

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.

12619  
39-20886

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

RECEIVED  
By OCD at 11:30 am, Jan 27, 2015

- 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

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 OGRID #: 14538  
Address: PO BOX 4289, Farmington, NM 87499  
Facility or well name: San Juan 27-4 Unit 77  
API Number: 3003920886 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr J (NWSE) Section 21 Township 27N Range 4W County: Rio Arriba  
Center of Proposed Design: Latitude 36.55617000 °N Longitude -107.25163000 °W NAD:  1927  1983  
Surface Owner:  Federal  State  Private  Tribal Trust or Indian Allotment **OCD NAD83 36.555815 107.253013**

2.  
 Pit: Subsection F, G or J of 19.15.17.11 NMAC  
Temporary:  Drilling  Workover **Closed Prior to Closure Plan Approval.**  
 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.  
**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.*

<u>General siting</u>	
<b>Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.</b> - <input type="checkbox"/> NM Office of the State Engineer - iWATERS database search; <input type="checkbox"/> USGS; <input checked="" type="checkbox"/> Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
<b>Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.</b> NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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. <b>(Does not apply to below grade tanks)</b> - 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. <b>(Does not apply to below grade tanks)</b> - 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. <b>(Does not apply to below grade tanks)</b> - 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. <b>(Does not apply to below grade tanks)</b> - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b><u>Below Grade Tanks</u></b>	
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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b><u>Temporary Pit using Low Chloride Drilling Fluid</u></b> (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	<input type="checkbox"/> Yes <input type="checkbox"/> No

<p>Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.</p> <ul style="list-style-type: none"> <li>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 100 feet of a wetland.</p> <ul style="list-style-type: none"> <li>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p><b><u>Temporary Pit Non-low chloride drilling fluid</u></b></p>	
<p>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).</p> <ul style="list-style-type: none"> <li>- Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</p> <ul style="list-style-type: none"> <li>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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;</p> <ul style="list-style-type: none"> <li>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 300 feet of a wetland.</p> <ul style="list-style-type: none"> <li>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p><b><u>Permanent Pit or Multi-Well Fluid Management Pit</u></b></p>	
<p>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).</p> <ul style="list-style-type: none"> <li>- Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</p> <ul style="list-style-type: none"> <li>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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.</p> <ul style="list-style-type: none"> <li>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 500 feet of a wetland.</p> <ul style="list-style-type: none"> <li>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> 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	<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

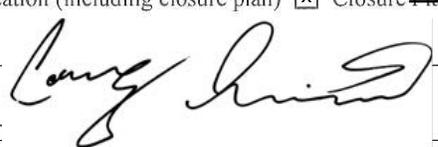
17.  
**Operator Application Certification:**  
 I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

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

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

e-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_

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

OCD Representative Signature:  \_\_\_\_\_ Approval Date: \_\_\_\_\_ Apr 03, 2015

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: 9/20/12

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 \_\_\_\_\_ Longitude \_\_\_\_\_ 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): Kenny Davis Title: Staff Regulatory Technician

Signature:  Date: 12/3/14

e-mail address: kenny.r.davis@conocophillips.com Telephone: 505-599-4045

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

**Lease Name: SJ 27-4 Unit 77**

**API No.: 3003920886**

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.
2. **The below-grade tank referenced above was permitted and closed within 60 days of cessation of the below-grade tanks operation.**
3. 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.**

4. 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.**

5. 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.**

6. BR will test the soils beneath the below-grade tank to determine whether a release has occurred. COPC 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.

7. 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).

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 300.1	250

8. 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.**

9. 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.**

10. 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 is missing due to employee turnovers. ConocoPhillips has reviewed our internal processes and has updated them to include the required 72 hour notification.**

11. 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 not found. COPC was not aware that the original notification sent at the time of Permitting was not the only closure notification required.**

**ConocoPhillips has reviewed our internal processes and has updated them to include the required 72 hour notification.**

12. 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.**

13. 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 an 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.**

14. 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.**

15. 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)**

**Closure Documentation was not submitted within the 60 day requirement due to employee turnovers. ConocoPhillips has reviewed our internal processes and has updated them to ensure closure documentation is submitted with the 60 day time frame.**

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 October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company <b>Burlington Resources</b>	Contact <b>Kenny Davis</b>
Address <b>3401 East 30<sup>th</sup> St, Farmington, NM</b>	Telephone No. <b>(505) 599-4045</b>
Facility Name: <b>San Juan 27-4 Unit 77</b>	Facility Type: <b>Gas Well</b>

Surface Owner <b>Federal</b>	Mineral Owner <b>Federal</b>	Lease No. <b>SF-080674</b>
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**LOCATION OF RELEASE**

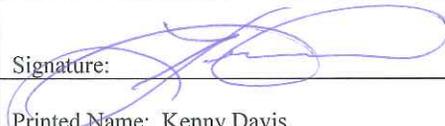
Unit Letter <b>J</b>	Section <b>21</b>	Township <b>27N</b>	Range <b>4W</b>	Feet from the <b>1760</b>	North/South Line <b>South</b>	Feet from the <b>1505</b>	East/West Line <b>East</b>	County <b>Rio Arriba</b>
-------------------------	----------------------	------------------------	--------------------	------------------------------	----------------------------------	------------------------------	-------------------------------	-----------------------------

Latitude **36.55617000** Longitude **-107.25163000**

**NATURE OF RELEASE**

Type of Release <b>BGT Closure Summary</b>	Volume of Release <b>N/A</b>	Volume Recovered <b>N/A</b>
Source of Release: <b>NONE</b>	Date and Hour of Occurrence <b>N/A</b>	Date and Hour of Discovery <b>N/A</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? <b>N/A</b> <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.* <b>N/A</b>		
Describe Area Affected and Cleanup Action Taken.* <b>BGT Closure: NO RELEASE FOUND UPON REMOVAL</b>		

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>Kenny Davis</b>		Approved by District Supervisor:	
Title: <b>Staff Regulatory Technician</b>		Approval Date:	Expiration Date:
E-mail Address: <b>Kenny.r.davis@conocophillips.com</b>		Conditions of Approval:	
Date: <b>12/4/14</b> Phone: <b>(505) 599-4045</b>		Attached <input type="checkbox"/>	

\* 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

December 12, 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 27-4 #77  
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 27-4 #77, located in Rio Arriba County, New Mexico. Tank removal had been completed by CoP contractors prior to AES' arrival at the location.

---

## 1.0 Site Information

### 1.1 Location

Site Name – San Juan 27-4 #77

Legal Description – NW¼ SE¼, Section 21, T27N, R4W, Rio Arriba County, New Mexico

Well Latitude/Longitude – N36.55598 and W107.25285, respectively

BGT Latitude/Longitude – N36.55587 and W107.25299, respectively

Land Jurisdiction – Forest Service

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map, September 2012

### 1.2 NMOCD Ranking

Prior to site work, the New Mexico Oil Conservation Division (NMOCD) database was reviewed, and a cathodic report dated January 2006 for the San Juan 30-6 Unit #048A well located approximately 650 feet northeast of the release area reported the depth to groundwater as greater than 100 feet below ground surface (bgs). The New Mexico Office of the State Engineer (NMOSE) database was reviewed for nearby water wells, and no registered water wells were reported to be located within 1,000 feet of the location. Additionally, Google Earth and the New Mexico Tech Petroleum Recovery

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

Once on site, AES personnel further assessed the ranking using topographical interpretation, Global Positioning System (GPS) elevation readings, and visual reconnaissance. AES personnel concluded that depth to groundwater at the site was greater than 100 feet bgs. Erosional features are located approximately 1,000 feet northwest and 1,200 feet southwest, and a livestock pond is located approximately 1,300 feet southwest of the site. Based on this information, the BGT location was assessed a ranking score of 0.

### *1.3 BGT Closure Assessment*

AES was initially contacted by Bruce Yazzie, CoP representative, on September 19, 2012, and on September 20, 2012, Heather Woods of AES met with a CoP representative at the location. AES personnel collected six soil samples from below the BGT liner. Four samples were collected from the perimeter of the BGT footprint, one sample was collected from the center of the BGT footprint, and one sample was composited from the four perimeter samples and one center sample.

---

## **2.0 Soil Sampling**

On September 20, 2012, AES personnel conducted field screening and collected five soil samples (S-1 through S-5) and one 5-point composite (SC-1) from below the BGT. Soil samples were collected from approximately 0.5 feet below the former BGT for field screening of volatile organic compounds (VOCs) and total petroleum hydrocarbon (TPH). Soil sample SC-1 was field screened for chloride and was submitted for confirmation laboratory analysis. Soil sample locations are included on Figure 2.

### *2.1 Field Screening*

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

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

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

Soil samples were also analyzed in the field for TPH per USEPA Method 418.1 using a Buck Scientific Model HC-404 Total Hydrocarbon Analyzer Infrared Spectrometer (Buck). A 3-point calibration was completed prior to conducting soil analyses. Field analytical

protocol followed AES's *Standard Operating Procedure: Field Analysis Total Petroleum Hydrocarbons per EPA Method 418.1*.

### 2.1.3 Chlorides

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

## 2.2 Laboratory Analyses

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

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per U.S. Environmental Protection Agency (USEPA) Method 8021B;
- Chloride per USEPA Method 300.0.

## 2.3 Field and Laboratory Analytical Results

Field screening for VOCs via OVM showed ranged from 2.1 ppm in S-1 up to 15.3 ppm in S-5. Field TPH concentrations ranged from 45.9 mg/kg in S-4 up to 58.0 mg/kg in S-5. The field chloride concentration in SC-1 was 80 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 27-4 #77 BGT Closure, September 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>
<i>NMOCD Action Level (NMAC 19.15.17.13E)</i>			--	100	250
S-1	09/20/12	0.5	2.1	50.7	NA
S-2	09/20/12	0.5	4.5	53.1	NA
S-3	09/20/12	0.5	5.8	51.9	NA
S-4	09/20/12	0.5	3.4	45.9	NA
S-5	09/20/12	0.5	15.3	58.0	NA
SC-1	09/20/12	0.5	NA	NA	80

NA - not analyzed

Laboratory analytical results reported benzene and total BTEX concentrations in SC-1 as less than 0.050 mg/kg and 0.25 mg/kg, respectively. The laboratory chloride concentration was reported 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.

Table 2. Soil Laboratory Analytical Results  
San Juan 27-4 #77 BGT Closure, September 2012

<i>Sample ID</i>	<i>Date Sampled</i>	<i>Depth (ft)</i>	<i>Benzene (mg/kg)</i>	<i>BTEX (mg/kg)</i>	<i>Chlorides (mg/kg)</i>
<b>NMOCD Action Level (NMAC 19.15.17.13E)</b>			<b>0.2</b>	<b>50</b>	<b>250</b>
SC-1	09/20/12	0.5	<0.050	<0.25	<30

---

### 3.0 Conclusions and Recommendations

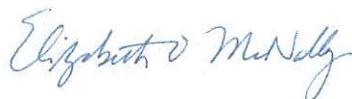
NMOCD action levels for BGT closures are specified in New Mexico Administrative Code (NMAC) 19.15.17.13E. Benzene and total BTEX concentrations in SC-1 were below the NMOCD action levels of 0.2 mg/kg and 50 mg/kg, respectively. Field TPH concentrations were below the NMOCD action level of 100 mg/kg, with the highest concentration reported in S-5 with 58.0 mg/kg. Chloride concentrations in SC-1 were also below the NMOCD action level of 250 mg/kg. Based on field screening and laboratory analytical results for benzene, total 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 at (505) 564-2281.

Sincerely,



Landrea Cupps  
Environmental Scientist



Elizabeth McNally, P.E.

Attachments:

- Figure 1. Topographic Site Location Map
- Figure 2. Aerial Site Map, September 2012
- AES Field Screening Report 092012
- Hall Analytical Report 1209926

C:\Dropbox\December 2012\ConocoPhillips\SJ 27-4 #77\San Juan 27-4 #77 BGT Closure Report  
121212.docx



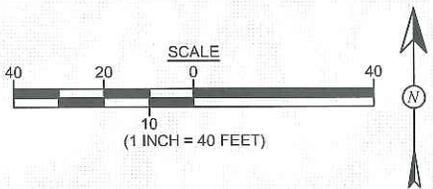
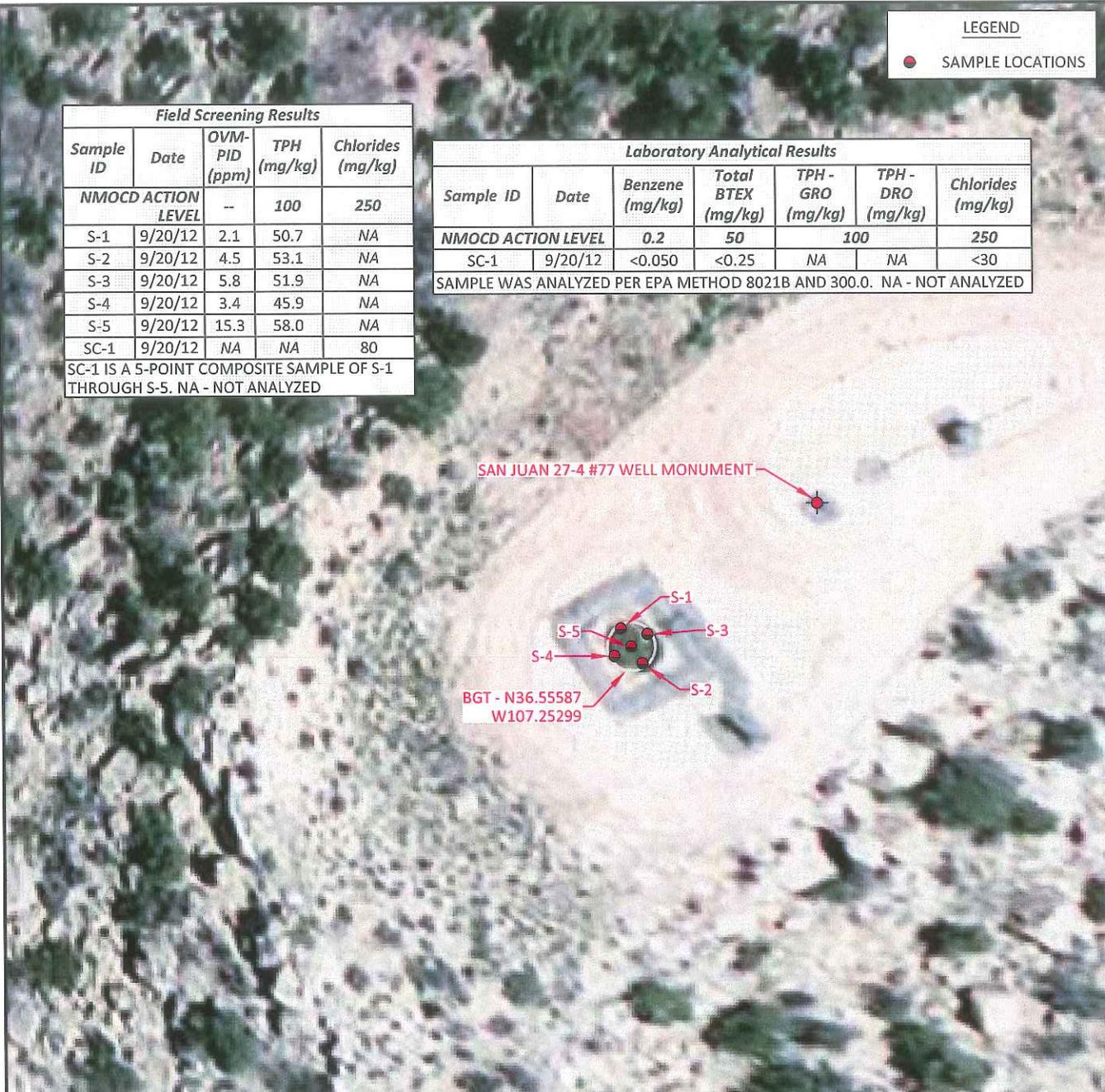
LEGEND  
● SAMPLE LOCATIONS

Field Screening Results				
Sample ID	Date	OVM-PID (ppm)	TPH (mg/kg)	Chlorides (mg/kg)
<b>NMOCD ACTION LEVEL</b>		--	100	250
S-1	9/20/12	2.1	50.7	NA
S-2	9/20/12	4.5	53.1	NA
S-3	9/20/12	5.8	51.9	NA
S-4	9/20/12	3.4	45.9	NA
S-5	9/20/12	15.3	58.0	NA
SC-1	9/20/12	NA	NA	80

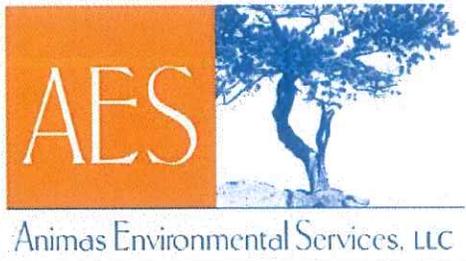
SC-1 IS A 5-POINT COMPOSITE SAMPLE OF S-1 THROUGH S-5. NA - NOT ANALYZED

Laboratory Analytical Results						
Sample ID	Date	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)	Chlorides (mg/kg)
<b>NMOCD ACTION LEVEL</b>		0.2	50	100		250
SC-1	9/20/12	<0.050	<0.25	NA	NA	<30

SAMPLE WAS ANALYZED PER EPA METHOD 8021B AND 300.0. NA - NOT ANALYZED



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



<b>DRAWN BY:</b> C. Lameman	<b>DATE DRAWN:</b> September 21, 2012
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> September 21, 2012
<b>CHECKED BY:</b> D. Watson	<b>DATE CHECKED:</b> September 21, 2012
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> September 21, 2012

**FIGURE 2**  
**AERIAL SITE MAP**  
**BELOW GRADE TANK CLOSURE**  
**SEPTEMBER 2012**  
ConocoPhillips  
SAN JUAN 27-4 #77  
RIO ARriba COUNTY, NEW MEXICO  
NW¼ SE¼, SECTION 21, T27N, R4W  
N36.55598, W107.25285

# AES Field Screening Report



Animas Environmental Services, LLC

www.animasenvironmental.com

Client: ConocoPhillips

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

Project Location: San Juan 27-4 #77

Date: 9/20/2012

Durango, Colorado  
970-403-5274

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 Analysis Initials
S-1	9/20/2012	12:42	North	2.1	NA	13:35	50.7	20.0	1	HMW
S-2	9/20/2012	12:43	South	4.5	NA	13:38	53.1	20.0	1	HMW
S-3	9/20/2012	12:44	East	5.8	NA	13:40	51.9	20.0	1	HMW
S-4	9/20/2012	12:45	West	3.4	NA	13:43	45.9	20.0	1	HMW
S-5	9/20/2012	12:46	Center	15.3	NA	13:45	58.0	20.0	1	HMW
SC-1	9/20/2012	12:48	Composite	NA	80	Not Analyzed for TPH.				

PQL Practical Quantitation Limit Field Chloride - Quantab Chloride Titrators or Drop Count Titration with Silver Nitrate

ND Not Detected at the Reporting Limit Total Petroleum Hydrocarbons - USEPA 418.1

NA Not Analyzed

DF Dilution Factor

\*Field 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)

September 26, 2012

Debbie Watson

Animas Environmental Services  
624 East Comanche  
Farmington, NM 87401  
TEL: (505) 486-4071  
FAX

RE: CoP SJ 27-4 #77

OrderNo.: 1209926

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/21/2012 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. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light gray rectangular background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Animas Environmental Services

Client Sample ID: SC-1

Project: CoP SJ 27-4 #77

Collection Date: 9/20/2012 12:48:00 PM

Lab ID: 1209926-001

Matrix: MEOH (SOIL)

Received Date: 9/21/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	9/21/2012 12:36:42 PM
Toluene	ND	0.050		mg/Kg	1	9/21/2012 12:36:42 PM
Ethylbenzene	ND	0.050		mg/Kg	1	9/21/2012 12:36:42 PM
Xylenes, Total	ND	0.10		mg/Kg	1	9/21/2012 12:36:42 PM
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	9/21/2012 12:36:42 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: <b>SRM</b>
Chloride	ND	30		mg/Kg	20	9/24/2012 12:26:37 PM

**Qualifiers:**

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1209926

26-Sep-12

**Client:** Animas Environmental Services  
**Project:** CoP SJ 27-4 #77

Sample ID	1209615-019AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	3874	RunNo:	5700					
Prep Date:	9/21/2012	Analysis Date:	9/21/2012	SeqNo:	163885	Units:	mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	39	8.1	5.402	21.59	319	64.4	117			S

Sample ID	1209615-019AMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	3874	RunNo:	5700					
Prep Date:	9/21/2012	Analysis Date:	9/21/2012	SeqNo:	163886	Units:	mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	36	8.1	5.402	21.59	263	64.4	117	8.14	20	S

Sample ID	1209615-030AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	3874	RunNo:	5700					
Prep Date:	9/21/2012	Analysis Date:	9/21/2012	SeqNo:	163907	Units:	mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	22	8.0	5.301	8.388	259	64.4	117			S

Sample ID	1209615-030AMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	BatchQC	Batch ID:	3874	RunNo:	5700					
Prep Date:	9/21/2012	Analysis Date:	9/21/2012	SeqNo:	163908	Units:	mg/Kg-dry			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	23	8.0	5.301	8.388	284	64.4	117	5.72	20	S

Sample ID	MB-3874	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	3874	RunNo:	5743					
Prep Date:	9/21/2012	Analysis Date:	9/24/2012	SeqNo:	165133	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-3874	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	3874	RunNo:	5743					
Prep Date:	9/21/2012	Analysis Date:	9/24/2012	SeqNo:	165134	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.7	90	110			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1209926

26-Sep-12

**Client:** Animas Environmental Services  
**Project:** CoP SJ 27-4 #77

Sample ID <b>5ML RB</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015B: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>R5678</b>	RunNo: <b>5678</b>								
Prep Date:	Analysis Date: <b>9/21/2012</b>	SeqNo: <b>163371</b>			Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	990		1000		98.9	84	116			

Sample ID <b>2.5UG GRO LCS</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015B: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>R5678</b>	RunNo: <b>5678</b>								
Prep Date:	Analysis Date: <b>9/21/2012</b>	SeqNo: <b>163372</b>			Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	84	116			

Sample ID <b>1209927-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015B: Gasoline Range</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>R5678</b>	RunNo: <b>5678</b>								
Prep Date:	Analysis Date: <b>9/21/2012</b>	SeqNo: <b>163374</b>			Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	770		702.1		109	84	116			

Sample ID <b>1209927-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015B: Gasoline Range</b>								
Client ID: <b>BatchQC</b>	Batch ID: <b>R5678</b>	RunNo: <b>5678</b>								
Prep Date:	Analysis Date: <b>9/21/2012</b>	SeqNo: <b>163375</b>			Units: <b>%REC</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	770		702.1		109	84	116	0	0	

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1209926  
26-Sep-12

**Client:** Animas Environmental Services  
**Project:** CoP SJ 27-4 #77

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R5678</b>	RunNo:	<b>5678</b>					
Prep Date:		Analysis Date:	<b>9/21/2012</b>	SeqNo:	<b>163403</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		100	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>R5678</b>	RunNo:	<b>5678</b>					
Prep Date:		Analysis Date:	<b>9/21/2012</b>	SeqNo:	<b>163404</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	76.3	117			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	77	116			
Xylenes, Total	3.1	0.10	3.000	0	102	76.7	117			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID	<b>1209926-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>R5678</b>	RunNo:	<b>5678</b>					
Prep Date:		Analysis Date:	<b>9/21/2012</b>	SeqNo:	<b>163406</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.64	0.050	0.6755	0	94.6	67.2	113			
Toluene	0.65	0.050	0.6755	0	96.8	62.1	116			
Ethylbenzene	0.67	0.050	0.6755	0	98.7	67.9	127			
Xylenes, Total	2.0	0.10	2.026	0	99.5	60.6	134			
Surr: 4-Bromofluorobenzene	0.74		0.6755		109	80	120			

Sample ID	<b>1209926-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>R5678</b>	RunNo:	<b>5678</b>					
Prep Date:		Analysis Date:	<b>9/21/2012</b>	SeqNo:	<b>163407</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.66	0.050	0.6755	0	97.4	67.2	113	2.96	14.3	
Toluene	0.68	0.050	0.6755	0	101	62.1	116	4.50	15.9	
Ethylbenzene	0.70	0.050	0.6755	0	104	67.9	127	5.13	14.4	
Xylenes, Total	2.1	0.10	2.026	0	104	60.6	134	4.43	12.6	
Surr: 4-Bromofluorobenzene	0.73		0.6755		108	80	120	0	0	

**Qualifiers:**

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Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87105  
 TEL: 505-345-3975 FAX: 505-345-4107  
 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: **Animas Environmental** Work Order Number: **1209926**  
 Received by/date: LM 09/21/12  
 Logged By: **Michelle Garcia** 9/21/2012 10:00:00 AM *Michelle Garcia*  
 Completed By: **Michelle Garcia** 9/21/2012 10:05:50 AM *Michelle Garcia*  
 Reviewed By: *[Signature]* 09/21/12

**Chain of Custody**

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

**Log In**

- 4. Coolers are present? (see 19. for cooler specific information) Yes  No  NA
- 5. Was an attempt made to cool the samples? Yes  No  NA
- 6. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA
- 7. Sample(s) in proper container(s)? Yes  No
- 8. Sufficient sample volume for indicated test(s)? Yes  No
- 9. Are samples (except VOA and ONG) properly preserved? Yes  No
- 10. Was preservative added to bottles? Yes  No  NA
- 11. VOA vials have zero headspace? Yes  No  No VOA Vials
- 12. Were any sample containers received broken? Yes  No
- 13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes  No
- 14. Are matrices correctly identified on Chain of Custody? Yes  No
- 15. Is it clear what analyses were requested? Yes  No
- 16. 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)**

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

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

18. Additional remarks:

**19. Cooler Information**

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



EM

STURAN

27

SMITH

17





