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

RECEIVED
By kcollins at 8:02 am, Apr 05, 2016

14674

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.

BGT CLOSED PRIOR TO CLOSURE PLAN APPROVAL

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

Address: PO BOX 4289, Farmington, NM 87499

Facility or well name: A D Hudson 4

API Number: 30-045-06238 OCD Permit Number:

U/L or Qtr/Qtr J (NWSE) Section 29 Township 27N Range 9W County: San Juan

Center of Proposed Design: Latitude 36.543872°N Longitude -107.808769°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 mil ☐ HDPE ☐ PVC ☒ Other UNSPECIFIED

4.

☐ **Alternative Method:**

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

5.

Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*

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

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

☐ Alternate. Please specify

6.

Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.16.8 NMAC

8.

Variances and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

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

☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

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

General siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. - ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)** - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. **(Does not apply to below grade tanks)** - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. **(Does not apply to below grade tanks)** - FEMA map	☐ Yes ☐ No
Below Grade Tanks	
Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)	
Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

Within 100 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Temporary Pit Non-low chloride drilling fluid	
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application; - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

10.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

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

☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.

Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC

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

☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ A List of wells with approved application for permit to drill associated with the pit.
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_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. - 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 - 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. - 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). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 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	☐ Yes ☐ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

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

16.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.
Operator Application Certification:

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

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

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

OCD Representative Signature: Jonathan D. Kelly **Approval Date:** 7/12/2016

Title: Compliance Officer **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:** 1/29/2016

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) Dollie L. Busse Title: Regulatory Technician

Signature: Dollie Busse Date: 4/1/16

e-mail address: dollie.l.busse@cop.com Telephone: (505) 324-6104

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

Lease Name: AD Hudson 4
API No.: 30-045-06238

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. BR 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.

   Closure notification attached.

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 sent via email. (See Attached) (Well located on Federal Land, certified mail is not required for Federal Land per BLM/OCD MOU.)

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 was removed due to well being plugged and abandoned. Reclamation will be completed at a later date.

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. BR will repeat seeding or planting will be continued until successful vegetative growth occurs.

    The below-grade tank was removed due to well being plugged and abandoned. Seeding will be completed at a later date.

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 was removed due to well being plugged and abandoned. Reclamation will be completed at a later date.

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 **(Reclamation/Seeding to be completed at a later date)**
    - 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)**

Busse, Dollie L

From: Walker, Crystal
Sent: Friday, January 22, 2016 7:01 AM
To: Katherina Diemer (kdiemer@blm.gov); Flaniken, Jon (mflanike@blm.gov); Cory Smith; vanessa.fields@state.nm.us
Cc: GRP:SJBU Regulatory; Payne, Wendy F; Dixon, Shorell (PAC); Trujillo, Fasho D; Hottell, Brent D; Gallegos, Dale M; Hunter, Lisa; Spearman, Bobby E
Subject: RE: AD Hudson 4 - 72 Hour Notification

Subject: 72 Hour BGT Closure Notification

Anticipated Start Date: **Thursday, January 28, 2016 (approx. 9:00 a.m.)**

The subject well has a below-grade tank that will begin the closure process between 72 hours and one week from this notification. Please contact me at any time if you have any questions or concerns.

Well Name: AD Hudson 4

API#: 30-045-06238

Location: Unit J (NWSE), Section 29, T27N, R9W

Footages: 1820' FSL & 1810' FEL

Operator: Burlington Resources **Surface Owner: BLM**

Reason: P&A'd 4/16/2015

Dollie L. Busse
Regulatory Technician
ConocoPhillips Company
505-324-6104
505-215-3069
Dollie.L.Busse@cop.com

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **Burlington Resources**	Contact **Dollie L. Busse**
Address 3401 East 30th St, Farmington, NM	Telephone No.(505) 324-6104
Facility Name: **A D Hudson 4**	Facility Type: **Gas Well**

Surface Owner **Federal**	Mineral Owner **Federal**	API No.**30-045-06238**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J (NWSE)	**29**	**27N**	**9W**	**1820**	**South**	**1810**	**East**	**San Juan**

Latitude 36.543872 Longitude -107.808769

NATURE OF RELEASE

Type of Release **BGT Closure Summary**	Volume of Release **n/a**	Volume Recovered **n/a**
Source of Release **none**	Date and Hour of Occurrence **n/a**	Date and Hour of Discovery **n/a**
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? **n/a**	
By Whom? **n/a**	Date and Hour **n/a**	
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: Crystal Walker	OIL CONSERVATION DIVISION	
Printed Name: Crystal Walker	Approved by Environmental Specialist:	
Title: **Regulatory Technician**	Approval Date:	Expiration Date:
E-mail Address: crystal.walker@cop.com	Conditions of Approval:	Attached ☐
Date: 4/1/16 Phone: (505) 326-9837		

* Attach Additional Sheets If Necessary

February 12, 2016

Ms. Lisa Hunter
ConocoPhillips
San Juan Business Unit
5525 Highway 64
Farmington, New Mexico 87401

Re: AD Hudson #4
Below Grade Tank Closure Sampling Report

Dear Ms. Hunter:

This report summarizes the below grade tank (BGT) closure sampling activities conducted by Rule Engineering, LLC (Rule) at the ConocoPhillips AD Hudson #4 located in Unit Letter J, Section 29, Township 27N, Range 9W in San Juan County, New Mexico. Activities included collection and analysis of a 5-point composite soil confirmation sample from beneath the BGT on January 28, 2016. A topographic map of the location is included as Figure 1 and an aerial site map is included as Figure 2.

BGT Summary
Site Name – AD Hudson #4
Location – Unit Letter J, Section 29, Township 27N, Range 9W
API Number – 30-045-06238
Wellhead Latitude/Longitude – N36.54387 and W107.80905
BGT Latitude/Longitude – N36.54387 and W107.80877
Land Jurisdiction – Bureau of Land Management
Size of BGT –120 barrels
Date of BGT Closure Soil Sampling – January 28, 2016

BGT Closure Standards
As outlined in 19.15.17.13 New Mexico Administrative Code (NMAC), BGT closure standards for the AD Hudson #4 are as follows: 0.2 milligrams per kilogram (mg/kg) benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), 100 mg/kg total petroleum hydrocarbons (TPH), and 250 mg/kg chlorides.

Field Activities
On January 28, 2016, following removal of the BGT tank and liner, Rule personnel conducted a visual inspection for surface/subsurface indications of a release. No evidence of a release was observed. Rule personnel then collected five soil samples (S-1 through S-5) from 0.5 feet beneath the floor of the BGT excavation. Figure 2 provides the location of the soil samples collected from below the BGT. The field work summary sheet is attached.

Soil Sampling
The five soil samples (S-1 through S-5) collected from below the floor of the BGT excavation were combined to create soil confirmation sample SC-1. A portion of SC-1 was field screened for volatile organic compounds (VOCs) and chlorides, and field analyzed for TPH.

Field screening for VOC vapors was conducted with a photo-ionization detector (PID). Prior to field screening, the PID was calibrated with 100 parts per million (ppm) isobutylene gas. Field analysis for TPH was conducted per U.S. Environmental Protection Agency (USEPA) Method 418.1, utilizing a total hydrocarbon analyzer. Prior to field analysis, the machine was calibrated following the manufacturer's procedure which includes calculation of a calibration curve using known concentration standards. Field screening for chloride was conducted using the Hach chloride low range test kit. Chloride concentrations were determined by drop count titration method using silver nitrate titrant.

The portion of SC-1 collected for laboratory analysis was placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. The sample was analyzed for BTEX per USEPA Method 8021B, TPH per USEPA Method 8015D, and chlorides per USEPA Method 300.0.

Field and Analytical Results
Field sampling results for soil confirmation sample SC-1 indicated a VOC concentration of 0.0 ppm, a TPH concentration of 151 mg/kg, and a chloride concentration of 100 mg/kg.

Laboratory analytical results for sample SC-1 reported benzene and total BTEX concentrations below the laboratory reporting limits of 0.032 mg/kg and 0.161 mg/kg, respectively. Laboratory analytical results for SC-1 reported TPH as gasoline range organics (GRO) concentration below the laboratory reporting limits of 3.2 mg/kg and diesel range organics (DRO) concentration as 17 mg/kg. The laboratory analytical result for the chloride concentration was below the laboratory reporting limits of 30 mg/kg. Field and laboratory results for SC-1 are summarized in Table 1, and the analytical laboratory report is attached.

Conclusions
On January 28, 2016, BGT closure sampling activities were conducted at the ConocoPhillips AD Hudson #4. Field and laboratory results for confirmation sample SC-1 were reported below the BGT closure standards for benzene, total BTEX, TPH, and chlorides as outlined in 19.15.17.13 NMAC. Based on field sampling and laboratory analytical results, no further work is recommended.

Rule Engineering appreciates the opportunity to provide services to ConocoPhillips. If you have any questions, please contact me at (505) 325-1055.

Sincerely,
Rule Engineering, LLC

Heather M. Woods

Heather M. Woods, P.G.

Attachments:
Table 1. BGT Soil Sampling Results
Figure 1. Topographic Map
Figure 2. Aerial Site Map
Field Work Summary Sheet
Analytical Laboratory Report

ng Results

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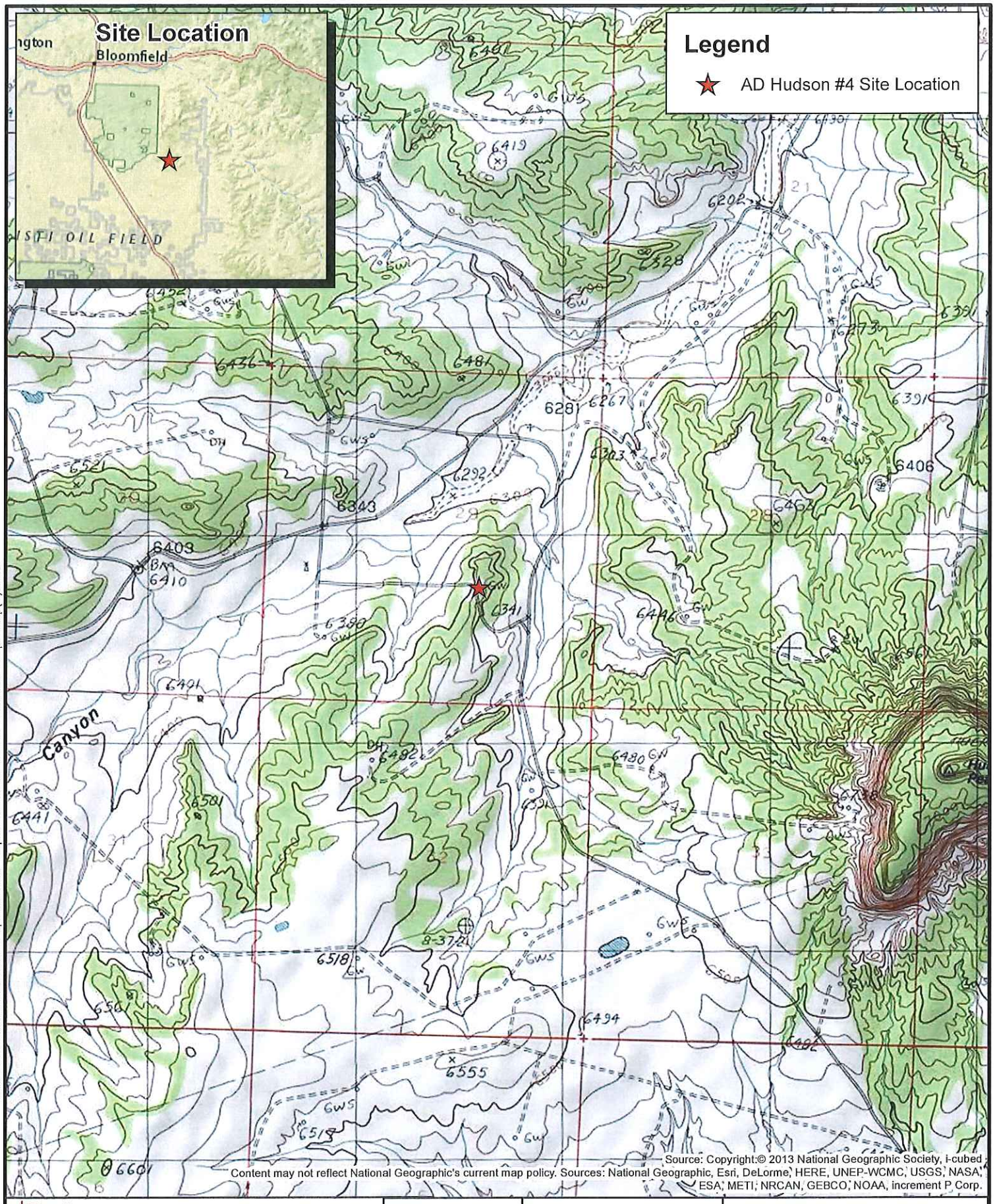
ıple pe	Sample Depth (ft below BGT liner)	Field Sampling Results			Laboratory Analytical Results				
		VOCs (PID) (ppm)	TPH - 418.1 (mg/kg)	Chloride** (mg/kg)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)	Chloride*** (mg/kg)
ɜT Closure Standards*		--	--	--	**0.2**	**50**	**100**		**250**
ɔosite	0.5	0.0	151	100	<0.032	<0.161	<3.2	17	<30

ıtion detector
ıillion
s/kilograms
ganic compounds
toluene, ethylbenzene, and total xylenes
ım hydrocarbons
ange organics
je organics
AC
de low-range test kit
ethod 300.0 chlorides

g, LLC



Document Path: U:\ConocoPhillips\ConocoPhillips\AD Hudson #4\AD Hudson #4 Topo Map(A).mxd

Rule Engineering, LLC
Solutions to Regulations for Industry

0 0.1 0.2 0.4 0.6 0.8 Miles

Huerfanito Peak Quadrangle 1:24,000

ConocoPhillips

J-S29-T27N-R09W
N36.5439, W107.8088
San Juan County, NM
API: 30-045-06238

Figure 1
Topo Map
AD Hudson #4

Document Path: U:\ConocoPhillips\ConocoPhillips\AD Hudson #4\AD Hudson #4 Aerial Map.mxd

Rule Engineering, LLC
Solutions to Regulations for Industry

0 5 10 20 30 40 50 Feet
1:300

ConocoPhillips

J-S29-T27N-R09W
N36.5439, W107.8088
San Juan County, NM
API: 30-045-06238

Figure 2
Aerial Map
AD Hudson #4

Rule Engineering Field Work Summary Sheet

Date:	1/28/16
Staff:	Heather Woods

Company:	ConocoPhillips
Location:	AD Hudson #4
API:	30-045-06238
Legals:	J-S29-T27N-R09W
County:	San Juan
Land Jurisdiction: Bureau of Land Management	

Wellhead GPS: 36.54387, -107.80905
BGT GPS: 36.54387, -107.80877

Siting Information based on BGT Location: Site Rank 10

Groundwater: Estimated to be greater than 100 feet below grade surface, based on depth to water of 80 feet reported in OSE registered well SJ 03898 POD1, which is approximatley 200 feet lower in elevation than BGT.

Surface Water: Unnamed ephemeral washes located approximatley 900 ft east and 985 ft west of BGT

Wellhead Protection: No wells identified within 1,000 ft of location.

Objective:	Closure sampling for BGT
Tank Size:	120 barrels, removed during closure activities
Liner:	Present, removed during closure activities.
Observations:	No staining or excess moisture observed below liner.
Notes:	Cory Smith (NMOCD representative) was onsite during closure activities. Mr. Smith observed and photo documented the removal of the BGT and collection of samples SC-1 through SC-5.

Field Sampling Information

Name	Type of Sample	Collection Time	Collection Location	VOCs[1] (ppm)	VOCs time	TPH[2] mg/kg	TPH Time	Chloride[3] mg/kg	Chloride Time
SC-1	Composite	9:55	See below	0.0	10:05	151	10:35	100	10:40

SC-1 is a 5-point composite of S-1 through S-5, collected 0.5 ft below BGT.
Sample SC-1 was laboratory analyzed for TPH (8015), BTEX (8021) and chlorides (300.0).

Field Sampling Notes:

[1] Field screening for volatile organic compounds (VOC) vapors was conducted with a photo-ionization detector (PID). Before beginning field screening, the PID was calibrated with 100 parts per million (ppm) isobutylene gas.

[2] Field analysis for TPH was conducted using a total hydrocarbon analyzer. Prior to field analysis, the machine was calibrated following the manufacturer's procedure which includes calculation of a calibration curve using known concentration standards.

[3] Field screening for chlorides was conducted using the Hach chloride low range test kit. Chloride concentrations are determined by drop count titration method using silver nitrate titrant.

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

February 01, 2016

Heather Woods
Rule Engineering LLC
501 Airport Dr., Ste 205
Farmington, NM 87401
TEL: (505) 325-1055
FAX

RE: CoP A D Hudson #4 OrderNo.: 1601A94

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/29/2016 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. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: SC-1
Project: CoP A D Hudson #4
Collection Date: 1/28/2016 9:55:00 AM
Lab ID: 1601A94-001
Matrix: MEOH (SOIL)
Received Date: 1/29/2016 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	1/29/2016 11:38:22 AM	23486
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **KJH**	
Diesel Range Organics (DRO)	17	9.8		mg/Kg	1	1/29/2016 10:25:25 AM	23478
Surr: DNOP	70.6	70-130		%REC	1	1/29/2016 10:25:25 AM	23478
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	1/29/2016 10:06:36 AM	23453
Surr: BFB	92.5	66.2-112		%REC	1	1/29/2016 10:06:36 AM	23453
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.032		mg/Kg	1	1/29/2016 10:06:36 AM	23453
Toluene	ND	0.032		mg/Kg	1	1/29/2016 10:06:36 AM	23453
Ethylbenzene	ND	0.032		mg/Kg	1	1/29/2016 10:06:36 AM	23453
Xylenes, Total	ND	0.065		mg/Kg	1	1/29/2016 10:06:36 AM	23453
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	1/29/2016 10:06:36 AM	23453

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1601A94**

01-Feb-16

Client: Rule Engineering LLC

Project: CoP A D Hudson #4

Sample ID	**MB-23486**	SampType:	**MBLK**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**23486**		RunNo:	**31808**				
Prep Date:	**1/29/2016**	Analysis Date:	**1/29/2016**		SeqNo:	**973423**	Units:	**mg/Kg**		

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

Sample ID	**LCS-23486**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**23486**		RunNo:	**31808**				
Prep Date:	**1/29/2016**	Analysis Date:	**1/29/2016**		SeqNo:	**973424**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1601A94**

01-Feb-16

Client: Rule Engineering LLC

Project: CoP A D Hudson #4

Sample ID	**MB-23478**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**PBS**	Batch ID:	**23478**		RunNo:	**31772**				
Prep Date:	**1/29/2016**	Analysis Date:	**1/29/2016**		SeqNo:	**972473**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.3		10.00		72.8	70	130			

Sample ID	**1601A94-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**SC-1**	Batch ID:	**23478**		RunNo:	**31772**				
Prep Date:	**1/29/2016**	Analysis Date:	**1/29/2016**		SeqNo:	**972674**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.3	46.43	16.74	71.5	31.2	162			
Surr: DNOP	3.2		4.643		69.9	70	130			S

Sample ID	**1601A94-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**SC-1**	Batch ID:	**23478**		RunNo:	**31772**				
Prep Date:	**1/29/2016**	Analysis Date:	**1/29/2016**		SeqNo:	**972675**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.8	49.16	16.74	56.7	31.2	162	11.3	31.7	
Surr: DNOP	3.3		4.916		67.8	70	130	0	0	S

Sample ID	**LCS-23478**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range Organics**				
Client ID:	**LCSS**	Batch ID:	**23478**		RunNo:	**31772**				
Prep Date:	**1/29/2016**	Analysis Date:	**1/29/2016**		SeqNo:	**973511**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	34	10	50.00	0	68.6	65.8	136			
Surr: DNOP	3.7		5.000		74.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1601A94**

01-Feb-16

Client: Rule Engineering LLC

Project: CoP A D Hudson #4

Sample ID	**MB-23453**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBS**	Batch ID:	**23453**		RunNo:	**31771**				
Prep Date:	**1/28/2016**	Analysis Date:	**1/29/2016**		SeqNo:	**972931**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		91.4	66.2	112			

Sample ID	**LCS-23453**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSS**	Batch ID:	**23453**		RunNo:	**31771**				
Prep Date:	**1/28/2016**	Analysis Date:	**1/29/2016**		SeqNo:	**972932**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.2	79.6	122			
Surr: BFB	990		1000		98.8	66.2	112			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1601A94**

01-Feb-16

Client: Rule Engineering LLC
Project: CoP A D Hudson #4

Sample ID	MB-23453	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	23453	RunNo:	31771					
Prep Date:	1/28/2016	Analysis Date:	1/29/2016	SeqNo:	972939	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		103	80	120			

Sample ID	LCS-23453	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	23453	RunNo:	31771					
Prep Date:	1/28/2016	Analysis Date:	1/29/2016	SeqNo:	972940	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.050	1.000	0	91.7	80	120			
Toluene	0.98	0.050	1.000	0	97.9	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.8	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.3	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		119	80	120			

Sample ID	1601A94-001AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SC-1	Batch ID:	23453	RunNo:	31771					
Prep Date:		Analysis Date:	1/29/2016	SeqNo:	972941	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.67	0.032	0.6481	0	104	71.5	122			
Toluene	0.71	0.032	0.6481	0	110	71.2	123			
Ethylbenzene	0.71	0.032	0.6481	0	109	75.2	130			
Xylenes, Total	2.1	0.065	1.944	0	110	72.4	131			
Surr: 4-Bromofluorobenzene	0.81		0.6481		124	80	120			S

Sample ID	1601A94-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SC-1	Batch ID:	23453	RunNo:	31771					
Prep Date:		Analysis Date:	1/29/2016	SeqNo:	972942	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.60	0.032	0.6481	0	92.3	71.5	122	11.9	20	
Toluene	0.64	0.032	0.6481	0	99.0	71.2	123	10.1	20	
Ethylbenzene	0.67	0.032	0.6481	0	103	75.2	130	5.30	20	
Xylenes, Total	2.0	0.065	1.944	0	104	72.4	131	4.86	20	
Surr: 4-Bromofluorobenzene	0.80		0.6481		123	80	120	0	0	S

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

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

Sample Log-In Check List

Client Name: **RULE ENGINEERING LL** Work Order Number: **1601A94** RcptNo: **1**

Received by/date: 01/29/16

Logged By: **Joe Archuleta** **1/29/2016 8:10:00 AM**

Completed By: **Joe Archuleta** **1/29/2016 8:26:31 AM**

Reviewed By: 01/29/16

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: Date:

By Whom: Via: ☐ 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	1.0	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Rule Engineering, LLC

Mailing Address: 501 Airport Dr. Suite 205

Farmington, NM 87401

Phone #: (505) 716-2787

Email or Fax#: hwoods@ruleengineering.com

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

Accreditation: NELAP ☐ Other _____

EDD (Type): _____

Turn-Around Time: ☐ Standard ☒ Rush Same Day

Project Name: CoP A D Hudson #4

Project #:

Project Manager: Heather Woods

Sampler: Heather Woods / Justin Valdez

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1601494	BTEX + ~~MTBE~~ + ~~DRO~~ (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)					Air Bubbles (Y or N)
0/16	0955	Soil	SC-1	MeOH Kit/ (1) 4oz Glass	MeOH/—	-001	X		X					X								

NEG HW

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/16	1241	Heather M. Woods	Christine Walters	1/28/16	1241
Date:	Time:	Relinquished by:	Received by:	Date	Time
8/16	1814	Christine Walters		01/29/16	0810

Remarks: Direct Bill to Conocophillips
WO: 10377736
Lead: Pasho Trujillo
User ID: KGARCIA
Activity Code: TIO

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.

BGT Closure Photograph Log
ConocoPhillips
AD Hudson #4
Unit Letter J, Section 29, Township 27N, Range 9W
N36.54387, W107.80905
San Juan County, NM
February 10, 2016

Photograph 1. View facing west-southwest of below grade tank following removal from the excavation.

Photograph 2. View of liner in place following lifting the tank from the excavation.

BGT Closure Photograph Log
ConocoPhillips
AD Hudson #4
Unit Letter J, Section 29, Township 27N, Range 9W
N36.54387, W107.80905
San Juan County, NM
February 10, 2016

Photograph 3. View of exposed base of excavation following soil sampling.