

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

14324 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

OIL CONS. DIV DIST. 3  
APR 12 2016

**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 157  
API Number: 30-039-25709 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr O Section 04 Township 29 N Range 07W County: Rio Arriba  
Center of Proposed Design: Latitude 36.74966 °N Longitude -107.57269 °W NAD: ☐ 1927 ☒ 1983  
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

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 \_\_\_\_\_

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 45 mil ☐ HDPE ☐ PVC ☒ Other LLDPE

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.

**Variances 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 - iWATERS 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 - iWATERS 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 - iWATERS 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 - iWATERS 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 - iWATERS 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 - iWATERS 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

10.

### **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: \_\_\_\_\_

11.

### **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 - iWATERS 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 - iWATERS 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 - iWATERS 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 - iWATERS 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	



adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

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

☐ Yes ☐ No

Within the area overlying a subsurface mine.

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

☐ Yes ☐ No

Within an unstable area.

- 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.

- FEMA map

☐ Yes ☐ 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)

OCD Representative Signature: Jarissa Approval Date: 04/13/2016

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: 6/7/12

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: 4/11/16

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 157**

**API No.: 30-039-25709**

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 19.15.17.1 3(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 not 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:
- Operator's name
  - 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 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 **(Included as an attachment)**

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 Oil &amp; Gas LP</b>	Contact <b>Crystal Walker</b>
Address <b>3401 East 30<sup>th</sup> St, Farmington, NM</b>	Telephone No. <b>(505) 326-9837</b>
Facility Name: <b>San Juan 29-7 Unit 157</b>	Facility Type: <b>Gas Well</b>

Surface Owner <b>Federal</b>	Mineral Owner	API No. <b>30-039-25709</b>
------------------------------	---------------	-----------------------------

#### LOCATION OF RELEASE

Unit Letter <b>O</b>	Section <b>4</b>	Township <b>29N</b>	Range <b>7W</b>	Feet from the <b>825</b>	North/South Line <b>South</b>	Feet from the <b>1560</b>	East/West Line <b>East</b>	County <b>Rio Arriba</b>
-------------------------	---------------------	------------------------	--------------------	-----------------------------	----------------------------------	------------------------------	-------------------------------	-----------------------------

Latitude **36.74966** Longitude **-107.57269**

#### NATURE OF RELEASE


Type of Release	Volume of Release	Volume Recovered
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

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

Describe Cause of Problem and Remedial Action Taken.\*  
No release was encountered during the BGT Closure.

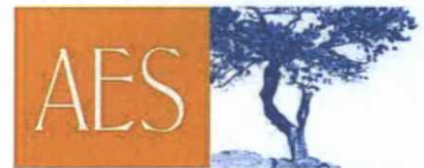
Describe Area Affected and Cleanup Action Taken.\*  
N/A

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: Crystal Walker	Approved by Environmental Specialist:		
Title: <b>Regulatory Coordinator</b>	Approval Date:	Expiration Date:	
E-mail Address: crystal.walker@cop.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: <b>4/11/16</b> Phone: (505) 326-9837			

\* Attach Additional Sheets If Necessary





Animas Environmental Services, LLC

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

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

Durango, Colorado  
970-403-3274

August 13, 2012

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

**RE: Below Grade Tank Closure Report  
San Juan 29-7 #157  
Rio Arriba County, New Mexico**

Dear Ms. Maxwell:

Animas Environmental Services, LLC (AES) is pleased to provide the final report associated with the below grade tank (BGT) closure at ConocoPhillips (CoP) San Juan 29-7 #157, located in Rio Arriba County, New Mexico. The San Juan 29-7 #157 is located adjacent to the San Juan 29-7 #82A. Tank removal had been completed prior to AES' arrival at the location.

---

## 1.0 Site Information

### 1.1 Location

Site Name – San Juan 29-7 #157

Legal Description - SW¼ SE¼, Section 4, T29N, R7W, Rio Arriba County, New Mexico  
Well P&A Monument Latitude/Longitude - N36.74976 and W107.57260, respectively  
BGT Latitude/Longitude - N36.74966 and W107.57269, respectively

Land Jurisdiction - Bureau of Land Management (BLM)

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map, June 2012

### 1.2 NMOCD Ranking

Prior to site work, the New Mexico Oil Conservation Division (NMOCD) database was reviewed, and a Cathodic Report dated May 13, 1991, for the San Juan 29-7 #157 reported groundwater at a depth 190 feet below ground surface (bgs). No additional NMOCD records were located. Additionally, the New Mexico Office of the State Engineer (NMOSE) database was reviewed, and no registered water wells are located within 1,000 feet of the location. Once on site, AES personnel assessed the ranking

using known information of the area, topographical interpretation, Global Positioning System (GPS) elevation readings, and visual reconnaissance. AES personnel concluded that depth to groundwater at the site was greater than 100 feet bgs, and the location is not within a wellhead protection area. Distance to the nearest surface water, a small pond, is located approximately 1,200 feet to the west. The wash in Gobernador Canyon is located about 2,100 feet to the southwest. The site location has been assigned a ranking score of 0 per the NMOCD *Guidelines for Leaks, Spills, and Releases* (1993).

### **1.3 BGT Closure Assessment**

AES was initially contacted by Spur Mackey, CoP representative, on June 5, 2012, and on June 7, 2012, Deborah Watson and Heather Woods of AES mobilized to the location.

AES personnel collected six soil samples from below the BGT footprint. 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.

---

## **2.0 Soil Sampling**

On June 7, 2012, AES personnel conducted field screening and collected five soil samples (S-6 through S-10) and one 5-point composite (SC-2) from below the BGT. Soil samples S-6 through S-10 were collected from approximately 0.5 feet below the former BGT for field screening of volatile organic compounds (VOCs), total petroleum hydrocarbon (TPH), and chlorides. Soil sample SC-2 was submitted for confirmation laboratory analysis. Soil sample locations are included on Figure 2.

### **2.1 Field Screening**

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

A portion of each sample was utilized for field screening of VOC vapors with a photo-ionization detector (PID) organic vapor meter (OVM). Before beginning field screening, the PID-OVM was first calibrated with 100 parts per million (ppm) isobutylene gas.

#### **2.1.2 Total Petroleum Hydrocarbons**

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



### 2.1.3 Chlorides

Soil samples were field screened for chlorides using Chloride Drop Count Titration with silver nitrate. Sampling and analysis methods followed procedures provided by Hach Company.

## 2.2 Laboratory Analyses

The composite soil sample SC-2 collected for laboratory analysis was placed into a new, clean, laboratory-supplied container, which was then labeled, placed on ice, and logged onto a sample chain of custody record. The sample was maintained on ice until delivery to the analytical laboratory, Hall Environmental Analysis Laboratory (Hall), in Albuquerque, New Mexico. Soil sample SC-2 was laboratory analyzed for:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per U.S. Environmental Protection Agency (USEPA) Method 8021B;
- Total petroleum hydrocarbons (TPH) for gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015B;
- Chloride per USEPA Method 300.0.

## 2.3 Field and Laboratory Analytical Results

Field screening for VOCs via OVM showed readings ranging from 5.6 ppm in S-7 up to 26.8 ppm in S-9. Field TPH concentrations ranged from 55.3 mg/kg in S-7 up to 106 mg/kg in S-6. Field chloride concentrations were 60 mg/kg. Field screening results are summarized in Table 1 and presented on Figure 2. The AES Field Screening Report is attached.

Table 1. Soil Field Screening VOCs, TPH, and Chloride Results  
 San Juan 29-7 #157 BGT Closure, June 2012

<i>Sample ID</i>	<i>Date Sampled</i>	<i>Depth below BGT (ft)</i>	<i>VOCs OVM Reading (ppm)</i>	<i>Field TPH (mg/kg)</i>	<i>Field Chlorides (mg/kg)</i>
<b>NMOCD Action Level (NMAC 19.15.17.13E)</b>			<b>--</b>	<b>100</b>	<b>250</b>
S-6	06/07/12	0.5	6.7	106	60
S-7	06/07/12	0.5	5.6	55.3	60
S-8	06/07/12	0.5	6.8	72.7	60
S-9	06/07/12	0.5	26.8	74.1	60
S-10	06/07/12	0.5	14.5	99.7	60

Laboratory analytical results showed that the benzene and total BTEX concentrations in SC-2 were less than 0.050 mg/kg and 0.25 mg/kg, respectively. TPH concentrations were reported at less than 5.0 mg/kg GRO and less than 9.8 mg/kg DRO. The laboratory chloride concentration was reported below the laboratory detection limit of 30 mg/kg. Laboratory analytical results are summarized in Table 2 and included on Figure 2. Laboratory analytical reports are attached; note that sample SC-2 from the San Juan 29-7 #157 was submitted with sample SC-1 from the San Juan 29-7 #82A BGT closure.

Table 2. Soil Laboratory Analytical Results, San Juan 29-7 #157 BGT Closure, June 2012

Sample ID	Date Sampled	Depth (ft)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	Chlorides (mg/kg)
<b>NMOCD Action Level (NMAC 19.15.17.13E)</b>			<b>0.2</b>	<b>50</b>	<b>100</b>	<b>100</b>	<b>250</b>
SC-2	06/07/12	0.5	<0.050	<0.25	<5.0	<9.8	<30

### 3.0 Conclusions and Recommendations

NMOCD action levels for BGT closures are specified in New Mexico Administrative Code (NMAC) 19.15.17.13E. Benzene concentrations in SC-2 were below the laboratory detection limit of 0.050 mg/kg, and total BTEX concentrations were below the NMOCD action level of 50 mg/kg. Field TPH concentrations exceeded the NMOCD action level of 100 mg/kg in S-6 with 106.4 mg/kg; however laboratory analytical results for TPH as GRO/DRO were reported below the NMOCD threshold of 100 mg/kg. Chloride concentrations for all samples were below the NMOCD action level of 250 mg/kg. Based on field screening and laboratory analytical results for benzene, BTEX, TPH, and chlorides, no further work is recommended.


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

Sincerely,



Heather Woods  
Staff Geologist





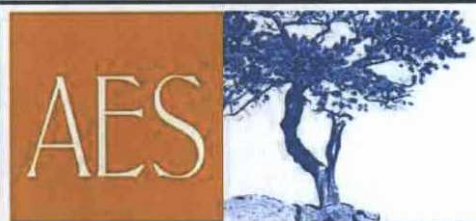
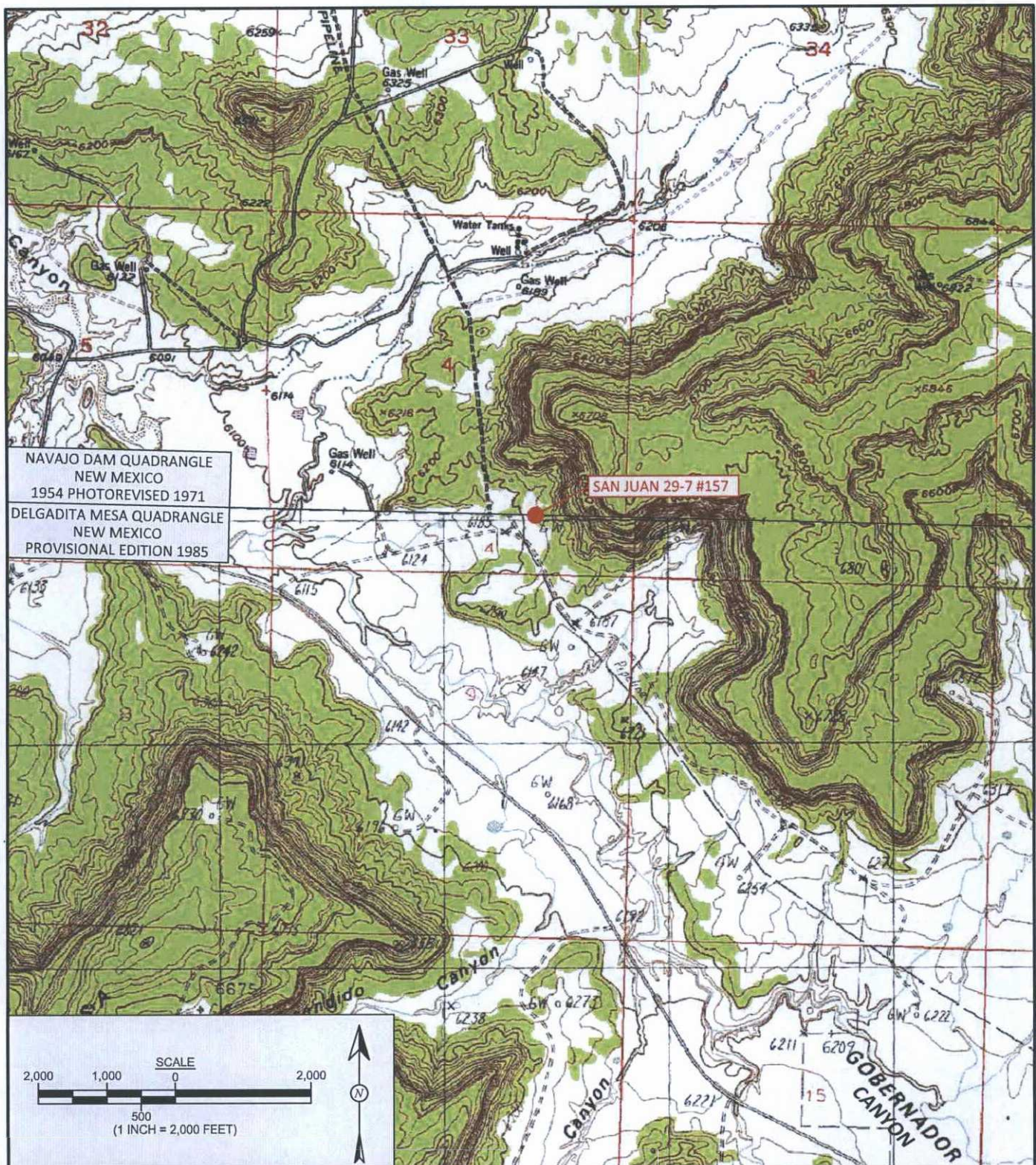
Elizabeth McNally, P.E.

Attachments:

- Figure 1. Topographic Site Location Map
- Figure 2. Aerial Site Map, June 2012
- AES Field Screening Report 060712
- Hall Analytical Report 1206333

S:\Animas 2000\2012 Projects\Conoco Phillips\SJ 29-7 #157\BGT Assessment Report SJ 29-7 #157  
081312.docx





Animas Environmental Services, LLC

DRAWN BY: C. Lameman	DATE DRAWN: June 22, 2012
REVISIONS BY: C. Lameman	DATE REVISED: June 22, 2012
CHECKED BY: D. Watson	DATE CHECKED: August 7, 2012
APPROVED BY: E. McNally	DATE APPROVED: August 7, 2012

## FIGURE 1

### TOPOGRAPHIC SITE LOCATION MAP

ConocoPhillips  
SAN JUAN 29-7 #157  
RIO ARriba COUNTY, NEW MEXICO  
SW¼ SE¼, SECTION 4, T29N, R7W  
N36.74976, W107.57260



**LEGEND**

● SAMPLE LOCATIONS

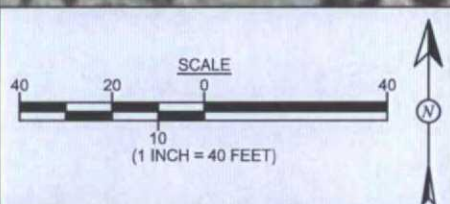
Field Screening Results				
Sample ID	Date	OVM-PID (ppm)	TPH (mg/kg)	Chlorides (mg/kg)
<b>NMOCD ACTION LEVEL</b>		--	100	250
S-6	6/7/12	6.7	106	60
S-7	6/7/12	5.6	55.3	60
S-8	6/7/12	6.8	72.7	60
S-9	6/7/12	26.8	74.1	60
S-10	6/7/12	14.5	99.7	60

Laboratory Analytical Results						
Sample ID	Date	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)	Chlorides (mg/kg)
<b>NMOCD ACTION LEVEL</b>		0.2	50	100		250
SC-2	6/7/12	<0.050	<0.25	<5.0	<9.8	<30

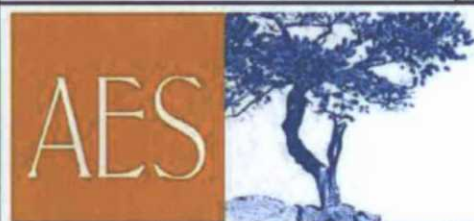
NOTE: ALL SAMPLES WERE ANALYZED PER EPA METHOD 8021B, 8015B AND 300.0. SC-2 IS A 5-POINT COMPOSITE SAMPLE OF S-6 THROUGH S-10.

SAN JUAN 29-7 #157 P&A MONUMENT

BGT - N36.74966  
W107.57269



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



Animas Environmental Services, LLC

**DRAWN BY:**  
C. Lameman

**DATE DRAWN:**  
June 22, 2012

**REVISIONS BY:**  
C. Lameman

**DATE REVISED:**  
June 22, 2012

**CHECKED BY:**  
D. Watson

**DATE CHECKED:**  
August 7, 2012

**APPROVED BY:**  
E. McNally

**DATE APPROVED:**  
August 7, 2012

## FIGURE 2

**AERIAL SITE MAP  
BELOW GRADE TANK CLOSURE  
JUNE 2012**  
ConocoPhillips  
SAN JUAN 29-7 #157  
RIO ARriba COUNTY, NEW MEXICO  
SW¼ SE¼, SECTION 4, T29N, R7W  
N36.74976, W107.57260

# AES Field Screening Report



Animas Environmental Services, LLC

www.animasenvironmental.com

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

Durango, Colorado  
970-403-3274

Client: ConocoPhillips

Project Location: San Juan 29-7 #157

Date: 6/7/2012

Matrix: Soil

Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	Field Chloride (mg/kg)	Field TPH Analysis Time	Field TPH* (mg/kg)	TPH PQL (mg/kg)	DF	TPH Analysts Initials
S-6	6/7/2012	11:20	North	6.7	60	12:30	106	20.0	1	DAW
S-7	6/7/2012	11:23	South	5.6	60	12:35	55.3	20.0	1	DAW
S-8	6/7/2012	11:26	East	6.8	60	12:41	72.7	20.0	1	DAW
S-9	6/7/2012	11:28	West	26.8	60	12:47	74.1	20.0	1	DAW
S-10	6/7/2012	11:30	Center	14.5	60	12:53	99.7	20.0	1	DAW

PQL Practical Quantitation Limit

ND Not Detected at the Reporting Limit

DF Dilution Factor

\*Field TPH concentrations recorded may be below PQL.

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

Total Petroleum Hydrocarbons - USEPA 418.1

Analyst:

*Deborah Watten*

Report Finalized:06/07/12





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)

June 11, 2012

Ross Kennemer

Animas Environmental Services

624 East Comanche

Farmington, NM 87401

TEL: (505) 486-1776

FAX (505) 324-2022

RE: CoP San Juan 29-7 82A

OrderNo.: 1206333

Dear Ross Kennemer:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/8/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 1206333

Date Reported: 6/11/2012

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Animas Environmental Services

Client Sample ID: SC-1

Project: CoP San Juan 29-7 82A

Collection Date: 6/7/2012 9:35:00 AM

Lab ID: 1206333-001

Matrix: MEOH (SOIL)

Received Date: 6/8/2012 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>JMP</b>
Diesel Range Organics (DRO)	490	98		mg/Kg	10	6/8/2012 11:51:42 AM
Surr: DNOP	0	77.6-140	S	%REC	10	6/8/2012 11:51:42 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	88	50		mg/Kg	10	6/8/2012 1:17:47 PM
Surr: BFB	295	69.7-121	S	%REC	10	6/8/2012 1:17:47 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.50		mg/Kg	10	6/8/2012 1:17:47 PM
Toluene	ND	0.50		mg/Kg	10	6/8/2012 1:17:47 PM
Ethylbenzene	ND	0.50		mg/Kg	10	6/8/2012 1:17:47 PM
Xylenes, Total	ND	1.0		mg/Kg	10	6/8/2012 1:17:47 PM
Surr: 4-Bromofluorobenzene	104	80-120		%REC	10	6/8/2012 1:17:47 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>SRM</b>
Chloride	ND	30		mg/Kg	20	6/8/2012 11:22:14 AM

**Qualifiers:**

- \* / X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- 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
- RL Reporting Detection Limit



## Analytical Report

Lab Order 1206333

Date Reported: 6/11/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental Services

Client Sample ID: SC-2

Project: CoP San Juan 29-7 82A

Collection Date: 6/7/2012 11:45:00 AM

Lab ID: 1206333-002

Matrix: MEOH (SOIL)

Received Date: 6/8/2012 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: <b>JMP</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/8/2012 11:26:04 AM
Surr: DNOP	112	77.6-140		%REC	1	6/8/2012 11:26:04 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/8/2012 12:48:02 PM
Surr: BFB	93.1	69.7-121		%REC	1	6/8/2012 12:48:02 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	6/8/2012 12:48:02 PM
Toluene	ND	0.050		mg/Kg	1	6/8/2012 12:48:02 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/8/2012 12:48:02 PM
Xylenes, Total	ND	0.10		mg/Kg	1	6/8/2012 12:48:02 PM
Surr: 4-Bromofluorobenzene	97.9	80-120		%REC	1	6/8/2012 12:48:02 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>SRM</b>
Chloride	ND	30		mg/Kg	20	6/8/2012 11:34:38 AM

**Qualifiers:**

- \* / X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- 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
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1206333

11-Jun-12

Client: Animas Environmental Services

Project: CoP San Juan 29-7 82A

Sample ID	MB-2302	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	2302	RunNo:	3315					
Prep Date:	6/8/2012	Analysis Date:	6/8/2012	SeqNo:	92200	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-2302	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	2302	RunNo:	3315					
Prep Date:	6/8/2012	Analysis Date:	6/8/2012	SeqNo:	92201	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.2	90	110			

Sample ID	1206336-001BMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	2302	RunNo:	3315					
Prep Date:	6/8/2012	Analysis Date:	6/8/2012	SeqNo:	92254	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	30	15.00	0	119	74.6	118			S

Sample ID	1206336-001BMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	2302	RunNo:	3315					
Prep Date:	6/8/2012	Analysis Date:	6/8/2012	SeqNo:	92255	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	30	15.00	0	119	74.6	118	0	20	S

## Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1206333

11-Jun-12

Client: Animas Environmental Services

Project: CoP San Juan 29-7 82A

Sample ID	MB-2300	SampType: MBLK			TestCode: EPA Method 8015B: Diesel Range Organics					
Client ID:	PBS	Batch ID: 2300			RunNo: 3291					
Prep Date:	6/8/2012	Analysis Date: 6/8/2012			SeqNo: 91877		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	13		10.00		126	77.6	140			

Sample ID	LCS-2300	SampType: LCS			TestCode: EPA Method 8015B: Diesel Range Organics					
Client ID:	LCSS	Batch ID: 2300			RunNo: 3291					
Prep Date:	6/8/2012	Analysis Date: 6/8/2012			SeqNo: 91992		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.3	52.6	130			
Surr: DNOP	5.3		5.000		106	77.6	140			

Sample ID	1206302-001AMS		SampType: MS		TestCode: EPA Method 8015B: Diesel Range Organics					
Client ID:	BatchQC		Batch ID: 2300		RunNo: 3318					
Prep Date:	6/8/2012		Analysis Date: 6/9/2012		SeqNo: 92453		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	51.49	0	80.0	57.2	146			
Surr: DNOP	4.7		5.149		92.0	77.6	140			

Sample ID	1206302-001AMSD		SampType: MSD		TestCode: EPA Method 8015B: Diesel Range Organics					
Client ID:	BatchQC		Batch ID: 2300		RunNo: 3318					
Prep Date:	6/8/2012		Analysis Date: 6/9/2012		SeqNo: 92454		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	52.14	0	82.3	57.2	146	3.97	24.5	
Surr: DNOP	4.8		5.214		92.8	77.6	140	0	0	

### Qualifiers:

\*/X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1206333

11-Jun-12

Client: Animas Environmental Services

Project: CoP San Juan 29-7 82A

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBS	Batch ID:	R3304	RunNo:	3304					
Prep Date:		Analysis Date:	6/8/2012	SeqNo:	92363	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	910		1000		91.5	69.7	121			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSS	Batch ID:	R3304	RunNo:	3304					
Prep Date:		Analysis Date:	6/8/2012	SeqNo:	92364	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	98.5	133			
Surr: BFB	1000		1000		103	69.7	121			

Sample ID	1206333-002AMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	SC-2	Batch ID:	R3304	RunNo:	3304					
Prep Date:		Analysis Date:	6/8/2012	SeqNo:	92366	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	5.0	19.41	0	80.3	85.4	147			S
Surr: BFB	810		776.4		105	69.7	121			

Sample ID	1206333-002AMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	SC-2	Batch ID:	R3304	RunNo:	3304					
Prep Date:		Analysis Date:	6/8/2012	SeqNo:	92367	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	5.0	19.41	0	104	85.4	147	25.8	19.2	R
Surr: BFB	810		776.4		105	69.7	121	0	0	

Sample ID	MB-2269	SampType:	MBLK	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	PBS	Batch ID:	2269	RunNo:	3304					
Prep Date:	6/6/2012	Analysis Date:	6/8/2012	SeqNo:	92372	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		93.4	69.7	121			

Sample ID	LCS-2269	SampType:	LCS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	LCSS	Batch ID:	2269	RunNo:	3304					
Prep Date:	6/6/2012	Analysis Date:	6/8/2012	SeqNo:	92373	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		102	69.7	121			

### Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1206333

11-Jun-12

Client: Animas Environmental Services

Project: CoP San Juan 29-7 82A

Sample ID	1206135-010AMS	SampType:	MS	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	2269	RunNo:	3304					
Prep Date:	6/6/2012	Analysis Date:	6/8/2012	SeqNo:	92375	Units: %REC				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	960		972.8		98.8	69.7	121			

Sample ID	1206135-010AMSD	SampType:	MSD	TestCode:	EPA Method 8015B: Gasoline Range					
Client ID:	BatchQC	Batch ID:	2269	RunNo:	3304					
Prep Date:	6/6/2012	Analysis Date:	6/9/2012	SeqNo:	92376	Units: %REC				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	970		984.3		98.6	69.7	121	0	0	

## Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1206333

11-Jun-12

Client: Animas Environmental Services

Project: CoP San Juan 29-7 82A

Sample ID	MB-2269		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	2269		RunNo:	3304			
Prep Date:	6/6/2012		Analysis Date:	6/8/2012		SeqNo:	92408		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		98.3	80	120			

Sample ID	LCS-2269		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	2269		RunNo:	3304			
Prep Date:	6/6/2012		Analysis Date:	6/8/2012		SeqNo:	92409		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	103	83.3	107			
Toluene	1.0	0.050	1.000	0	101	74.3	115			
Ethylbenzene	0.98	0.050	1.000	0	97.6	80.9	122			
Xylenes, Total	3.0	0.10	3.000	0	99.2	85.2	123			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID	1206135-011AMS		SampType:	MS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	BatchQC		Batch ID:	2269		RunNo:	3304			
Prep Date:	6/6/2012		Analysis Date:	6/9/2012		SeqNo:	92420		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.048	0.9606	0	96.3	67.2	113			
Toluene	0.93	0.048	0.9606	0	97.3	62.1	116			
Ethylbenzene	0.91	0.048	0.9606	0	95.1	67.9	127			
Xylenes, Total	2.8	0.096	2.882	0	95.6	60.6	134			
Surr: 4-Bromofluorobenzene	0.96		0.9606		100	80	120			

Sample ID	1206135-011AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	BatchQC		Batch ID:	2269		RunNo:	3304			
Prep Date:	6/6/2012		Analysis Date:	6/9/2012		SeqNo:	92421		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.048	0.9634	0	98.9	67.2	113	2.96	14.3	
Toluene	0.95	0.048	0.9634	0	99.0	62.1	116	2.04	15.9	
Ethylbenzene	0.93	0.048	0.9634	0	96.7	67.9	127	1.95	14.4	
Xylenes, Total	2.8	0.096	2.890	0	97.3	60.6	134	2.03	12.6	
Surr: 4-Bromofluorobenzene	0.97		0.9634		101	80	120	0	0	

## Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit





Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87106  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: **Animas Environmental**

Work Order Number: **1206333**

Received by/date:

*[Signature]* **06/08/12**

Logged By: **Ashley Gallegos**

**6/8/2012 9:55:00 AM**

Completed By: **Ashley Gallegos**

**6/8/2012 10:03:18 AM**

Reviewed By:

*[Signature]* **06/08/12**

### Chain of Custody

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

### Log In

- |   |   |  |  |
|---|---|--|--|
| 4. Coolers are present? (see 19. for cooler specific information)                         | Yes <input checked="" type="checkbox"/> | No                                     | NA   |
| 5. Was an attempt made to cool the samples?   | Yes <input checked="" type="checkbox"/> | No                                     | NA   |
| 6. Were all samples received at a temperature of >0° C to 6.0°C                           | Yes <input checked="" type="checkbox"/> | No                                     | NA   |
| 7. Sample(s) in proper container(s)?  | Yes <input checked="" type="checkbox"/> | No                                     |  |
| 8. Sufficient sample volume for indicated test(s)?  | Yes <input checked="" type="checkbox"/> | No                                     |  |
| 9. Are samples (except VOA and ONG) properly preserved?                                   | Yes <input checked="" type="checkbox"/> | No                                     |  |
| 10. Was preservative added to bottles?  | Yes                                     | No <input checked="" type="checkbox"/> | NA   |
| 11. VOA vials have zero headspace?  | Yes                                     | No                                     | No VOA Vials <input checked="" type="checkbox"/> |
| 12. Were any sample containers received broken?   | Yes                                     | No <input checked="" type="checkbox"/> |  |
| 13. Does paperwork match bottle labels?<br>(Note discrepancies on chain of custody)       | Yes <input checked="" type="checkbox"/> | No                                     | # of preserved bottles checked for pH:           |
| 14. Are matrices correctly identified on Chain of Custody?                                | Yes <input checked="" type="checkbox"/> | No                                     | (<2 or >12 unless noted)                         |
| 15. Is it clear what analyses were requested?   | Yes <input checked="" type="checkbox"/> | No                                     | Adjusted?  |
| 16. Were all holding times able to be met?<br>(If no, notify customer for authorization.) | Yes <input checked="" type="checkbox"/> | No                                     | Checked by:                                      |

### Special Handling (if applicable)

- |   |     |    |  |
|---|-----|----|--|
| 17. Was client notified of all discrepancies with this order? | Yes | No | NA <input checked="" type="checkbox"/> |
|---|-----|----|--|

Person Notified:

Date:

By Whom:

Via:

eMail

Phone

Fax

In Person

Regarding:

Client Instructions:

18. Additional remarks:

### 19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes			

Client: Animas Environmental Services LLC

Mailing Address: 424 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) \_\_\_\_\_

Sample Temperature

Once ☐ Yes ☒ No

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

[illegible]

Area!



CowocoPhillips

**BURLINGTON RESOURCES OIL & GAS CO.**

**SAN JUAN 29-7 UNIT #157**

**825' FSL 1560' FEL**

**SEC. 04 T029N R007W**

**LEASE NO. SF-078919 ELEV. 6204**

**API NO. 30-039-25709**

**RIO ARRIBA COUNTY, NEW MEXICO**