District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
Revised June 6, 2013

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

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

14298

RECEIVED
By kcollins at 8:08 am, Mar 09, 2016

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 Oil & Gas Company, LP OGRID #: 14538
Address: PO BOX 4289, Farmington, NM 87499
Facility or well name: Burnt Mesa 2A
API Number: 30-045-23412 OCD Permit Number: _____
U/L or Qtr/Qtr O Section 26 Township 32 N Range 7 W County: San Juan
Center of Proposed Design: Latitude 36.947021 °N Longitude -107.533086 °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.** ☐ Yes ☐ No ☒ NA
- ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells

**Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.** ☐ Yes ☐ No ☒ NA
NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

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)** ☐ Yes ☐ No
- Written confirmation or verification from the municipality; Written approval obtained from the municipality

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** ☐ Yes ☐ No
- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

Within an unstable area. **(Does not apply to below grade tanks)** ☐ Yes ☐ No
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

Within a 100-year floodplain. **(Does not apply to below grade tanks)** ☐ Yes ☐ No
- FEMA map

## 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). ☐ Yes ☒ No
- Topographic map; Visual inspection (certification) of the proposed site

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. ☐ Yes ☒ No
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

## 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.) ☐ Yes ☐ No
- Topographic map; Visual inspection (certification) of the proposed site

Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. ☐ Yes ☐ No
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

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. ☐ Yes ☐ No
NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

| | |
|---|---|
| Within 100 feet of a wetland.<br>- 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).<br>- 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.<br>- 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;<br>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site | ☐ Yes ☐ No |
| Within 300 feet of a wetland.<br>- 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).<br>- 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.<br>- 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.<br>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site | ☐ Yes ☐ No |
| Within 500 feet of a wetland.<br>- 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 $H_2S$, 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.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☐ No ☐ NA |
| Ground water is between 25-50 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☐ No ☐ NA |
| Ground water is more than 100 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☐ No ☐ 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).<br>- 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.<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image | ☐ Yes ☐ 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.<br>- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site | ☐ Yes ☐ No |
| Written confirmation or verification from the municipality; Written approval obtained from the municipality | ☐ Yes ☐ No |
| Within 300 feet of a wetland.<br>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site | ☐ Yes ☐ 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.<br>- Written confirmation or verification from the municipality; Written approval obtained from the municipality | ☐ Yes ☐ No |
| Within the area overlying a subsurface mine.<br>- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division | ☐ Yes ☐ No |
| Within an unstable area.<br>- 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.<br>- 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:** _____ **Approval Date:** 04-06-2016

**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:** 1/3/14

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

22.

**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): Larissa Farrell Title: Regulatory Technician

Signature: Larissa Farrell Date: 3-8-16

e-mail address: Larissa.L.Farrell@cop.com Telephone: (505) 326-9504

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

**Lease Name: Burnt Mesa 2A**
**API No.: 30-045-23412**

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:
   i. Operator's name
   ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.

   **Notification was not found.**

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

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

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

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

11. BR shall seed the disturbed areas the first favorable growing season following closure of a below-grade tank. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM stipulated seed mixes will 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
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1000 Rio Brazos Road, Aztec, NM 87410
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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 **Burlington Resources Oil & Gas Company** | Contact **Crystal Walker** |
| Address 3401 East 30th St, Farmington, NM | Telephone No.(505) 326-9837 |
| Facility Name: **Burnt Mesa 2A** | Facility Type: **Gas Well** |

| | | |
|---|---|---|
| Surface Owner **Federal** | Mineral Owner | API No.**30-045-23412** |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| **O** | **26** | **32N** | **7W** | **1090** | **South** | **1560** | **East** | **San Juan** |

**Latitude 36.947021 Longitude -107.533086**

## 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? ☐ Yes ☐ No ☒ Not Required | If YES, To Whom? | |
| By Whom? | Date and Hour | |
| Was a Watercourse Reached? ☐ Yes ☒ 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: | OIL CONSERVATION DIVISION | |
| Printed Name: Larissa Farrell | Approved by Environmental Specialist: | |
| Title: **Regulatory Technician** | Approval Date: | Expiration Date: |
| E-mail Address: Larissa.L.Farrell@cop.com | Conditions of Approval: | Attached ☐ |
| Date: 2-17-16 Phone: (505) 326-9504 | | |

* Attach Additional Sheets If Necessary

Animas Environmental Services, LLC
www.animasenvironmental.com
624 E. Comanche
Farmington, NM 87401
505-564-2281
Durango, Colorado
970-403-3084

June 7, 2013

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

**RE: Below Grade Tank Closure Report**
**Burnt Mesa #2A**
**San Juan County, New Mexico**

Dear Ms. Tafoya:

Animas Environmental Services, LLC (AES) is pleased to provide the final report associated with the below grade tank (BGT) closure at ConocoPhillips (CoP) Burnt Mesa #2A, located in San Juan County, New Mexico. Tank removal was completed by CoP contractors while AES was on site.

## 1.0 Site Information

### *1.1 Location*

Site Name – Burnt Mesa #2A
Legal Description – SW¼ SE¼, Section 26, T32N, R7W, San Juan County, New Mexico
Well Latitude/Longitude – N36.94729 and W107.53284, respectively
BGT Latitude/Longitude – N36.94705 and W107.53309, respectively
Land Jurisdiction – Bureau of Land Management (BLM)
Figure 1. Topographic Site Location Map
Figure 2. Aerial Site Map, May 2013

### *1.2 NMOCD Ranking*

Prior to site work, the New Mexico Oil Conservation Division (NMOCD) database was reviewed, and a C-144 form dated June 2004 for the Burnt Mesa #100S, located 800 feet southeast of the location, reported the depth to groundwater as between 50 and 99 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 between 50 and 99 feet bgs. A drainage which discharges to the wash in Ulibarri Canyon is located approximately 970 feet south of the location. Based on this information, the location was assessed a ranking score of 20.

### *1.3 BGT Closure Assessment*

AES was initially contacted by Jess Henson, CoP representative, on May 14, 2013, and on May 15, 2013, Kelsey Christiansen and Jesse Christopherson of AES mobilized to the location. AES personnel collected six soil samples from below the BGT liner. Four samples were collected from the perimeter of the BGT footprint, one sample was collected from the center of the BGT footprint, and one sample was composited from the four perimeter samples and one center sample.

## 2.0 Soil Sampling

On May 15, 2013, AES personnel conducted field screening and collected five soil samples (S-1 through S-5) and one 5-point composite (SC-1) from below the BGT. Soil samples were collected from approximately 0.5 feet below the former BGT for field screening of volatile organic compounds (VOCs) and total petroleum hydrocarbon (TPH). Soil sample SC-1 was field screened for VOCs and 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; and
- Chloride per USEPA Method 300.0.

## 2.3 *Field and Laboratory Analytical Results*

Field screening readings for VOCs via OVM ranged from 0.3 ppm in S-1 and S-5 up to 2.9 ppm in S-2. Field TPH concentrations ranged from 48.7 mg/kg in S-4 up to 70.0 mg/kg in S-5. The field chloride concentration in SC-1 was 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
Burnt Mesa #2A BGT Closure, May 2013

| *Sample ID* | *Date Sampled* | *Depth below BGT (ft)* | *VOCs OVM Reading (ppm)* | *Field TPH (mg/kg)* | *Field Chlorides (mg/kg)* |
|---|---|---|---|---|---|
| ***NMOCD Action Level (NMAC 19.15.17.13E)*** | | | *--* | ***100*** | ***250*** |
| S-1 | 05/15/13 | 0.5 | 0.3 | 52.7 | NA |
| S-2 | 05/15/13 | 0.5 | 2.9 | 51.4 | NA |
| S-3 | 05/15/13 | 0.5 | 2.6 | 52.7 | NA |
| S-4 | 05/15/13 | 0.5 | 0.6 | 48.7 | NA |
| S-5 | 05/15/13 | 0.5 | 0.3 | 70.0 | NA |
| SC-1 | 05/15/13 | 0.5 | 0.4 | NA | 60 |

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 as 98 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
Burnt Mesa #2A BGT Closure, May 2013

| Sample ID | Date Sampled | Depth (ft) | Benzene (mg/kg) | Total BTEX (mg/kg) | TPH-GRO (mg/kg) | TPH-DRO (mg/kg) | Chlorides (mg/kg) |
|---|---|---|---|---|---|---|---|
| ***NMOCD Action Level (NMAC 19.15.17.13E)*** | | | ***0.2*** | ***50*** | ***100*** | | ***250*** |
| SC-1 | 05/15/13 | 0.5 | <0.050 | <0.25 | NA | NA | 98 |

NA - not analyzed

## 3.0 Conclusions and Recommendations

NMOCD action levels for BGT closures are specified in New Mexico Administrative Code (NMAC) 19.15.17.13E. Field TPH concentrations were below the NMOCD action level of 100 mg/kg, with the highest concentration reported in S-5 with 70.0 mg/kg. Benzene and total BTEX concentrations in SC-1 were below the NMOCD action levels of 0.2 mg/kg and 50 mg/kg, respectively. Chloride concentrations in SC-1 were 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 at the Burnt Mesa #2A.

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

Sincerely,

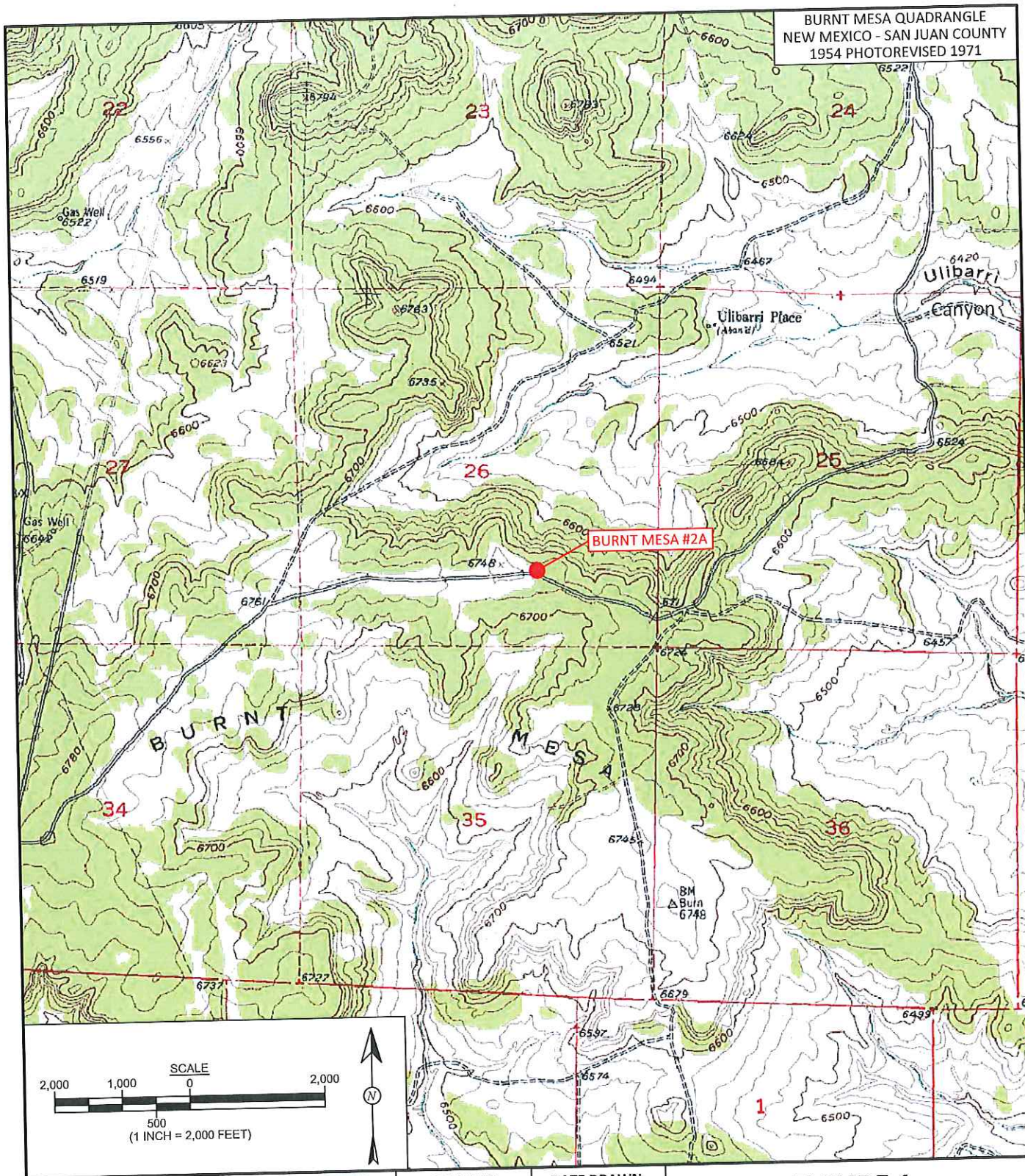
Kelsey Christiansen
Environmental Scientist

Elizabeth McNally, P.E.

Attachments:

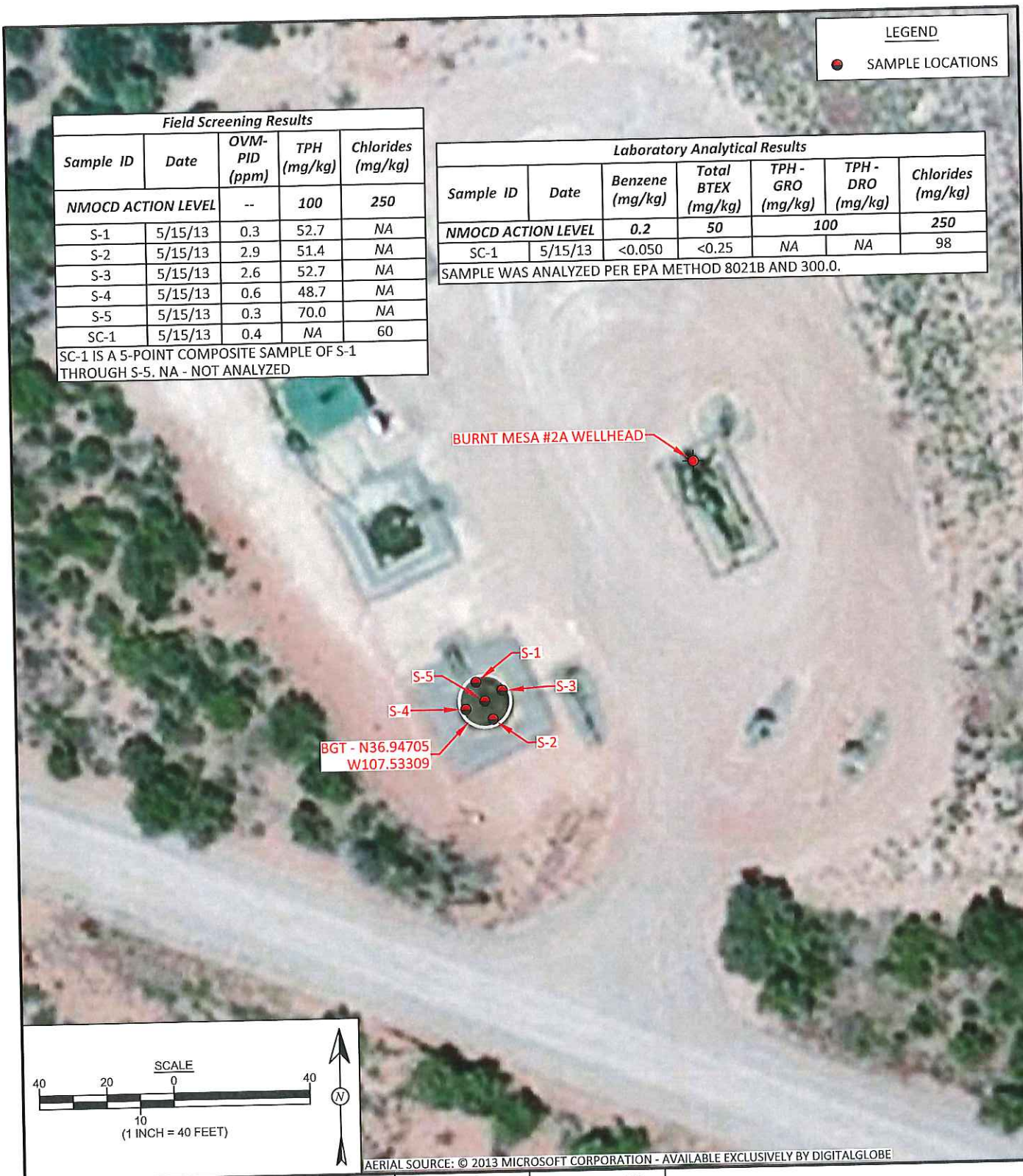
Figure 1. Topographic Site Location Map
Figure 2. Aerial Site Map, May 2013
AES Field Screening Report 051513
Hall Analytical Report 1305645

R:\Animas 2000\Dropbox\2013 Projects\ConocoPhillips\Burnt Mesa #2A\Burnt Mesa #2A BGT Closure Report 060713.docx




| | | |
|---|---|---|
| **DRAWN BY:** C. Lameman | **DATE DRAWN:** March 15, 2013 | **FIGURE 1** |
| **REVISIONS BY:** C. Lameman | **DATE REVISED:** March 15, 2013 | **TOPOGRAPHIC SITE LOCATION MAP** ConocoPhillips BURNT MESA #2A SW¼ SE¼, SECTION 26, T32N R7W SAN JUAN COUNTY, NEW MEXICO N36.94729, W107.53284 |
| **CHECKED BY:** D. Watson | **DATE CHECKED:** June 5, 2013 | |
| **APPROVED BY:** E. McNally | **DATE APPROVED:** June 5, 2013 | |

AES
Animas Environmental Services, LLC




**Field Screening Results**

| Sample ID | Date | OVM-PID (ppm) | TPH (mg/kg) | Chlorides (mg/kg) |
|---|---|---|---|---|
| NMOCD ACTION LEVEL | | -- | 100 | 250 |
| S-1 | 5/15/13 | 0.3 | 52.7 | NA |
| S-2 | 5/15/13 | 2.9 | 51.4 | NA |
| S-3 | 5/15/13 | 2.6 | 52.7 | NA |
| S-4 | 5/15/13 | 0.6 | 48.7 | NA |
| S-5 | 5/15/13 | 0.3 | 70.0 | NA |
| SC-1 | 5/15/13 | 0.4 | NA | 60 |

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) |
|---|---|---|---|---|---|---|
| NMOCD ACTION LEVEL | | 0.2 | 50 | 100 | | 250 |
| SC-1 | 5/15/13 | <0.050 | <0.25 | NA | NA | 98 |

SAMPLE WAS ANALYZED PER EPA METHOD 8021B AND 300.0.

Animas Environmental Services, LLC

| | |
|---|---|
| DRAWN BY: C. Lameman | DATE DRAWN: March 15, 2013 |
| REVISIONS BY: C. Lameman | DATE REVISED: March 15, 2013 |
| CHECKED BY: D. Watson | DATE CHECKED: June 5, 2013 |
| APPROVED BY: E. McNally | DATE APPROVED: June 5, 2013 |

# FIGURE 2

**AERIAL SITE MAP**
**BELOW GRADE TANK CLOSURE**
**MAY 2013**
ConocoPhillips
BURNT MESA #2A
SW¼ SE¼, SECTION 26, T32N R7W
SAN JUAN COUNTY, NEW MEXICO
N36.94729, W107.53284

# AES Field Screening Report

Animas Environmental Services, LLC
www.animasenvironmental.com
624 E. Comanche
Farmington, NM 87401
505-564-2281
Durango, Colorado
970-403-3084

Client: ConocoPhillips

Project Location: Burnt Mesa #2A

Date: 5/15/2013

Matrix: Soil

| Sample ID | Collection Date | Time of Sample Collection | Sample Location | OVM (ppm) | Field Chloride (mg/kg) | Field TPH Analysis Time | Field TPH* (mg/kg) | TPH PQL (mg/kg) | DF | TPH Analysts Initials |
|---|---|---|---|---|---|---|---|---|---|---|
| S-1 | 5/15/2013 | 10:50 | North | 0.3 | NA | 11:33 | 52.7 | 20.0 | 1 | KC |
| S-2 | 5/15/2013 | 10:51 | South | 2.9 | NA | 11:36 | 51.4 | 20.0 | 1 | KC |
| S-3 | 5/15/2013 | 10:52 | East | 2.6 | NA | 11:39 | 52.7 | 20.0 | 1 | KC |
| S-4 | 5/15/2013 | 10:54 | West | 0.6 | NA | 11:42 | 48.7 | 20.0 | 1 | KC |
| S-5 | 5/15/2013 | 10:56 | Center | 0.3 | NA | 11:45 | 70.0 | 20.0 | 1 | KC |
| SC-1 | 5/15/2013 | 10:58 | Composite | 0.4 | 60 | *Not Analyzed for TPH.* | | | | |

PQL Practical Quantitation Limit

ND Not Detected at the Reporting Limit
NA Not Analyzed
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: Kelsey Christensen


Report Finalized: 05/15/13

HALL ENVIRONMENTAL ANALYSIS LABORATORY

*Hall Environmental Analysis Laboratory*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

May 20, 2013

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

RE: COP Burnt Mesa #2A

OrderNo.: 1305645

Dear Debbie Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/16/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com 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,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

**Analytical Report**
Lab Order **1305645**
Date Reported: **5/20/2013**

**CLIENT:** Animas Environmental
**Project:** COP Burnt Mesa #2A
**Lab ID:** 1305645-001

**Client Sample ID:** SC-1
**Collection Date:** 5/15/2013 10:58:00 AM
**Matrix:** MEOH (SOIL) **Received Date:** 5/16/2013 10:00:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.050 | | mg/Kg | 1 | 5/16/2013 1:37:11 PM | R10679 |
| Toluene | ND | 0.050 | | mg/Kg | 1 | 5/16/2013 1:37:11 PM | R10679 |
| Ethylbenzene | ND | 0.050 | | mg/Kg | 1 | 5/16/2013 1:37:11 PM | R10679 |
| Xylenes, Total | ND | 0.10 | | mg/Kg | 1 | 5/16/2013 1:37:11 PM | R10679 |
| Surr: 4-Bromofluorobenzene | 99.8 | 80-120 | | %REC | 1 | 5/16/2013 1:37:11 PM | R10679 |
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **JRR** | |
| Chloride | 98 | 30 | | mg/Kg | 20 | 5/16/2013 1:04:36 PM | 7472 |

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

**Qualifiers:**

| | |
|---|---|
| * | Value exceeds Maximum Contaminant Level. |
| E | Value above quantitation range |
| J | Analyte detected below quantitation limits |
| P | Sample pH greater than 2 for VOA and TOC only. |
| 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#: **1305645**

*20-May-13*

**Client:** Animas Environmental

**Project:** COP Burnt Mesa #2A

Sample ID **MB-7472** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS** Batch ID: **7472** RunNo: **10696**
Prep Date: **5/16/2013** Analysis Date: **5/16/2013** SeqNo: **302221** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | 1.5 | | | | | | | | |

Sample ID **LCS-7472** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS** Batch ID: **7472** RunNo: **10696**
Prep Date: **5/16/2013** Analysis Date: **5/16/2013** SeqNo: **302222** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 15 | 1.5 | 15.00 | 0 | 98.0 | 90 | 110 | | | |

Sample ID **1305423-001AMS** SampType: **MS** TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC** Batch ID: **7472** RunNo: **10696**
Prep Date: **5/16/2013** Analysis Date: **5/16/2013** SeqNo: **302224** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 18 | 7.5 | 15.00 | 5.396 | 85.3 | 64.4 | 117 | | | |

Sample ID **1305423-001AMSD** SampType: **MSD** TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC** Batch ID: **7472** RunNo: **10696**
Prep Date: **5/16/2013** Analysis Date: **5/16/2013** SeqNo: **302225** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 18 | 7.5 | 15.00 | 5.396 | 84.5 | 64.4 | 117 | 0.653 | 20 | |

Sample ID **1305502-003BMS** SampType: **MS** TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC** Batch ID: **7472** RunNo: **10696**
Prep Date: **5/16/2013** Analysis Date: **5/16/2013** SeqNo: **302237** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 16 | 1.5 | 15.00 | 2.196 | 90.9 | 64.4 | 117 | | | |

Sample ID **1305502-003BMSD** SampType: **MSD** TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC** Batch ID: **7472** RunNo: **10696**
Prep Date: **5/16/2013** Analysis Date: **5/16/2013** SeqNo: **302239** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 16 | 1.5 | 15.00 | 2.196 | 90.5 | 64.4 | 117 | 0.332 | 20 | |

**Qualifiers:**

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2 for VOA and TOC only.
- 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#: **1305645**

*20-May-13*

**Client:** Animas Environmental

**Project:** COP Burnt Mesa #2A

Sample ID **5ML RB** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **PBS** Batch ID: **R10679** RunNo: **10679**

Prep Date: Analysis Date: **5/16/2013** SeqNo: **302165** 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 | 1.0 | | 1.000 | | 102 | 80 | 120 | | | |

Sample ID **100NG BTEX LCS** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **LCSS** Batch ID: **R10679** RunNo: **10679**

Prep Date: Analysis Date: **5/16/2013** SeqNo: **302166** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 1.1 | 0.050 | 1.000 | 0 | 114 | 80 | 120 | | | |
| Toluene | 1.1 | 0.050 | 1.000 | 0 | 114 | 80 | 120 | | | |
| Ethylbenzene | 1.1 | 0.050 | 1.000 | 0 | 113 | 80 | 120 | | | |
| Xylenes, Total | 3.4 | 0.10 | 3.000 | 0 | 114 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 1.1 | | 1.000 | | 107 | 80 | 120 | | | |

Sample ID **1305643-002AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BatchQC** Batch ID: **R10679** RunNo: **10679**

Prep Date: Analysis Date: **5/16/2013** SeqNo: **302169** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.80 | 0.050 | 0.7153 | 0 | 111 | 67.2 | 113 | | | |
| Toluene | 0.79 | 0.050 | 0.7153 | 0 | 111 | 62.1 | 116 | | | |
| Ethylbenzene | 0.79 | 0.050 | 0.7153 | 0 | 110 | 67.9 | 127 | | | |
| Xylenes, Total | 2.4 | 0.10 | 2.146 | 0 | 111 | 60.6 | 134 | | | |
| Surr: 4-Bromofluorobenzene | 0.77 | | 0.7153 | | 108 | 80 | 120 | | | |

Sample ID **1305643-002AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**

Client ID: **BatchQC** Batch ID: **R10679** RunNo: **10679**

Prep Date: Analysis Date: **5/16/2013** SeqNo: **302170** Units: **mg/Kg**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.73 | 0.050 | 0.7153 | 0 | 102 | 67.2 | 113 | 9.07 | 14.3 | |
| Toluene | 0.72 | 0.050 | 0.7153 | 0 | 101 | 62.1 | 116 | 9.60 | 15.9 | |
| Ethylbenzene | 0.72 | 0.050 | 0.7153 | 0 | 101 | 67.9 | 127 | 9.15 | 14.4 | |
| Xylenes, Total | 2.2 | 0.10 | 2.146 | 0 | 102 | 60.6 | 134 | 9.04 | 12.6 | |
| Surr: 4-Bromofluorobenzene | 0.78 | | 0.7153 | | 109 | 80 | 120 | 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 for VOA and TOC only.
- 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

ENVIRONMENTAL ANALYSIS LABORATORY

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

# Sample Log-In Check List

Client Name: Animas Environmental  Work Order Number: 1305645  RcptNo: 1

Received by/date: [signature] 05/16/13

Logged By: Lindsay Mangin 5/16/2013 10:00:00 AM [signature]

Completed By: Lindsay Mangin 5/16/2013 10:41:57 AM [signature]

Reviewed By: TO 05/16/2013

## Chain of Custody

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

## Log In

| | | | |
|---|---|---|---|
| 4. Was an attempt made to cool the samples? | Yes ☑ | No ☐ | NA ☐ |
| 5. Were all samples received at a temperature of >0° C to 6.0°C | Yes ☑ | No ☐ | NA ☐ |
| 6. Sample(s) in proper container(s)? | Yes ☑ | No ☐ | |
| 7. Sufficient sample volume for indicated test(s)? | Yes ☑ | No ☐ | |
| 8. Are samples (except VOA and ONG) properly preserved? | Yes ☑ | No ☐ | |
| 9. Was preservative added to bottles? | Yes ☐ | No ☑ | NA ☐ |
| 10. VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA Vials ☑ |
| 11. Were any sample containers received broken? | Yes ☐ | No ☑ | |
| 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) | Yes ☑ | No ☐ | |
| 13. Are matrices correctly identified on Chain of Custody? | Yes ☑ | No ☐ | |
| 14. Is it clear what analyses were requested? | Yes ☑ | No ☐ | |
| 15. Were all holding times able to be met? (If no, notify customer for authorization.) | Yes ☑ | No ☐ | |

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

Adjusted? _____

Checked by: _____

## Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 1.2 | Good | Yes | | | |

# Chain-of-Custody Record

Client: Animas Environmental Services

Mailing Address: 624 E. Comanche

Phone #: 505-564-2281

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☒ Rush Same Day

Project Name: CoP Burnt Mesa #2A

Project #:

Project Manager: D. Watson

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 4

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

**Analysis Request**

| Date | Time | Matrix | Sample Request ID | Container Type and # | Preservative Type | HEAL No. 1305645 | BTEX + MTBE + TMB's (8021) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH's (8310 or 8270 SIMS) | RCRA 8 Metals | Anions ($F,Cl,NO_3,NO_2,PO_4,SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | 8270 (Semi-VOA) | 300.0 Chlorides | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5/15/13 | 1058 | Soil | SC-1 | 1402 jar MeOH kit | non MeOH | -001 | X | | | | | | | | | | | X | | | | |

| Date: | Time: | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 5/15/13 | 1735 | | Christine Walker | 5/15/13 | 1735 |
| 5/15/13 | 1745 | Christine Walker | | 05/16/13 | 1000 |

Remarks: Bill to ConocoPhillips
WO: 10344629
Activity code: T110
Area: 6
Supervisor: Sheldon Montoya
User ID: BENALE
Ordered by: Jess Hensa

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