

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

13263 Proposed Alternative Method Permit or Closure Plan Application

OIL CONS. DIV DIST. 3

- 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

39-22288

NOV 13 2015

**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: ConocoPhillips Company OGRID #: 217817  
Address: PO BOX 4289, Farmington, NM 87499  
Facility or well name: AXI Apache N 13A  
API Number: 30-039-22288 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr I (NESE) Section 2 Township 25N Range 4W County: Rio Arriba  
Center of Proposed Design: Latitude 36.425251°N Longitude -107.21582°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 \_\_\_\_\_

41  
21b

6.

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

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

7.

**Signs:** Subsection C of 19.15.17.11 NMAC

- 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- Signed in compliance with 19.15.16.8 NMAC

8.

**Variations and Exceptions:**

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

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

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

9.

**Siting Criteria (regarding permitting):** 19.15.17.10 NMAC

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

**General siting**

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

- NM Office of the State Engineer - 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

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

10.  
**Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC  
*Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.*

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

Previously Approved Design (attach copy of design)    API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

11.  
**Multi-Well Fluid Management Pit Checklist:** Subsection B of 19.15.17.9 NMAC  
*Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.*

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

Previously Approved Design (attach copy of design)    API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

12.

**Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC

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

- Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Climatological Factors Assessment
- Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- Quality Control/Quality Assurance Construction and Installation Plan
- Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan
- Emergency Response Plan
- Oil Field Waste Stream Characterization
- Monitoring and Inspection Plan
- Erosion Control Plan
- Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.

**Proposed Closure:** 19.15.17.13 NMAC

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

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

14.

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

- Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.

**Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC

**Instructions:** Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

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

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

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

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

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

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

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

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

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

OCD Representative Signature: Vanessa [Signature] Approval Date: 12/19/2015

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

19.  
**Closure Report (required within 60 days of closure completion):** 19.15.17.13 NMAC  
*Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.*

Closure Completion Date: 6/8/2015

20.  
**Closure Method:**  
 Waste Excavation and Removal  On-Site Closure Method  Alternative Closure Method  Waste Removal (Closed-loop systems only)  
 If different from approved plan, please explain.

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

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

On-site Closure Location: Latitude \_\_\_\_\_ °N \_\_\_\_\_ Longitude \_\_\_\_\_ °W \_\_\_\_\_ NAD:  1927  1983

**Operator Closure Certification:**

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

Name (Print): Crystal Walker Title: Regulatory Coordinator

Signature:  Date: 11/11/2015

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

**ConocoPhillips Company**  
**San Juan Basin**  
**Below Grade Tank Closure Report**

**Lease Name: AXI Apache N 13A**  
**API No.: 30-039-22288**

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. COPC 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, COPC 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. COPC 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. COPC 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 COPC 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. COPC will test the soils beneath the below-grade tank to determine whether a release has occurred. COPC shall collect, at a minimum, a five point, composite sample; collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyzed for the constituents listed in Table I of 19.15.17.13 NMAC. COPC shall notify the division of its results on form C-141.

11/10/2015

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 COPC or the division determines that a release has occurred, then COPC shall comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC, as appropriate.

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

7. If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Table I of 19.15.17.13 NMAC, then COPC shall backfill the excavation with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover; recontour and re-vegetate the site.

**The below-grade tank area passed all requirements of Paragraph (4) of Subsection E of 19.15.17.13 NMAC and was backfilled with compacted, non-waste containing, earthen material.**

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

**Notification is attached.**

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

**Provision 11 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)**

## Walker, Crystal

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**From:** Journey, Denise D  
**Sent:** Thursday, June 04, 2015 8:12 AM  
**To:** 'Smith, Cory, EMNRD'; Powell, Brandon, EMNRD  
**Cc:** Heinen, Bobby B; 'Kelly, Mark'  
**Subject:** FW: AXI APACHE N 13A - 30-039-22288 - 72 HOUR NOTICE BGT CLOSURE

**PLEASE DISREGARD THE PREVIOUS 72 HOUR NOTIFICATION FOR THE AXI APACHE N 13 – IT SHOULD BE FOR THE AXI APACHE N 13A. MY APOLOGIES.**

**Subject:** AXI APACHE N 13A

**Anticipated Start Date:** Monday, June 8, 2015 @ approximately 8:30 am

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:** AXI APACHE N 13A

**API#:** 30-039-22288

**Location:** UL I, SEC. 2, T25N, R4W

**Footages:** 1520' FSL & 1050' FEL

**Operator:** ConocoPhillips **Surface Owner:** BLM

Please forward this message as necessary to anyone I may have missed.

Denise Journey  
Staff Regulatory Technician  
ConocoPhillips Company  
505-326-9556  
505-215-1750  
[Denise.Journey@conocophillips.com](mailto:Denise.Journey@conocophillips.com)

---

**From:** Journey, Denise D  
**Sent:** Thursday, June 04, 2015 7:09 AM  
**To:** 'Smith, Cory, EMNRD'; Powell, Brandon, EMNRD  
**Cc:** Heinen, Bobby B; GRP:SJBU Regulatory; 'Kelly, Mark'  
**Subject:** FW: AXI APACHE N 13 - 30-039-21428 - 72 HOUR NOTICE BGT CLOSURE

Please note correction in subject line for the API#.

*Denise Journey*  
Staff Regulatory Technician  
505-326-9556

---

**From:** Journey, Denise D  
**Sent:** Thursday, June 04, 2015 7:07 AM

**To:** Smith, Cory, EMNRD; Powell, Brandon, EMNRD  
**Cc:** Heinen, Bobby B; GRP:SJBU Regulatory; Kelly, Mark  
**Subject:** AXI APACHE N 13 - 30-209-21428 - 72 HOUR NOTICE BGT CLOSURE

**Subject:** 72 Hour Notice of BGT Closure

**Anticipated Start Date:** Monday, June 8, 2015 @ approximately 8:30 am

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:** AXI APACHE N 13

**API#:** 30-039-21428

**Location:** UL G; SEC. 2, T25N, R4W

**Footages:** 1850' FNL & 1850' FEL

**Operator:** ConocoPhillips Company

**Surface Owner:** BLM

Please forward this message as necessary to anyone I may have missed.

Denise Journey  
Staff Regulatory Technician  
ConocoPhillips Company  
505-326-9556  
505-215-1750  
[Denise.Journey@conocophillips.com](mailto:Denise.Journey@conocophillips.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

Form C-141  
Revised August 8, 2011

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

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company <b>ConocoPhillips Company</b>	Contact <b>Lisa Hunter</b>
Address <b>3401 East 30<sup>th</sup> St, Farmington, NM</b>	Telephone No. <b>(505) 326-9786</b>
Facility Name: <b>AXI Apache N #13A</b>	Facility Type: <b>Gas Well</b>
Surface Owner <b>Jicarilla</b>	Mineral Owner <b>Jicarilla</b> API No. <b>3003922288</b>

**LOCATION OF RELEASE**

Unit Letter <b>I</b>	Section <b>02</b>	Township <b>25N</b>	Range <b>04W</b>	Feet from the <b>1520</b>	North/South Line <b>South</b>	Feet from the <b>1050</b>	East/West Line <b>East</b>	County <b>Rio Arriba</b>
-------------------------	----------------------	------------------------	---------------------	------------------------------	----------------------------------	------------------------------	-------------------------------	-----------------------------

Latitude 36.42506 Longitude -107.21638

**NATURE OF RELEASE**

Type of Release <b>Hydrocarbon</b>	Volume of Release <b>Unknown</b>	Volume Recovered <b>2 cubic yds soil</b>
Source of Release <b>BGT</b>	Date and Hour of Occurrence <b>Unknown</b>	Date and Hour of Discovery <b>05/21/15 @ 12:00 PM</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? <b>N/A</b>	
By Whom? <b>N/A</b>	Date and Hour <b>N/A</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>N/A</b>	

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

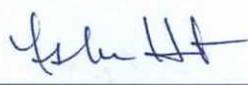
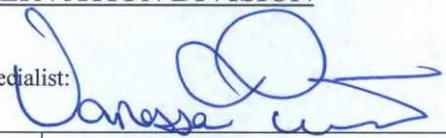
Describe Cause of Problem and Remedial Action Taken.\*

**Below-Grade Tank Closure activities with samples taken resulting in constituents exceeded standards outlined by 19.15.17.13 NMAC.**

Describe Area Affected and Cleanup Action Taken.\*

**Historical hydrocarbon impacted soil was found during the BGT closure for the subject well. The excavation was 6' x 4' x 1.5' in depth and 2 yds of soil was transported to IEI land farm and 2 yds of clean soil was transported from Jicarilla approved source and placed in the excavation site. Analytical results were below the regulatory standards – no further action required. The soil sampling report is attached for review.**

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

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Lisa Hunter</b>	Approved by Environmental Specialist: 	
Title: <b>Field Environmental Specialist</b>	Approval Date: <b>12/19/2015</b>	Expiration Date:
E-mail Address: <b>Lisa.Hunter@cop.com</b>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>September 23, 2015</b>	Phone: <b>(505) 326-9786</b>	

\* Attach Additional Sheets If Necessary

# **Rule** Engineering, LLC

Solutions to Regulations for Industry

---

September 22, 2015

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

**Re: Axi Apache N #13A  
Below Grade Tank Closure Sampling and Release Report**

Dear Ms. Hunter:

This report summarizes below grade tank (BGT) closure sampling and remedial activities conducted at the ConocoPhillips Axi Apache N #13A, located in Unit Letter I, Section 2, Township 25N, Range 4W in Rio Arriba County, New Mexico on the Jicarilla Apache Nation. Site activities included collection and analysis of a five-point composite soil closure sample from beneath the BGT, excavation of hydrocarbon impacted soils, and collection and analysis of an excavation confirmation sample. A topographic map of the location is included as Figure 1 and an aerial site map is included as Figure 2.

## **BGT/Release Summary**

**Site Name** – Axi Apache N #13A

**Location** – Unit Letter I, Section 2, Township 25N, Range 4W

**API Number** – 30-039-22288

**Wellhead Latitude/Longitude** – N36.42523 and W107.21638

**BGT Latitude/Longitude** – N36.42506 and W107.21672

**Land Jurisdiction** – Jicarilla Apache Nation

**Size of BGT** – 45 barrels

**Source of Release** – historic (beneath the BGT east side)

**Release Contents** – unknown

**Release Volume** – unknown

**Site Ranking** – 20

**Date of BGT Closure Soil Sampling** – June 8, 2015

**Date(s) of Rule Engineering, LLC (Rule) Field Work** – June 8 and 12, 2015

**Subcontractor(s)** – CF&M

**Amount of Contaminated Soil Excavated/Disposed** – estimated 2 cubic yards

## **BGT Closure Standards**

As outlined in 19.15.17.13 New Mexico Administrative Code (NMAC), BGT closure standards for the Axi Apache N #13A are as follows: 0.2 milligrams per kilogram (mg/kg) benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons (TPH).

### **Site Ranking**

The Axi Apache N #13A is located on the Jicarilla Apache Nation and follows recommendations from Jicarilla Apache Nation Environmental Protection Office (EPO). In accordance with EPO and New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases (August 1993), this site was assigned a ranking score of 20 (Table 1). Based on the ranking score of 20, action levels for remediated soils at the site are as follows: 10 mg/kg benzene, 50 mg/kg total BTEX, and 100 mg/kg TPH.

Depth to groundwater at the site was estimated to be 286 feet below ground surface (bgs) based on the elevation differential (286 feet) between the BGT location and the wash in Ojitos Canyon.

A review was completed of the New Mexico Office of the State Engineer online New Mexico Water Rights Reporting System and no water wells were identified within a 1,000 feet radius of the location.

The nearest surface water, an unnamed wash which drains to the Ojitos Canyon is located approximately 80 feet west of the BGT.

### **Field Activities**

On June 8, 2015, Rule personnel conducted a visual inspection for surface/subsurface indications of a release. Soil discoloration and hydrocarbon odor was observed below the BGT along the eastern edge. No corrosion holes were visible in the BGT and the impacted soils were located 4 inches bgs, indicating that a historic release had occurred. Rule personnel then collected five soil samples (S-1 through S-5) from 0.5 feet beneath the BGT. The field work summary sheet is attached.

On the June 12, 2015, CF&M excavated the petroleum impacted materials from below the BGT. On June 12, 2015, Rule personnel collected one confirmation sample made up of samples from the sidewalls and base of the excavation. Approximately 2 cubic yards of impacted soils were removed from an area of excavation measuring approximately 6 feet x 4 feet x 1.5 (to 2.0) feet in depth. Figure 3 provides the locations and results of the soil sample collected during the excavation clearance.

### **BGT Soil Sampling**

The five soil samples (S-1 through S-5) collected from below the BGT liner were combined to create soil confirmation sample SC-1 BGT. A portion of SC-1 BGT was field screened for volatile organic compounds (VOCs) and chlorides, and field analyzed for TPH per U.S. Environmental Protection Agency (USEPA) Method 418.1.

The portion of SC-1 BGT 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 418.1, and chlorides per USEPA Method 300.0.

Field sampling results for closure sample SC-1 BGT reported VOCs at 293 parts per million (ppm) and TPH concentrations at 1,070 mg/kg. Field chloride concentrations were reported at 80 mg/kg. Laboratory analytical results for sample SC-1 BGT reported benzene and total BTEX concentrations as less than 0.050 mg/kg and 0.2 mg/kg, respectively. Laboratory analytical results for SC-1 BGT reported concentrations of 480 mg/kg TPH and 170 mg/kg chloride. Field and laboratory results for SC-1 BGT are summarized in Table 2, and the analytical laboratory report is attached.

#### **Excavation Soil Sampling**

From the excavation, Rule collected one five-point composite sample (Excavation Composite) from the sidewalls and base. A portion of the composite soil sample was field screened for VOCs and field analyzed for TPH per USEPA Method 418.1.

The Excavation Composite 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 and TPH for gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015D.

Field results for soil confirmation sample reported VOC and TPH concentrations below the NMOCD action levels of with 5.2 ppm and 99.9 mg/kg, respectively. Laboratory analytical results for soil confirmation Excavation Composite reported benzene, total BTEX, and TPH (GRO+DRO) concentrations below the applicable NMOCD action levels. Field sampling and laboratory analytical results are summarized in Table 3 and presented on Figure 3. The analytical laboratory report is attached.

#### **Conclusions**

On June 8, 2015, BGT closure sampling activities were conducted at the ConocoPhillips Axi Apache N 13A. Field and laboratory results for sample SC-1 BGT were reported below the BGT closure standards for benzene, total BTEX, and chlorides as outlined in 19.15.17.13.NMAC, but exceeded the BGT closure standard of 100 mg/kg for TPH. Based on field screening results a historic release was noted along the eastern portion of the BGT location.

On June 12, 2015, approximately 2 cubic yards of hydrocarbon contaminated soils were removed from within the impacted area. The final excavation measured 6

Ms. Lisa Hunter  
Axi Apache N #13A  
September 22, 2015  
Page 4 of 4

feet x 4 feet x 1.5 (to 2.0) feet in depth. On June 12, 2015, one confirmation soil sample was collected from the sidewalls and base of the final excavation.

Laboratory analytical results for soil confirmation sample, Excavation Composite, reported benzene and total BTEX concentrations below the NMOCD action levels of 10 mg/kg and 50 mg/kg, respectively. The field and laboratory TPH concentrations were both reported below the NMOCD action level of 100 mg/kg. Based on the field screening results, Hobson Sandoval, EPO representative, approved backfilling of the excavation on June 12, 2015. Based on 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, P.G.

**Attachments:**

- Table 1. NMOCD Site Ranking Determination
- Table 2. BGT Soil Sampling Results
- Table 3. Excavation Soil Sampling Results
- Figure 1. Topographic Map
- Figure 2. Aerial Site Map
- Figure 3. Excavation Clearance Soil Analytical Map
- BGT Field Work Summary Sheet
- Analytical Laboratory Reports (#1506962 and #1506818)

**Table 1. NMOCD Site Ranking Determination**  
**Axi Apache N #13A**  
**Rio Arriba County, New Mexico**  
**ConocoPhillips**

Ranking Criteria	Ranking Score	Site-Based Ranking Score	Basis for Determination	Data Sources
<b>Depth to Groundwater</b>				
<50 feet	20	0	Elevation differential between location and wash in Ojitos Canyon south of the location is 286 feet.	NMOCD Online database, Schmitz Ranch Quadrangle, Google Earth, and Visual Inspection
50-99 feet	10			
>100 feet	0			
<b>Wellhead Protection Area</b>				
<1,000 feet from a water source, or <200 feet from private domestic water source	20 (Yes)	0	No water source or recorded water wells within 1,000 feet radius of location.	NMOSE NMWRRS, Schmitz Ranch Quadrangle, Google Earth, and Visual Inspection
	0 (No)			
<b>Distance to Surface Water Body</b>				
<200 horizontal feet	20	20	An unnamed wash which drains to wash in Ojitos Canyon is located approximately 80 feet west of the BGT.	Schmitz Ranch Quadrangle, Google Earth, and Visual Inspection
200 to 1,000 horizontal feet	10			
>1,000 horizontal feet	0			
<b>Site Based Total Ranking Score</b>		<b>20</b>		

**Table 2. BGT Soil Sampling Results**  
**Axi Apache N #13A**  
**Rio Arriba County, New Mexico**  
**ConocoPhillips**

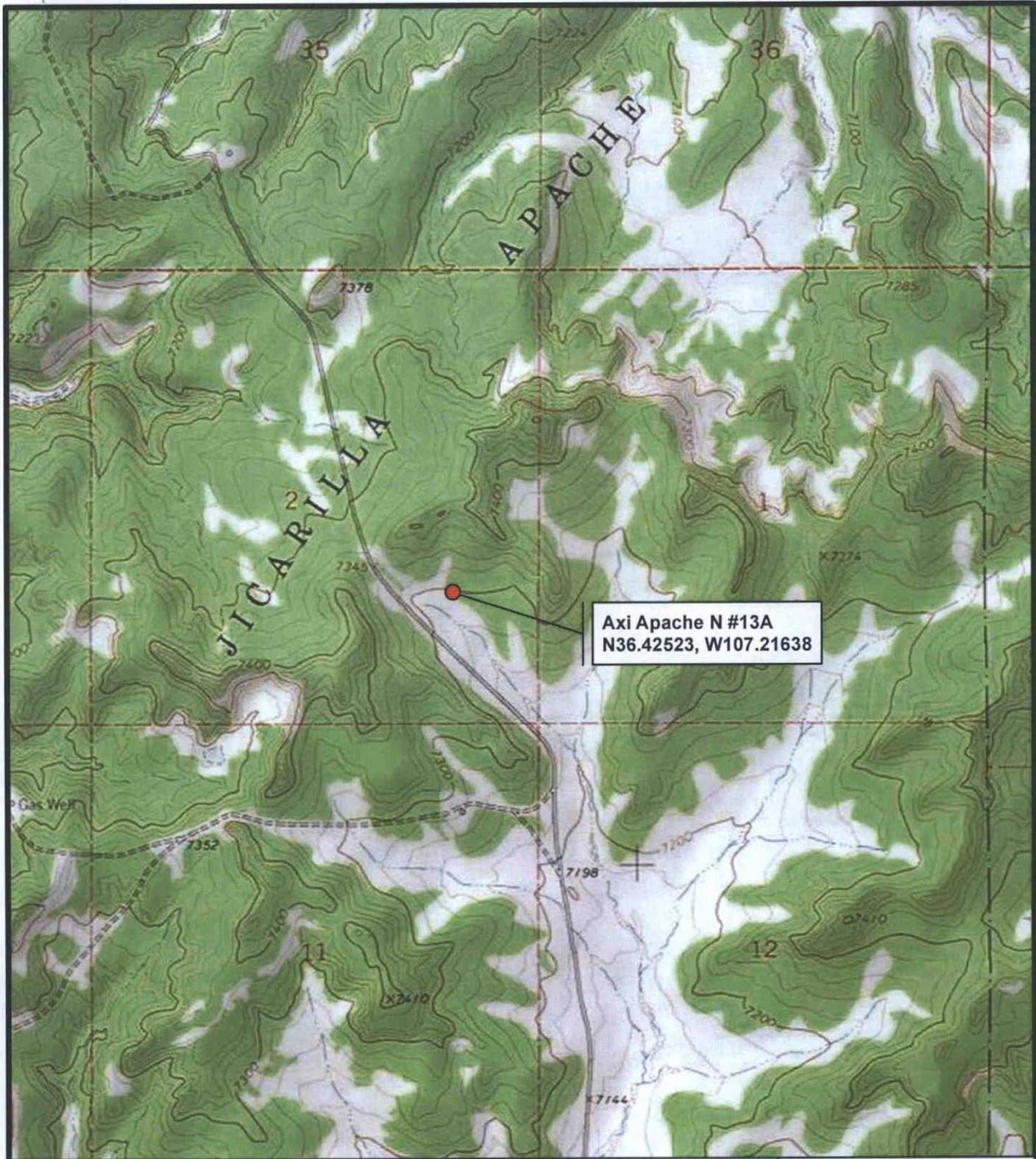
Sample ID	Date	Sample Type	Sample Depth (ft below BGT)	Field Sampling Results			Laboratory Analytical Results			
				VOCs (PID) (ppm)	TPH (mg/kg)	Chloride (mg/kg)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
BGT Closure Standards*				----	100	250	0.2	50	100	250
SC-1 BGT	Jun 08, 15	composite	0.5	293	1,070	80	<0.050	0.17	480	170

Notes: PID - photo-ionization detector  
 ppm - parts per million  
 mg/kg - milligrams/kilograms  
 VOCs - volatile organic compounds  
 TPH-total petroleum hydrocarbons per USEPA Method 418.1  
 BTEX - benzene, toluene, ethylbenzene, and total xylenes  
 \*19.15.17.13 NMAC

**Table 3. Excavation Soil Sampling Results**  
**Axi Apache N #13A**  
**Rio Arriba County, New Mexico**  
**ConocoPhillips**

Sample ID	Date	Sample Depth (ft below BGT)	VOCs* (PID) (ppm)	TPH* (418.1) (mg/kg)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH-GRO	TPH-DRO
							(mg/kg)	
<b>EPO/NMOCD Action Levels**</b>			<b>100</b>	<b>100</b>	<b>10</b>	<b>50</b>	<b>100</b>	
Excavation Composite	Jun 12, 15	1.5 to 2	5.2	99.9	<0.049	<0.245	<4.9	50

Notes:           \* field results  
VOCs - volatile organic compounds  
PID - photo-ionization detector  
ppm - parts per million  
mg/kg - milligrams/kilograms  
TPH-total petroleum hydrocarbons  
BTEX - benzene, toluene, ethylbenzene, and xylenes  
TPH-GRO - total petroleum hydrocarbons-gasoline range organics  
TPH-DRO - total petroleum hydrocarbons-diesel range organics  
\*\*Based on NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (1993), site rank of 20.



**ConocoPhillips**

0 0.125 0.25 0.5 0.75 1  
Miles

**Rule** Engineering, LLC  
Solutions to Regulations for Industry

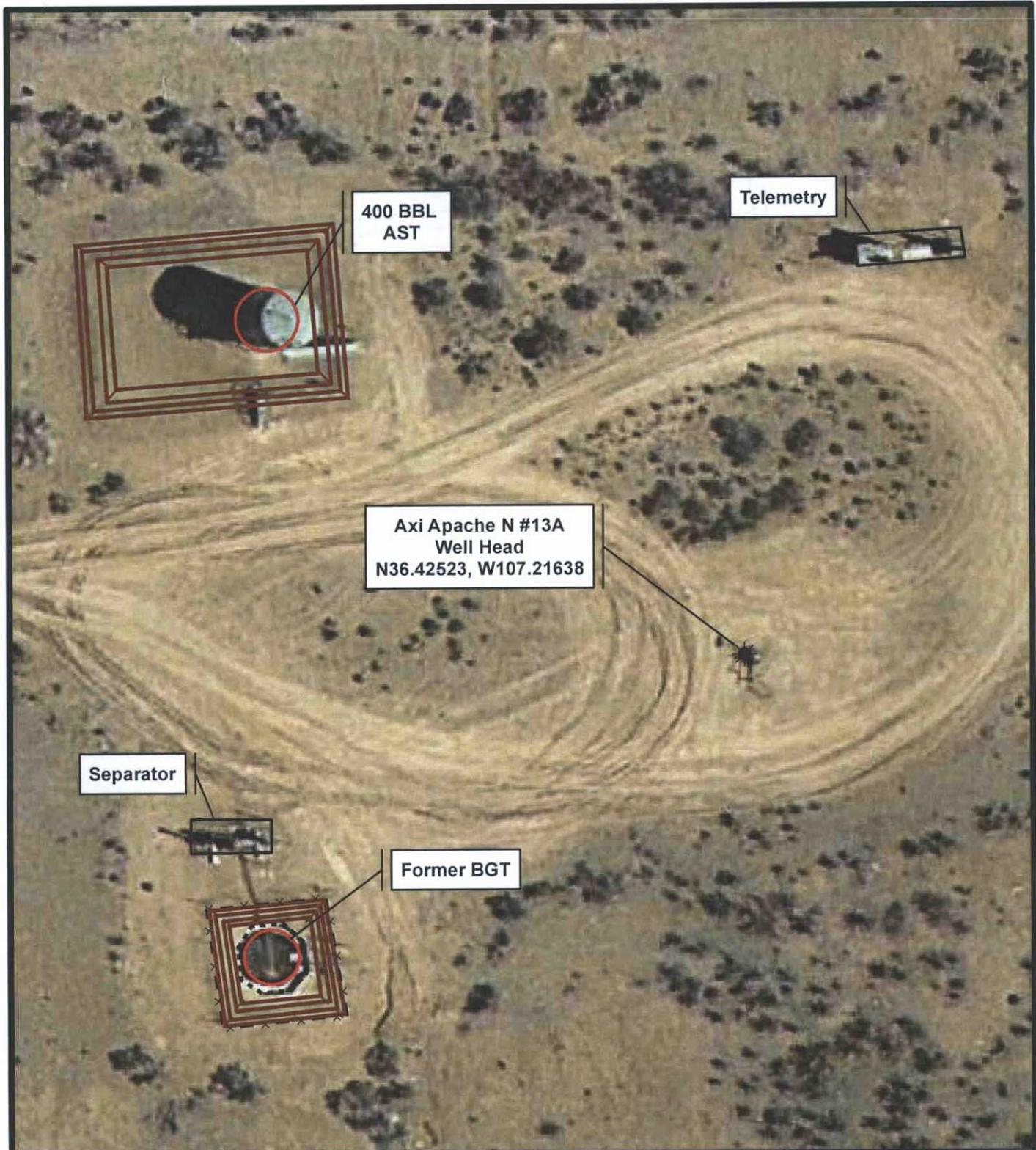
9/22/2015

N

1:24,000

**Topographic Site Map**  
 ConocoPhillips  
 Axi Apache N #13A  
 API: 30-039-22288

**Figure 1**  
 I-2-T25N-R04W  
 N36.42523, W107.21638  
 Schmitz Ranch Quadrangle  
 Rio Arriba County, New Mexico



**Legend**

- Well Head
- Fence
- Cribbing
- Berm
- Storage Tanks

9/22/2015 1:412

**ConocoPhillips**

0 10 20 40 60 80 Feet

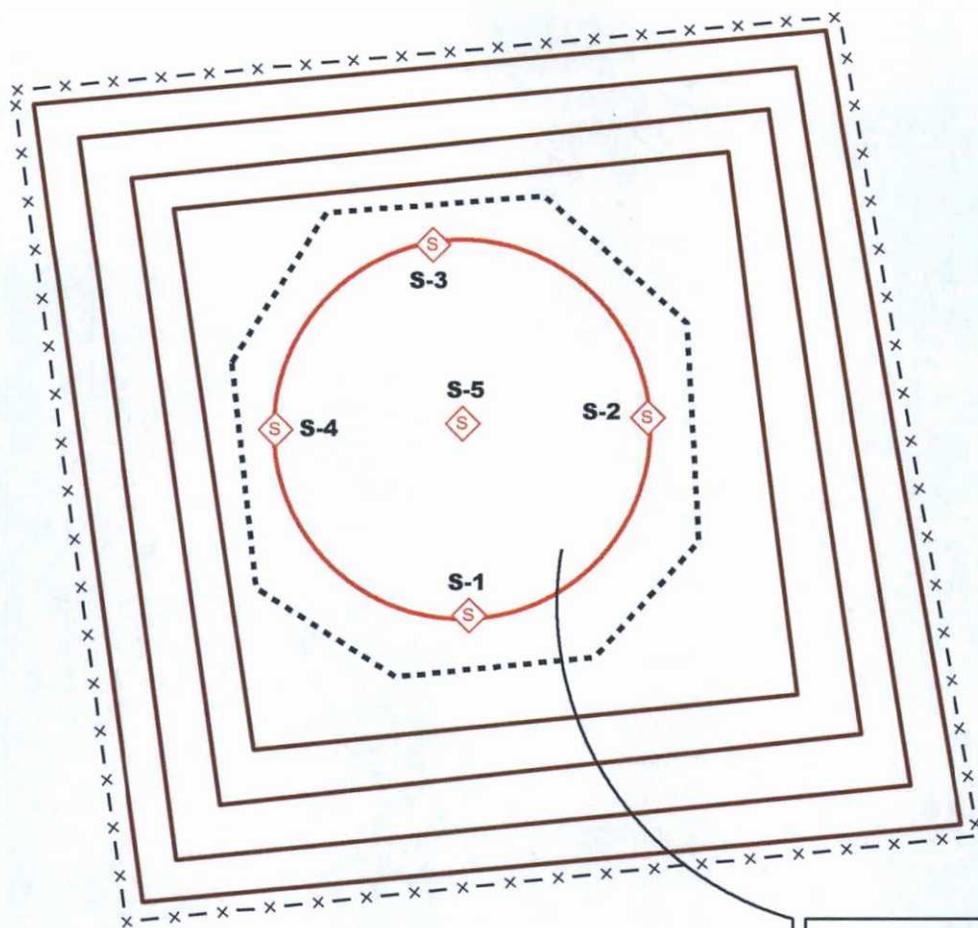
**Rule Engineering, LLC**  
Solutions to Regulations for Industry

**Aerial Site Map**

ConocoPhillips  
Axi Apache N #13A  
API: 30-039-22288

**Figure 2**

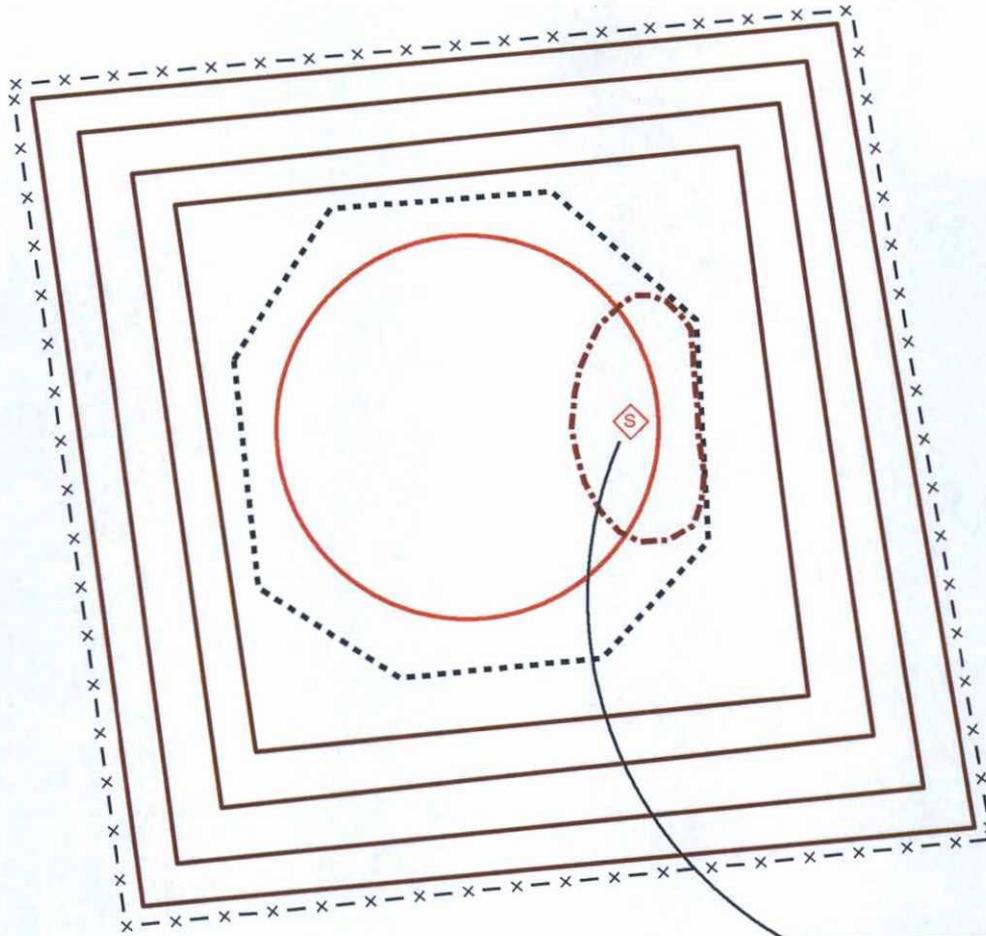
I-2-T25N-R04W  
N36.42523, W107.21638  
Rio Arriba County, New Mexico



**SC-1**  
 6/8/2015  
 Benzene <0.005 mg/kg  
 Total BTEX 0.17 mg/kg  
 Chloride 170 mg/kg  
 TPH 480 mg/kg

NOTES: SC-1 is a five part composite comprised of aliquots taken from S-1 through S-5  
 BTEX= benzene, toluene, ethylbenzene, and xylenes  
 TPH= total petroleum hydrocarbons

<p><b>Legend</b></p> <p> <b>Soil Sample</b>     <b>Berm</b></p> <p> <b>Fence</b>         <b>UST</b></p> <p> <b>Cribbing</b></p> <p>9/22/2015 <span style="float: right;">1:81</span></p>	<p style="text-align: center;"></p> <p style="text-align: center;">0    2    4    8    12    16      Feet</p> <p style="text-align: center;">      Solutions to Regulations for Industry</p> <p style="text-align: right;"></p>	<p><b>BGT Soil Analytical Map</b></p> <p>ConocoPhillips        Axi Apache N #13A        API: 30-039-22288</p> <p><b>Figure 3</b></p> <p>I-2-T25N-R04W        N36.42523, W107.21638        Rio Arriba County, New Mexico</p>
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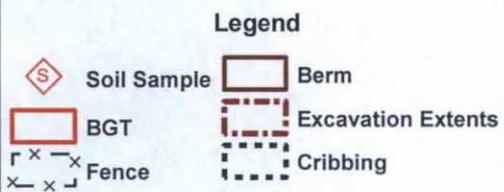


**Excavation Composite**

7/12/2015

Benzene <0.049 mg/kg  
 Total BTEX <0.245 mg/kg  
 TPH-GRO <4.9 mg/kg  
 TPH-DRO 50 mg/kg

NOTES: Excavation composite is a five point composite  
 BTEX= benzene, toluene, ethylbenzene, and xylenes  
 TPH= total petroleum hydrocarbons  
 GRO= gasoline range organics  
 DRO= diesel range organics



**ConocoPhillips**



**Rule Engineering, LLC**  
 Solutions to Regulations for Industry



**Excavation Soil Analytical Map**

ConocoPhillips  
 Axi Apache N #13A  
 API: 30-039-22288

**Figure 4**

I-2-T25N-R04W  
 N36.42523, W107.21638  
 Rio Arriba County, New Mexico

9/22/2015

1:81

**Rule Engineering Field Work Summary Sheet**

Company: ConocoPhillips  
 Location: Axi Apache N #13A  
 API: 30-039-22288  
 Legals: I-S02-T25N-R4W  
 County: Rio Arriba  
 Land Jurisdiction: Jicarilla Apache Nation

Date: 8-Jun-15  
 Staff: Debbie Watson

Wellhead GPS: 36.42523, -107.21638  
 BGT GPS: 36.42506, -107.21672

**Siting Information based on BGT Location:**

Site Rank **20**

Groundwater: Elevation differential (>100 ft)  
 Surface Water: Unnamed wash located 80 ft W of BGT  
 Wellhead Protection: No wells identified within 1,000 ft of location

Objective: Closure sampling for BGT  
 Tank Size: Tank removed  
 Liner: No liner  
 Observations: Staining observed along east portion of BGT. Stained soil included in sample.  
 Notes: Following BGT sampling, excavation of impacted soils along east side.

**Field Sampling Information**

Name	Type of Sample	Collection Time	Collection Location	VOCs <sup>1</sup> (ppm)	VOCs time	TPH <sup>2</sup> mg/kg	TPH Time	Chloride <sup>3</sup> mg/kg	Chloride Time
SC-1	Composite	9:50	See below	293	10:00	1,070	10:23	80	10:18

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 (418.1), BTEX (8021) and chlorides (300.0).



**Field Sampling Notes:**

- <sup>1</sup> 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.
- <sup>2</sup> 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.
- <sup>3</sup> 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  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

June 24, 2015

Deborah Watson  
Rule Engineering LLC  
501 Airport Dr., Ste 205  
Farmington, NM 87401  
TEL: (505) 860-2712  
FAX

RE: Axi Apache N 13A

OrderNo.: 1506962

Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/16/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue circular stamp.

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: Axi Apache N 13A

Collection Date: 6/8/2015 9:50:00 AM

Lab ID: 1506962-001

Matrix: SOIL

Received Date: 6/16/2015 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>TOM</b>
Petroleum Hydrocarbons, TR	480	20		mg/Kg	1	6/19/2015	19823
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	170	7.5		mg/Kg	5	6/22/2015 11:30:10 AM	19854
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	6/22/2015 11:49:21 AM	19822
Toluene	ND	0.050		mg/Kg	1	6/22/2015 11:49:21 AM	19822
Ethylbenzene	ND	0.050		mg/Kg	1	6/22/2015 11:49:21 AM	19822
Xylenes, Total	0.17	0.099		mg/Kg	1	6/22/2015 11:49:21 AM	19822
Surr: 4-Bromofluorobenzene	113	80-120		%REC	1	6/22/2015 11:49:21 AM	19822

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1506962

24-Jun-15

**Client:** Rule Engineering LLC

**Project:** Axi Apache N 13A

Sample ID	<b>MB-19854</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>19854</b>	RunNo:	<b>27009</b>					
Prep Date:	<b>6/22/2015</b>	Analysis Date:	<b>6/22/2015</b>	SeqNo:	<b>806753</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-19854</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>19854</b>	RunNo:	<b>27009</b>					
Prep Date:	<b>6/22/2015</b>	Analysis Date:	<b>6/22/2015</b>	SeqNo:	<b>806754</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.9	90	110			

Sample ID	<b>1506962-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>19854</b>	RunNo:	<b>27009</b>					
Prep Date:	<b>6/22/2015</b>	Analysis Date:	<b>6/22/2015</b>	SeqNo:	<b>806756</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	190	7.5	15.00	173.7	99.8	64.2	131			

Sample ID	<b>1506962-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>19854</b>	RunNo:	<b>27009</b>					
Prep Date:	<b>6/22/2015</b>	Analysis Date:	<b>6/22/2015</b>	SeqNo:	<b>806757</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	190	7.5	15.00	173.7	115	64.2	131	1.21	20	

**Qualifiers:**

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

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

WO#: 1506962  
 24-Jun-15

**Client:** Rule Engineering LLC  
**Project:** Axi Apache N 13A

Sample ID	<b>MB-19823</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 418.1: TPH</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>19823</b>	RunNo:	<b>26959</b>					
Prep Date:	<b>6/19/2015</b>	Analysis Date:	<b>6/19/2015</b>	SeqNo:	<b>805089</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	<b>LCS-19823</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 418.1: TPH</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>19823</b>	RunNo:	<b>26959</b>					
Prep Date:	<b>6/19/2015</b>	Analysis Date:	<b>6/19/2015</b>	SeqNo:	<b>805090</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	100.0	0	99.8	86.7	126			

Sample ID	<b>LCSD-19823</b>	SampType:	<b>LCSD</b>	TestCode:	<b>EPA Method 418.1: TPH</b>					
Client ID:	<b>LCSS02</b>	Batch ID:	<b>19823</b>	RunNo:	<b>26959</b>					
Prep Date:	<b>6/19/2015</b>	Analysis Date:	<b>6/19/2015</b>	SeqNo:	<b>805091</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	100.0	0	99.8	86.7	126	0	20	

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1506962

24-Jun-15

**Client:** Rule Engineering LLC

**Project:** Axi Apache N 13A

Sample ID	<b>MB-19822</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>19822</b>	RunNo:	<b>27003</b>					
Prep Date:	<b>6/19/2015</b>	Analysis Date:	<b>6/22/2015</b>	SeqNo:	<b>806550</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.91		1.000		90.7	80	120			

Sample ID	<b>LCS-19822</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>19822</b>	RunNo:	<b>27003</b>					
Prep Date:	<b>6/19/2015</b>	Analysis Date:	<b>6/22/2015</b>	SeqNo:	<b>806551</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	104	76.6	128			
Toluene	0.99	0.050	1.000	0	99.0	75	124			
Ethylbenzene	1.0	0.050	1.000	0	103	79.5	126			
Xylenes, Total	3.1	0.10	3.000	0	102	78.8	124			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.2	80	120			

Sample ID	<b>1506962-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>19822</b>	RunNo:	<b>27003</b>					
Prep Date:	<b>6/19/2015</b>	Analysis Date:	<b>6/22/2015</b>	SeqNo:	<b>806553</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.050	0.9901	0	96.0	69.2	126			
Toluene	0.94	0.050	0.9901	0.04471	90.5	65.6	128			
Ethylbenzene	1.1	0.050	0.9901	0.1842	89.8	65.5	138			
Xylenes, Total	3.1	0.099	2.970	0.2219	98.4	63	139			
Surr: 4-Bromofluorobenzene	1.2		0.9901		117	80	120			

Sample ID	<b>1506962-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>19822</b>	RunNo:	<b>27003</b>					
Prep Date:	<b>6/19/2015</b>	Analysis Date:	<b>6/22/2015</b>	SeqNo:	<b>806554</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.049	0.9891	0	96.3	69.2	126	0.248	18.5	
Toluene	0.94	0.049	0.9891	0.04471	90.5	65.6	128	0.0548	20.6	
Ethylbenzene	1.1	0.049	0.9891	0.1842	91.6	65.5	138	1.50	20.1	
Xylenes, Total	3.2	0.099	2.967	0.2219	99.6	63	139	1.02	21.1	
Surr: 4-Bromofluorobenzene	1.2		0.9891		118	80	120	0	0	

**Qualifiers:**

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

**Sample Log-In Check List**

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1506962**

RcptNo: **1**

Received by/date: AT/LM 06/16/15

Logged By: **Anne Thorne** 6/16/2015 7:30:00 AM

*Anne Thorne*

Completed By: **Anne Thorne** 6/19/2015

*Anne Thorne*

Reviewed By: *[Signature]* 06/19/15

**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? Yes  No   
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes  No
- 14. Is it clear what analyses were requested? Yes  No
- 15. Were all holding times able to be met? Yes  No   
(If no, notify customer for authorization.)

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

**Special Handling (if applicable)**

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

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
 By Whom: \_\_\_\_\_ Via:  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	1.8	Good	Yes			





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

June 23, 2015

Deborah Watson  
Rule Engineering LLC  
501 Airport Dr., Ste 205  
Farmington, NM 87401  
TEL: (505) 860-2712  
FAX

RE: Axi Apache N 13A

OrderNo.: 1506818

Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/16/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Rule Engineering LLC

Client Sample ID: Excavation Comp

Project: Axi Apache N 13A

Collection Date: 6/12/2015 11:15:00 AM

Lab ID: 1506818-001

Matrix: SOIL

Received Date: 6/16/2015 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	50	9.8		mg/Kg	1	6/19/2015 2:28:11 PM	19771
Surr: DNOP	103	57.9-140		%REC	1	6/19/2015 2:28:11 PM	19771
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	6/19/2015 5:32:28 PM	19798
Surr: BFB	85.5	75.4-113		%REC	1	6/19/2015 5:32:28 PM	19798
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: RAA
Benzene	ND	0.049		mg/Kg	1	6/19/2015 5:32:28 PM	19798
Toluene	ND	0.049		mg/Kg	1	6/19/2015 5:32:28 PM	19798
Ethylbenzene	ND	0.049		mg/Kg	1	6/19/2015 5:32:28 PM	19798
Xylenes, Total	ND	0.098		mg/Kg	1	6/19/2015 5:32:28 PM	19798
Surr: 4-Bromofluorobenzene	87.2	80-120		%REC	1	6/19/2015 5:32:28 PM	19798

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1506818  
23-Jun-15

**Client:** Rule Engineering LLC  
**Project:** Axi Apache N 13A

Sample ID	<b>MB-19771</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>19771</b>	RunNo:	<b>26936</b>					
Prep Date:	<b>6/17/2015</b>	Analysis Date:	<b>6/19/2015</b>	SeqNo:	<b>804485</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.1		10.00		90.8	57.9	140			

Sample ID	<b>LCS-19771</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>19771</b>	RunNo:	<b>26936</b>					
Prep Date:	<b>6/17/2015</b>	Analysis Date:	<b>6/19/2015</b>	SeqNo:	<b>804486</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	67.8	130			
Surr: DNOP	4.8		5.000		95.3	57.9	140			

**Qualifiers:**

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

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

WO#: 1506818  
 23-Jun-15

**Client:** Rule Engineering LLC  
**Project:** Axi Apache N 13A

Sample ID	1506818-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	Excavation Comp	Batch ID:	19798	RunNo:	26956					
Prep Date:	6/18/2015	Analysis Date:	6/19/2015	SeqNo:	805452	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.9	24.51	0	119	47.9	144			
Surr: BFB	930		980.4		95.2	75.4	113			

Sample ID	1506818-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	Excavation Comp	Batch ID:	19798	RunNo:	26956					
Prep Date:	6/18/2015	Analysis Date:	6/19/2015	SeqNo:	805453	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	4.9	24.56	0	123	47.9	144	4.13	29.9	
Surr: BFB	950		982.3		96.6	75.4	113	0	0	

Sample ID	LCS-19798	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	19798	RunNo:	26956					
Prep Date:	6/18/2015	Analysis Date:	6/19/2015	SeqNo:	805455	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	64	130			
Surr: BFB	940		1000		94.4	75.4	113			

Sample ID	MB-19798	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	19798	RunNo:	26956					
Prep Date:	6/18/2015	Analysis Date:	6/19/2015	SeqNo:	805456	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	890		1000		88.8	75.4	113			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1506818

23-Jun-15

**Client:** Rule Engineering LLC

**Project:** Axi Apache N 13A

Sample ID	<b>LCS-19798</b>		SampType:	<b>LCS</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>				
Client ID:	<b>LCSS</b>		Batch ID:	<b>19798</b>		RunNo:	<b>26956</b>				
Prep Date:	<b>6/18/2015</b>		Analysis Date:	<b>6/19/2015</b>		SeqNo:	<b>805465</b>		Units: <b>mg/Kg</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.0	0.050	1.000	0	102	76.6	128				
Toluene	0.99	0.050	1.000	0	99.0	75	124				
Ethylbenzene	1.0	0.050	1.000	0	102	79.5	126				
Xylenes, Total	3.0	0.10	3.000	0	100	78.8	124				
Surr: 4-Bromofluorobenzene	0.97		1.000		96.7	80	120				

Sample ID	<b>MB-19798</b>		SampType:	<b>MBLK</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>				
Client ID:	<b>PBS</b>		Batch ID:	<b>19798</b>		RunNo:	<b>26956</b>				
Prep Date:	<b>6/18/2015</b>		Analysis Date:	<b>6/19/2015</b>		SeqNo:	<b>805466</b>		Units: <b>mg/Kg</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.050									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	0.89		1.000		89.5	80	120				

**Qualifiers:**

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

**Sample Log-In Check List**

Client Name: **RULE ENGINEERING LL** Work Order Number: **1508818** RcptNo: **1**

Received by/date: *Am* *06/16/15*

Logged By: **Ashley Gallegos** **6/16/2015 7:20:00 AM** *AG*

Completed By: **Ashley Gallegos** **6/17/2015 12:48:49 PM** *AG*

Reviewed By: *JA* *06/18/15*

**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:   
 Adjusted?   
 (<2 or >12 unless noted)
- 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	1.8	Good	Yes			



