between one and four feet

Alternate Please specify \_\_\_\_\_

6

**Netting** Subsection E of 19 15 17 11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- Screen  Netting  Other \_\_\_\_\_
- Monthly inspections (If netting or screening is not physically feasible)

7

**Signs** Subsection C of 19 15 17 11 NMAC

- 12 x 24 2 lettering providing Operator s name site location and emergency telephone numbers
- Signed in compliance with 19 15 16 8 NMAC

8

**Variations and Exceptions**

Justifications and/or demonstrations of equivalency are required Please refer to 19 15 17 NMAC for guidance

*Please check a box if one or more of the following is requested if not leave blank*

- Variance(s) Requests must be submitted to the appropriate division district for consideration of approval
- Exception(s) Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

9

**Siting Criteria (regarding permitting)** 19 15 17 10 NMAC

*Instructions The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below Siting criteria does not apply to drying pads or above grade tanks*

**General siting**

**Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below grade tank.**

- NM Office of the State Engineer 1WATERS database search  USGS  Data obtained from nearby wells

- Yes  No
- NA

**Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi Well Fluid Management pit**

- NM Office of the State Engineer 1WATERS database search USGS Data obtained from nearby wells

- Yes  No
- NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978 Section 3 27 3 as amended (**Does not apply to below grade tanks**)

Written confirmation or verification from the municipality Written approval obtained from the municipality

- Yes  No

Within the area overlying a subsurface mine (**Does not apply to below grade tanks**)

Written confirmation or verification or map from the NM EMNRD Mining and Mineral Division

- Yes  No

Within an unstable area (**Does not apply to below grade tanks**)

Engineering measures incorporated into the design NM Bureau of Geology & Mineral Resources USGS NM Geological Society Topographic map

- Yes  No

Within a 100 year floodplain (**Does not apply to below grade tanks**)

FEMA map

- Yes  No

**Below Grade Tanks**

Within 100 feet of a continuously flowing watercourse significant watercourse lake bed sinkhole wetland or playa lake (measured from the ordinary high water mark)

Topographic map Visual inspection (certification) of the proposed site

- Yes  No

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption

NM Office of the State Engineer 1WATERS database search Visual inspection (certification) of the proposed site

- Yes  No

**Temporary Pit using Low Chloride Drilling Fluid** (maximum chloride content 15 000 mg/liter)

Within 100 feet of a continuously flowing watercourse or any other significant watercourse or within 200 feet of any lakebed sinkhole or playa lake (measured from the ordinary high water mark) (Applies to low chloride temporary pits )

Topographic map Visual inspection (certification) of the proposed site

- Yes  No

Within 300 feet from a occupied permanent residence school hospital institution or church in existence at the time of initial application

Visual inspection (certification) of the proposed site Aerial photo Satellite image

- Yes  No

Within 200 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes or 300feet of any other fresh water well or spring in existence at the time of the initial application

NM Office of the State Engineer 1WATERS database search Visual inspection (certification) of the proposed site

- Yes  No

Within 100 feet of a wetland  
US Fish and Wildlife Wetland Identification map Topographic map Visual inspection (certification) of the proposed site

Yes  No

**Temporary Pit Non-low chloride drilling fluid**

Within 300 feet of a continuously flowing watercourse or any other significant watercourse or within 200 feet of any lakebed sinkhole or playa lake (measured from the ordinary high water mark)

Topographic map Visual inspection (certification) of the proposed site

Yes  No

Within 300 feet from a permanent residence school hospital institution or church in existence at the time of initial application  
Visual inspection (certification) of the proposed site Aerial photo Satellite image

Yes  No

Within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes or 1000 feet of any other fresh water well or spring in the existence at the time of the initial application  
NM Office of the State Engineer WATERS database search Visual inspection (certification) of the proposed site

Yes  No

Within 300 feet of a wetland  
US Fish and Wildlife Wetland Identification map Topographic map Visual inspection (certification) of the proposed site

Yes  No

**Permanent Pit or Multi-Well Fluid Management Pit**

Within 300 feet of a continuously flowing watercourse or 200 feet of any other significant watercourse or lakebed sinkhole or playa lake (measured from the ordinary high water mark)

Topographic map Visual inspection (certification) of the proposed site

Yes  No

Within 1000 feet from a permanent residence school hospital institution or church in existence at the time of initial application  
Visual inspection (certification) of the proposed site Aerial photo Satellite image

Yes  No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes in existence at the time of initial application  
NM Office of the State Engineer WATERS database search Visual inspection (certification) of the proposed site

Yes  No

Within 500 feet of a wetland  
US Fish and Wildlife Wetland Identification map Topographic map Visual inspection (certification) of the proposed site

Yes  No

<sup>10</sup>  
**Temporary Pits, Emergency Pits, and Below grade Tanks Permit Application Attachment Checklist** Subsection B of 19 15 17 9 NMAC  
*Instructions Each of the following items must be attached to the application. Please indicate by a check mark in the box, that the documents are attached.*

- Hydrogeologic Report (Below grade Tanks) based upon the requirements of Paragraph (4) of Subsection B of 19 15 17 9 NMAC
- Hydrogeologic Data (Temporary and Emergency Pits) based upon the requirements of Paragraph (2) of Subsection B of 19 15 17 9 NMAC
- Siting Criteria Compliance Demonstrations based upon the appropriate requirements of 19 15 17 10 NMAC
- Design Plan based upon the appropriate requirements of 19 15 17 11 NMAC
- Operating and Maintenance Plan based upon the appropriate requirements of 19 15 17 12 NMAC
- Closure Plan (Please complete Boxes 14 through 18 if applicable) based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC
- Previously Approved Design (attach copy of design) API Number \_\_\_\_\_ or Permit Number \_\_\_\_\_

<sup>11</sup>  
**Multi Well Fluid Management Pit Checklist** Subsection B of 19 15 17 9 NMAC  
*Instructions Each of the following items must be attached to the application. Please indicate by a check mark in the box, that the documents are attached.*

- Design Plan based upon the appropriate requirements of 19 15 17 11 NMAC
- Operating and Maintenance Plan based upon the appropriate requirements of 19 15 17 12 NMAC
- A List of wells with approved application for permit to drill associated with the pit
- Closure Plan (Please complete Boxes 14 through 18 if applicable) based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC
- Hydrogeologic Data based upon the requirements of Paragraph (4) of Subsection B of 19 15 17 9 NMAC
- Siting Criteria Compliance Demonstrations based upon the appropriate requirements of 19 15 17 10 NMAC
- Previously Approved Design (attach copy of design) API Number \_\_\_\_\_ or Permit Number \_\_\_\_\_

12  
**Permanent Pits Permit Application Checklist** Subsection B of 19 15 17 9 NMAC

**Instructions** Each of the following items must be attached to the application. Please indicate by a check mark in the box that the documents are attached.

- Hydrogeologic Report based upon the requirements of Paragraph (1) of Subsection B of 19 15 17 9 NMAC
- Siting Criteria Compliance Demonstrations based upon the appropriate requirements of 19 15 17 10 NMAC
- Climatological Factors Assessment
- Certified Engineering Design Plans based upon the appropriate requirements of 19 15 17 11 NMAC
- Dike Protection and Structural Integrity Design based upon the appropriate requirements of 19 15 17 11 NMAC
- Leak Detection Design based upon the appropriate requirements of 19 15 17 11 NMAC
- Liner Specifications and Compatibility Assessment based upon the appropriate requirements of 19 15 17 11 NMAC
- Quality Control/Quality Assurance Construction and Installation Plan
- Operating and Maintenance Plan based upon the appropriate requirements of 19 15 17 12 NMAC
- Freeboard and Overtopping Prevention Plan based upon the appropriate requirements of 19 15 17 11 NMAC
- Nuisance or Hazardous Odors including H<sub>2</sub>S Prevention Plan
- Emergency Response Plan
- Oil Field Waste Stream Characterization
- Monitoring and Inspection Plan
- Erosion Control Plan
- Closure Plan based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC

13  
**Proposed Closure** 19 15 17 13 NMAC

**Instructions** Please complete the applicable boxes Boxes 14 through 18 in regards to the proposed closure plan.

- Type  Drilling  Workover  Emergency  Cavitation  P&A  Permanent Pit  Below grade Tank  Multi well Fluid Management Pit  
 Alternative
- Proposed Closure Method  Waste Excavation and Removal  
 Waste Removal (Closed loop systems only)  
 On site Closure Method (Only for temporary pits and closed loop systems)  
 In place Burial  On site Trench Burial  
 Alternative Closure Method

14  
**Waste Excavation and Removal Closure Plan Checklist** (19 15 17 13 NMAC) **Instructions** Each of the following items must be attached to the closure plan Please indicate by a check mark in the box, that the documents are attached.

- Protocols and Procedures based upon the appropriate requirements of 19 15 17 13 NMAC
- Confirmation Sampling Plan (if applicable) based upon the appropriate requirements of Subsection C of 19 15 17 13 NMAC
- Disposal Facility Name and Permit Number (for liquids drilling fluids and drill cuttings)
- Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC
- Re vegetation Plan based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC
- Site Reclamation Plan based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC

15  
**Siting Criteria (regarding on site closure methods only)** 19 15 17 10 NMAC

**Instructions** Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency Please refer to 19 15 17 10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste NM Office of the State Engineer 1WATERS database search USGS Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 25 50 feet below the bottom of the buried waste NM Office of the State Engineer 1WATERS database search USGS Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is more than 100 feet below the bottom of the buried waste NM Office of the State Engineer 1WATERS database search USGS Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 100 feet of a continuously flowing watercourse or 200 feet of any other significant watercourse lakebed sinkhole or playa lake (measured from the ordinary high water mark) Topographic map Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet from a permanent residence school hospital institution or church in existence at the time of initial application Visual inspection (certification) of the proposed site Aerial photo Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 horizontal feet of a private domestic fresh water well or spring used for domestic or stock watering purposes in existence at the time of initial application NM Office of the State Engineer 1WATERS database Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Written confirmation or verification from the municipality Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet of a wetland US Fish and Wildlife Wetland Identification map Topographic map Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	<input type="checkbox"/> Yes <input type="checkbox"/> No

adopted pursuant to NMSA 1978 Section 3 27 3 as amended Written confirmation or verification from the municipality Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine Written confirmation or verification or map from the NM EMNRD Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area Engineering measures incorporated into the design NM Bureau of Geology & Mineral Resources USGS NM Geological Society Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100 year floodplain FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

16  
**On Site Closure Plan Checklist** (19 15 17 13 NMAC) *Instructions Each of the following items must be attached to the closure plan. Please indicate by a check mark in the box, that the documents are attached.*

- Siting Criteria Compliance Demonstrations based upon the appropriate requirements of 19 15 17 10 NMAC
- Proof of Surface Owner Notice based upon the appropriate requirements of Subsection E of 19 15 17 13 NMAC
- Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19 15 17 11 NMAC
- Construction/Design Plan of Temporary Pit (for in place burial of a drying pad) based upon the appropriate requirements of 19 15 17 11 NMAC
- Protocols and Procedures based upon the appropriate requirements of 19 15 17 13 NMAC
- Confirmation Sampling Plan (if applicable) based upon the appropriate requirements of 19 15 17 13 NMAC
- Waste Material Sampling Plan based upon the appropriate requirements of 19 15 17 13 NMAC
- Disposal Facility Name and Permit Number (for liquids drilling fluids and drill cuttings or in case on site closure standards cannot be achieved)
- Soil Cover Design based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC
- Re vegetation Plan based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC
- Site Reclamation Plan based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC

17  
**Operator Application Certification**

I hereby certify that the information submitted with this application is true accurate and complete to the best of my knowledge and belief

Name (Print) \_\_\_\_\_ Title \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

e mail address \_\_\_\_\_ Telephone \_\_\_\_\_

18  
**OCD Approval** Permit Application (including closure plan)  Closure Plan (only)  OCD Conditions (see attachment) **Front**

OCD Representative Signature Janose [Signature] Approval Date 3/30/2017

Title Environmental Specialist OCD Permit Number \_\_\_\_\_

19  
**Closure Report (required within 60 days of closure completion)** 19 15 17 13 NMAC

*Instructions Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report The closure report is required to be submitted to the division within 60 days of the completion of the closure activities Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.*

Closure Completion Date 4/29/2014

20  
**Closure Method**

Waste Excavation and Removal  On Site Closure Method  Alternative Closure Method  Waste Removal (Closed loop systems only)

If different from approved plan please explain

21  
**Closure Report Attachment Checklist** *Instructions Each of the following items must be attached to the closure report Please indicate by a check mark in the box, that the documents are attached.*

- Proof of Closure Notice (surface owner and division)
- Proof of Deed Notice (required for on site closure for private land only)
- Plot Plan (for on site closures and temporary pits)
- Confirmation Sampling Analytical Results (if applicable)
- Waste Material Sampling Analytical Results (required for on site closure)
- Disposal Facility Name and Permit Number
- Soil Backfilling and Cover Installation
- Re vegetation Application Rates and Seeding Technique
- Site Reclamation (Photo Documentation)

On site Closure Location Latitude N Longitude W NAD  1927  1983

**Operator Closure Certification**

I hereby certify that the information and attachments submitted with this closure report is true accurate and complete to the best of my knowledge and belief I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan

Name (Print) Crystal Walker Title Regulatory Coordinator

Signature  Date 3/28/2017

e mail address crystal.walker@cop.com Telephone (505) 326 9837

**Burlington Resources Oil & Gas Company, LP**  
**San Juan Basin**  
**Below Grade Tank Closure Report**

**Lease Name San Juan 29 7 Unit 52**  
**API No 30 039-07664**

In accordance with Rule 19 15 17 13 NMAC the following information describes the closure of the below grade tank referenced above All proper documentation regarding closure activities is being included with the C 144

General Plan

- 1 BR shall close a below grade tank within 60 days of cessation of operations per Subsection G 4 of 19 15 17 13 NMAC This will include a) below grade tanks that do not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19 15 17 11 NMAC or is not included in Paragraph (5) of Subsection I of 19 15 17 11 NMAC within five years if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19 15 17 11 NMAC b) an earlier date that the division requires because of imminent danger to fresh water public health or the environment For any closure BR will file the C144 Closure Report as required

**The below grade tank referenced above was permitted and closed within 60 days of cessation of the below grade tanks operation**

- 2 BR shall remove liquids and sludge from a below grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division approved facility The facilities to be used will be Basin Disposal (Permit #NM 01 005) JFJ Landfarm % Industrial Ecosystem Inc (Permit # NM 01 0010B) and Envirotech Land Farm (Permit #NM 01 011) The liner after being cleaned well (Subsection D Paragraph 1 Subparagraph (m) of 19 15 9 712 NMAC) will be disposed of at the San Juan County Regional Landfill located on CR 3100

**All recovered liquids were disposed of at Basin Disposal (Permit #NM 01 005) and any sludge or soil required to be removed to facilitate closure was hauled to Envirotech Land Farm (Permit #NM 01 011) and JFJ Landfarm % IEI (Permit #NM 01 0010B) The liner was cleaned per Subsection D Paragraph 1 Subparagraph (m) of 19 15 9 712 NMAC was disposed of at the San Juan County Regional Landfill located on CR 3100**

- 3 BR will receive prior approval to remove the below grade tank and dispose of it in a division approved facility or recycle reuse or reclaim it in a manner that the appropriate division district office approves

**The below grade tank was disposed of in a division approved manner**

- 4 If there is any on site equipment associated with a below grade tank then BR shall remove the equipment unless the equipment is required for some other purpose

**All on site equipment associated with the below grade tank was removed**

- 5 BR will test the soils beneath the below grade tank to determine whether a release has occurred BR shall collect at a minimum a five point composite sample collect individual grab samples from any area that is wet discolored or showing other evidence of a release and analyzed for the constituents listed in Table I of 19 15 17 13 NMAC COPC shall notify the division of its results on form C 141

**A five point composite sample was taken of the below grade tank using sampling tools and all samples tested per Subsection B of 19 15 17 13(B)(1)(b) (Sample results attached) Form C 141 is attached**

Components	Tests Method	Limit (mg/kg)
Benzene	EPA SW 846 8021B or 8260B	0.2
BTEX	EPA SW 846 8021B or 8260B	50
TPH	EPA SW 846 418.1	100
Chlorides	EPA 300.0	250

- 6 If BR or the division determines that a release has occurred then BR shall comply with 19 15 3 116 NMAC and 19 15 1 19 NMAC as appropriate

**A release was determined for the above referenced well**

- 7 If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Table I of 19 15 17 13 NMAC then BR shall backfill the excavation with compacted non waste containing earthen material construct a division prescribed soil cover recontour and re vegetate the site

**The below grade tank area passed all requirements of Paragraph (4) of Subsection E of 19 15 17 13 NMAC and was backfilled with compacted non waste containing earthen material**

- 8 Notice of Closure will be given prior to closure to the Aztec Division office between 72 hours and one week via email or verbally The notification of closure will include the following
- i Operator s name
  - ii Location by Unit Letter Section Township and Range Well name and API number

**Notification was not found**

- 9 The surface owner shall be notified of BR s closing of the below grade tank 72 hours but not more than one week prior to closure as per the approved closure plan via certified mail return receipt requested

**The closure process notification to the landowner was not found**

- 10 Re contouring of location will match fit shape line form and texture of the surrounding Re shaping will include drainage control prevent ponding and prevent erosion Natural drainages will be unimpeded and water bars and/or silt traps will be place in areas where needed to prevent erosion on a large scale Final re contour shall have a uniform appearance with smooth surface fitting the natural landscape

**The below grade tank area was re contoured to match fit shape line form and texture of the surrounding area Re shaping including drainage control to prevent ponding and erosion Natural drainages were unimpeded and water bars and/or silt traps were placed in areas where needed to prevent erosion on a large scale Final recontour has a uniform appearance with smooth surface fitting the natural landscape**

- 11 BR shall seed the disturbed areas the first favorable growing season following closure of a below grade tank Seeding will be accomplished via drilling on the contour whenever practical or by other division approved methods BLM stipulated seed mixes will be used on federally regulated lands and division approved seed mixtures (administratively approved if required) will be utilized on all State or private lands A uniform vegetative cover has been established that reflects a life form ratio of plus or minus fifty percent (50%) of pre disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre disturbance levels excluding noxious weeds If alternate seed mix is required by the state private owner or tribe it will be implemented with administrative approval if needed COPC will repeat seeding or planting will be continued until successful vegetative growth occurs

**Provision 13 was accomplished through complying with BLM seeding requirements as allowed by the BLM/OCD MOU**

- 12 A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0 to establish vegetation at the site or the background thickness of topsoil whichever is greater

**The below grade tank area was backfilled and more than four feet of cover was achieved and the cover included one foot of suitable material to establish vegetation at the site**

- 13 All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the below grade tank. Closure report will be filed on C 144 and incorporate the following
- Soil Backfilling and Cover Installation **(See Report)**
  - Re-vegetation application rates and seeding techniques **(See Report)**
  - Photo documentation of the site reclamation **(Included as an attachment)**
  - Confirmation Sampling Results **(Included as an attachment)**
  - Proof of closure notice **(Missing)**

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) 326 9786</b>
Facility Name <b>San Juan 29 7 Unit 52</b>	Facility Type <b>Gas Well</b>

Surface Owner <b>Private</b>	Mineral Owner <b>Federal</b>	API No <b>3003907664</b>
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
<b>H</b>	<b>07</b>	<b>29N</b>	<b>07W</b>	<b>1710</b>	<b>North</b>	<b>855</b>	<b>East</b>	<b>Rio Arriba</b>

Latitude 36 7429 Longitude 107 60585

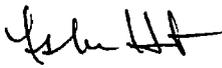
**NATURE OF RELEASE**

Type of Release <b>Historic Hydrocarbon</b>	Volume of Release <b>Unknown</b>	Volume Recovered <b>786 c/yds</b>
Source of Release <b>Below Grade Tank Leak</b>	Date and Hour of Occurrence <b>Unknown</b>	Date and Hour of Discovery <b>02/27/14</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>	
If a Watercourse was Impacted Describe Fully * <b>n/a</b>		

Describe Cause of Problem and Remedial Action Taken \*  
**Historical hydrocarbon impacted soil was found during an environmental assessment and removal of a leaking tank (1 8 BBL condensate spill)**

Describe Area Affected and Cleanup Action Taken \*  
**Historical hydrocarbon impacted soil was found during an environmental assessment/remediation of a non reportable 1 8 BBL condensate spill The excavation was 45 x 45 x 10 in depth and 786 c/yds of soil was transported to IEI land farm and 786 c/yds of clean soil was transported from Aztec Machine Company and placed in the excavation site The soil sampling report is attached for review Backfilled excavation per authorization of Brandon Powell, NMOCD, May 5, 2014**

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

Signature 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name <b>Lisa Hunter</b>	Approved by Environmental Specialist 	
Title <b>Field Environmental Specialist</b>	Approval Date <b>3/30/2017</b>	Expiration Date
E mail Address <b>Lisa Hunter@cop.com</b>	Conditions of Approval <b>NCS1430954520</b>	Attached <input type="checkbox"/>
Date <b>August 18 2014</b>	Phone <b>(505) 326 9786</b>	

\* Attach Additional Sheets If Necessary



Animas Environmental Services LLC

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

August 11 2014

Lisa Hunter  
ConocoPhillips  
San Juan Business Unit  
Office 214 04  
5525 Hwy 64  
Farmington New Mexico 87401

624 E Comanche  
Farmington NM 87401  
505 564-2281

Durango Colorado  
970 403 3084

*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 29 7 #52  
Rio Arriba County, New Mexico**

Dear Ms Hunter

On February 28 March 5 April 29 and May 2 2014 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 29 7 #52 located in Rio Arriba County, New Mexico The release at the BGT consisted of approximately 1.8 barrels (bbl) of hydrocarbons and paraffin of which 1 bbl was recovered An initial release assessment was completed on February 28 2014 and the final excavation was completed by CoP contractors while AES was on location on April 29 2014

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## 1.0 Site Information

### 1.1 Location

Site Name – San Juan 29 7 #52

Location – SE¼ NE¼ Section 7 T29N R7W Rio Arriba County New Mexico

Well Head Latitude/Longitude – N36 74292 and W107 60656 respectively

BGT/Release Location Latitude/Longitude – N36 74303 and W107 60645 respectively

Land Jurisdiction – Private

Figure 1 Topographic Site Location Map

Figure 2 Aerial Site Map February 2014

## 1 2 NMOCD Ranking

In accordance with New Mexico Oil Conservation Division (NMOCD) release protocols action levels were established per NMOCD *Guidelines for Remediation of Leaks Spills and Releases* (August 1993) prior to site work. The release was given a ranking score of 20 based on the following factors:

- **Depth to Groundwater** A cathodic protection report form dated May 1991 reported depth to water at 110 feet below ground surface (bgs) (0 points)
- **Wellhead Protection Area** The release location is not within a wellhead protection area (0 points)
- **Distance to Surface Water Body** Approximately 165 feet to the south southeast is an unnamed ephemeral stream that drains into a livestock pond located approximately 195 feet east of the location (20 points)

## 1 3 Assessment

AES was initially contacted by Lisa Hunter, CoP representative, on February 24, 2014, and on February 28, 2014, Emilee Skyles and Anna Riling of AES traveled to the location. Soil sampling consisted of collection of five soil samples from below the BGT. 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.

On March 5, 2014, AES personnel returned to the location to complete the release assessment field work. The assessment included collection and field screening of 33 soil samples from 11 soil borings (SB 1 through SB 11). Based on field screening results, AES recommended excavation of the release area. Sample locations are shown on Figure 3.

On April 29, 2014, AES personnel returned to the location to collect confirmation soil samples of the excavation. The field screening activities included collection of five confirmation soil samples (SC 1 through SC 5) of the walls and base of the excavation. The final excavation measured approximately 61 feet by 40 feet by 12 feet in depth. The depth of the excavation was limited due to a confining shale unit around 12 feet bgs. A final confirmation soil sample (SC 6) from the base was collected on May 2, 2014, following application of Quantum Growth™. Sample locations and final excavation extents are presented on Figure 4.

## 2 0 Soil Sampling

A total of 38 soil samples (S 1 through S 5 and SB 1 through SB 11) and 7 composite samples (BGT SC 1 and SC 1 through SC 6) were collected during the assessments. All soil samples were field screened for volatile organic compounds (VOCs) and selected samples were analyzed for total petroleum hydrocarbon (TPH). All composite samples (BGT SC 1 and SC 1 through SC 6) collected were submitted for confirmation laboratory analysis.

### 2 1 Field Sampling

#### 2 1 1 Volatile Organic Compounds

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

#### 2 1 2 Total Petroleum Hydrocarbons

Soil samples were also analyzed in the field for 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'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 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 samples SC 1 through SC 6 were laboratory analyzed for

- TPH for gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015D

In addition, SC 4, SC 5, and SC 6 were also analyzed for

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per USEPA Method 8021B

Composite soil sample BGT SC 1 was laboratory analyzed for

- Chlorides per USEPA Method 300 0

### 2 3 Field and Laboratory Analytical Results

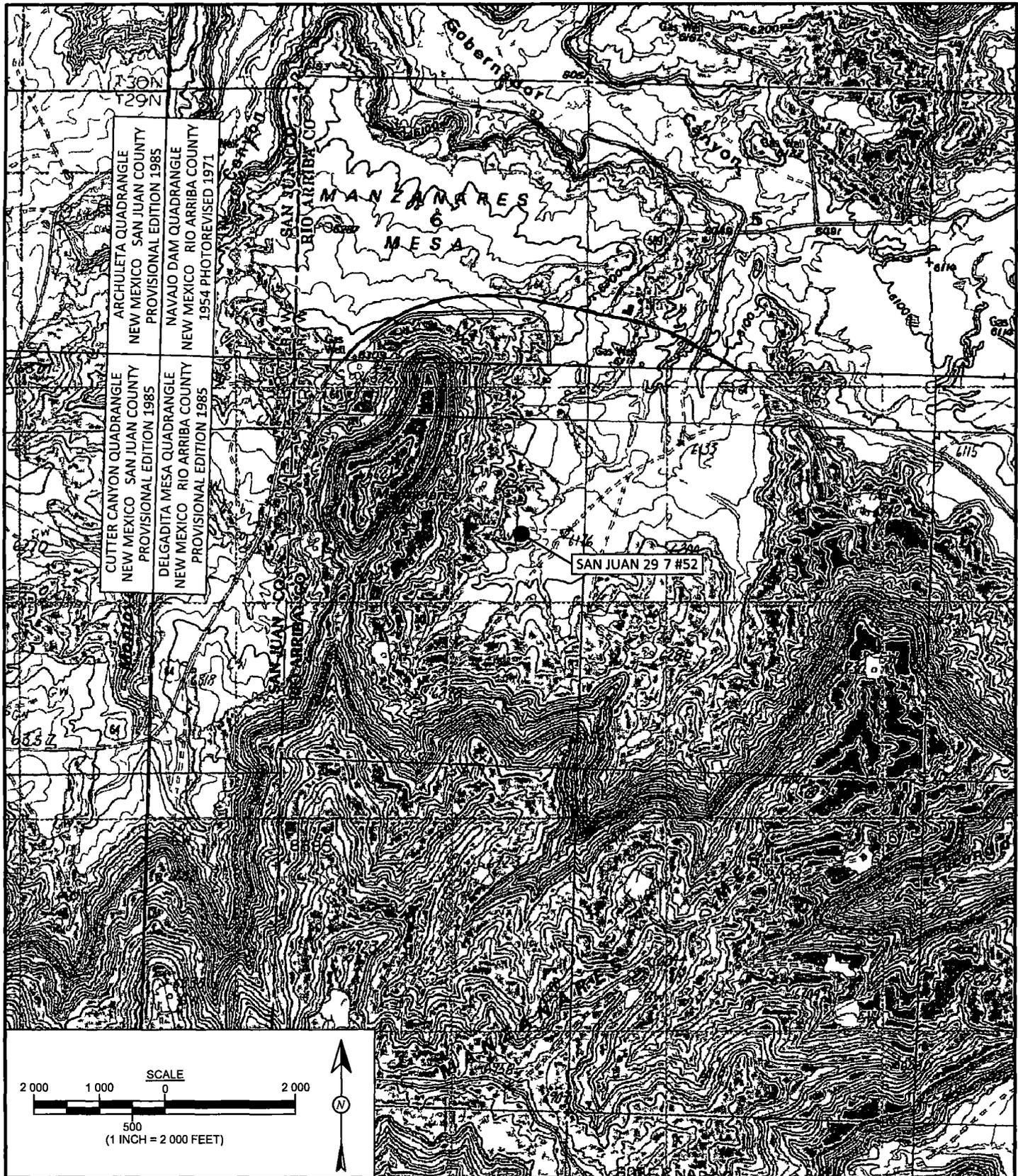
On February 28 2014 BGT closure field screening results for VOCs via OVM ranged from 1 458 ppm in S 5 up to 3 218 ppm in S 1 Field TPH concentrations in all samples were greater than 2 300 mg/kg

On March 5 2014 initial assessment field screening readings for VOCs via OVM ranged from 0 1 ppm in SB 10 and SB 11 up to 3 340 ppm in SB 1 Field TPH concentrations ranged from less than 20 0 mg/kg in SB 10 and SB 11 to greater than 25 000 mg/kg in SB 3 and SB 4

Final excavation field screening results for VOCs via OVM ranged from 15 9 ppm in SC 2 up to 3 827 ppm in SC 5 Field TPH concentrations ranged from 46 5 mg/kg in SC 2 up to 1 770 mg/kg in SC 5 Field screening VOC and TPH results are summarized in Table 1 and on Figures 2 through 4 The AES field sampling reports are attached

Table 1 Soil Field Sampling VOCs TPH and Chloride Results  
 San Juan 29 7 #52 BGT Closure Release Assessment and Final Excavation  
 February through May 2014

Sample ID	Date Sampled	Sample Depth (ft bgs)	VOCs via OVM (ppm)	TPH 418 1 (mg/kg)	Field Chlorides (mg/kg)
<b>NMOCDC Action Level* (NMAC 19 15 17 13E)</b>			<b>NE/100</b>	<b>100</b>	<b>250/NE</b>
S 1	2/28/14	0 5	3,218	>2 300	NA
S 2	2/28/14	0 5	2 661	>2 300	NA
S 3	2/28/14	0 5	2 535	>2 300	NA
S 4	2/28/14	0 5	2 392	>2,300	NA
S 5	2/28/14	0 5	1 458	>2,300	NA
BGT SC 1	2/28/14	0 5	2 375	NA	80
SB 1	3/5/14	6 25	2,771	NA	NA
		8 5	3,340	NA	NA
SB 2	3/5/14	0 5	179	512	NA
		3	75 9	NA	NA



**FIGURE 1**

**TOPOGRAPHIC SITE LOCATION MAP**

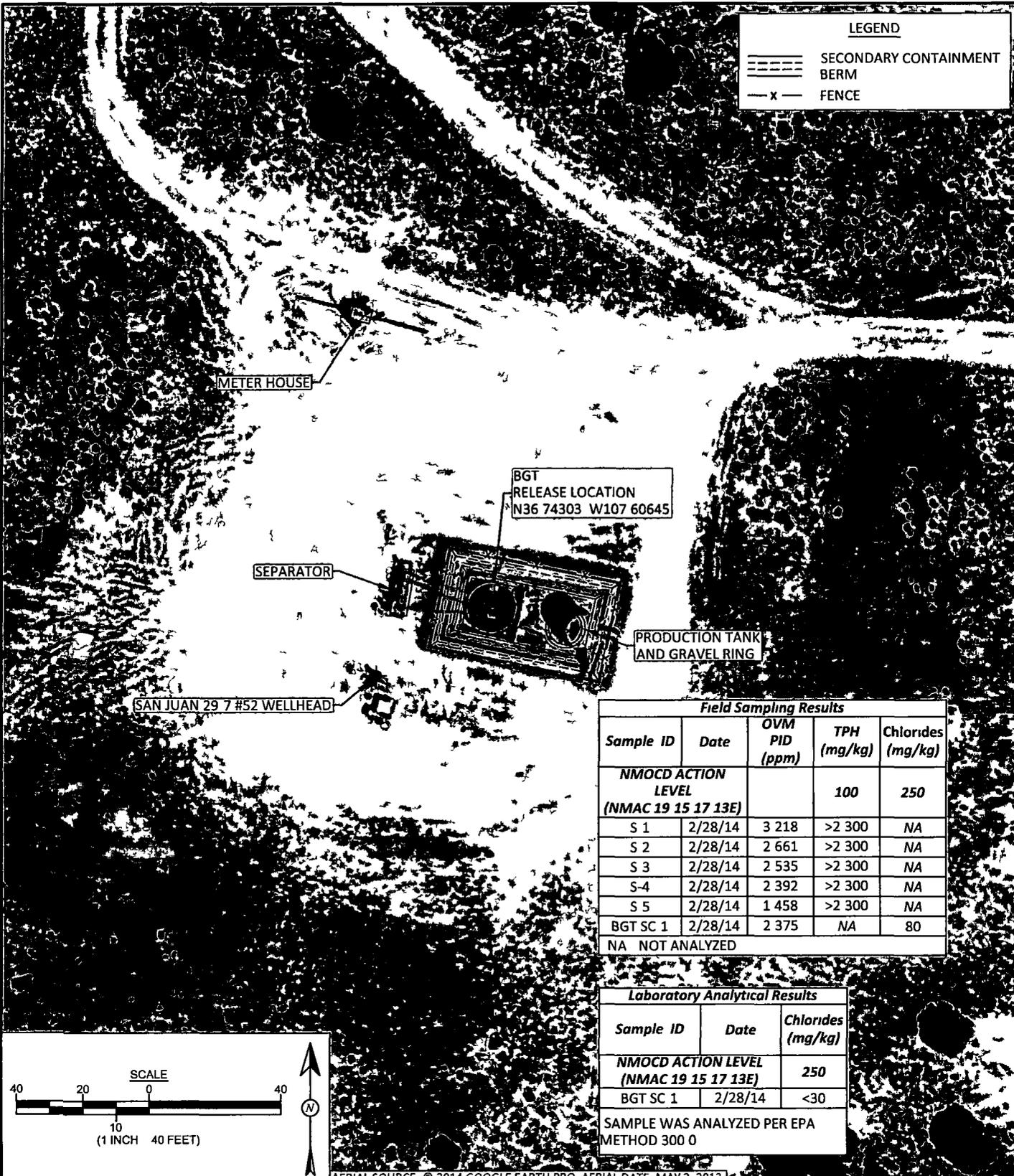
ConocoPhillips  
 SAN JUAN 29 7 #52  
 SE¼ NE¼ SECTION 7 T29N R7W  
 RIO ARriba COUNTY NEW MEXICO  
 N36 74292 W107 60656



Animas Environmental Services LLC

<b>DRAWN BY</b> C Lameman	<b>DATE DRAWN</b> May 29 2014
<b>REVISIONS BY</b> C Lameman	<b>DATE REVISED</b> May 29 2014
<b>CHECKED BY</b> D Watson	<b>DATE CHECKED</b> May 29 2014
<b>APPROVED BY</b> E McNally	<b>DATE APPROVED</b> May 29 2014

LEGEND	
	SECONDARY CONTAINMENT BERM
	FENCE



Field Sampling Results				
Sample ID	Date	OVM PID (ppm)	TPH (mg/kg)	Chlorides (mg/kg)
<b>NMOCD ACTION LEVEL (NMAC 19 15 17 13E)</b>			100	250
S 1	2/28/14	3 218	>2 300	NA
S 2	2/28/14	2 661	>2 300	NA
S 3	2/28/14	2 535	>2 300	NA
S-4	2/28/14	2 392	>2 300	NA
S 5	2/28/14	1 458	>2 300	NA
BGT SC 1	2/28/14	2 375	NA	80
NA NOT ANALYZED				

Laboratory Analytical Results		
Sample ID	Date	Chlorides (mg/kg)
<b>NMOCD ACTION LEVEL (NMAC 19 15 17 13E)</b>		250
BGT SC 1	2/28/14	<30
SAMPLE WAS ANALYZED PER EPA METHOD 300 0		

AERIAL SOURCE © 2014 GOOGLE EARTH PRO, AERIAL DATE MAY 2, 2013



Animas Environmental Services LLC

<b>DRAWN BY</b> C Lameman	<b>DATE DRAWN</b> May 29 2014
<b>REVISIONS BY</b> C Lameman	<b>DATE REVISED</b> May 29 2014
<b>CHECKED BY</b> D Watson	<b>DATE CHECKED</b> May 29 2014
<b>APPROVED BY</b> E McNally	<b>DATE APPROVED</b> May 29 2014

**FIGURE 2**

**AERIAL SITE MAP  
FEBRUARY 2014**  
ConocoPhillips  
SAN JUAN 29 7 #52  
SE¼ NE¼ SECTION 7 T29N R7W  
RIO ARriba COUNTY NEW MEXICO  
N36 74292 W107 60656

**FIGURE 3**

**RELEASE ASSESSMENT SAMPLE LOCATIONS AND RESULTS MARCH 2014**

Co. 1  
 29-1  
 7W  
 EW MEX  
 60656



AnneArundel Environmental Services

RAWN mema TE WN  
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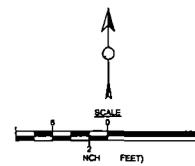
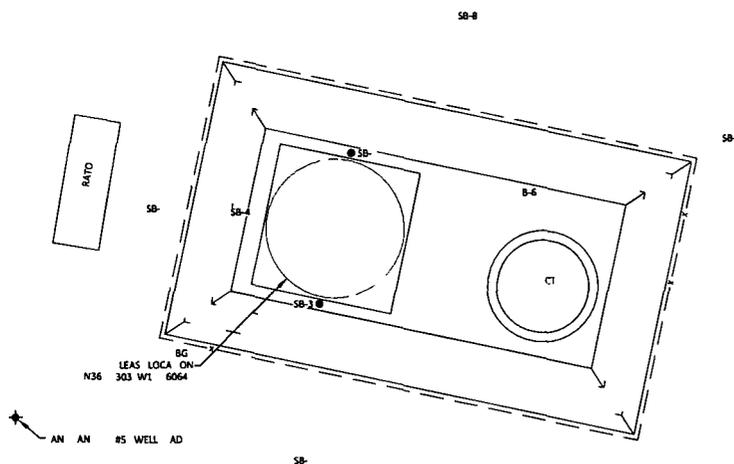
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File Sampling Results				
So	Date	De (ft)	VM- ( )	(mg/kg)
MOCD	CTIO	LEVEL	00	00
	7/5/1		2,77	NA
			340	
	7/5/1		79	12
			NA	
	7/5/1		NA	
			945	25,000
			NA	
	7/5/1		NA	
			.8	25,000
			NA	
	7/5/1		65	NA
			.823	NA
			15	79
			NA	
B-6	7/5/1		NA	
			53	68
	7/5/1			
B-	7/5/1		0.8	
	7/5/1			NA
	7/5/1			
	7/5/1			NA
AN YZ				



**FIGURE 4**

**FINAL EXCAVATION SAMPLE LOCATIONS AND RESULTS APRIL AND MAY 2014**

Hill  
 SA CT T2 JW  
 Y Y TY EW EXI  
 W 60



Animas Environmental Services, LLC

RAWN ma DATE RAWN ay

VIS NS TE REVISED ay

CXE W TE CHI CXE ay

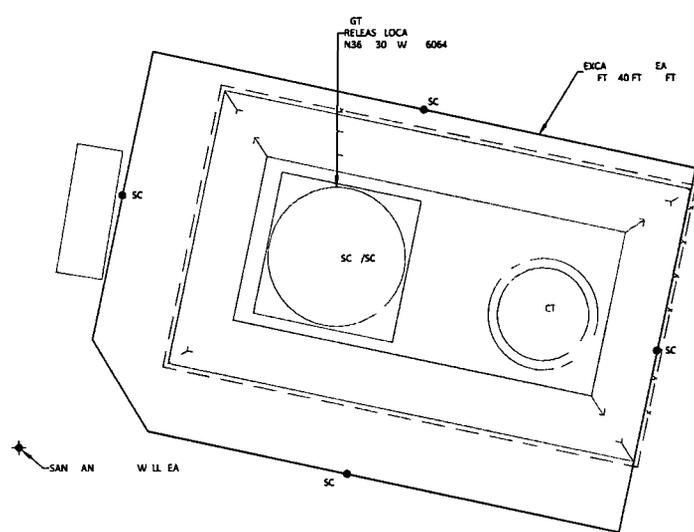
AP ROVED ty DATE AP ROVE ay 29

LE

CA

CO NT NT BERM

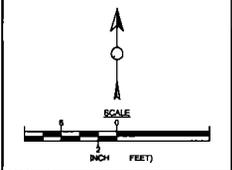
AM LES W OSITE SA LES



Field Sampling Results					
Sample ID	Date	De (ft)	VW- ( )	TP (mg/ )	
		MOC	CTIO	LEVEL	00
SC	7/29/	12			28
SC	7/2/	12	15		46.5
SC	7/2/	12			70
SC	7/2/	12	122		92
SC	7/2/		827		1,77
SC	7/2/		575		854

Laboratory Analytical Results						
Sample ID	Date	Depth (ft)	Asme (mg/kg)	otal TEX (mg/kg)	TP (mg/kg)	TP (mg/kg)
				50		00
SC	7/29/			NA		96
SC	7/2/			NA		
SC	/ /				<3	
SC	/ /					
SC	/ /		083		140	50
SC	/ /	12	08	58	98	640

ALL AM LES WE ALYZE ETH 802 AN /O 80



AES Field Sampling Report



Animas Environmental Services LLC

www.animasenvironmental.com

624 E Comanche  
 Farmington NM 87401  
 505 564-2281

Delta Colorado  
 970 403 3084

Client ConocoPhillips

Project Location San Juan 29 7 #52

Date 2/28/2014

Matrix Soil

Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	Field Chloride (mg/kg)	TPH Analysis Time	TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
S 1	2/28/2014	10 15	North	3 218	NA	11 34	>2 300	20 0	1	AR
S 2	2/28/2014	10 16	South	2 661	NA	11 40	>2 300	20 0	1	AR
S 3	2/28/2014	10 17	East	2 535	NA	11 45	>2 300	20 0	1	AR
S 4	2/28/2014	10 18	West	2 392	NA	11 50	>2 300	20 0	1	AR
S 5	2/28/2014	12 57	Center	1 458	NA	13 11	>2 300	20 0	1	AR
SC 1	2/28/2014	10 25	Composite	2 375	80	Not Analyzed for TPH				

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

Total Petroleum Hydrocarbons USEPA 418.1

\*TPH concentrations recorded may be below PQL

Field Chloride Quantab Chloride Titrators or Drop Count  
 Titration with Silver Nitrate

Analyst

# AES Field Sampling Report



Animas Environmental Services LLC

www.animasenvironmental.com

Client ConocoPhillips

Project Location San Juan 29 7 #52

Date 3/5/2014

Matrix Soil

624 E Comanche  
Farmington NM 87401  
505-564-2281

Durango Colorado  
970 403 3084

Sample ID	Collection Date	Collection Time	OVM (ppm)	TPH* (mg/kg)	TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SB 1 @ 6 25	3/5/2014	11 05	2 771	Not Analyzed for TPH				
SB 1 @ 8 5	3/5/2014	11 15	3 340	Not Analyzed for TPH				
SB 2 @ 0 5	3/5/2014	11 20	179	512	14 45	20 0	1	EMS
SB 2 @ 3	3/5/2014	11 24	75 9	Not Analyzed for TPH				
SB 3 @ 0 5	3/5/2014	11 35	24 2	Not Analyzed for TPH				
SB 3 @ 3	3/5/2014	11 42	6 4	Not Analyzed for TPH				
SB 3 @ 6	3/5/2014	11 50	1 945	>25 000	12 19	200	10	EMS
SB 4 @ 0 5	3/5/2014	12 10	35 2	Not Analyzed for TPH				
SB 4 @ 3	3/5/2014	12 18	56 7	Not Analyzed for TPH				
SB 4 @ 5	3/5/2014	12 20	1 816	>25 000	16 02	200	10	EMS
SB 5 @ 0 5	3/5/2014	12 30	23 8	Not Analyzed for TPH				
SB 5 @ 3	3/5/2014	12 35	65 3	Not Analyzed for TPH				
SB 5 @ 6	3/5/2014	13 09	1 823	Not Analyzed for TPH				
SB 5 @ 7 75	3/5/2014	13 13	2 156	792	16 08	20 0	1	EMS
SB 6 @ 0 5	3/5/2014	13 17	5 8	Not Analyzed for TPH				
SB 6 @ 3	3/5/2014	13 20	1 8	Not Analyzed for TPH				
SB 6 @ 6	3/5/2014	13 00	1 3	Not Analyzed for TPH				
SB 6 @ 8	3/5/2014	13 24	1 453	681	15 20	20 0	1	EMS
SB 7 @ 0 5	3/5/2014	14 25	2 5	Not Analyzed for TPH				
SB 7 @ 2 5	3/5/2014	14 30	1 0	Not Analyzed for TPH				
SB 8 @ 0 5	3/5/2014	14 35	0 7	Not Analyzed for TPH				
SB 8 @ 2 5	3/5/2014	14 40	0 8	Not Analyzed for TPH				
SB 9 @ 0 5	3/5/2014	14 36	1 8	Not Analyzed for TPH				

Sample ID	Collection Date	Collection Time	OVM (ppm)	TPH* (mg/kg)	TPH Analysis Time	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SB 9 @ 6	3/5/2014	14 44	0 8	Not Analyzed for TPH				
SB 9 @ 8	3/5/2014	14 50	1 3	26 8	15 24	20 0	1	EMS
SB 10 @ 0 5	3/5/2014	15 10	0 2	Not Analyzed for TPH				
SB 10 @ 3	3/5/2014	15 20	0 1	Not Analyzed for TPH				
SB 10 @ 8	3/5/2014	16 20	0 1	8 6	16 55	20 0	1	EMS
SB 11 @ 0 5	3/5/2014	16 00	0 2	Not Analyzed for TPH				
SB 11 @ 3	3/5/2014	16 12	0 1	Not Analyzed for TPH				
SB 11 @ 6	3/5/2014	16 30	0 2	Not Analyzed for TPH				
SB 11 @ 9	3/5/2014	16 40	0 1	19 0	16 59	20 0	1	EMS

DF Dilution Factor  
 NA Not Analyzed  
 ND Not Detected at the Reporting Limit  
 PQL Practical Quantitation Limit  
 \*TPH concentrations recorded may be below PQL  
 Total Petroleum Hydrocarbons USEPA 418 1

Analyst *Eric Skyl*

AES Field Sampling Report



Animas Environmental Services LLC

www.animasenvironmental.com

624 E Comanche  
Farm gto NM 87401  
505-564-2281

D rango Colo ado  
970-403 3084

Client ConocoPhillips

Project Location San Juan 29 7 #52

Date 4/29/2014

Matrix Soil

Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	TPH Analysis Time	TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SC 1	4/29/2014	14 35	North Wall	19 3	14 51	289	20 0	1	EMS
SC 2	4/29/2014	11 30	South Wall	15 9	12 16	46 5	20 0	1	EMS
SC 3	4/29/2014	11 35	East Wall	26 2	12 19	270	20 0	1	EMS
SC-4	4/29/2014	14 16	West Wall	122	14 31	192	20 0	1	EMS
SC 5	4/29/2014	11 42	Base	3 827	12 22	1 770	20 0	1	EMS

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

Total Petroleum Hydrocarbons USEPA 418 1  
 \*TPH concentrations recorded may be below PQL

Analyst *Emh SkL*

AES Field Sampling Report



Animas Environmental Services LLC

www.animasenvironmental.com

624 E Comanche  
Farmington NM 87401  
505-664-2281

Deming Colorado  
970-403-3084

Client ConocoPhillips

Project Location San Juan 29 7 #52

Date 5/2/2014

Matrix Soil

Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	TPH Analysis Time	TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
SC 6	5/2/2014	11 20	Base	575	11 37	854	20 0	1	HMW

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

Total Petroleum Hydrocarbons USEPA 418.1  
 TPH concentrations recorded may be below PQL

Analyst *Heather M Woods*



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 10 2014

Debbie Watson

Animas Environmental  
624 East Comanche  
Farmington NM 87401  
TEL (505) 486 4071  
FAX

RE SJ 29 7 # 52

OrderNo 1403065

Dear Debbie Watson

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/4/2014 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 qualifers 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 1403065

Date Reported 3/10/2014

<b>CLIENT</b> Animas Environmental	<b>Client Sample ID</b> SC-1 BGT SC 1 DAW
<b>Project</b> SJ 29 7 # 52	<b>Collection Date</b> 2/28/2014 10 25 00 AM
<b>Lab ID</b> 1403065 001	<b>Matrix</b> SOIL
	<b>Received Date</b> 3/4/2014 10 00 00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300 0 ANIONS</b>							Analyst <b>JRR</b>
Chloride	ND	30		mg/Kg	20	3/6/2014 7 37 40 PM	12064

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
	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
	O RSD is greater than RSDlimit	P Sample pH greater than 2
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc

WO# 1403065  
10 Mar 14

Client Animas Environmental  
Project SJ 29 7 # 52

Sample ID	MB 12064	SampType	MBLK	TestCode	EPA Method 300 0 Anions					
Client ID	PBS	Batch ID	12064	RunNo	17165					
Prep Date	3/6/2014	Analysis Date	3/6/2014	SeqNo	493843	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	/REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chlonde	ND	15								

Sample ID	LCS 12064	SampType	LCS	TestCode	EPA Method 300 0 Anions					
Client ID	LCSS	Batch ID	12064	RunNo	17165					
Prep Date	3/6/2014	Analysis Date	3/6/2014	SeqNo	493844	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	/RPD	RPDLimit	Qual
Chlonde	14	15	15 00	0	92 2	90	110			

### Qualifiers

- |   |  |
|---|--|
| * Value exceeds Maximum Contaminant Level         | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range                  | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits      | ND Not Detected at the Reporting Limit               |
| O RSD is greater than RSDlimit                    | P Sample pH greater than 2                           |
| R RPD outside accepted recovery limits            | RL Reporting Detection Limit                         |
| S Spike Recovery outside accepted recovery limits |  |



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque NM 87105  
 TEL 505 345 3975 FAX 505 345-410,  
 Website www.hallenvironmental.com

# Sample Log-In Check List

Client Name **Animas Environmental** Work Order Number **1403065** RcptNo **1**

Received by/date	<i>[Signature]</i>	<b>03/04/14</b>	
Logged By	<b>Lindsay Mangin</b>	<b>3/4/2014 10 00 00 AM</b>	<i>[Signature]</i>
Completed By	<b>Lindsay Mangin</b>	<b>3/4/2014 11 07 00 AM</b>	<i>[Signature]</i>
Reviewed By	<b>mg</b>	<b>03/05/14</b>	

### Chain of Custody

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

### Log In

- 4 Was an attempt made to cool the samples? Yes  No  NA
- 5 Were all samples received at a temperature of >0 C to 60 C Yes  No  NA
- 6 Sample(s) in proper container(s)? Yes  No
- 7 Sufficient sample volume for indicated test(s)? Yes  No
- 8 Are samples (except VOA and ONG) properly preserved? Yes  No
- 9 Was preservative added to bottles? Yes  No  NA
- 10 VOA vials have zero headspace? Yes  No  No VOA Vials
- 11 Were any sample containers received broken? Yes  No
- 12 Does paperwork match bottle labels? Yes  No   
(Note discrepancies on chain of custody)
- 13 Are matrices correctly identified on Chain of Custody? Yes  No
- 14 Is it clear what analyses were requested? Yes  No
- 15 Were all holding times able to be met? Yes  No   
(If no notify customer for authorization )

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

### Special Handling (if applicable)

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

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

17 Additional remarks

### 18 Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No.	Seal Date	Signed By
1	25	Good	Yes			





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

May 02 2014

Debbie Watson

Animas Environmental  
624 East Comanche  
Farmington NM 87401  
TEL (505) 486 4071  
FAX

RE COP SJ 29 7 #52

OrderNo 1404B95

Dear Debbie Watson

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/30/2014 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 qualifers are provided on both the sample analysis report and the QC summary report both sections should be reviewed All samples are reported as received unless otherwise indicated Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time

Please don t hesitate to contact HEAL for any additional information or clarifications

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque NM 87109

**Hall Environmental Analysis Laboratory, Inc**

**CLIENT** Animas Environmental **Client Sample ID** SC 1  
**Project** COP SJ 29 7 #52 **Collection Date** 4/29/2014 2 35 00 PM  
**Lab ID** 1404B95 001 **Matrix** MEOH (SOIL) **Received Date** 4/30/2014 10 05 00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D DIESEL RANGE ORGANICS</b>							Analyst <b>BCN</b>
Diesel Range Organics (DRO)	96	10		mg/Kg	1	4/30/2014 12 21 16 PM	12938
Surr DNOP	105	57 9 140		/ REC	1	4/30/2014 12 21 16 PM	12938
<b>EPA METHOD 8015D GASOLINE RANGE</b>							Analyst <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3 4		mg/Kg	1	4/30/2014 12 02 25 PM	R18302
Surr BFB	89 7	74 5 129		%REC	1	4/30/2014 12 02 25 PM	R18302

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc

Analytical Report

Lab Order 1404B95

Date Reported 5/2/2014

**CLIENT** Animas Environmental **Client Sample ID** SC 3  
**Project** COP SJ 29 7 #52 **Collection Date** 4/29/2014 11 35 00 AM  
**Lab ID** 1404B95 002 **Matrix** MEOH (SOIL) **Received Date** 4/30/2014 10 05 00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D DIESEL RANGE ORGANICS</b>							Analyst <b>BCN</b>
Diesel Range Organics (DRO)	46	10		mg/Kg	1	4/30/2014 12 52 35 PM	12938
Surr DNOP	94.4	57.9	140	/ REC	1	4/30/2014 12 52 35 PM	12938
<b>EPA METHOD 8015D GASOLINE RANGE</b>							Analyst <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	4/30/2014 12 30 59 PM	R18302
Surr BFB	85.2	74.5	129	/ REC	1	4/30/2014 12 30 59 PM	R18302

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Sample ID	Date Sampled	Sample Depth (ft bgs)	VOCs via OVM (ppm)	TPH 418 1 (mg/kg)	Field Chlorides (mg/kg)
<b>NMOCD Action Level* (NMAC 19 15 17 13E)</b>			<b>NE/100</b>	<b>100</b>	<b>250/NE</b>
SB 3	3/5/14	0 5	24 2	NA	NA
		3	6 4	NA	NA
		6	<b>1 945</b>	<b>&gt;25,000</b>	NA
SB 4	3/5/14	0 5	35 2	NA	NA
		3	56 7	NA	NA
		5	<b>1 816</b>	<b>&gt;25 000</b>	NA
SB 5	3/5/14	0 5	23 8	NA	NA
		3	65 3	NA	NA
		6	<b>1,823</b>	NA	NA
		7 75	<b>2 156</b>	<b>792</b>	NA
SB 6	3/5/14	0 5	5 8	NA	NA
		3	1 8	NA	NA
		6	1 3	NA	NA
		8	<b>1 453</b>	<b>681</b>	NA
SB 7	3/5/14	0 5	2 5	NA	NA
		2 5	1 0	NA	NA
SB 8	3/5/14	0 5	0 7	NA	NA
		2 5	0 8	NA	NA
SB 9	3/5/14	0 5	1 8	NA	NA
		3	0 8	NA	NA
		6	0 8	NA	NA
		8	1 3	26 8	NA
SB 10	3/5/14	0 5	0 2	NA	NA
		3	0 1	NA	NA
		8	0 1	<20 0	NA
SB 11	3/5/14	0 5	0 2	NA	NA
		3	0 1	NA	NA
		6	0 2	NA	NA

<b>Sample ID</b>	<b>Date Sampled</b>	<b>Sample Depth (ft bgs)</b>	<b>VOCs via OVM (ppm)</b>	<b>TPH 418 1 (mg/kg)</b>	<b>Field Chlorides (mg/kg)</b>
<b>NMOCD Action Level* (NMAC 19 15 17 13E)</b>			<b>NE/100</b>	<b>100</b>	<b>250/NE</b>
		9	0 1	<20 0	NA
SC 1	4/29/14	1 to 12	19 3	<b>289</b>	NA
SC 2	4/29/14	1 to 12	15 9	46 5	NA
SC 3	4/29/14	1 to 12	26 2	<b>270</b>	NA
SC 4	4/29/14	1 to 12	<b>122</b>	<b>192</b>	NA
SC 5	4/29/14	12	<b>3 827</b>	<b>1,770</b>	NA
SC 6	5/2/14	12	<b>575</b>	<b>854</b>	NA

NA – not analyzed

\*Action level determined by the NMOCD ranking score per *NMOCD Guidelines for Remediation of Leaks Spills and Releases* (August 1993) and *NMAC 19 15 17 13E*

Laboratory analysis of sample BGT SC 1 was used to confirm the chloride concentration for BGT closure sampling results. Laboratory analytical results reported the chloride concentration as less than 30 mg/kg.

Laboratory analyses for SC 1 through SC 6 were used to confirm field sampling results from the final excavation extents. Benzene concentrations were reported below laboratory detection limits in all samples (SC 4, SC 5, and SC 6). Total BTEX concentrations ranged from 0.070 mg/kg in SC 4 up to 5.58 mg/kg in SC 6. Total TPH concentrations ranged from below laboratory detection limits in SC 2 up to 890 mg/kg in SC 5. Results are summarized in Table 2 and included on Figures 2 through 4. Laboratory analytical reports are attached.

Table 2 Soil Laboratory Analytical Results – Benzene, Total BTEX, TPH, and Chlorides  
 San Juan 29 7 #52 BGT Closure Release Assessment and Final Excavation  
 February, April, and May 2014

<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 GRO (mg/kg)</b>	<b>TPH DRO (mg/kg)</b>	<b>Chlorides (mg/kg)</b>
<b>NMOCD Action Level* (NMAC 19 15 17 13E)</b>			<b>0 2/10</b>	<b>50</b>	<b>100</b>		<b>250/NE</b>
BGT SC 1	2/28/14	0 5	NA	NA	NA	NA	<30
SC 1	4/29/14	1 to 12	NA	NA	<3 4	96	NA
SC 2	4/29/14	1 to 12	NA	NA	<5 0	<10	NA

Sample ID	Date Sampled	Sample Depth (ft bgs)	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 2/10</b>	<b>50</b>		<b>100</b>	<b>250/NE</b>
SC 3	4/29/14	1 to 12	NA	NA	<3 5	46	NA
SC 4	4/29/14	1 to 12	<0 031	0 070	3 5	65	NA
SC 5	4/29/14	12	<0 083	5 2	<b>140</b>	<b>750</b>	NA
SC 6	5/2/14	12	<0 081	5 58	<b>98</b>	<b>640</b>	NA

NA – not analyzed

\*Action level determined by the NMOCD ranking score per *NMOCD Guidelines for Remediation of Leaks Spills and Releases* (August 1993) and *NMAC 19 15 17 13E*

### 3 0 Conclusions and Recommendations

On February 28 and March 5 2014 AES conducted a BGT closure and assessment of petroleum contaminated soils associated with a 1 8 bbl release of hydrocarbons and paraffin at the San Juan 29 7 #52 NMOCD action levels for BGT closures are specified in New Mexico Administrative Code (NMAC) 19 15 17 13E Action levels for releases are determined by the NMOCD ranking score per *NMOCD Guidelines for Remediation of Leaks Spills and Releases* (August 1993) and the site was assigned a rank of 20

Field BGT closure sampling results in February 2014 were above the NMOCD action level of 100 mg/kg with all samples reporting concentrations greater than 2 300 mg/kg Laboratory results for chloride concentrations in BGT SC 1 were reported below the NMOCD action level of 250 mg/kg Based on field concentrations a release was confirmed

In March 2014 release assessment field sampling results above the NMOCD action level of 100 ppm VOCs and 100 mg/kg TPH were reported in SB 1 through SB 6 The highest VOC concentration was reported in SB 1 with 3 340 ppm and the highest TPH concentration was reported in SB 3 and SB 4 with concentrations greater than 25 000 mg/kg Excavation of the release area was recommended

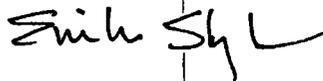
On April 29 2014 final excavation of the impacted area was completed Field sampling results of the excavation extents showed that VOC concentrations were below applicable NMOCD action levels for three of the final walls of the excavation However samples SC 4 (west wall) and SC 5 (base) reported VOC concentrations above the NMOCD action level with 122 ppm and 3 827 ppm respectively Field TPH concentrations were above the applicable NMOCD action level of 100 mg/kg for the

final walls and base of the excavation with the exception of SC 2 (south wall) which had a TPH concentration of 46.1 mg/kg. Laboratory analytical results reported benzene and total BTEX concentrations in SC 4 and SC 5 as below NMOCD action levels. TPH concentrations as GRO/DRO were also reported below the applicable NMOCD action level in all samples except SC 5 which had a TPH concentration of 890 mg/kg. Quantum Growth™ was applied to the base of the excavation and an additional confirmation sample (SC 6) was collected on May 2, 2014. Field sampling results for SC 6 reported VOC and TPH concentrations above applicable NMOCD action levels. However, laboratory analytical results for SC 6 reported benzene and total BTEX concentrations below applicable NMOCD action levels, but TPH concentrations remained above NMOCD action levels.

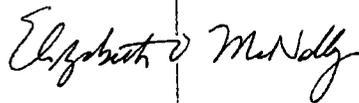
Based on the final field sampling and laboratory analytical results of the excavation of petroleum contaminated soils at the San Juan 29 7 #52, VOCs, benzene, total BTEX, and TPH concentrations were below the applicable NMOCD action levels for the final sidewalls of the excavation. However, the base of the excavation exceeded applicable NMOCD action levels for TPH. On May 5, 2014, CoP received approval to backfill the excavation from Brandon Powell of the NMOCD. No further work is recommended.

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

Sincerely,



Emilee Skyles  
Staff Geologist



Elizabeth McNally PE

Attachments

- Figure 1 Topographic Site Location Map
- Figure 2 Aerial Site Map February 2014
- Figure 3 Release Assessment Sample Locations and Results March 2014
- Figure 4 Final Excavation Sample Locations and Results April and May 2014
- AES Field Sampling Report 022814

AES Field Sampling Report 030514  
AES Field Sampling Report 042914  
AES Field Sampling Report 050214  
Hall Laboratory Analytical Report 1403065  
Hall Laboratory Analytical Report 1404B95  
Hall Laboratory Analytical Report 1404C13  
Hall Laboratory Analytical Report 1405102

C:\Users\emcnally AES\Dropbox (Animas Environmental)\0000 Animas Server Dropbox EM\2014  
Projects\ConocoPhillips\SJ 29 7 #52\San Juan 29 7 #52 BGT Closure Assessment and Excavation Report  
081114 docx

**Hall Environmental Analysis Laboratory, Inc**

CLIENT Animas Environmental Client Sample ID SC 4  
 Project COP SJ 29 7 #52 Collection Date 4/29/2014 2 16 00 PM  
 Lab ID 1404B95 003 Matrix MEOH (SOIL) Received Date 4/30/2014 10 05 00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D DIESEL RANGE ORGANICS</b>							Analyst <b>BCN</b>
Diesel Range Organics (DRO)	65	9.9		mg/Kg	1	4/30/2014 1 23 37 PM	12938
Surr DNOP	106	57.9	140	/ REC	1	4/30/2014 1 23 37 PM	12938
<b>EPA METHOD 8015D GASOLINE RANGE</b>							Analyst <b>NSB</b>
Gasoline Range Organics (GRO)	3.5	3.1		mg/Kg	1	4/30/2014 12 59 35 PM	R18302
Surr BFB	111	74.5	129	/ REC	1	4/30/2014 12 59 35 PM	R18302
<b>EPA METHOD 8021B VOLATILES</b>							Analyst <b>NSB</b>
Benzene	ND	0.031		mg/Kg	1	4/30/2014 12 59 35 PM	R18302
Toluene	ND	0.031		mg/Kg	1	4/30/2014 12 59 35 PM	R18302
Ethylbenzene	ND	0.031		mg/Kg	1	4/30/2014 12 59 35 PM	R18302
Xylenes Total	0.070	0.063		mg/Kg	1	4/30/2014 12 59 35 PM	R18302
Surr 4 Bromofluorobenzene	104	80	120	/ REC	1	4/30/2014 12 59 35 PM	R18302

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
	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
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc

WO# 1404B95

02 May 14

Client Animas Environmental

Project COP SJ 29 7 #52

Sample ID	<b>MB 12938</b>	SampType	<b>MBLK</b>	TestCode	<b>EPA Method 8015D Diesel Range Organics</b>					
Client ID	<b>PBS</b>	Batch ID	<b>12938</b>	RunNo	<b>18255</b>					
Prep Date	<b>4/29/2014</b>	Analysis Date	<b>4/30/2014</b>	SeqNo	<b>528682</b>	Units	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	/RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr DNOP	8.6		10.00		86.3	57.9	140			

Sample ID	<b>LCS 12938</b>	SampType	<b>LCS</b>	TestCode	<b>EPA Method 8015D Diesel Range Organics</b>					
Client ID	<b>LCSS</b>	Batch ID	<b>12938</b>	RunNo	<b>18255</b>					
Prep Date	<b>4/29/2014</b>	Analysis Date	<b>4/30/2014</b>	SeqNo	<b>528683</b>	Units	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	/RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	80.9	60.8	145			
Surr DNOP	3.9		5.000		78.1	57.9	140			

Sample ID	<b>MB 12956</b>	SampType	<b>MBLK</b>	TestCode	<b>EPA Method 8015D Diesel Range Organics</b>					
Client ID	<b>PBS</b>	Batch ID	<b>12956</b>	RunNo	<b>18327</b>					
Prep Date	<b>5/1/2014</b>	Analysis Date	<b>5/1/2014</b>	SeqNo	<b>529725</b>	Units	<b>/REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	/RPD	RPDLimit	Qual
Surr DNOP	8.7		10.00		87.3	57.9	140			

Sample ID	<b>LCS 12956</b>	SampType	<b>LCS</b>	TestCode	<b>EPA Method 8015D Diesel Range Organics</b>					
Client ID	<b>LCSS</b>	Batch ID	<b>12956</b>	RunNo	<b>18327</b>					
Prep Date	<b>5/1/2014</b>	Analysis Date	<b>5/1/2014</b>	SeqNo	<b>529726</b>	Units	<b>/REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	/RPD	RPDLimit	Qual
Surr DNOP	4.7		5.000		94.0	57.9	140			

## Qualifiers

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc

WO# 1404B95

02 May 14

Client Animas Environmental

Project COP SJ 29 7 #52

Sample ID	MB 12911 MK	SampType	MBLK	TestCode	EPA Method 8015D	Gasoline Range				
Client ID	PBS	Batch ID	R18302	RunNo	18302					
Prep Date		Analysis Date	4/30/2014	SeqNo	529079	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	850		1000		84 8	74 5	129			

Sample ID	LCS 12911 MK	SampType	LCS	TestCode	EPA Method 8015D	Gasoline Range				
Client ID	LCSS	Batch ID	R18302	RunNo	18302					
Prep Date		Analysis Date	4/30/2014	SeqNo	529080	Units mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	/ REC	LowLimit	HighLimit	% RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5 0	25 00	0	95 1	71 7	134			
Surr BFB	940		1000		93 8	74 5	129			

## Qualifiers

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc

WO# 1404B95

02 May 14

**Client** Animas Environmental  
**Project** COP SJ 29 7 #52

Sample ID	<b>MB 12911 MK</b>	SampType	<b>MBLK</b>	TestCode	<b>EPA Method 8021B Volatiles</b>					
Client ID	<b>PBS</b>	Batch ID	<b>R18302</b>	RunNo	<b>18302</b>					
Prep Date		Analysis Date	<b>4/30/2014</b>	SeqNo	<b>529270</b>	Units	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	/ REC	LowLimit	HighLimit	/ RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes Total	ND	0.10								
Surr 4 Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID	<b>LCS 12911 MK</b>	SampType	<b>LCS</b>	TestCode	<b>EPA Method 8021B Volatiles</b>					
Client ID	<b>LCSS</b>	Batch ID	<b>R18302</b>	RunNo	<b>18302</b>					
Prep Date		Analysis Date	<b>4/30/2014</b>	SeqNo	<b>529271</b>	Units	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	/ RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	108	80	120			
Toluene	1.0	0.050	1.000	0	99.8	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes Total	3.0	0.10	3.000	0	99.0	80	120			
Surr 4 Bromofluorobenzene	1.0		1.000		104	80	120			

**Qualifiers**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

# Sample Log-In Check List

Client Name **Animas Environmental** Work Order Number **1404B95** RcptNo **1**

Received by/date  04/30/14

Logged By **Ashley Gallegos** 4/30/2014 10 05 00 AM 

Completed By **Ashley Gallegos** 4/30/2014 10 12 57 AM 

Reviewed By  04/30/14

**Chain of Custody**

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

**Log In**

- 4 Was an attempt made to cool the samples? Yes  No  NA
- 5 Were all samples received at a temperature of >0 C to 6 0 C Yes  No  NA
- 6 Sample(s) in proper container(s)? Yes  No
- 7 Sufficient sample volume for indicated test(s)? Yes  No
- 8 Are samples (except VOA and ONG) properly preserved? Yes  No
- 9 Was preservative added to bottles? Yes  No  NA
- 10 VOA vials have zero headspace? Yes  No  No VOA Vials
- 11 Were any sample containers received broken? Yes  No
- 12 Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes  No  # 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	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding	_____		
Client Instructions	_____		

17 Additional remarks

**18 Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	10	Good	Yes			

# Chain-of-Custody Record

Client: Amicus Environmental Services

Mailing Address: 624 E Commanche  
Farmington, NM 87401

Phone #: 505-564-2281

email or Fax#

QA/QC Package  
 Standard       Level 4 (Full Validation)

Accreditation  
 NELAP       Other \_\_\_\_\_

EDD (Type) \_\_\_\_\_

Standard       Rush Same day

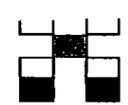
Project Name: CoP SJ 29-7 #52

Project #

Project Manager: D Watson

Sampler: E Skyles

Sample Temperature: 10



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com  
 4901 Hawkins NE Albuquerque NM 87109  
 Tel 505-345-3975 Fax 505-345-4107

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + <del>MTBE</del> + THMs (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / <del>TPH</del> )	TPH (Method 418 1)	EDB (Method 504 1)	PAHs (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F Cl NO <sub>3</sub> NO <sub>2</sub> PO <sub>4</sub> SO <sub>4</sub> )	8081 Pesticides / 8082 PCBs	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)	
4/29/14																			
	14:35	Soil	SC-1	MeOH Kat 1-4oz	MeOH Non	-001			X										
	11:35	Soil	SC-3	MeOH Kat 1-4oz	MeOH Non	-002			X										
	14:16	Soil	SC-4	MeOH Kat 1-4oz	MeOH Non	-003	X	X											
	11:42	Soil	SC-5	MeOH Kat 1-4oz	MeOH Non	-004	X	X											

Date: 4/29/14	Time: 17:16	Relinquished by: <u>E Skyles</u>	Received by: <u>M Wall</u>	Date: 4/29/14	Time: 17:16	Remarks: <u>Bill to Conoco Phillips</u>
Date: 4/29/14	Time: 17:40	Relinquished by: <u>M Wall</u>	Received by: <u>Shirley Galloway</u>	Date: 04/30/14	Time: 10:05	

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 2014

Debbie Watson  
Animas Environmental  
624 East Comanche  
Farmington, NM 87401  
TEL (505) 486 4071  
FAX

RE COP SJ 29 7#52

OrderNo 1404C13

Dear Debbie Watson

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/30/2014 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 white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque NM 87109

**Hall Environmental Analysis Laboratory, Inc**

**CLIENT** Animas Environmental **Client Sample ID** SC 2  
**Project** COP SJ 29 7#52 **Collection Date** 4/29/2014 11 30 00 AM  
**Lab ID** 1404C13 001 **Matrix** SOIL **Received Date** 4/30/2014 10 05 00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D DIESEL RANGE ORGANICS</b>							Analyst <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/2/2014 3 26 00 PM	12956
Surr DNOP	92.8	57.9	140	% REC	1	5/2/2014 3 26 00 PM	12956
<b>EPA METHOD 8015D GASOLINE RANGE</b>							Analyst <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	5/1/2014 3 34 23 PM	12950
Surr BFB	85.1	74.5	129	/ REC	1	5/1/2014 3 34 23 PM	12950

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
	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
	O RSD is greater than RSD limit	P Sample pH greater than 2
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc

WO# 1404C13  
06-May 14

**Client** Animas Environmental  
**Project** COP SJ 29 7#52

Sample ID	<b>MB 12956</b>	SampType	<b>MBLK</b>	TestCode	<b>EPA Method 8015D Diesel Range Organics</b>					
Client ID	<b>PBS</b>	Batch ID	<b>12956</b>	RunNo	<b>18327</b>					
Prep Date	<b>5/1/2014</b>	Analysis Date	<b>5/1/2014</b>	SeqNo	<b>529725</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	8.7		10.00		87.3	57.9	140			

Sample ID	<b>LCS 12956</b>	SampType	<b>LCS</b>	TestCode	<b>EPA Method 8015D Diesel Range Organics</b>					
Client ID	<b>LCSS</b>	Batch ID	<b>12956</b>	RunNo	<b>18327</b>					
Prep Date	<b>5/1/2014</b>	Analysis Date	<b>5/1/2014</b>	SeqNo	<b>529726</b>	Units	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	/ RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.8	60.8	145			
Surr DNOP	4.7		5.000		94.0	57.9	140			

Sample ID	<b>MB 12982</b>	SampType	<b>MBLK</b>	TestCode	<b>EPA Method 8015D Diesel Range Organics</b>					
Client ID	<b>PBS</b>	Batch ID	<b>12982</b>	RunNo	<b>18356</b>					
Prep Date	<b>5/2/2014</b>	Analysis Date	<b>5/2/2014</b>	SeqNo	<b>530268</b>	Units	<b>/ REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	/ REC	LowLimit	HighLimit	/ RPD	RPDLimit	Qual
Surr DNOP	8.4		10.00		84.4	57.9	140			

Sample ID	<b>LCS 12982</b>	SampType	<b>LCS</b>	TestCode	<b>EPA Method 8015D Diesel Range Organics</b>					
Client ID	<b>LCSS</b>	Batch ID	<b>12982</b>	RunNo	<b>18356</b>					
Prep Date	<b>5/2/2014</b>	Analysis Date	<b>5/2/2014</b>	SeqNo	<b>530310</b>	Units	<b>/ REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	/ RPD	RPDLimit	Qual
Surr DNOP	4.4		5.000		88.8	57.9	140			

### Qualifiers

- |   |   |    |  |
|---|---|----|--|
| V | Value exceeds Maximum Contaminant Level         | B  | Analyte detected in the associated Method Blank    |
| E | Value above quantitation range                  | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits      | ND | Not Detected at the Reporting Limit                |
| O | RSD is greater than RSDlimit                    | P  | Sample pH greater than 2                           |
| R | RPD outside accepted recovery limits            | RL | Reporting Detection Limit                          |
| S | Spike Recovery outside accepted recovery limits |    |  |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc

WO# 1404C13

06 May 14

**Client** Animas Environmental  
**Project** COP SJ 29 7#52

Sample ID	<b>MB 12950</b>	SampType	<b>MBLK</b>	TestCode	<b>EPA Method 8015D</b>	<b>Gasoline Range</b>				
Client ID	<b>PBS</b>	Batch ID	<b>12950</b>	RunNo	<b>18348</b>					
Prep Date	<b>4/30/2014</b>	Analysis Date	<b>5/1/2014</b>	SeqNo	<b>530007</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	840		1000		84.5	74.5	129			

Sample ID	<b>LCS 12950</b>	SampType	<b>LCS</b>	TestCode	<b>EPA Method 8015D</b>	<b>Gasoline Range</b>				
Client ID	<b>LCSS</b>	Batch ID	<b>12950</b>	RunNo	<b>18348</b>					
Prep Date	<b>4/30/2014</b>	Analysis Date	<b>5/1/2014</b>	SeqNo	<b>530008</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	99.0	71.7	134			
Surr BFB	920		1000		91.9	74.5	129			

Sample ID	<b>1404C12 001AMS</b>	SampType	<b>MS</b>	TestCode	<b>EPA Method 8015D</b>	<b>Gasoline Range</b>				
Client ID	<b>BatchQC</b>	Batch ID	<b>12950</b>	RunNo	<b>18348</b>					
Prep Date	<b>4/30/2014</b>	Analysis Date	<b>5/1/2014</b>	SeqNo	<b>530010</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	4.7	23.63	0	104	69.5	145			
Surr BFB	890		945.2		93.9	74.5	129			

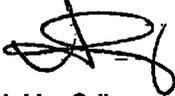
Sample ID	<b>1404C12 001AMSD</b>	SampType	<b>MSD</b>	TestCode	<b>EPA Method 8015D</b>	<b>Gasoline Range</b>				
Client ID	<b>BatchQC</b>	Batch ID	<b>12950</b>	RunNo	<b>18348</b>					
Prep Date	<b>4/30/2014</b>	Analysis Date	<b>5/1/2014</b>	SeqNo	<b>530011</b>	Units	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.7	23.67	0	86.4	69.5	145	17.9	20	
Surr BFB	890		947.0		93.8	74.5	129	0	0	

### Qualifiers

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

# Sample Log-In Check List

Client Name **Animas Environmental** Work Order Number **1404C13** RcptNo **1**

Received by/date  = **04/30/14**  
 Logged By **Ashley Gallegos** 4/30/2014 10 05 00 AM   
 Completed By **Ashley Gallegos** 4/30/2014 1 11 09 PM   
 Reviewed By **IO** **04/30/14**

**Chain of Custody**

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

**Log In**

- 4 Was an attempt made to cool the samples? Yes  No  NA
- 5 Were all samples received at a temperature of >0 C to 6 0 C Yes  No  NA
- 6 Sample(s) in proper container(s)? Yes  No
- 7 Sufficient sample volume for indicated test(s)? Yes  No
- 8 Are samples (except VOA and ONG) properly preserved? Yes  No
- 9 Was preservative added to bottles? Yes  No  NA
- 10 VOA vials have zero headspace? Yes  No  No VOA Vials
- 11 Were any sample containers received broken? Yes  No
- 12 Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes  No  # 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	<input type="text"/>	Date	<input type="text"/>
By Whom	<input type="text"/>	Via	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding	<input type="text"/>		
Client Instructions	<input type="text"/>		

17 Additional remarks

**18 Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	10	Good	Yes			





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

May 06, 2014

Debbie Watson

Animas Environmental  
624 East Comanche  
Farmington NM 87401  
TEL (505) 486 4071  
FAX

RE CoP SJ 29 7 #52

OrderNo 1405102

Dear Debbie Watson

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/3/2014 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 white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque NM 87109

# Hall Environmental Analysis Laboratory, Inc

Analytical Report

Lab Order 1405102

Date Reported 5/6/2014

CLIENT Animas Environmental Client Sample ID SC 6  
 Project CoP SJ 29 7 #52 Collection Date 5/2/2014 11 20 00 AM  
 Lab ID 1405102 001 Matrix SOIL Received Date 5/3/2014 10 20 00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D DIESEL RANGE ORGANICS</b>							Analyst <b>JME</b>
Diesel Range Organics (DRO)	640	10		mg/Kg	1	5/5/2014 11 16 48 AM	12995
Surr DNOP	101	57 9 140		/ REC	1	5/5/2014 11 16 48 AM	12995
<b>EPA METHOD 8015D GASOLINE RANGE</b>							Analyst <b>NSB</b>
Gasoline Range Organics (GRO)	98	16		mg/Kg	5	5/5/2014 9 52 28 AM	R18376
Surr BFB	204	74 5 129	S	/ REC	5	5/5/2014 9 52 28 AM	R18376
<b>EPA METHOD 8021B VOLATILES</b>							Analyst <b>NSB</b>
Benzene	ND	0 081		mg/Kg	5	5/5/2014 9 52 28 AM	R18376
Toluene	ND	0 16		mg/Kg	5	5/5/2014 9 52 28 AM	R18376
Ethylbenzene	0 38	0 16		mg/Kg	5	5/5/2014 9 52 28 AM	R18376
Xylenes Total	5 2	0 32		mg/Kg	5	5/5/2014 9 52 28 AM	R18376
Surr 4 Bromofluorobenzene	112	80 120		/ REC	5	5/5/2014 9 52 28 AM	R18376

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
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
O	RSD is greater than RSDlimit	P	Sample pH greater than 2
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

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

WO# 1405102  
 06 May 14

**Client** Animas Environmental  
**Project** CoP SJ 29 7 #52

Sample ID	MB 12995	SampType	MBLK	TestCode	EPA Method 8015D Diesel Range Organics					
Client ID	PBS	Batch ID	12995	RunNo	18374					
Prep Date	5/5/2014	Analysis Date	5/5/2014	SeqNo	530743	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	% REC	LowLimit	HighLimit	/ RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr DNOP	8.2		10.00		81.9	57.9	140			

Sample ID	LCS 12995	SampType	LCS	TestCode	EPA Method 8015D Diesel Range Organics					
Client ID	LCSS	Batch ID	12995	RunNo	18374					
Prep Date	5/5/2014	Analysis Date	5/5/2014	SeqNo	530744	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	% REC	LowLimit	HighLimit	/ RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.0	60.8	145			
Surr DNOP	3.9		5.000		78.0	57.9	140			

**Qualifiers**

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc

WO# 1405102

06-May 14

Client Animas Environmental

Project CoP SJ 29 7 #52

Sample ID	MB 12990 MK	SampType	MBLK	TestCode	EPA Method 8015D	Gasoline Range					
Client ID	PBS	Batch ID	R18376	RunNo	18376						
Prep Date		Analysis Date	5/5/2014	SeqNo	531630	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		840		1000		84.2	74.5	129			

Sample ID	LCS 12990 MK	SampType	LCS	TestCode	EPA Method 8015D	Gasoline Range					
Client ID	LCSS	Batch ID	R18376	RunNo	18376						
Prep Date		Analysis Date	5/5/2014	SeqNo	531635	Units	mg/Kg				
Analyte		Result	PQL	SPK value	SPK Ref Val	/ REC	LowLimit	HighLimit	% RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		24	5.0	25.00	0	95.3	71.7	134			
Surr BFB		930		1000		92.6	74.5	129			

## Qualifiers

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc

WO# 1405102

06 May 14

**Client** Animas Environmental  
**Project** CoP SJ 29 7 #52

Sample ID	<b>MB 12990 MK</b>	SampType	<b>MBLK</b>	TestCode	<b>EPA Method 8021B Volatiles</b>					
Client ID	<b>PBS</b>	Batch ID	<b>R18376</b>	RunNo	<b>18376</b>					
Prep Date		Analysis Date	<b>5/5/2014</b>	SeqNo	<b>531665</b>	Units	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	/ REC	LowLimit	HighLimit	/RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes Total	ND	0.10								
Surr 4 Bromofluorobenzene	0.99		1.000		99.1	80	120			

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>R18376</b>	RunNo	<b>18376</b>					
Prep Date		Analysis Date	<b>5/5/2014</b>	SeqNo	<b>531666</b>	Units	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	% REC	LowLimit	HighLimit	/RPD	RPDLimit	Qual
Benzene	1.2	0.050	1.000	0	119	80	120			
Toluene	1.1	0.050	1.000	0	109	80	120			
Ethylbenzene	1.1	0.050	1.000	0	108	80	120			
Xylenes Total	3.2	0.10	3.000	0	107	80	120			
Surr 4 Bromofluorobenzene	1.1		1.000		108	80	120			

**Qualifiers**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2
- RL Reporting Detection Limit

**Sample Log-In Check List**

Client Name **Anlmas Environmental**

Work Order Number **1405102**

RcptNo **1**

Received by/date AT 05/03/14

Logged By **Anne Thorne** 5/3/2014 10:20 00 AM *Anne Thorne*

Completed By **Anne Thorne** 5/5/2014 *Anne Thorne*

Reviewed By AT 05/05/14

**Chain of Custody**

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

**Log In**

- 4 Was an attempt made to cool the samples? Yes  No  NA
- 5 Were all samples received at a temperature of >0 C to 60 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	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding	_____		
Client Instructions	_____		

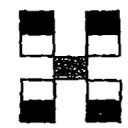
17 Additional remarks

**18 Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	10	Good	Yes			

Animas Environmental Services  
 Mailing Address 624 E Comanche  
 Farmington, NM 87401  
 Phone # 505-564-2281  
 email or Fax#  
 QA/QC Package  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) \_\_\_\_\_

Standard  Rush Same Day  
 Project Name COP SJ 29-7 #52  
 Project #  
 Project Manager D Watson  
 Sampler H Woods  
 On Ice:  Yes  No  
 Sample Temperature 12.0



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com  
 4901 Hawkins NE - Albuquerque NM 87109  
 Tel 505-345-3975 Fax 505-345-4107

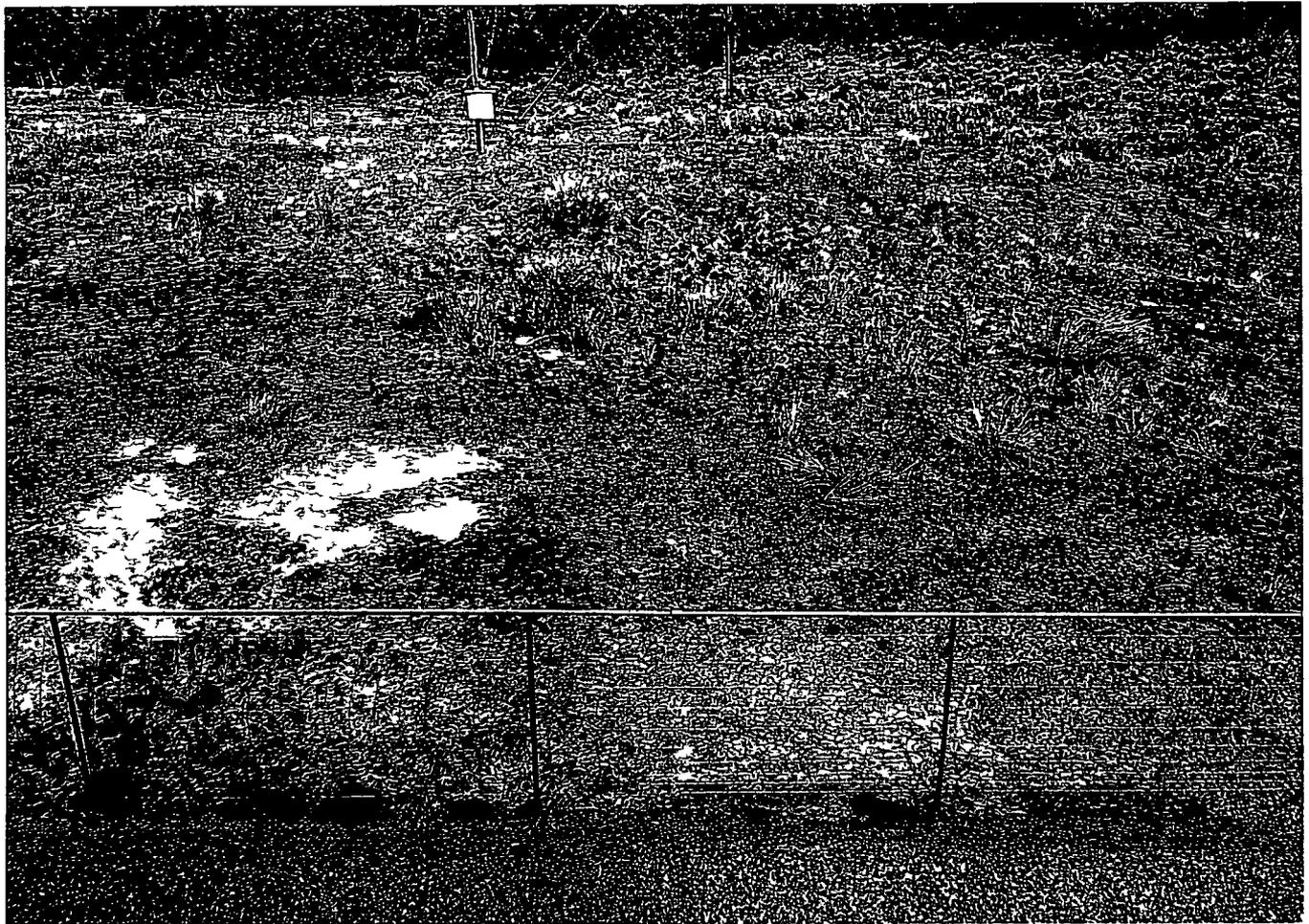
**Analysis Request**

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TPH (Gas only)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / <del>MS</del> )	TPH (Method 418 1)	EDB (Method 504 1)	PAHs (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F Cl NO <sub>3</sub> NO <sub>2</sub> PO <sub>4</sub> SO <sub>4</sub> )	8081 Pesticides / 8082 PCBs	8260B (VOA)	8270 (Semi VOA)	Air Bubbles (Y or N)
5/2/14	1120 <del>1020</del>	soil	<del>5020</del> 5C-6	MeOH-K11 1-4oz	MeOH -	1465102	X		X									

to	Time	Relinquished by	Received by	Date	Time
1/14	1603	Heather M Woods	Christina Walter	5/2/14	1603
1/14	1644	Christa Wheeler	Christina Walter	05/03/14	1020

Remarks Bill to ConocoPhillips

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 noted on the analysis report.



**BURLINGTON**  
**RESOURCES**

onocoPhillips

**SAN JUAN 29-7 UNIT 52**  
**LATITUDE 36<sup>0</sup> 44' 34"**  
**LONGITUDE 107<sup>0</sup> 36' 21"**  
**SE/NE, 1710' FNL & 855' FEL**  
**SEC.07 T029N R007W**  
**SF-078943A NM-078943A**  
**API NO. 30-039-07664**  
**RIO ARRIBA COUNTY, NM ELEV 6177**  
**EMERGENCY NUMBER (505) 324-5170**  
**NO SMOKING NO TRESPASSING**