

~~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

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

JAN 31 2017

**Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request**

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.

Operator: Burlington Resources Oil & Gas Company, LP OGRID #: 14538  
Address: PO BOX 4289, Farmington, NM 87499  
Facility or well name: JICARILLA 153 25  
API Number: 30-039-22421 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr A Section 36 Township 26N Range 5W County: Rio Arriba  
Center of Proposed Design: Latitude 36.44777 °N Longitude -107.30414 °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)**

☐ Yes ☐ No

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

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)**

☐ Yes ☐ No

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

Within an unstable area. **(Does not apply to below grade tanks)**

☐ Yes ☐ No

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

Within a 100-year floodplain. **(Does not apply to below grade tanks)**

☐ Yes ☐ No

- FEMA map

### **Below Grade Tanks**

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).

☐ Yes ☒ No

- Topographic map; Visual inspection (certification) of the proposed site

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;.

☐ Yes ☒ No

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

#### **Temporary Pit using Low Chloride Drilling Fluid** (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)

☐ Yes ☐ No

- Topographic map; Visual inspection (certification) of the proposed site

Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.

☐ Yes ☐ No

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application.

☐ Yes ☐ No

NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site



<p>Within 100 feet of a wetland.</p> <ul style="list-style-type: none"> <li>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p><b><u>Temporary Pit Non-low chloride drilling fluid</u></b></p>	
<p>Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).</p> <ul style="list-style-type: none"> <li>- Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</p> <ul style="list-style-type: none"> <li>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;</p> <ul style="list-style-type: none"> <li>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 300 feet of a wetland.</p> <ul style="list-style-type: none"> <li>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p><b><u>Permanent Pit or Multi-Well Fluid Management Pit</u></b></p>	
<p>Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).</p> <ul style="list-style-type: none"> <li>- Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</p> <ul style="list-style-type: none"> <li>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.</p> <ul style="list-style-type: none"> <li>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 500 feet of a wetland.</p> <ul style="list-style-type: none"> <li>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No

10.

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

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

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

11.

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

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

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



12.

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

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

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

13.

**Proposed Closure:** 19.15.17.13 NMAC

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

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Multi-well Fluid Management Pit  
☐ Alternative

Proposed Closure Method: ☒ Waste Excavation and Removal  
☐ Waste Removal (Closed-loop systems only)  
☐ On-site Closure Method (Only for temporary pits and closed-loop systems)  
☐ In-place Burial ☐ On-site Trench Burial  
☐ Alternative Closure Method

14.

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

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

15.

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

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

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



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:** \_\_\_\_\_ **Approval Date:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **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:** 12/27/2016

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



**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: 1/24/2017

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



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

**Lease Name: Jicarilla 153 25**  
**API No.: 30-039-22421**

In accordance with Rule 19.15.17.13 NMAC the following information describes the closure of the below-grade tank referenced above. All proper documentation regarding closure activities is being included with the C-144.

General Plan:

1. BR shall close a below-grade tank within 60 days of cessation of operations per Subsection G.4 of 19.15.17.13 NMAC. This will include a) below-grade tanks that do not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I of 19.15.17.11 NMAC within five years, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC; b) an earlier date that the division requires because of imminent danger to fresh water, public health or the environment. For any closure, BR will file the C144 Closure Report as required.

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

2. BR shall remove liquids and sludge from a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility. The facilities to be used will be Basin Disposal (Permit #NM-01-005), JFJ Landfarm % Industrial Ecosystem Inc. (Permit # NM-01-0010B) and Envirotech Land Farm (Permit #NM-01-011). The liner after being cleaned well (Subsection D, Paragraph 1, Subparagraph (m) of 19.15.9.712 NMAC) will be disposed of at the San Juan County Regional Landfill located on CR 3100.

**All recovered liquids were disposed of at Basin Disposal (Permit #NM-01-005) and any sludge or soil required to be removed to facilitate closure was hauled to Envirotech Land Farm (Permit #NM-01-011) and JFJ Landfarm % IEI (Permit #NM-01-0010B). The liner was cleaned per Subsection D, Paragraph 1, Subparagraph (m) of 19.15.9.712 NMAC was disposed of at the San Juan County Regional Landfill located on CR 3100.**

3. BR will receive prior approval to remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves.

**The below-grade tank was disposed of in a division-approved manner.**

4. If there is any on-site equipment associated with a below-grade tank, then BR shall remove the equipment, unless the equipment is required for some other purpose.

**All on-site equipment associated with the below-grade tank was removed.**

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



A five point composite sample was taken of the below-grade tank using sampling tools and all samples tested per Subsection B of 19.15.17.1 3(B)(1)(b). (Sample results attached). Form C-141 is attached.

Components	Tests Method	Limit (mg/kg)
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	100
Chlorides	EPA 300.0	250

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

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

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

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

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

**Notification was not found.**

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

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

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

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

11. BR shall seed the disturbed areas the first favorable growing season following closure of a below-grade tank. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM stipulated seed mixes will 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 13 was accomplished through complying with BLM seeding requirements as allowed by the BLM/OCD MOU.**

12. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material, with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.

**The below-grade tank area was backfilled and more than four feet of cover was achieved and the cover included one foot of suitable material to establish vegetation at the site.**

13. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on C-144 and incorporate the following:
  - Soil Backfilling and Cover Installation **(See Report)**
  - Re-vegetation application rates and seeding techniques **(See Report)**
  - Photo documentation of the site reclamation **(Included as an attachment)**
  - Confirmation Sampling Results **(Included as an attachment)**
  - Proof of closure notice **(Included as an attachment)**

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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

**OPERATOR**

☐ Initial Report ☒ Final Report

Name of Company Burlington Resources Oil & Gas Co.	Contact Lisa Hunter
Address 3401 East 30 <sup>th</sup> St, Farmington, NM	Telephone No. (505) 258-1607
Facility Name Jicarilla 153 #25	Facility Type: Gas well

Surface Owner: Jicarilla	Mineral Owner: Jicarilla (Contract 153)	API 3003922421
--------------------------	---	----------------

**LOCATION OF RELEASE**

Unit Letter A	Section 36	Township 26N	Range 5W	Feet from the 950'	North/South Line North	Feet from the 1100	East/West Line East	County Rio Arriba
------------------	---------------	-----------------	-------------	-----------------------	---------------------------	-----------------------	------------------------	----------------------

Latitude 36.44796 Longitude -107.30425

**NATURE OF RELEASE**

Type of Release Hydrocarbon	Volume of Release Unknown	Volume Recovered 1031 yards
Source of Release Below Grade Tank	Date and Hour of Occurrence Unknown	Date and Hour of Discovery March 22, 2016
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.\*  
Historic contamination was encountered after a soil sample was taken on March 22, 2016 during a BGT resampling project in 2016.

Describe Area Affected and Cleanup Action Taken.  
Historical hydrocarbon impacted soil was found during the resampling of a BGT closure for the subject well. The excavation was 42'x 39 x 17' and 1031 yds of soil was transported to TNT landfarm and 1031 yds. of clean soil was transported from an approved Jicarilla field 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: Lisa Hunter		Approved by Environmental Specialist:	
Title: Field Environmental Specialist		Approval Date:	Expiration Date:
E-mail Address: Lisa.Hunter@cop.com		Conditions of Approval:	
Date: January 9, 2017 Phone: (505) 258-1607		258Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary





January 3, 2017

Robert Spearman  
ConocoPhillips  
San Juan Business Unit  
(505) 320-3045

*Via electronic mail to:*  
[SJBUE-Team@ConocoPhillips.com](mailto:SJBUE-Team@ConocoPhillips.com)

**RE: Below Grade Tank Closure, Release Assessment, and Final Excavation Report  
Jicarilla 153 25  
Rio Arriba County, New Mexico**

Dear Mr. Spearman:

On March 22, May 17, July 7, and December 27, 2016, Animas Environmental Services, LLC (AES) completed below grade tank (BGT) closure sampling, a release assessment, and environmental clearance of the final excavation limits at the ConocoPhillips (COPC) Jicarilla 153 25, located in Rio Arriba County, New Mexico. At the request of the New Mexico Oil Conservation Division (NMOCD), resampling of the location below the former BGT was required to meet strictest closure criteria listed in New Mexico Administrative Code (NMAC) 19.15.17.13E. After obtaining the results of the March 2016 sampling event, a release assessment was completed by AES on May 17 and July 7, 2016. The final excavation was completed by COPC contractors prior to AES' arrival at the location on December 27, 2016.

---

## 1.0 Site Information

### 1.1 Location

Location – NE¼ NE¼, Section 36, T26N, R5W, Rio Arriba County, New Mexico

Latitude/Longitude – N36.44796 and W107.30425, respectively

Surface Owner – Jicarilla Apache Nation

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map with BGT Closure Sample Location

604 W. Piñon St.  
Farmington, NM 87401  
505-564-2281

1911 Main, Ste 206  
Durango, CO 81301  
970-403-3084

## 1.2 JANOGA and NMOCD Action Levels

The Jicarilla 153 25 release is located on Jicarilla Apache Nation lands, and soil remediation action levels are determined by the Jicarilla Apache Nation Oil and Gas Administration (JANOGA). JANOGA action levels for soils currently follow the New Mexico Oil Conservation Division (NMOCD) *Guidelines for Remediation of Leaks, Spills, and Releases* (August 1993). Per JANOGA, all locations within Jicarilla Apache Nation lands typically receive a ranking score of 20; however, at the request of NMOCD, the strictest closure criteria from NMAC 19.15.17.13E Table 1 were applied at the site. Action levels are:

- 10 mg/kg benzene and 50 mg/kg total benzene, toluene, ethylbenzene, and xylene (BTEX);
- 100 mg/kg total petroleum hydrocarbons (TPH); and
- 600 mg/kg chloride.

## 1.3 Assessment

AES was initially contacted by Robert Spearman of COPC on March 1, 2016. At the request of the NMOCD, resampling of the location below the former BGT was required to meet all required closure criteria listed in NMAC 19.15.17.13E. On March 22, 2016, Sam Glasses and John Sandoval of AES traveled to the location. Soil sampling consisted of collection of one discrete soil sample (S-1) from below the former BGT. The sample location is presented on Figure 2.

On May 17 and July 7, 2016, Corwin Lameman, Sam Glasses, and Emilee Skyles of AES completed release assessment field work. The assessment included collection and sampling of 22 soil samples from 8 borings in and around the release area. Soil borings were terminated between 8.5 and 20 feet. Based on field sampling results, AES recommended further excavation of the release area. Sample locations are shown on Figure 3.

On December 27, 2016, AES returned to the location to collect confirmation soil samples of the excavation. The field sampling activities included collection of five confirmation soil samples (SC-1 through SC-5) from the walls and base of the excavation. The area of the final excavation measured approximately 42 feet by 39 feet by 17 feet in depth. Sample locations and final excavation extents are presented on Figure 4.



## 2.0 Soil Sampling

### 2.1 Field Screening

#### 2.1.1 Volatile Organic Compounds

Field screening for VOC vapors was conducted with a photo-ionization detector (PID) organic vapor meter (OVM). Before beginning field screening, the PID-OVM was first calibrated with 100 ppm isobutylene gas.

#### 2.1.2 Total Petroleum Hydrocarbons

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

### 2.2 Laboratory Analyses

The samples collected for laboratory analysis were placed into new, clean, laboratory-supplied containers, which were then labeled, placed on ice, and logged onto a sample chain of custody record. The samples were maintained on ice until delivery to the analytical laboratory, Hall Environmental Analysis Laboratory (Hall), in Albuquerque, New Mexico.

S-1 was laboratory analyzed for:

- BTEX per USEPA Method 8021B;
- TPH per USEPA Method 418.1;
- TPH as gasoline range organics (GRO) and diesel range organics (DRO) per USEPA Method 8015D; and
- Chlorides per USEPA Method 300.0.

SC-1 through SC-5 were laboratory analyzed for:

- BTEX per USEPA Method 8021B;
- TPH per USEPA Method 418.1; and
- TPH as GRO, DRO, and Motor Oil Range Organics (MRO) and per USEPA Method 8015.

### 2.3 Field Screening and Laboratory Analytical Results

Field sampling results are summarized in Table 1 and presented on Figures 3 and 4. Laboratory analytical results are summarized in Table 2 and presented on Figures 2 and 4. The AES Field Sampling Reports and the laboratory analytical reports are attached.

Table 1. Soil Field Screening VOC and TPH Results  
Jicarilla 153 25 Release Assessments and Final Excavation  
May to December 2016

<b>Sample ID</b>	<b>Date Sampled</b>	<b>Depth below BGT (ft bgs)</b>	<b>VOCs OVM Reading (ppm)</b>	<b>TPH 418.1 (mg/kg)</b>
<i>JANOGA and NMOCD Action Levels (NMAC 19.15.17.13E Table 1)*</i>			<b>100</b>	<b>100</b>
SB-1	5/17/16	7.75	<b>647</b>	<b>15,600</b>
		8.5	<b>4,142</b>	<b>6,190</b>
	7/7/16	12	<b>4,255</b>	<b>2,870</b>
		14	<b>818</b>	NA
		16	17.7	20.3
SB-2	5/17/16	8	0.9	59.1
		12	7.1	51.0
SB-3	5/17/16	9	<b>2,834</b>	<b>637</b>
		12	<b>4,534</b>	<b>5,540</b>
	7/7/16	14	<b>1,651</b>	NA
		16	12.9	<20.0
		20	7.1	<20.0
SB-4	5/17/16	8	0.4	60.7
		12	<b>1,266</b>	<b>256</b>
SB-5	5/17/16	8	<b>168</b>	NA
		12	<b>1,273</b>	<b>306</b>
SB-6	5/17/16	12	0.5	21.7
SB-7	5/17/16	12	0.0	<20.0
SB-8	7/7/16	8	0.4	<20.0
		12	0.3	NA
		14	0.1	NA
		16	0.0	<20.0



<b>Sample ID</b>	<b>Date Sampled</b>	<b>Depth below BGT (ft bgs)</b>	<b>VOCs OVM Reading (ppm)</b>	<b>TPH 418.1 (mg/kg)</b>
<b>JANOGA and NMOCD Action Levels (NMAC 19.15.17.13E Table 1)*</b>			<b>100</b>	<b>100</b>
SC-1	12/27/16	0 to 17	0.2	<20.0
SC-2	12/27/16	0 to 17	25.2	33.2
SC-3	12/27/16	0 to 17	0.1	<20.0
SC-4	12/27/16	0 to 17	0.0	<20.0
SC-5	12/27/16	17	0.8	<20.0

NA – Not Analyzed

\*Action level determined by JANOGA and NMAC 19.15.17.13E Table 1.

Table 2. Soil Laboratory Analytical Results – Benzene, Total BTEX, TPH, and Chloride  
Jicarilla 153 25 BGT Closure and Final Excavation Clearance  
March and December 2016

<b>Sample ID</b>	<b>Date Sampled</b>	<b>Depth (ft)</b>	<b>Benzene (8021) (mg/kg)</b>	<b>Total BTEX (8021) (mg/kg)</b>	<b>TPH – GRO (8015) (mg/kg)</b>	<b>TPH – DRO (8015) (mg/kg)</b>	<b>TPH – MRO (8015) (mg/kg)</b>	<b>TPH (418.1) (mg/kg)</b>	<b>Chlorides (300.0) (mg/kg)</b>
<b>JANOGA/NMOCD Action Levels (NMAC 19.15.17.13E Table 1)*</b>			<b>10</b>	<b>50</b>		<b>100</b>		<b>100</b>	<b>600</b>
S-1	3/22/16	8	<0.24	28.7	280	8,600	NA	30,000	<30
SC-1	12/27/16	0 to 17	<0.023	<0.207	<4.6	<9.4	<47	<19	NA
SC-2	12/27/16	0 to 17	<0.025	<0.222	<4.9	<9.9	<50	<18	NA
SC-3	12/27/16	0 to 17	<0.024	<0.216	<4.8	<9.6	<48	<20	NA
SC-4	12/27/16	0 to 17	<0.023	<0.208	<4.6	<9.5	<47	<19	NA
SC-5	12/27/16	17	<0.024	<0.216	<4.8	<9.4	<47	<18	NA

NA – Not Analyzed

\* Action level determined by JANOGA and NMAC 19.15.17.13E Table 1.

## **3.0 Conclusions and Recommendations**

### **3.1 BGT Closure**

On March 22, 2016, AES conducted a BGT closure and assessment of petroleum contaminated soils associated at the Jicarilla 153 25 location. NMOCD action levels for BGT closures are specified in NMAC 19.15.17.13E Table 1. BGT closure sampling results for TPH in March 2016 were above the NMOCD action levels, with S-1 at 30,000 mg/kg TPH (via USEPA Method 418.1). Laboratory results for chloride in S-1 were reported below the NMOCD action level of 600 mg/kg, with a concentration below the laboratory detection limit of 30 mg/kg. Based on laboratory results for TPH, a release was confirmed at the Jicarilla 153 25 location.

### **3.2 Release Assessment and Excavation**

On May 17 and July 7, 2016, AES completed release assessments at the Jicarilla 153 25 release location. Action levels for releases are determined by JANOGA but at the request of NMOCD, the strictest closure requirements in NMAC 19.15.17.13E Table 1 were utilized. Initial release assessment field sampling results above the NMOCD action level of 100 mg/kg TPH were reported in SB-1 and SB-3 through SB-5, with the highest TPH concentration reported in SB-1 with 15,600 mg/kg. Based on the field sampling results, excavation of contaminated soils was recommended.

On December 27, 2016, final clearance of the excavation area was completed. Field sampling results of the excavation extents showed that field TPH concentrations were below the applicable NMOCD action level of 100 mg/kg for the final walls and base of the excavation. Laboratory analytical results reported benzene, total BTEX, and TPH concentrations (via USEPA Methods 418.1 and 8015) as below the applicable NMOCD action levels.

Based on final field sampling and laboratory analytical results of the excavation of petroleum contaminated soils at the Jicarilla 153 25, VOC, benzene, total BTEX, and TPH concentrations were below applicable NMOCD action levels for each of the sidewalls and base of the excavation. No further work is recommended.

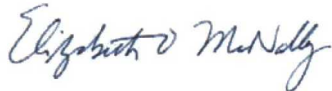
If you have any questions about this report or site conditions, please do not hesitate to contact Elizabeth McNally at (505) 564-2281.



Sincerely,



David J. Reese  
Environmental Scientist

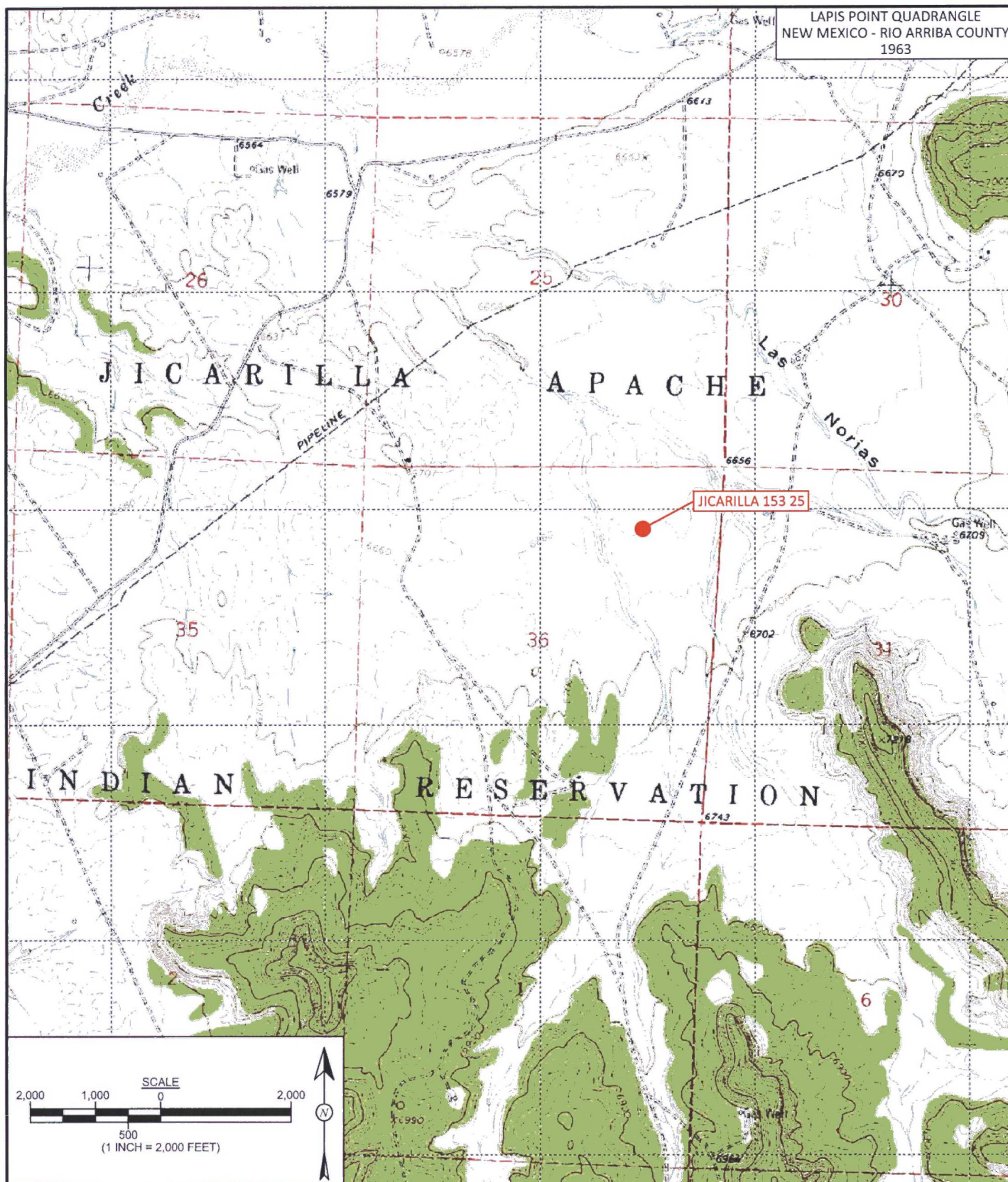


Elizabeth McNally, P.E.

Attachments:

- Figure 1. Topographic Site Location Map
- Figure 2. Aerial Site Map with BGT Closure Sample Location, March 2016
- Figure 3. Release Assessment Sample Locations and Results, May and July 2016
- Figure 4. Final Excavation Sample Locations and Results, December 2016
- AES Field Sampling Report 051716
- AES Field Sampling Report 070716
- AES Field Sampling Report 122716
- Hall Laboratory Analytical Report 1603B39
- Hall Laboratory Analytical Report 1612D34

C:\Users\emcnally\Dropbox (Animas Environmental)\2017 Client Projects\ConocoPhillips\Jicarilla 153 25\Jicarilla 153 25 Release and Final Excavation Report 010317.docx



**FIGURE 1**

**TOPOGRAPHIC SITE LOCATION MAP**

ConocoPhillips  
JICARILLA 153 25  
NE¼, NE¼, SECTION 36, T26N, R5W  
RIO ARriba COUNTY, NEW MEXICO  
N36.44796, W107.30425





**animas  
environmental  
services**

Farmington, NM • Durango, CO  
animasenvironmental.com

<b>DRAWN BY:</b> S. Glasses	<b>DATE DRAWN:</b> May 16, 2016
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> January 3, 2017
<b>CHECKED BY:</b> E. McNally	<b>DATE CHECKED:</b> January 3, 2017
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> January 3, 2017



LEGEND	
	FORMER SECONDARY CONTAINMENT BERM
	FORMER FENCE

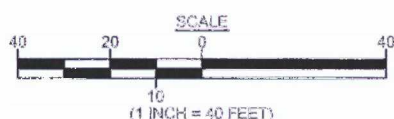
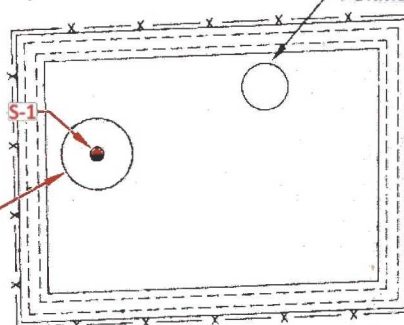
Laboratory Analytical Results								
Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)	TPH 418.1 (mg/kg)	Chlorides (mg/kg)
JANOGA ACTION LEVEL			10	50	100		100	600
S-1	3/22/16	8	<0.24	28.7	280	8,600	30,000	<30
ALL SAMPLES WERE ANALYZED PER USEPA METHOD 8021B, 8015D, 418.1 AND 300.0.								

JICARILLA 153 25 WELL MONUMENT

FORMER SEPARATOR

FORMER PRODUCTION TANK

FORMER BELOW GRADE TANK  
S-1 SAMPLE LOCATION  
N36.44777, W107.30414



AERIAL SOURCE: © 2016 GOOGLE EARTH PRO, AERIAL DATE: MARCH 16, 2016.



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Farmington, NM • Durango, CO  
animasenvironmental.com

DRAWN BY:  
S. Glasses

DATE DRAWN:  
May 16, 2016

REVISIONS BY:  
S. Glasses

DATE REVISED:  
January 6, 2017

CHECKED BY:  
E. McNally

DATE CHECKED:  
January 6, 2017

APPROVED BY:  
E. McNally

DATE APPROVED:  
January 6, 2017

## FIGURE 2

**AERIAL SITE MAP  
MARCH 2016**

ConocoPhillips  
JICARILLA 153 25  
NE¼ NE¼, SECTION 36, T26N, R5W  
RIO ARriba COUNTY, NEW MEXICO  
N36.44796, W107.30425



# FIGURE 3

## RELEASE ASSESSMENT SAMPLE LOCATIONS AND RESULTS MAY TO JULY 2016

ConocoPhillips  
JICARILLA 153 25  
NE¼, NE¼, SECTION 36, T26N, R5W  
RIO ARriba COUNTY, NEW MEXICO  
N36.44796, W107.30425



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animasenvironmental.com

**DRAWN BY:**  
C. Lameman

**DATE DRAWN:**  
May 18, 2016

**REVISIONS BY:**  
S. Glasses

**DATE REVISED:**  
January 6, 2017

**CHECKED BY:**  
E. McNally

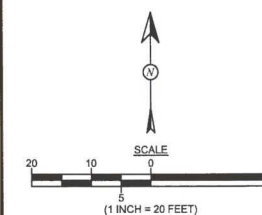
**DATE CHECKED:**  
January 6, 2017

**APPROVED BY:**  
E. McNally

**DATE APPROVED:**  
January 6, 2017

### LEGEND

- SOIL BORING LOCATIONS
- FORMER SECONDARY CONTAINMENT BERM
- x— FORMER FENCE



Field Sampling Results				
Sample ID	Date	Depth (ft)	OVM-PID (ppm)	TPH (mg/kg)
JANOGA ACTION LEVEL			100	100
SB-1	5/17/16	7.75	647	15,600
		8.5	4,142	6,190
		12	4,255	2,870
	7/7/16	14	818	NA
SB-2	5/17/16	16	17.7	20.3
		8	0.9	59.1
		12	7.1	51.0
SB-3	5/17/16	9	2,834	637
		12	4,534	5,540
		14	1,651	NA
	7/7/2016	16	12.9	<20.0
SB-4	5/17/16	20	7.1	<20.0
		8	0.4	60.7
		12	1,266	256
SB-5	5/17/16	8	168	NA
		12	1,273	306
SB-6	5/17/16	12	0.5	21.7
SB-7	5/17/16	12	0.0	<20.0
		8	0.4	<20.0
SB-8	7/7/16	12	0.3	NA
		14	0.1	NA
		16	0.0	<20.0

NA - NOT ANALYZED

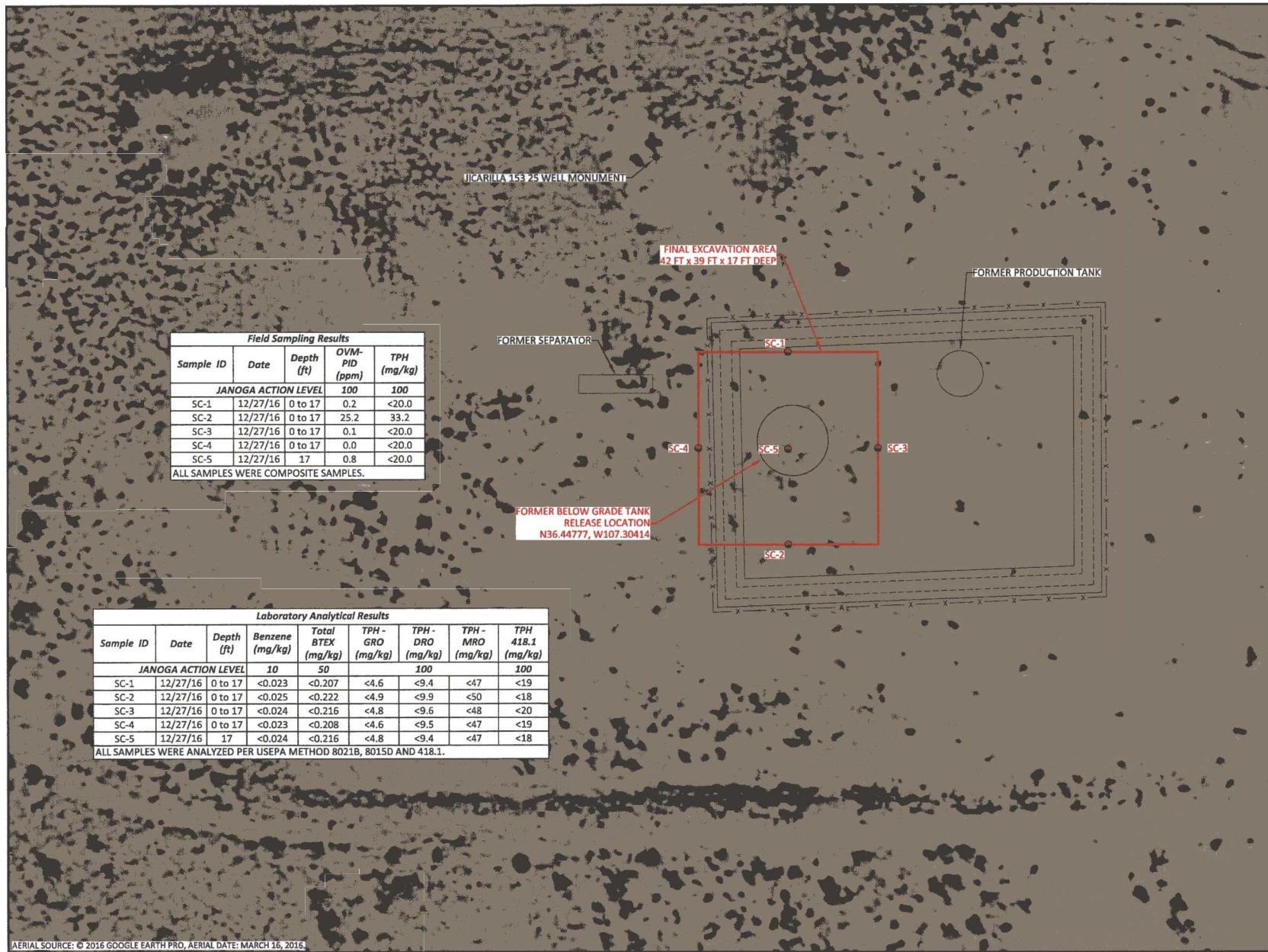
JICARILLA 153 25 WELL MONUMENT

FORMER SEPARATOR

FORMER PRODUCTION TANK

FORMER BELOW GRADE TANK  
RELEASE LOCATION  
N36.44777, W107.30414





Field Sampling Results				
Sample ID	Date	Depth (ft)	OVM-PID (ppm)	TPH (mg/kg)
JANOGA ACTION LEVEL			100	100
SC-1	12/27/16	0 to 17	0.2	<20.0
SC-2	12/27/16	0 to 17	25.2	33.2
SC-3	12/27/16	0 to 17	0.1	<20.0
SC-4	12/27/16	0 to 17	0.0	<20.0
SC-5	12/27/16	17	0.8	<20.0

ALL SAMPLES WERE COMPOSITE SAMPLES.

Laboratory Analytical Results								
Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)	TPH - MRO (mg/kg)	TPH 418.1 (mg/kg)
JANOGA ACTION LEVEL			10	50	100	100	100	100
SC-1	12/27/16	0 to 17	<0.023	<0.207	<4.6	<9.4	<47	<19
SC-2	12/27/16	0 to 17	<0.025	<0.222	<4.9	<9.9	<50	<18
SC-3	12/27/16	0 to 17	<0.024	<0.216	<4.8	<9.6	<48	<20
SC-4	12/27/16	0 to 17	<0.023	<0.208	<4.6	<9.5	<47	<19
SC-5	12/27/16	17	<0.024	<0.216	<4.8	<9.4	<47	<18

ALL SAMPLES WERE ANALYZED PER USEPA METHOD 8021B, 8015D AND 418.1.

FIGURE 4

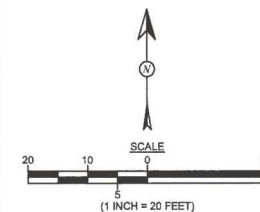
FINAL EXCAVATION SAMPLE LOCATIONS AND RESULTS  
DECEMBER 2016  
ConocoPhillips  
JICARILLA 153 25  
NE¼, NE¼, SECTION 36, T26N, R5W  
RIO ARRIBA COUNTY, NEW MEXICO  
N36.44796, W107.30425



DRAWN BY: C. Lameman	DATE DRAWN: January 3, 2017
REVISIONS BY: C. Lameman	DATE REVISED: January 3, 2017
CHECKED BY: E. McNally	DATE CHECKED: January 3, 2017
APPROVED BY: E. McNally	DATE APPROVED: January 3, 2017

LEGEND

- SAMPLE LOCATIONS
- ===== FORMER SECONDARY CONTAINMENT BERM
- x — FORMER FENCE



# Field Screening Release Assessment Field Report

Date: 5-17-16

Client: COPC AES Personnel: C. Lammeman  
 Well or Lease Name: Jicarilla 135 25 S. Glasses  
 CoP Onsite Supervisor: C. Lammeman Beginning mileage: 48083  
 Site Arrival Time: 1000 Ending Mileage: 48312  
 Site Departure Time: 330 Release Source: Historic BGT  
 Land Jurisdiction: Jicarilla Well Head (GPS): 36.44796, -107.30425  
 County/State: RA / NM Release Location (GPS): 36.44777, -107.30414  
 Site Rank: HANDGA

Billing Info:  
 WO #: \_\_\_\_\_  
 Supervisor: \_\_\_\_\_  
 USER: \_\_\_\_\_  
 Area: \_\_\_\_\_  
 Activity Code: \_\_\_\_\_  
 Ordered by: \_\_\_\_\_

Equipment in place: Wellhead Monument  
 Photos taken: Yes

Buck Machine #			
Concentration	50 mg/kg	100 mg/kg	500 mg/kg
Calibration ABS Values			

Project Details: BGT to release on regulatory final Release Assessment.

Initial Recommendations: Come out with a push rig or geoprobe.

Limitations: Rain & Lightning. Auger extension limitation

Site Sketch (DOES NOT REPLACE SITE MAP) and Current Excavation Dimensions:

Horizontal (Cross-Section View):

See Attachment

Vertical (Plan View):






AES personnel: C. Lameman, S. Glasses

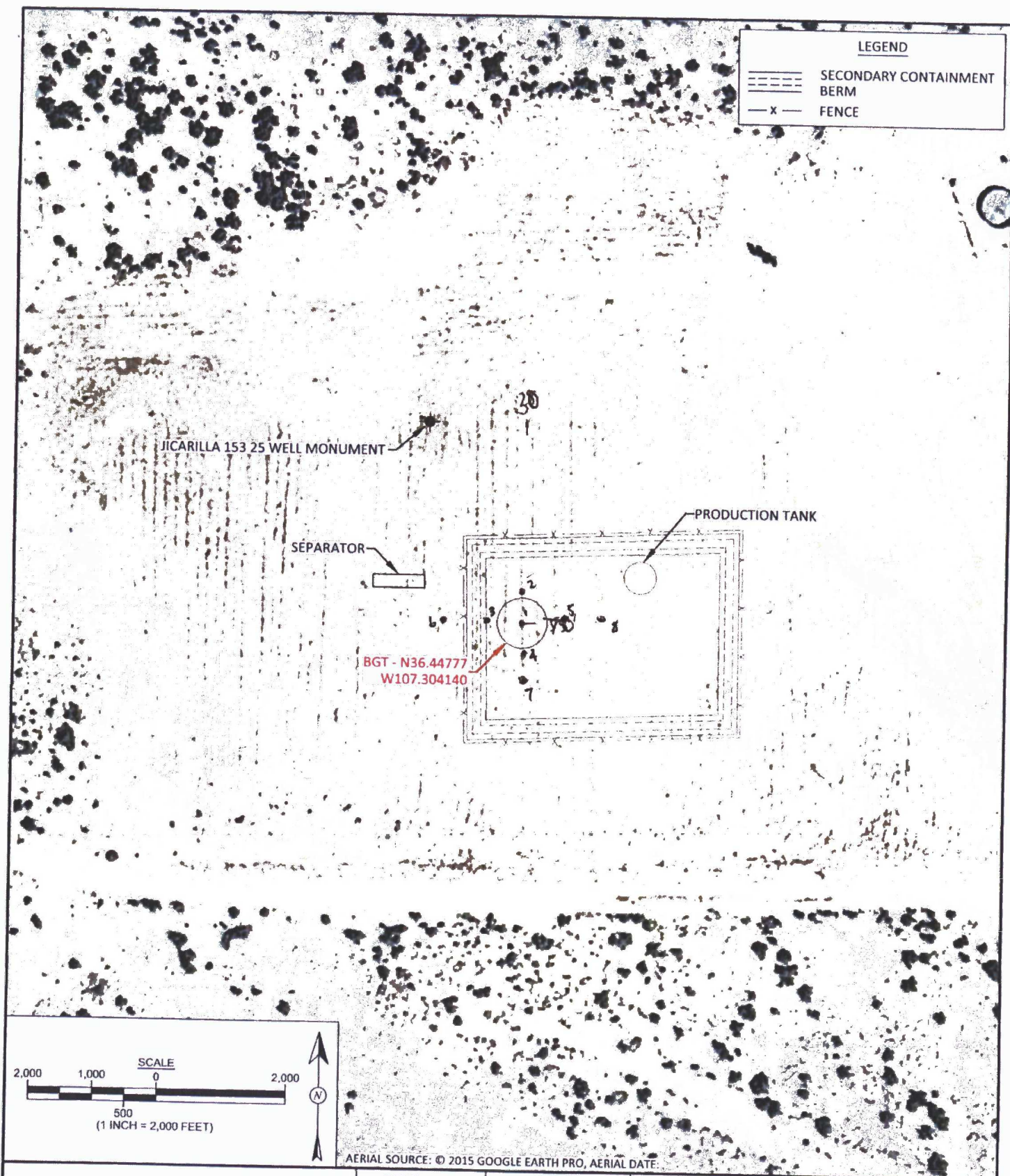
\*Include Benzene readings in the notes section initially and transfer to Limitations if Benzene is a problem on the location.

Well or Lease Name:  
Animas Environmental Services, LLC  
Date:  
604 W Pinon St. Farmington, NM 87401 office # 505-564-2281  
1911 N Main, Ste 280, Durango, CO 81301



**LEGEND**

 SECONDARY CONTAINMENT  
 BERM  
 FENCE



**animas  
environmental  
services**

Farmington, NM • Durango, CO  
animasenvironmental.com

<b>DRAWN BY:</b> S. Glasses	<b>DATE DRAWN:</b> May 16, 2016
<b>REVISIONS BY:</b> S. Glasses	<b>DATE REVISED:</b> May 16, 2016
<b>CHECKED BY:</b> E. Skyles	<b>DATE CHECKED:</b> May 16, 2016
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> May 16, 2016

**FIGURE 2**

**AERIAL SITE MAP  
MAY 2016**

ConocoPhillips  
JICARILLA 153 25

NE¼ NE¼, SECTION 36, T26N, R5W  
RIO ARriba COUNTY, NEW MEXICO  
N36.44796, W107.30425



# Field Screening Release Assessment Field Report

Date: 7-7-16

Client: COPC AES Personnel: E. Skyles Billing Info: \_\_\_\_\_  
 Well or Lease Name: JICARILLA 153 25 S. Glasses WO #: \_\_\_\_\_  
 CoP Onsite Supervisor: E. Skyles Beginning mileage: \_\_\_\_\_ Supervisor: \_\_\_\_\_  
 Site Arrival Time: 9:35 am Ending Mileage: \_\_\_\_\_ USER: \_\_\_\_\_  
 Site Departure Time: \_\_\_\_\_ Release Source: BGT-Historic Area: \_\_\_\_\_  
 Land Jurisdiction: JICARILLA Well Head (GPS): \_\_\_\_\_ Activity Code: \_\_\_\_\_  
 County/State: Pio ABRIJA /NM Release Location (GPS): \_\_\_\_\_ Ordered by: \_\_\_\_\_  
 Site Rank: 20

Equipment in place: PEA Site / Well Monument Only

Buck Machine #			
Concentration	50 mg/kg	100 mg/kg	500 mg/kg
Calibration ABS Values			

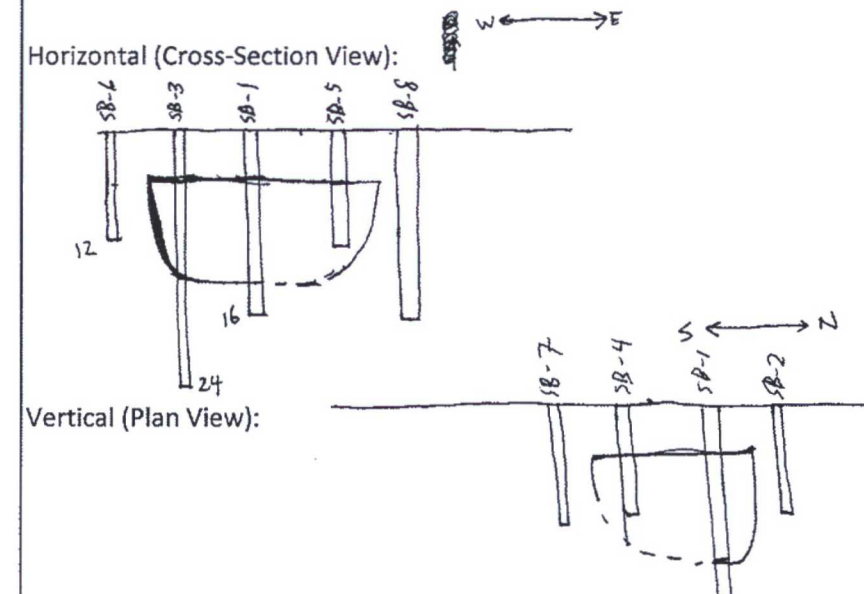
## Project Details:

## Initial Recommendations:

## Limitations:

Animas Environmental Services, LLC  
 604 W Pinon St. Farmington, NM 87401 office # 505-564-2281  
 1911 N Main, Ste 280, Durango, CO 81301

## Site Sketch (DOES NOT REPLACE SITE MAP) and Current Excavation Dimensions:



Well or Lease Name: Jicarilla 153 25

Date: 7/7/16

AES personnel: E. Skyles /s. glasses

Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	OVM Time	Field TPH (mg/kg)	Field TPH Analysis Time	ABS	NOTES
SB-3e 16'	7/7/16	10:10		12.9	10:20	>20.0	1026	0.017	Slight odor sand w/ clay
SB-3e 20'	7/7/16	10:15		7.1	10:22	>20.0	1032	0.018	no odor
SB-3e 14'	7/7/16	10:12		1651	10:21	NA	NA	NA	Slight odor - clay
SB-1e 12'	7/7/16	10:54		4,255	11:05	2,871	11:22		x10
SB-1e 14'	7/7/16	10:55		818	11:05	NA	NA	NA	
SB-1e 16'	7/7/16	10:56		17.7	11:06	20.3			
SB-8e 8'	7/7/16	11:22		0.4	11:37				sand.
SB-8e 12'	7/7/16	11:31		0.3	11:37				clay
SB-8e 14'	7/7/16	11:32		0.1	11:37				clay
SB-8e 16'	7/7/16	11:33		0.0	11:37				clay

\*Include Benzene readings in the notes section initially and transfer to Limitations if Benzene is a problem on the location.

Animas Environmental Services, LLC

604 W Pinon St. Farmington, NM 87401 office # 505-564-2281

1911 N Main, Ste 280, Durango, CO 81301



## Depth to Water (ft):

Tel. (505) 564-2281 Fax (505) 324-2022

Total Depth (ft): 16'

August 3, 2015

Soil Boring No: \_\_\_\_\_  
Monitor Well No: \_\_\_\_\_

604 W. Piñon St., Farmington, NM 87401  
Tel. (505) 564-2281 Fax (505) 324-2022

## NOTES

### SKETCH



Total Depth (ft): 24'

Animas Environmental Services  
August 3, 2015

Soil Boring No: \_\_\_\_\_  
Monitor Well No: \_\_\_\_\_

604 W. Piñon St., Farmington, NM 87401  
Tel. (505) 564-2281 Fax (505) 324-2022

## NOTES

## SKETCH



Soil Boring No: SB-8

Project: Geoprobe Delineation

Location: Jicarilla 153 25

Driller: Kuvrek

Drilling Method: Hollow stem - Geoprobe - Continuous

Depth to Water (ft):

604 W. Piñon St., Farmington, NM 87401

Tel. (505) 564-2281 Fax (505) 324-2022

Date: 7/7/16

Latitude/Longitude:

Datum:

Elevation:

Logged by: ES

Total Depth (ft):

[illegible]

Soil Boring No: \_\_\_\_\_  
Monitor Well No: \_\_\_\_\_

604 W. Piñon St., Farmington, NM 87401  
Tel. (505) 564-2281 Fax (505) 324-2022

## NOTES

### SKETCH



# Field Screening Release Assessment Field Report

Date: 12-27-16

Client: Donaco Phillips  
 Well or Lease Name: Jicarilla 153 25  
 CoP Onsite Supervisor: Bret Smith  
 Site Arrival Time: to 740  
 Site Departure Time: 1030

AES Personnel: C. Lameman

Beginning mileage: 53214

Ending Mileage: 53444

Release Source: Historic BGT

Well Head (GPS): 36.44796, -107.30425

Release Location (GPS): 36.44777, -107.30444

Land Jurisdiction: Jicarilla

County/State: Doña Ana / New Mexico

Site Rank: LANDOGA-100

Equipment in place: Shipped - P&AD location

Photos taken: Yes

## Billing Info:

WO #: 21340535

Supervisor: Terry Nelson

USER: MCINNS/R

Area: 9

Activity Code:

Ordered by: Bobby Spearman

-contact Lisa Hunter

Buck Machine #	1		
Concentration	50 mg/kg	100 mg/kg	500 mg/kg
Calibration ABS Values	0.075	0.131	0.659

Project Details: Excavation Clearance

Site Sketch (DOES NOT REPLACE SITE MAP) and Current Excavation Dimensions:

Horizontal (Cross-Section View):

42' x 39' x 17' Deep

Vertical (Plan View):

Initial Recommendations: N/A

Limitations: none

Well or Lease Name: Jicarilla 153 25

Date: 12-27-16

AES personnel: C. Lammiman

3-Day Turnaround per Lisa Hunter

Sample ID	Collection Date	Time of Sample Collection	Sample Location	OVM (ppm)	OVM Time	Field TPH (mg/kg)	Field TPH Analysis Time	ABS	NOTES
SC-1	12-27-16	835	N. Wall	0.2	935	<20.0	942	0.008	SAND, LG, Tan, No odor or staining
SC-2		915	S. Wall	25.2	940	33.2	947	0.027	SAND and some LG, LG, Tan Brown, S. odor, No stain
SC-3		840	E. Wall	0.1	936	<20.0	951	0.011	SAND, LG, Tan, No odor or staining
SC-4		845	W. Wall	0.0	937	<20.0	953	0.004	S.A.A.
SC-5		850	Base	0.8	938	<20.0	957	0.005	S.A.A.
Overburden		854	stockpile comp.	1.0	939	<20.0	959	0.000	Dirty Stockpile - Sand and LG, some odor some staining

\*Include Benzene readings in the notes section initially and transfer to Limitations if Benzene is a problem on the location.





*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)*

April 06, 2016

Emilee Skyles

Animas Environmental

604 Pinon Street

Farmington, NM 87401

TEL: (505) 564-2281

FAX

RE: COPC JICARILLA 153 25

OrderNo.: 1603B39

Dear Emilee Skyles:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/23/2016 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued March 31, 2016.

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

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

Sincerely,

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

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1603B39

Date Reported: 4/6/2016

**CLIENT:** Animas Environmental  
**Project:** COPC JICARILLA 153 25  
**Lab ID:** 1603B39-001

**Matrix:** SOIL

**Client Sample ID:** S-1  
**Collection Date:** 3/22/2016 12:18:00 PM  
**Received Date:** 3/23/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>TOM</b>
Petroleum Hydrocarbons, TR	30000	1900		mg/Kg	100	3/30/2016 12:00:00 PM	24419
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	3/29/2016 12:18:25 PM	24484
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	8600	950		mg/Kg	100	4/6/2016 9:33:47 AM	24573
Surr: DNOP	0	70-130	S	%Rec	100	4/6/2016 9:33:47 AM	24573
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	280	48		mg/Kg	10	3/24/2016 7:17:29 PM	24391
Surr: BFB	171	66.2-112	S	%Rec	10	3/24/2016 7:17:29 PM	24391
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.24	D	mg/Kg	10	3/24/2016 7:17:29 PM	24391
Toluene	ND	0.48	D	mg/Kg	10	3/24/2016 7:17:29 PM	24391
Ethylbenzene	1.7	0.48	D	mg/Kg	10	3/24/2016 7:17:29 PM	24391
Xylenes, Total	27	0.96	D	mg/Kg	10	3/24/2016 7:17:29 PM	24391
Surr: 4-Bromofluorobenzene	122	80-120	SD	%Rec	10	3/24/2016 7:17:29 PM	24391

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

<b>Qualifiers:</b>	*	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	W	Sample container temperature is out of limit as specified



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603B39

06-Apr-16

Client: Animas Environmental  
Project: COPC JICARILLA 153 25

Sample ID	MB-24484	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	24484	RunNo:	33158					
Prep Date:	3/29/2016	Analysis Date:	3/29/2016	SeqNo:	1018203	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-24484	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	24484	RunNo:	33158					
Prep Date:	3/29/2016	Analysis Date:	3/29/2016	SeqNo:	1018204	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	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 | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603B39

06-Apr-16

Client: Animas Environmental  
Project: COPC JICARILLA 153 25

Sample ID	MB-24419	SampType:	MBLK	TestCode:	EPA Method 418.1: TPH					
Client ID:	PBS	Batch ID:	24419	RunNo:	33169					
Prep Date:	3/24/2016	Analysis Date:	3/30/2016	SeqNo:	1018640	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-24419	SampType:	LCS	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS	Batch ID:	24419	RunNo:	33169					
Prep Date:	3/24/2016	Analysis Date:	3/30/2016	SeqNo:	1018641	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	100.0	0	109	83.4	127			

Sample ID	LCSD-24419	SampType:	LCSD	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS02	Batch ID:	24419	RunNo:	33169					
Prep Date:	3/24/2016	Analysis Date:	3/30/2016	SeqNo:	1018642	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	100.0	0	102	83.4	127	6.58	20	

## 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 | W Sample container temperature is out of limit as specified |



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603B39

06-Apr-16

Client: Animas Environmental  
Project: COPC JICARILLA 153 25

Sample ID	MB-24573	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	24573	RunNo:	33293					
Prep Date:	4/1/2016	Analysis Date:	4/5/2016	SeqNo:	1022944	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	9.6		10.00		95.9	70	130			

Sample ID	LCS-24573	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	24573	RunNo:	33293					
Prep Date:	4/1/2016	Analysis Date:	4/6/2016	SeqNo:	1024363	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.7	65.8	136			
Surr: DNOP	4.8		5.000		96.7	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 | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603B39

06-Apr-16

Client: Animas Environmental  
Project: COPC JICARILLA 153 25

Sample ID	MB-24391	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	24391	RunNo:	33039					
Prep Date:	3/23/2016	Analysis Date:	3/24/2016	SeqNo:	1014105	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	1000		1000		103	66.2	112			

Sample ID	LCS-24391	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	24391	RunNo:	33039					
Prep Date:	3/23/2016	Analysis Date:	3/24/2016	SeqNo:	1014106	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	98.5	80	120			
Surr: BFB	1100		1000		111	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 | W Sample container temperature is out of limit as specified |



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1603B39

06-Apr-16

Client: Animas Environmental  
Project: COPC JICARILLA 153 25

Sample ID	MB-24391		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	24391		RunNo:	33039			
Prep Date:	3/23/2016		Analysis Date:	3/24/2016		SeqNo:	1014146		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID	LCS-24391		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	24391		RunNo:	33039			
Prep Date:	3/23/2016		Analysis Date:	3/24/2016		SeqNo:	1014147		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	75.3	123			
Toluene	0.99	0.050	1.000	0	99.3	80	124			
Ethylbenzene	1.0	0.050	1.000	0	99.9	82.8	121			
Xylenes, Total	3.0	0.10	3.000	0	99.4	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

## 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 | W Sample container temperature is out of limit as specified |



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

## Sample Log-In Check List

Client Name: Animas Environmental

Work Order Number: 1603839

RcptNo: 1

Received by/date:

*[Signature]*

03/23/16

Logged By: Lindsay Mangin

3/23/2016 7:15:00 AM

*[Signature]*

Completed By: Lindsay Mangin

3/23/2016 9:38:00 AM

*[Signature]*

Reviewed By:

LO

03/23/16

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

### Special Handling (if applicable)

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

Person Notified:

Date

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			



ש. 1411-1412 ח. 1413.

☒ Standard ☐ Rush

Project Name: COPC JICARILLA 153 25

Project #:

**Project Manager:**

E. Skyles

☒ Standard ☐ Level 4 (Full Validation)

**Sampler: S. Glasses/J. Sandoval**

☐ NELAP      ☐ Other \_\_\_\_\_On Ice: ☒ Yes ☐ No☐ EDD (Type) \_\_\_\_\_

Sample Temperature:  $76.2 \pm 0.1^\circ\text{C}$

[illegible]

Date:	Time:	Relinquished by:
3/22/16	1701	Sam F. Gump
Date:	Time:	Relinquished by:
1/22/16	1747	Christi Walle

Received by:	Date	Time
Christa Waels	3/22/16	1701
Received by:	Date	Time
<del>Christa Waels</del>	03/23/16	0715

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

[illegible]

Remarks: Bill to Conoco Phillips  
WO # 21340555  
Supervisor: Nelson  
USERID: MCINNSK  
Area: 9  
Ordered by: Bobby Spearman

Per Emily add 640/000  
of 4/1



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)

December 30, 2016

Corwin Lameman  
Animas Environmental  
604 Pinon Street  
Farmington, NM 87401  
TEL: (505) 564-2281  
FAX

RE: CoPC Jicarilla 153 25

OrderNo.: 1612D34

Dear Corwin Lameman:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/28/2016 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](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,

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109



## Analytical Report

Lab Order 1612D34

Date Reported: 12/30/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental

Client Sample ID: SC-1

Project: CoPC Jicarilla 153 25

Collection Date: 12/27/2016 8:35:00 AM

Lab ID: 1612D34-001

Matrix: SOIL

Received Date: 12/28/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>MAB</b>
Petroleum Hydrocarbons, TR	ND	19		mg/Kg	1	12/29/2016 12:00:00 PM	29437
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/29/2016 11:59:13 AM	29438
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/29/2016 11:59:13 AM	29438
Surr: DNOP	99.9	70-130		%Rec	1	12/29/2016 11:59:13 AM	29438
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/29/2016 2:40:11 PM	29431
Surr: BFB	84.3	68.3-144		%Rec	1	12/29/2016 2:40:11 PM	29431
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	12/29/2016 2:40:11 PM	29431
Toluene	ND	0.046		mg/Kg	1	12/29/2016 2:40:11 PM	29431
Ethylbenzene	ND	0.046		mg/Kg	1	12/29/2016 2:40:11 PM	29431
Xylenes, Total	ND	0.092		mg/Kg	1	12/29/2016 2:40:11 PM	29431
Surr: 4-Bromofluorobenzene	93.4	80-120		%Rec	1	12/29/2016 2:40:11 PM	29431

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	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **1612D34**Date Reported: **12/30/2016****CLIENT:** Animas Environmental**Client Sample ID:** SC-2**Project:** CoPC Jicarilla 153 25**Collection Date:** 12/27/2016 9:15:00 AM**Lab ID:** 1612D34-002**Matrix:** SOIL**Received Date:** 12/28/2016 8:00:00 AM

<b>Analyses</b>	<b>Result</b>	<b>PQL</b>	<b>Qual</b>	<b>Units</b>	<b>DF</b>	<b>Date Analyzed</b>	<b>Batch</b>
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>MAB</b>
Petroleum Hydrocarbons, TR	ND	18		mg/Kg	1	12/29/2016 12:00:00 PM	29437
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/29/2016 12:20:46 PM	29438
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/29/2016 12:20:46 PM	29438
Surr: DNOP	99.0	70-130		%Rec	1	12/29/2016 12:20:46 PM	29438
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/29/2016 3:50:50 PM	29431
Surr: BFB	87.8	68.3-144		%Rec	1	12/29/2016 3:50:50 PM	29431
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/29/2016 3:50:50 PM	29431
Toluene	ND	0.049		mg/Kg	1	12/29/2016 3:50:50 PM	29431
Ethylbenzene	ND	0.049		mg/Kg	1	12/29/2016 3:50:50 PM	29431
Xylenes, Total	ND	0.099		mg/Kg	1	12/29/2016 3:50:50 PM	29431
Surr: 4-Bromofluorobenzene	93.6	80-120		%Rec	1	12/29/2016 3:50:50 PM	29431

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

<b>Qualifiers:</b>	*	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	W	Sample container temperature is out of limit as specified



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1612D34

Date Reported: 12/30/2016

CLIENT: Animas Environmental

Client Sample ID: SC-3

Project: CoPC Jicarilla 153 25

Collection Date: 12/27/2016 8:40:00 AM

Lab ID: 1612D34-003

Matrix: SOIL

Received Date: 12/28/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>MAB</b>
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	12/29/2016 12:00:00 PM	29437
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/29/2016 12:42:23 PM	29438
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/29/2016 12:42:23 PM	29438
Surr: DNOP	99.5	70-130		%Rec	1	12/29/2016 12:42:23 PM	29438
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/29/2016 4:14:27 PM	29431
Surr: BFB	83.3	68.3-144		%Rec	1	12/29/2016 4:14:27 PM	29431
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/29/2016 4:14:27 PM	29431
Toluene	ND	0.048		mg/Kg	1	12/29/2016 4:14:27 PM	29431
Ethylbenzene	ND	0.048		mg/Kg	1	12/29/2016 4:14:27 PM	29431
Xylenes, Total	ND	0.096		mg/Kg	1	12/29/2016 4:14:27 PM	29431
Surr: 4-Bromofluorobenzene	91.9	80-120		%Rec	1	12/29/2016 4:14:27 PM	29431

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	W	Sample container temperature is out of limit as specified

# Analytical Report

Lab Order 1612D34

Date Reported: 12/30/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental

Client Sample ID: SC-4

Project: CoPC Jicarilla 153 25

Collection Date: 12/27/2016 8:45:00 AM

Lab ID: 1612D34-004

Matrix: SOIL

Received Date: 12/28/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>MAB</b>
Petroleum Hydrocarbons, TR	ND	19		mg/Kg	1	12/29/2016 12:00:00 PM	29437
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/29/2016 1:03:47 PM	29438
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/29/2016 1:03:47 PM	29438
Surr: DNOP	100	70-130		%Rec	1	12/29/2016 1:03:47 PM	29438
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/29/2016 4:37:58 PM	29431
Surr: BFB	82.8	68.3-144		%Rec	1	12/29/2016 4:37:58 PM	29431
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	12/29/2016 4:37:58 PM	29431
Toluene	ND	0.046		mg/Kg	1	12/29/2016 4:37:58 PM	29431
Ethylbenzene	ND	0.046		mg/Kg	1	12/29/2016 4:37:58 PM	29431
Xylenes, Total	ND	0.093		mg/Kg	1	12/29/2016 4:37:58 PM	29431
Surr: 4-Bromofluorobenzene	89.9	80-120		%Rec	1	12/29/2016 4:37:58 PM	29431

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

<b>Qualifiers:</b>	*	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	W	Sample container temperature is out of limit as specified



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1612D34

Date Reported: 12/30/2016

CLIENT: Animas Environmental

Client Sample ID: SC-5

Project: CoPC Jicarilla 153 25

Collection Date: 12/27/2016 8:54:00 AM

Lab ID: 1612D34-005

Matrix: SOIL

Received Date: 12/28/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>MAB</b>
Petroleum Hydrocarbons, TR	ND	18		mg/Kg	1	12/29/2016 12:00:00 PM	29437
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	12/29/2016 1:25:06 PM	29438
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/29/2016 1:25:06 PM	29438
Surr: DNOP	99.9	70-130		%Rec	1	12/29/2016 1:25:06 PM	29438
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/29/2016 5:01:26 PM	29431
Surr: BFB	82.9	68.3-144		%Rec	1	12/29/2016 5:01:26 PM	29431
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	12/29/2016 5:01:26 PM	29431
Toluene	ND	0.048		mg/Kg	1	12/29/2016 5:01:26 PM	29431
Ethylbenzene	ND	0.048		mg/Kg	1	12/29/2016 5:01:26 PM	29431
Xylenes, Total	ND	0.096		mg/Kg	1	12/29/2016 5:01:26 PM	29431
Surr: 4-Bromofluorobenzene	90.0	80-120		%Rec	1	12/29/2016 5:01:26 PM	29431

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	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1612D34

30-Dec-16

Client: Animas Environmental

Project: CoPC Jicarilla 153 25

Sample ID	MB-29437	SampType:	MBLK	TestCode:	EPA Method 418.1: TPH					
Client ID:	PBS	Batch ID:	29437	RunNo:	39725					
Prep Date:	12/28/2016	Analysis Date:	12/29/2016	SeqNo:	1244707	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-29437	SampType:	LCS	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS	Batch ID:	29437	RunNo:	39725					
Prep Date:	12/28/2016	Analysis Date:	12/29/2016	SeqNo:	1244708	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	87	20	100.0	0	86.8	80.7	121			

Sample ID	LCSD-29437	SampType:	LCSD	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS02	Batch ID:	29437	RunNo:	39725					
Prep Date:	12/28/2016	Analysis Date:	12/29/2016	SeqNo:	1244709	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	93	20	100.0	0	93.3	80.7	121	7.12	20	

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1612D34

30-Dec-16

Client: Animas Environmental

Project: CoPC Jicarilla 153 25

Sample ID	LCS-29423		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 29423		RunNo: 39712					
Prep Date:	12/28/2016		Analysis Date: 12/29/2016		SeqNo: 1244401		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.7	70	130			

Sample ID	MB-29423		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 29423		RunNo: 39712					
Prep Date:	12/28/2016		Analysis Date: 12/29/2016		SeqNo: 1244402		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.5		10.00		95.1	70	130			

Sample ID	LCS-29438		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 29438		RunNo: 39713					
Prep Date:	12/28/2016		Analysis Date: 12/29/2016		SeqNo: 1244632		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	63.8	116			
Surr: DNOP	5.1		5.000		102	70	130			

Sample ID	MB-29438		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 29438		RunNo: 39713					
Prep Date:	12/28/2016		Analysis Date: 12/29/2016		SeqNo: 1244633		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		102	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 | W Sample container temperature is out of limit as specified |



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1612D34

30-Dec-16

Client: Animas Environmental

Project: CoPC Jicarilla 153 25

Sample ID	MB-29431	SampType	MBLK	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	PBS	Batch ID	29431	RunNo	39723					
Prep Date	12/28/2016	Analysis Date	12/29/2016	SeqNo	1245219	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	810		1000		81.3	68.3	144			

Sample ID	LCS-29431	SampType	LCS	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	LCSS	Batch ID	29431	RunNo	39723					
Prep Date	12/28/2016	Analysis Date	12/29/2016	SeqNo	1245220	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	103	74.6	123			
Surr: BFB	910		1000		90.6	68.3	144			

Sample ID	1612D34-001AMS	SampType	MS	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	SC-1	Batch ID	29431	RunNo	39723					
Prep Date	12/28/2016	Analysis Date	12/29/2016	SeqNo	1245225	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.7	23.52	0	118	61.3	150			
Surr: BFB	860		940.7		91.6	68.3	144			

Sample ID	1612D34-001AMSD	SampType	MSD	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	SC-1	Batch ID	29431	RunNo	39723					
Prep Date	12/28/2016	Analysis Date	12/29/2016	SeqNo	1245226	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	24.08	0	111	61.3	150	3.18	20	
Surr: BFB	900		963.4		93.7	68.3	144	0	0	

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1612D34

30-Dec-16

Client: Animas Environmental

Project: CoPC Jicarilla 153 25

Sample ID	MB-29431	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID: 29431			RunNo: 39723					
Prep Date:	12/28/2016	Analysis Date: 12/29/2016			SeqNo: 1245244		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		89.6	80	120			

Sample ID	LCS-29431		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 29431		RunNo: 39723					
Prep Date:	12/28/2016		Analysis Date: 12/29/2016		SeqNo: 1245245		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	105	75.2	115			
Toluene	1.0	0.050	1.000	0	100	80.7	112			
Ethylbenzene	0.97	0.050	1.000	0	97.4	78.9	117			
Xylenes, Total	2.9	0.10	3.000	0	98.1	79.2	115			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.4	80	120			

## 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	W Sample container temperature is out of limit as specified



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

## Sample Log-In Check List

Client Name: Animas Environmental

Work Order Number: 1612D34

RcptNo: 1

Received by/date: AJ 12/28/16

Logged By: Anne Thorne 12/28/2016 8:00:00 AM

*Anne Thorne*

Completed By: Anne Thorne 12/28/2016 9:21:06 AM

*Anne Thorne*

Reviewed By: AJ 12/28/16

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐  
6. Sample(s) in proper container(s)? Yes ☒ No ☐  
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐  
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒  
11. Were any sample containers received broken? Yes ☐ No ☒  
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐  
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐  
14. Is it clear what analyses were requested? Yes ☒ No ☐  
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

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

### Special Handling (if applicable)

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

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

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			







EMERGENCY NUMBER (505) 324-5170

BURLINGTON RESOURCES OIL & GAS CO.

ConocoPhillips

JICARILLA 153 #25

FORMATION GL-DK

940' FNL 1100' FE

SEC. 36 T026N R005W

LEASE NO. JIC 153 ELEV. 6663

API NO. 30-039-22421

6000 ARriba COUNTY, NEW MEXICO

