

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**

Type of action: ☐ Below grade tank registration  
☐ Permit of a pit or proposed alternative method  
☒ Closure of a pit, below-grade tank, or proposed alternative method  
☐ Modification to an existing permit/or registration  
☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

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

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

1.  
Operator: ConocoPhillips Company OGRID #: 217817  
Address: PO BOX 4289, Farmington, NM 87499  
Facility or well name: SAN JUAN 28-7 UNIT 220M  
API Number: 30-039-25398 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr F Section 22 Township 28N Range 7W County: Rio Arriba  
Center of Proposed Design: Latitude 36.64959 °N Longitude -107.56384 °W NAD: ☐ 1927 ☒ 1983  
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

**OIL CONS. DIV DIST. 3**

**JUN 30 2017**

2.  
☐ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC  
Temporary: ☐ Drilling ☐ Workover  
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no  
☐ Lined ☐ Unlined Liner type: Thickness \_\_\_\_\_ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
☐ String-Reinforced  
Liner Seams: ☐ Welded ☐ Factory ☐ Other \_\_\_\_\_ Volume: \_\_\_\_\_ bbl Dimensions: L \_\_\_\_\_ x W \_\_\_\_\_ x D \_\_\_\_\_

3.  
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC  
Volume: 120 bbl Type of fluid: Produced Water  
Tank Construction material: Metal  
☐ Secondary containment with leak detection ☒ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other \_\_\_\_\_  
Liner type: Thickness 45 mil ☐ HDPE ☐ PVC ☒ Other LLDPE

4.  
☐ **Alternative Method:**  
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.  
**Fencing:** Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)  
☐ Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)  
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet  
☐ Alternate. Please specify \_\_\_\_\_

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6.

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

☐ Screen ☐ Netting ☐ Other \_\_\_\_\_

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

7.

**Signs:** Subsection C of 19.15.17.11 NMAC

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

☐ Signed in compliance with 19.15.16.8 NMAC

8.

**Variances and Exceptions:**

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

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

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

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

9.

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

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

**General siting**

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

- ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells

☐ Yes ☐ No

☒ NA

**Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.**

NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No

☒ NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)**

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

- FEMA map

☐ Yes ☐ No

**Below Grade Tanks**

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

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

☐ Yes ☒ No

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

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

☐ Yes ☒ No

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

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No



Within 100 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

### **Temporary Pit Non-low chloride drilling fluid**

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;

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

☐ Yes ☐ No

Within 300 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

### **Permanent Pit or Multi-Well Fluid Management Pit**

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

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

☐ Yes ☐ No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

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

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

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

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

10.

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

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

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

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

11.

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

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

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

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



12.

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

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

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC  
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  
☐ Climatological Factors Assessment  
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Quality Control/Quality Assurance Construction and Installation Plan  
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Nuisance or Hazardous Odors, including H<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	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

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

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

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

OCD Representative Signature: Vanessa [Signature] Approval Date: 10/4/2017

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

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

☒ Closure Completion Date: 5/30/2017

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) Christine Brock Title: Regulatory Specialist

Signature: Christine Brock Date: 6/26/17

e-mail address: Christine.Brock@cop.com Telephone: (505) 326-9775



**ConocoPhillips Company**  
**San Juan Basin: New Mexico Assets**  
**Below Grade Tank Closure Report**

**Lease Name:** San Juan 28-7 Unit 220M

**API No.:** 30-039-25398

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 Requirements:**

1. Prior to initiating any BGT closure, except in the case of an emergency, COPC will notify the surface owner of the intent to close the BGT by certified mail no later than 72 hours or one week before closure and a copy of this notification will be included in the closure report. In the case of an emergency, the surface owner will be notified as soon as practical.

**The surface owner notification was not provided due to BGT clean-up effort.**

2. Notice of closure will be given to the Division District Office between 72 hours and one week of the scheduled closure via email or phone. The notification of closure will include the following:
  - a. Operators Name
  - b. Well Name and API Number
  - c. Location

**Notification is not attached.**

3. All liquids will be removed from the BGT following cessation of operation. Produced water will be disposed of at one of COP's approved Salt Water Disposal facilities or at a Division District Office approved facility.

**All recovered liquids were disposed of at an approved SWD facility or an approved Division District Office facility within 60 days of cessation of operation.**

4. Solids and sludge's will be shoveled and/or vacuumed out for disposal at one of the Division District Office approved facilities, depending on the proximity of the BGT site: Envirotech Land Farm (Permit #NM-01-011), JFJ Land Farm % Industrial Ecosystems Inc. (Permit #NM-01-0010B), and Basin Disposal (Permit #NM-01-005).

**Any sludge or soil required to be removed to facilitate closure was transported to Envirotech Land Farm (Permit # NM-01-011) and/or JFJ Landfarm % IEI (Permit# NM-01-0010B).**

5. COPC will obtain prior approval from Division District Office to dispose, recycle, reuse, or reclaim the BGT and provide documentation of the disposition of the BGT in the closure

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report. Steel materials will be recycled or reused as approved by the Division District Office. Fiberglass tanks will be empty, cut up or shredded, and EPA cleaned for disposal as solid waste. Liner materials will be cleaned without soils or contaminated material for disposal as solid waste. Fiberglass tanks and liner materials will meet the conditions of 19.15.35 NMAC. Disposal will be at a licensed disposal facility, presently San Juan County Landfill operated by Waste Management under NMED Permit SWM-052426.

**The below-grade tank was disposed of in a division-approved manner. The liner was cleaned per 19.15.35.8.C(1)(m) NMAC and disposed of at the San Juan County Regional Landfill located on CR 3100.**

6. Any equipment associated with the BGT that is no longer required for some other purpose, following the closure, will be removed.

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

7. Following removal of the tank and any liner material, COPC will test the soils beneath the BGT as follows:
  - a. At a minimum, a five-point composite sample will be taken to include any obvious stained or wet soils or any other evidence of contamination.
  - b. The laboratory sample shall be analyzed for the constituents listed in Table I of 19.15.17.13.

**A five point composite sample was taken of the below-grade tank using sampling tools and all samples tested per Table I of 19.15.17.13 and the results are attached.**

8. If the Division District Office and/or COPC determine there is a release, COPC will comply with 19.15.17.13.C.3b.

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

9. Upon completion of the tank removal, pursuant to 19.15.17.13.C.3c, if all contaminant concentrations are less than or equal to the parameters listed in Table I of 19.15.17.13 NMAC, the excavation will be backfilled with non-waste earthen material compacted and covered with a minimum of one foot top soil or background thickness whichever is greater and to existing grade. The surface will be re-contoured to match the native grade and to prevent ponding.

**The tank removal area passed all requirements of Table I of 19.15.17.13 NMAC and was backfilled with compacted, non-waste containing, earthen material which included at least one foot of suitable material to establish vegetation at the site.**

10. For those portions of the former BGT area no longer required for production activities, COPC will seed the disturbed area the first favorable growing season after the BGT is covered. Seeding will be accomplished via drilling on the contour whenever practical, or by



other Division District Office approved methods. COPC will notify the Division District Office when reclamation and re-vegetation is complete.

Reclamation of the BGT shall be considered complete when:

- Vegetative cover reflects a life form ratio of +/- 50% of pre disturbance levels.
- Total percent plant cover of at least 70% of pre-disturbance levels (Excluding noxious weeds) OR
- Pursuant to 19.15.17.13.H.5d COPC will comply with obligations imposed by other applicable federal or tribal agencies in which there re-vegetation and reclamation requirements provide equal or better protection of fresh water, human health and the environment.

**Provision 10 will be accomplished pursuant to 19.15.17.H.5d and notification will be submitted upon completion.**

11. For those portions of the former BGT area required for production activities, reseeding will be done at well abandonment, and following the procedure noted above.

**The former BGT area is not required for production activities and reseeding will be per the procedure noted above.**

**Closure Report:**

All closure activities will include proper documentation and will be submitted to OCD within 60 days of the BGT closure on a Closure Report using Division District Office Form C-144. The Report will include the following:

- Proof of Closure Notice (surface owner and Division District Office) **(Attached)**
- Backfilling & cover installation **(See Report)**
- Confirmation Sampling Analytical Results **(Attached)**
- Application Rate & Seeding techniques **(See Report)**
- Photo Documentation of Reclamation **(Attached)**

**Fields, Vanessa, EMNRD**

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**From:** Fields, Vanessa, EMNRD  
**Sent:** Thursday, June 1, 2017 10:09 AM  
**To:** 'Spearman, Bobby E'  
**Subject:** RE: [EXTERNAL]Preliminary Laboratory Analytical Results for San Juan 28-7 Unit 220M

Good morning Bobby,

Based on the sitting criteria and a review of groundwater the OCD grants approval to close at the following levels. Benzene of 10 mg/kg, BTEX of 50 mg/kg, and TPH of 1,000 mg/kg. Please apply potassium to the base of the excavation.

Please include this e-mail in your final C-141.

Thank you,

Vanessa Fields  
Environmental Specialist  
Oil Conservation Division  
Energy, Minerals, & Natural Resources  
1000 Rio Brazos, Aztec, NM 87410  
(505)334-6178 ext 119  
Cell: (505) 419-0463  
[vanessa.fields@state.nm.us](mailto:vanessa.fields@state.nm.us)

**From:** Spearman, Bobby E [mailto:[Robert.E.Spearman@conocophillips.com](mailto:Robert.E.Spearman@conocophillips.com)]  
**Sent:** Thursday, June 1, 2017 8:37 AM  
**To:** Fields, Vanessa, EMNRD <[Vanessa.Fields@state.nm.us](mailto:Vanessa.Fields@state.nm.us)>  
**Subject:** Re: [EXTERNAL]Preliminary Laboratory Analytical Results for San Juan 28-7 Unit 220M

Vanessa

Even though the BGT scheduled to be closed to the strictest standard I would like to request that COP be allowed to spray the bottom of the excavation with promaganate and close the excavation based on a site ranking of 10 and Action levels for Benzene iof 10 mg/kg, BTEX iof 50 mg/kg, and TPH of 1,000 mg/kg. Coupled with hard sandstone making excavation extremely dangerous difficult

Thanks

Bobby

---

**From:** Spearman, Bobby E <[robert.e.spearman@conocophillips.com](mailto:robert.e.spearman@conocophillips.com)>  
**Sent:** Thursday, June 1, 2017 7:05 AM  
**Subject:** Fwd: [EXTERNAL]Preliminary Laboratory Analytical Results for San Juan 28-7 Unit 220M  
**To:** Vanessa Fields <[vanessa.fields@state.nm.us](mailto:vanessa.fields@state.nm.us)>

Vanessa

Attached are the lab results from the 28-7 220M.



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 <b>Burlington Resources, a Wholly Owned Subsidiary of ConocoPhillips Company</b>	Contact <b>Lisa Hunter</b>
Address <b>3401 East 30<sup>th</sup> St, Farmington, NM</b>	Telephone No. <b>(505) 258-1607</b>
Facility Name: <b>San Juan 28-7 220M</b>	Facility Type: <b>Gas well</b>
Surface Owner <b>BLM</b>	Mineral Owner <b>FED</b>
API No. <b>3003925398</b>	

#### LOCATION OF RELEASE

Unit Letter <b>F</b>	Section <b>22</b>	Township <b>28</b>	Range <b>7</b>	Feet from the <b>1490</b>	North/South Line <b>North</b>	Feet from the <b>1800</b>	East/West Line <b>West</b>	County <b>Rio Arriba</b>
-------------------------	----------------------	-----------------------	-------------------	------------------------------	----------------------------------	------------------------------	-------------------------------	-----------------------------

Latitude 36.64959 Longitude -107.56384

#### NATURE OF RELEASE

Type of Release <b>Hydrocarbon</b>	Volume of Release <b>Unknown</b>	Volume Recovered <b>700 c/yds</b>
Source of Release <b>BGT</b>	Date and Hour of Occurrence <b>Unknown</b>	Date and Hour of Discovery <b>12-07-2016</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? <b>N/A</b>	
By Whom? <b>N/A</b>	Date and Hour <b>N/A</b>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse. <b>N/A</b>	
If a Watercourse was Impacted, Describe Fully.* <b>N/A</b>		

#### Describe Cause of Problem and Remedial Action Taken.\*


Historic contamination was encountered after soil sample was taken on December 7, 2016 during a BGT Resample Project.

#### Describe Area Affected and Cleanup Action Taken.\*

Delineation of the BGT area on 12-7-16 indicates a 12'x18' x 5' area that will be excavated to at or below action levels. **Historical hydrocarbon impacted soil was found during the BGT closure for the subject well. The excavation was 36' x 50' x 12' in depth and 700c/yds of soil was transported to IEI land farm. Analytical results were below the regulatory standards on the walls and TPH 945ppm on the base. NMOCD approved request to spray potassium permanganate and back fill – no further action required. The soil sampling report is attached for review. Risk Rank: 10**

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.

#### OIL CONSERVATION DIVISION

Signature: 	Approved by Environmental Specialist:		
Printed Name: <b>Lisa Hunter</b>			
Title: <b>Field Environmental Specialist</b>	Approval Date:	Expiration Date:	
E-mail Address: <b>Lisa.Hunter@cop.com</b>	Conditions of Approval:		Attached <input type="checkbox"/>
Date: <b>06-14-17</b> Phone: <b>505-258-1607</b>			

\* Attach Additional Sheets If Necessary



June 5, 2017

Lisa Hunter and Robert Spearman  
ConocoPhillips  
San Juan Business Unit  
(505) 326-9786 / (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  
San Juan 28-7 Unit 220M  
Rio Arriba County, New Mexico**

Dear Ms. Hunter and Mr. Spearman:

On October 24 and December 7, 2016, and May 30, 2017, 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 (COP) San Juan 28-7 Unit 220M located in Rio Arriba County, New Mexico. An initial release assessment was completed on December 7, 2016, and the final excavation was completed by COP contractors prior to AES' arrival on location on May 30, 2017.

---

## 1.0 Site Information

### 1.1 Location

Site Name – San Juan 28-7 Unit 220M

Legal Description – SE¼ NW¼, Section 22, T28N, R7W, Rio Arriba County, New Mexico

Well Latitude/Longitude – N36.64989 and W107.56391, respectively

BGT Latitude/Longitude – N36.64959 and W107.56384, respectively

Land Jurisdiction – Bureau of Land Management (BLM)

Figure 1. Topographic Site Location Map

Figure 2. Aerial Site Map, 2016 and 2017

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

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



## **1.2 NMOCD Ranking**

Prior to site work, the New Mexico Oil Conservation Division (NMOCD) and New Mexico Office of the State Engineer (NMOSE) databases were reviewed, and a site-specific hydrogeology report dated December 2008 reported the depth to groundwater at 320 feet below ground surface (bgs). However, at the request of the NMOCD, the most stringent sample result criteria were applied to this BGT. Note these criteria normally apply to sites with a depth to groundwater of 0 to 50 feet.

## **1.3 Assessment**

AES was initially contacted by Robert Spearman of COP on October 12, 2016, and on October 24, 2016, Corwin Lameman of AES traveled to the location. Soil sampling consisted of collection of one 5-point soil sample (BGT S-1) composited from four perimeter locations and one center location from below the BGT liner at the BGT footprint. Soil sample results for BGT S-1 were above the action levels, and a release was confirmed.

On December 7, 2016, AES personnel returned to the location to complete the release assessment field work. The assessment included collection and field sampling of eight soil samples from seven soil borings (SB-1 through SB-7). Based on field sampling results, AES recommended excavation of the release area. Sample locations are shown on Figure 3.

On May 30, 2017, AES returned to the location to collect confirmation soil samples of the excavation extents. 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 36 feet by 50 feet by 12 feet in depth. Note that the depth of the excavation was limited due to a confining sandstone unit around 12 feet bgs. Sample locations and final excavation extents are presented on Figure 4.

---

## **2.0 Soil Sampling**

### **2.1 Field Sampling**

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

Field screening for volatile organic compound (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 parts per million (ppm) isobutylene gas.

### **2.1.2 Total Petroleum Hydrocarbons**

Soil samples were also analyzed in the field for total petroleum hydrocarbons (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' *Standard Operating Procedure: Field Analysis Total Petroleum Hydrocarbons per EPA Method 418.1*.

### **2.1.3 Chlorides**

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

## **2.2 Laboratory Analyses**

The soil samples collected for laboratory analysis were placed into new, clean, laboratory-supplied containers, which were then labeled, placed on ice, and logged onto sample chain of custody records. Samples were maintained on ice until delivery to the analytical laboratory, Hall Environmental Analysis Laboratory (Hall) in Albuquerque, New Mexico. Soil sample BGT S-1 was laboratory analyzed for:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) per USEPA Method 8021B;
- TPH per USEPA Method 418.1;
- TPH as gasoline range, diesel range, and motor oil range organics (GRO/DRO/MRO) per USEPA Method 8015; and
- Chlorides per USEPA Method 300.0.

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

- BTEX per USEPA Method 8021B; and
- TPH as gasoline range, diesel range, and motor oil range organics (GRO/DRO/MRO) per USEPA Method 8015.

## **2.3 Field and Laboratory Analytical Results**

Field sampling results and laboratory analytical results are summarized in Tables 1 and 2, respectively, and on Figures 3 and 4. The AES Field Sampling Reports and laboratory analytical reports are attached.



Table 1. Soil Field VOCs and TPH Results  
San Juan 28-7 Unit 220M Release Assessment and Final Excavation  
December 2016 and May 2017

<i>Sample ID</i>	<i>Date Sampled</i>	<i>Depth below BGT (ft)</i>	<i>VOCs OVM Reading (ppm)</i>	<i>Field TPH (418.1) (mg/kg)</i>
<i>NMOCD Action Level</i>			<i>--*</i>	<i>100*</i>
SB-1	12/7/16	2.75	26.1	<20.0
SB-2	12/7/16	3.0	0.1	<20.0
SB-3	12/7/16	3.5	3.4	<b>539</b>
		5.5	198	<b>470</b>
SB-4	12/7/16	3.75	2.7	<20.0
SB-5	12/7/16	3.5	578	<b>11,120</b>
SB-6	12/7/16	3.0	0.2	<20.0
SB-7	12/7/16	2.75	1,278	<b>24,900</b>
SC-1	5/30/17	0 to 12	204	<b>121</b>
SC-2	5/30/17	0 to 12	51.2	<b>107</b>
SC-3	5/30/17	0 to 12	0.8	58.4
SC-4	5/30/17	0 to 12	30.1	<b>145</b>
SC-5	5/30/17	12	869	<b>1,190</b>

\*Action level determined by NMAC 19.15.17.13 Table 1

Table 2. Soil Laboratory Analytical Results – Benzene, Total BTEX, TPH, and Chlorides  
San Juan 28-7 Unit 220M BGT Closure, Release Assessment and Final Excavation  
October 2016 through May 2017

<b>Sample ID</b>	<b>Date Sampled</b>	<b>Sample Depth (ft bgs)</b>	<b>Benzene (mg/kg)</b>	<b>Total BTEX (mg/kg)</b>	<b>TPH 418.1</b>	<b>TPH-GRO (mg/kg)</b>	<b>TPH-DRO (mg/kg)</b>	<b>TPH-MRO (mg/kg)</b>	<b>Chlorides (mg/kg)</b>
<b>NMOCD Action Level</b>			<b>10*</b>	<b>50*</b>	<b>100*</b>		<b>100*</b>		<b>600*</b>
BGT S-1	10/24/16	3	<0.048	0.28	9,800	130	4,200	2,500	<30
SB-3	12/7/16	5.5	<0.025	<0.225	1,100	43	370	290	75
SC-1	5/30/17	0 to 12	<0.017	<0.150	NA	<3.3	20	<48	NA
SC-2	5/30/17	0 to 12	<0.016	<0.144	NA	<3.2	11	<49	NA
SC-3	5/30/17	0 to 12	<0.016	<0.144	NA	<3.2	<9.5	<47	NA
SC-4	5/30/17	0 to 12	<0.076	<0.686	NA	<15	63	<50	NA
SC-5	5/30/17	12	<0.081	1.6	NA	55	670	220	NA

NA – not analyzed

\*Action level determined by NMAC 19.15.17.13 Table 1

### 3.0 Conclusions and Recommendations

#### 3.1 BGT Closure

On October 24, 2016, AES conducted BGT closure sampling at the location. NMOCD action levels for BGT closures are specified in New Mexico Administrative Code (NMAC) 19.15.17.13 Table 1, and for this location the most stringent action levels were utilized per NMOCD. BGT closure sampling laboratory analytical results were below the NMOCD action levels of 10 mg/kg for benzene and 50 mg/kg for total BTEX. In contrast, results exceeded the NMOCD action level of 100 mg/kg for TPH, with BGT S-1 reporting laboratory concentrations of 9,800 mg/kg (TPH 418.1) and 6,830 mg/kg (TPH as GRO/DRO/MRO). Chloride concentrations in S BGT SC-1 were reported below the NMOCD action level of 600 mg/kg, with less than 30 mg/kg. Based on laboratory concentrations, a release was confirmed at the former BGT at the San Juan 28-7 Unit 220M location.

#### 3.2 Release Assessment

On December 7, 2016, AES completed a release assessment at the location. Release assessment field sampling results above the NMOCD action level of 100 mg/kg TPH were reported in SB-3, SB-5, and SB-7. The highest field TPH concentration was reported in SB-7, with a concentration of 24,900 mg/kg TPH.



Release assessment sampling laboratory analytical results for SB-3 were below the NMOCD action levels for benzene and total BTEX. However, results exceeded the NMOCD action level for TPH, with SB-3 reporting laboratory concentrations of 1,100 mg/kg (TPH 418.1) and 703 mg/kg (TPH as GRO/DRO/MRO). Chloride concentrations in SB-3 were reported below the NMOCD action level of 600 mg/kg, at 75 mg/kg. Excavation of the release area was recommended.

### **3.3 Excavation Clearance**

On May 30, 2017, final clearance of the excavation area was completed. Field sampling results of the excavation extents showed field TPH concentrations exceeded the applicable NMOCD action level of 100 mg/kg for SC-1 (north wall), SC-2 (south wall), SC-4 (west wall), and SC-5 (base). The highest field TPH concentration was reported in SC-5, with a concentration of 1,190 mg/kg TPH. Laboratory analytical results reported TPH concentrations (as GRO/DRO/MRO) in all samples as below NMOCD action levels except in SC-5 (945 mg/kg). Additionally, laboratory analytical results reported benzene and total BTEX concentrations in all samples as below NMOCD action levels.

Based on the final field sampling and laboratory analytical results of the excavation of petroleum contaminated soils at the San Juan 28-7 Unit 220M, benzene and total BTEX were below the applicable NMOCD action levels for the final base and sidewalls. However, TPH exceeded the NMOCD action level at SC-5, and NMOCD granted approval to spray a potassium permanganate solution and then backfill 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:

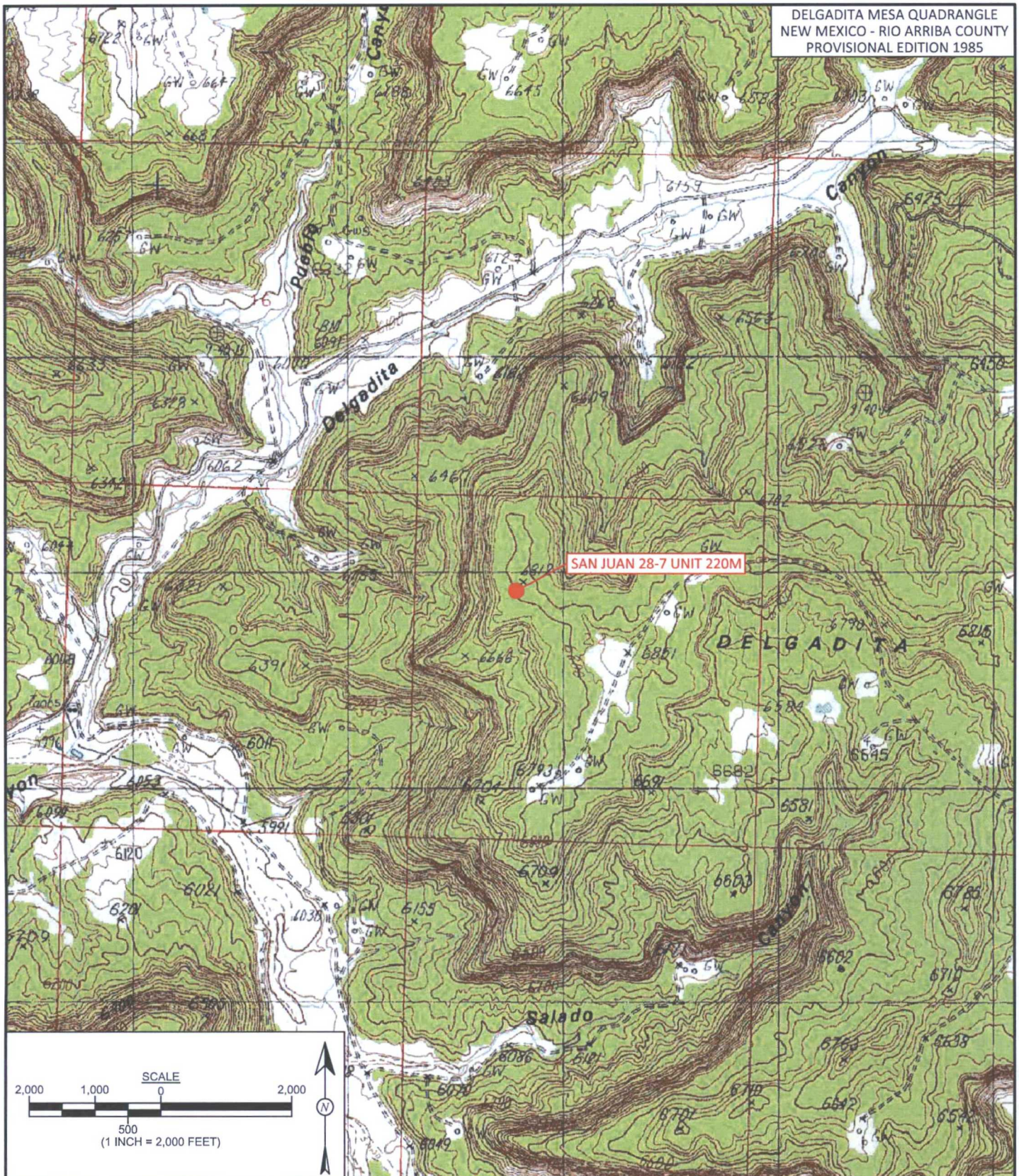
Figure 1. Topographic Site Location Map  
Figure 2. Aerial Site Map, 2016 and 2017  
Figure 3. BGT Closure and Release Assessment Sample Locations and Results,  
October and December 2016  
Figure 4. Final Excavation Sample Locations and Results, May 2017  
AES Field Sampling Report 120716  
AES Field Sampling Report 053017  
Hall Laboratory Analytical Report 1610C13  
Hall Laboratory Analytical Report 1612431  
Hall Laboratory Analytical Report 1705E88

R:\Animas 2000\Dropbox (Animas Environmental)\0000 AES Server Client Projects Dropbox\2017 Client  
Projects\ConocoPhillips\SJ 28-7 Unit 220M\San Juan 28-7 Unit 220M BGT Closure, Release and Excavation  
Report 060517.docx



## Figures





**FIGURE 1**

**TOPOGRAPHIC SITE LOCATION MAP**

ConocoPhillips  
SAN JUAN 28-7 UNIT 220M  
SE¼ NW¼, SECTION 22, T28N, R7W  
RIO ARriba COUNTY, NEW MEXICO  
N36.64989, W107.56391



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**DRAWN BY:**

S. Glasses

**DATE DRAWN:**

December 16, 2016

**REVISIONS BY:**

C. Lameman

**DATE REVISED:**

June 1, 2017

**CHECKED BY:**

D. Reese

**DATE CHECKED:**

June 1, 2017

**APPROVED BY:**

E. McNally

**DATE APPROVED:**

June 1, 2017





## FIGURE 2

### AERIAL SITE MAP 2016 AND 2017

ConocoPhillips  
SAN JUAN 28-7 UNIT 220M  
SE $\frac{1}{4}$  NW $\frac{1}{4}$ , SECTION 22, T28N, R7W  
RIO ARriba COUNTY, NEW MEXICO  
N36.64989, W107.56391



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June 1, 2017

#### CHECKED BY:

D. Reese

#### DATE CHECKED:

June 1, 2017

#### APPROVED BY:

E. McNally

#### DATE APPROVED:

June 1, 2017



Field Sampling Results				
Sample ID	Date	Depth (ft)	PID-OVM (ppm)	TPH (mg/kg)
NMOCD ACTION LEVEL			—	100
SB-1	12/7/16	2.75	26.1	<20.0
SB-2	12/7/16	3.0	0.1	<20.0
SB-3	12/7/16	3.5	3.4	539
SB-4	12/7/16	5.5	198	470
SB-5	12/7/16	3.75	2.7	<20.0
SB-6	12/7/16	3.5	578	11,120
SB-7	12/7/16	3.0	0.2	<20.0
SB-8	12/7/16	2.75	1,278	24,900

Laboratory Analytical Results									
Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH 418.1 (mg/kg)	TPH - GRO (mg/kg)	TPH - DRO (mg/kg)	TPH - MRO (mg/kg)	Chlorides (mg/kg)
NMOCD ACTION LEVEL			10	50	100	100	100	600	
BGT S-1	10/24/16	3	<0.048	0.28	9,800	130	4,200	2,500	<30
SB-3	12/7/16	5.5	<0.025	<0.225	1,100	43	370	290	75

ALL SAMPLES WERE ANALYZED PER USEPA METHOD 8021B, 418.1, 8015D AND 300.0

**FIGURE 3**

**BGT CLOSURE AND RELEASE ASSESSMENT SAMPLE LOCATIONS AND RESULTS OCTOBER AND DECEMBER 2016**  
 ConocoPhillips  
 SAN JUAN 28-7 UNIT 220M  
 SE¼ NW¼, SECTION 22, T28N, R7W  
 RIO ARriba COUNTY, NEW MEXICO  
 N36.64989, W107.56391

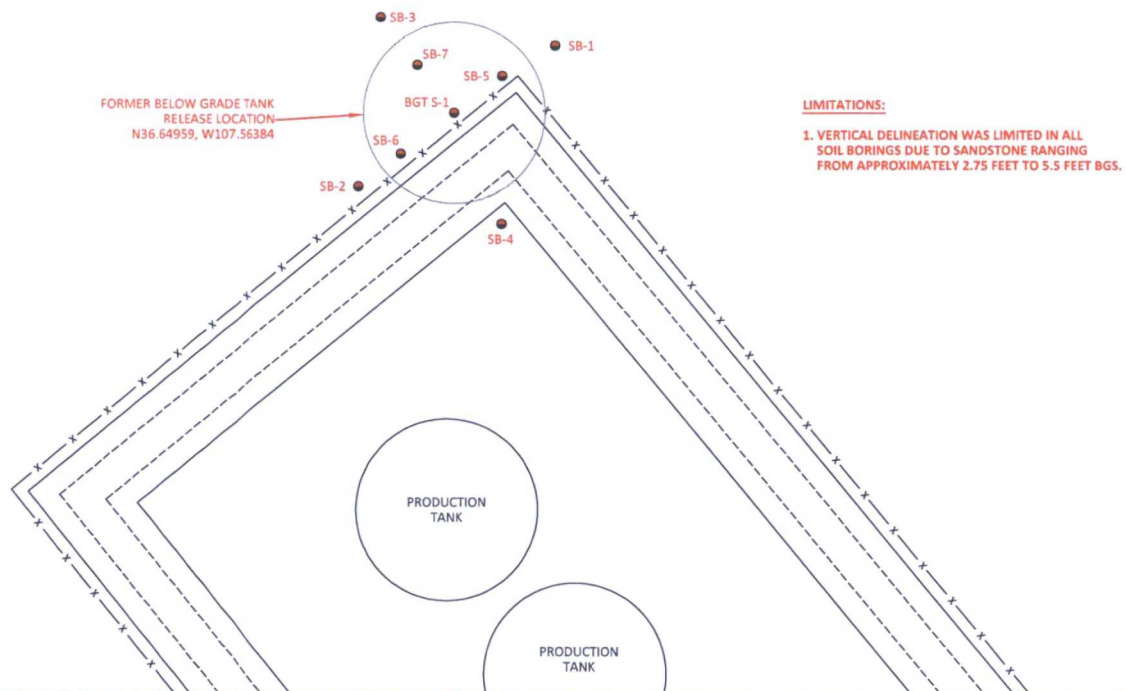


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<b>DRAWN BY:</b> S. Glasses	<b>DATE DRAWN:</b> December 16, 2016
<b>REVISIONS BY:</b> C. Lameman	<b>DATE REVISED:</b> May 31, 2017
<b>CHECKED BY:</b> D. Reese	<b>DATE CHECKED:</b> May 31, 2017
<b>APPROVED BY:</b> E. McNally	<b>DATE APPROVED:</b> May 31, 2017

**LEGEND**

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



**LIMITATIONS:**  
 1. VERTICAL DELINEATION WAS LIMITED IN ALL SOIL BORINGS DUE TO SANDSTONE RANGING FROM APPROXIMATELY 2.75 FEET TO 5.5 FEET BGS.

SAN JUAN 28-7 UNIT 220F WELLHEAD



Field Sampling Results				
Sample ID	Date	Depth (ft)	PID-OVM (ppm)	TPH (mg/kg)
NMOCD ACTION LEVEL			—	100
SC-1	5/30/17	0 to 12	204	121
SC-2	5/30/17	0 to 12	51.2	107
SC-3	5/30/17	0 to 12	0.8	58.4
SC-4	5/30/17	0 to 12	30.1	145
SC-5	5/30/17	12	869	1,190

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)
NMOCD ACTION LEVEL			10	50	100		
SC-1	5/30/17	0 to 12	<0.017	<0.150	<3.3	20	<48
SC-2	5/30/17	0 to 12	<0.016	<0.144	<3.2	11	<49
SC-3	5/30/17	0 to 12	<0.016	<0.144	<3.2	<9.5	<47
SC-4	5/30/17	0 to 12	<0.076	<0.686	<15	63	<50
SC-5	5/30/17	12	<0.081	1.6	55	670	220

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

FINAL EXCAVATION AREA  
36 FT x 50 FT x 12 FT DEEP ON SANDSTONE

FORMER BELOW GRADE TANK  
RELEASE LOCATION  
N36.64959, W107.56384

SAN JUAN 28-7 UNIT 220F WELLHEAD

#### NOTES

1. NMOCD APPROVED APPLICATION OF POTASSIUM PERMANGANATE SOLUTION AND BACKFILL OF EXCAVATION.

FIGURE 4

FINAL EXCAVATION SAMPLE  
LOCATIONS AND RESULTS  
MAY 2017  
ConocoPhillips  
SAN JUAN 28-7 UNIT 220M  
SE¼ NW¼, SECTION 22, T28N, R7W  
RIO ARriba COUNTY, NEW MEXICO  
N36.64989, W107.56391



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DRAWN BY:  
C. Lameman

DATE DRAWN:  
May 31, 2017

REVISIONS BY:  
C. Lameman

DATE REVISED:  
June 1, 2017

CHECKED BY:  
D. Reese

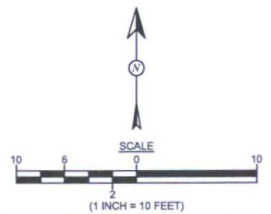
DATE CHECKED:  
June 1, 2017

APPROVED BY:  
E. McNally

DATE APPROVED:  
June 1, 2017

#### LEGEND

- SAMPLE LOCATIONS
- SECONDARY CONTAINMENT BERM
- x— FENCE



## Sampling Reports

# Field Screening Release Assessment Field Report

Date: 12-6-16

Client: Conoco Phillips  
 Well or Lease Name: San Juan 28-7 Unit 220M  
 CoP Onsite Supervisor: C. Lanneman  
 Site Arrival Time: 1010  
 Site Departure Time: 1505

AES Personnel: S. Glasses  
C. Lanneman  
 Beginning mileage: 52799  
 Ending Mileage: 52911  
 Release Source: Historic BGT  
 Well Head (GPS): \_\_\_\_\_

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

Land Jurisdiction: BLM  
 County/State: Rio Arriba / NM  
 Site Rank: 10

Release Location (GPS): 36.64959, -107.56384

Equipment in place: 6 Production Tanks, 1 BGT, 5 Separators  
4 Meter Runs, 5 Well heads  
 Photos taken: \_\_\_\_\_

Buck Machine #	1		
Concentration	50 mg/kg	100 mg/kg	500 mg/kg
Calibration ABS Values	0.078	0.136	0.673

Project Details: BGT Regulatory Closure Sampling when into a release assessment.

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

Horizontal (Cross-Section View):

See Attached Page

Vertical (Plan View):

Initial Recommendations:

Limitations: Sandstone & Shale ranging from 2.75 to 5.5'



Send to Lab: SB-3 e 5.5' per Bobby

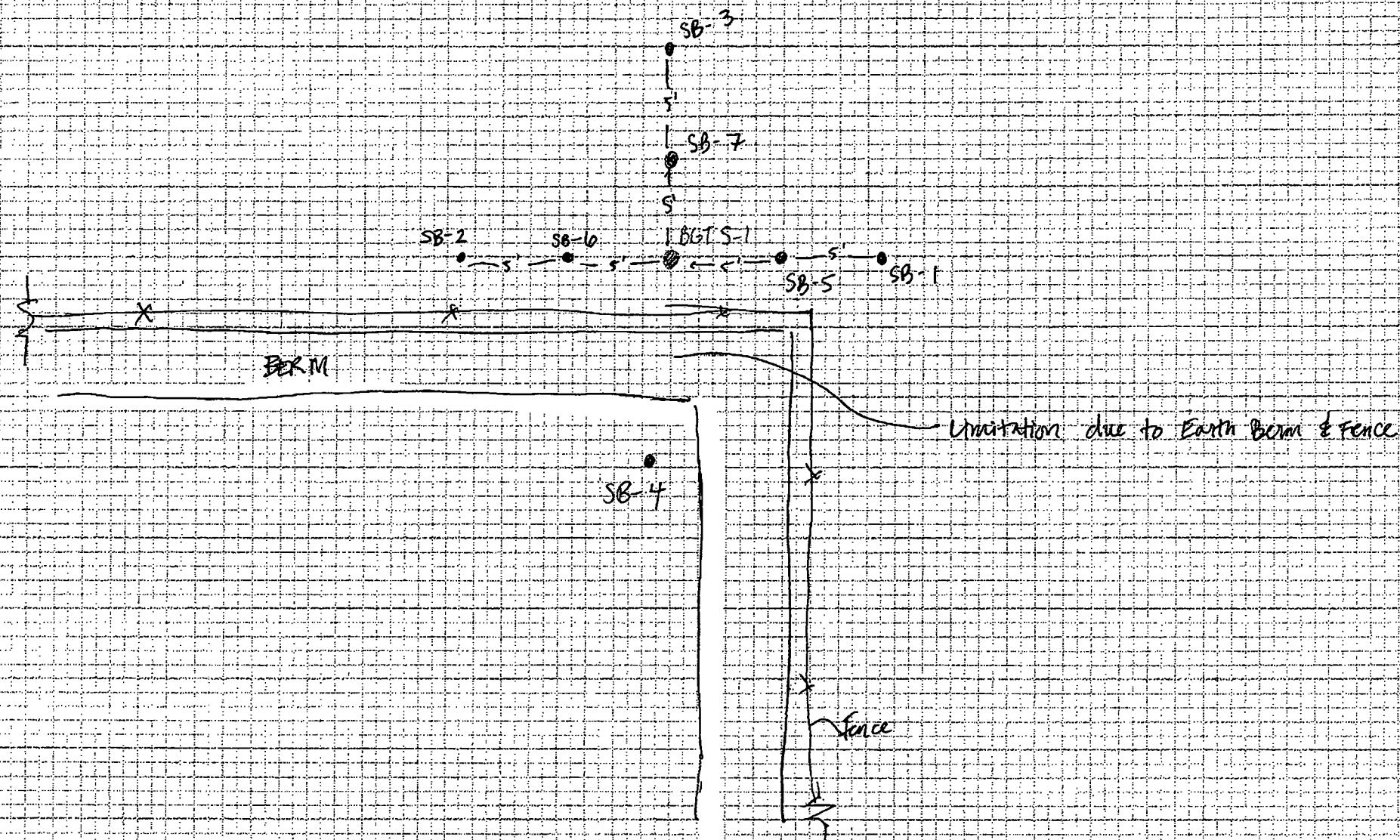
Well or Lease Name: San Juan 28-7 Unit 220M

Date: 12-7-16

AES personnel: J. Blesses, C. Larneman

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-1 e 2.75'	12-7-16	1055	NE of B6TS-1	26.1	1119	<20.0	1123	0.015	Sand, LG, No Odor, No Straining, SS
SB-2 e 3'		1106	SW of B6TS-1	0.1	1125	<20.0	1129	0.007	Sand, LG, No Odor, No Straining, SS
SB-3 e 2.5'		1126	NW of B6TS-1	3.4	1149	539.10	1152	0.310	Thin Sand, LG, No Straining, Faint Odor
SB-3 e 5.5'		1135		198	1150	469.92	1155	0.320	Thin Sand, LG, St. Odor, Some Straining, on Shale
SB-4 e 3.75'		1225	SE of B6TS-1	2.7	1240	<20.0	1243	0.005	Sand, LG, Faint Org. odor, Gray, on Shale
SB-5 e 3.5'		1335	NE of B6TS-1	578	1351	11,120	1358	0.747x10	Sand, LG, Strong Odor, Gray on Shale
SB-6 e 3'		1348	SW of B6TS-1	0.2	1401	<20.0	1406	0.010	Sand, Thin, LG, No Odor, No Straining, on SS
SB-7 e 2.75'		1402	NW of B6TS-1	1,278	1430	24,900	1433	1.662x10	Sand, LG, V. Strong Odor, Gray, on Shale.

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

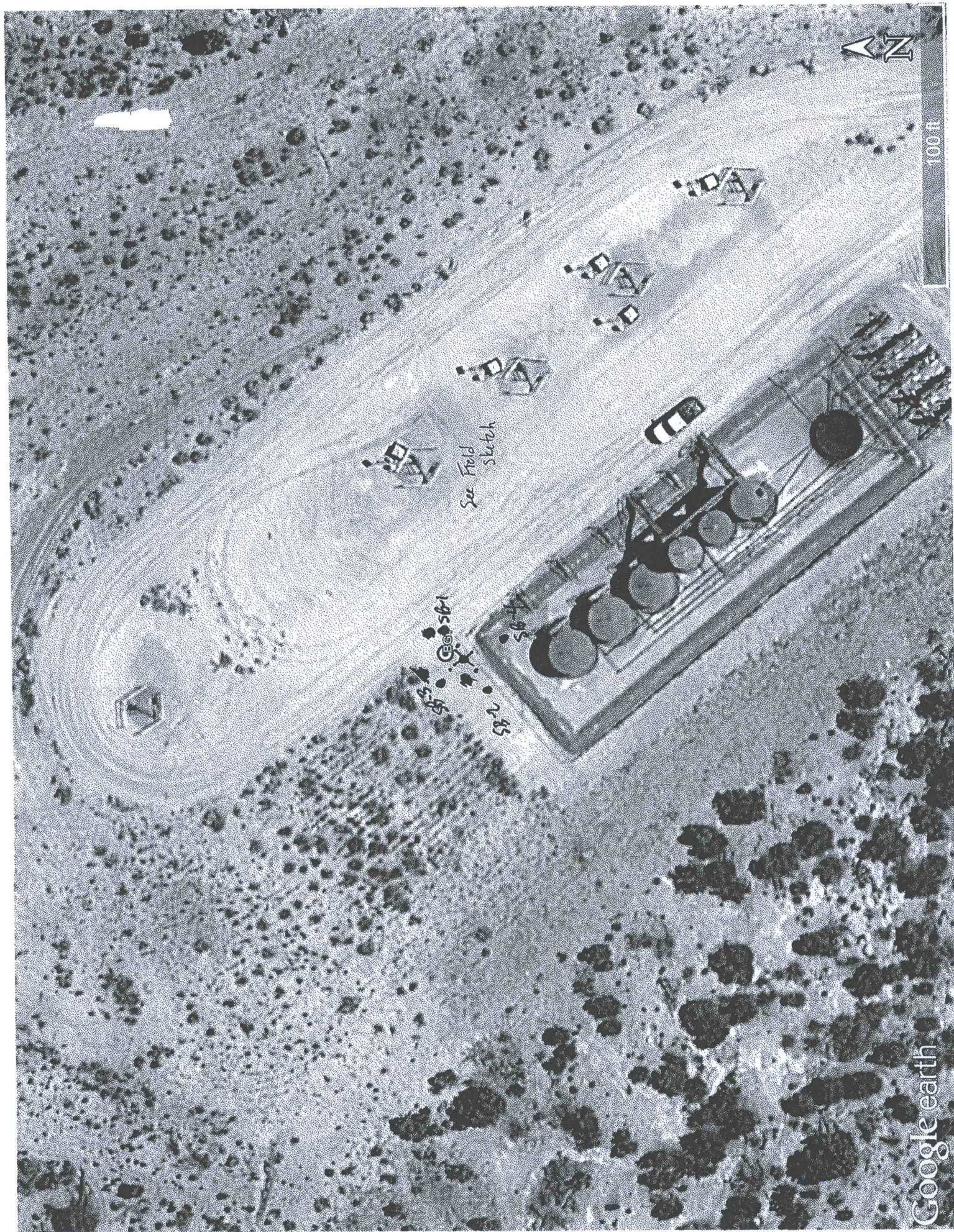


LOCATION NAME: San Juan 20-7 Unit 220M

TECH: 66/Sle

DATE: 12-7-16







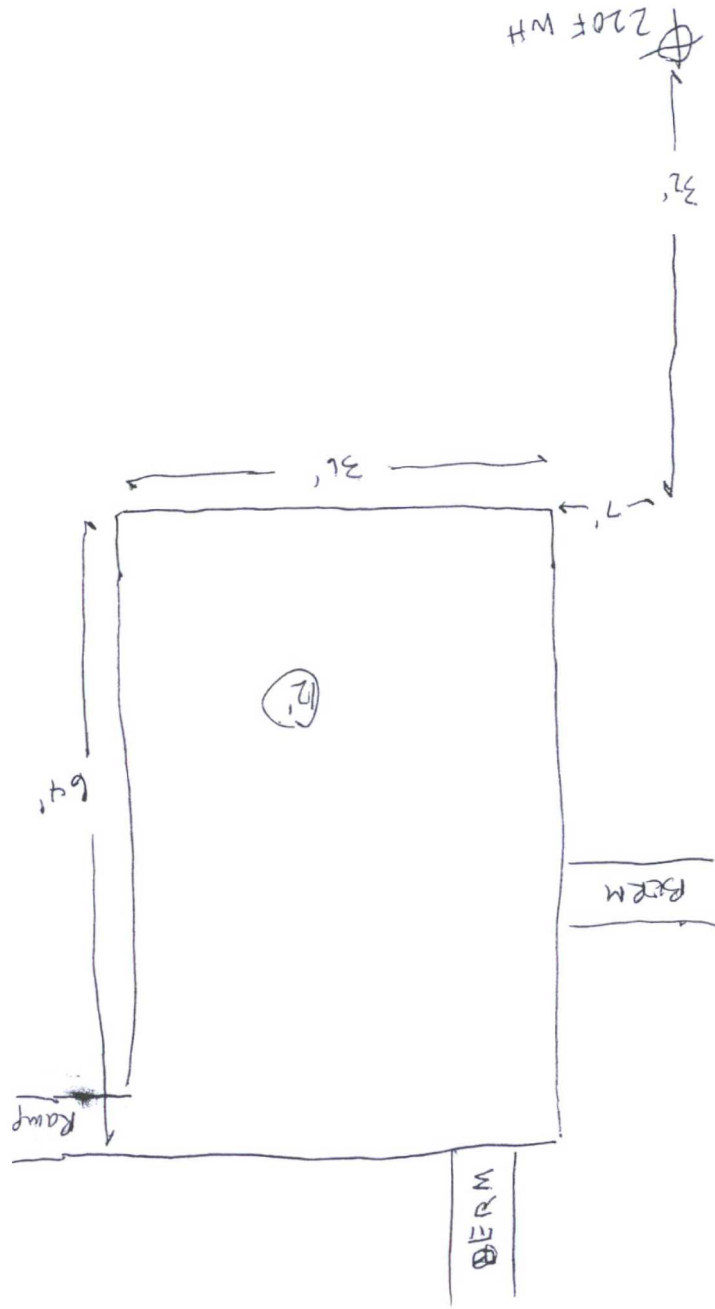
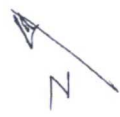
AES personnel: C. Lameau

1/43 - Called Bobby w/ Results. Said to  
Send in all Lbs - same Day TAT

400

[illegible]

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





## Analytical Reports



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)

November 03, 2016

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

RE: COPC San Juan 28-7 UNIT 220M

OrderNo.: 1610C13

Dear Emilee Skyles:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/25/2016 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 1610C13

Date Reported: 11/3/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Animas Environmental

Client Sample ID: BGT S-1

Project: COPC San Juan 28-7 UNIT 220M

Collection Date: 10/24/2016 12:40:00 PM

Lab ID: 1610C13-001

Matrix: SOIL

Received Date: 10/25/2016 8:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>MAB</b>
Petroleum Hydrocarbons, TR	9800	200		mg/Kg	10	11/1/2016 12:00:00 PM	28370
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	10/31/2016 3:02:26 PM	28379
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	4200	98		mg/Kg	10	10/31/2016 11:34:14 AM	28349
Motor Oil Range Organics (MRO)	2500	490		mg/Kg	10	10/31/2016 11:34:14 AM	28349
Surr: DNOP	0	70-130	S	%Rec	10	10/31/2016 11:34:14 AM	28349
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	130	9.7		mg/Kg	2	10/27/2016 12:24:29 PM	28292
Surr: BFB	636	68.3-144	S	%Rec	2	10/27/2016 12:24:29 PM	28292
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.048		mg/Kg	2	10/27/2016 12:24:29 PM	28292
Toluene	ND	0.097		mg/Kg	2	10/27/2016 12:24:29 PM	28292
Ethylbenzene	ND	0.097		mg/Kg	2	10/27/2016 12:24:29 PM	28292
Xylenes, Total	0.28	0.19		mg/Kg	2	10/27/2016 12:24:29 PM	28292
Surr: 4-Bromofluorobenzene	135	80-120	S	%Rec	2	10/27/2016 12:24:29 PM	28292

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#: 1610C13

03-Nov-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 UNIT 220M

Sample ID	MB-28379	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	28379	RunNo:	38358					
Prep Date:	10/31/2016	Analysis Date:	10/31/2016	SeqNo:	1197670	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-28379	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	28379	RunNo:	38358					
Prep Date:	10/31/2016	Analysis Date:	10/31/2016	SeqNo:	1197671	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.1	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#: 1610C13

03-Nov-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 UNIT 220M

Sample ID	MB-28370	SampType:	MBLK		TestCode:	EPA Method 418.1: TPH				
Client ID:	PBS	Batch ID:	28370		RunNo:	38368				
Prep Date:	10/31/2016	Analysis Date:	11/1/2016		SeqNo:	1197897	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-28370		SampType: LCS		TestCode: EPA Method 418.1: TPH					
Client ID:	LCSS		Batch ID: 28370		RunNo: 38368					
Prep Date:	10/31/2016		Analysis Date: 11/1/2016		SeqNo: 1197898		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	105	80.7	121			

Sample ID	LCSD-28370	SampType: LCSD			TestCode: EPA Method 418.1: TPH					
Client ID:	LCSS02	Batch ID: 28370			RunNo: 38368					
Prep Date:	10/31/2016	Analysis Date: 11/1/2016			SeqNo: 1197899		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	107	80.7	121	1.28	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#: 1610C13

03-Nov-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 UNIT 220M

Sample ID	MB-28349	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	28349	RunNo:	38327					
Prep Date:	10/28/2016	Analysis Date:	10/31/2016	SeqNo:	1196387	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	8.5		10.00		85.2	70	130			

Sample ID	LCS-28349	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	28349	RunNo:	38327					
Prep Date:	10/28/2016	Analysis Date:	10/31/2016	SeqNo:	1196504	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	10	50.00	0	112	62.6	124			
Surr: DNOP	4.6		5.000		91.5	70	130			

## 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#: 1610C13

03-Nov-16

Client: Animas Environmental

Project: COPC San Juan 28-7 UNIT 220M

Sample ID	MB-28292		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 28292		RunNo: 38265					
Prep Date:	10/26/2016		Analysis Date: 10/27/2016		SeqNo: 1194716		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	870		1000		86.7	68.3	144			

Sample ID	LCS-28292		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 28292		RunNo: 38265					
Prep Date:	10/26/2016		Analysis Date: 10/27/2016		SeqNo: 1194717		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	74.6	123			
Surr: BFB	930		1000		92.8	68.3	144			

## 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#: 1610C13

03-Nov-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 UNIT 220M

Sample ID	<b>MB-28292</b>		SampType:	<b>MBLK</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>			
Client ID:	<b>PBS</b>		Batch ID:	<b>28292</b>		RunNo:	<b>38265</b>			
Prep Date:	<b>10/26/2016</b>		Analysis Date:	<b>10/27/2016</b>		SeqNo:	<b>1194736</b>	Units:	<b>mg/Kg</b>	
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	1.0		1.000		102	80	120			

Sample ID	<b>LCS-28292</b>		SampType:	<b>LCS</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>			
Client ID:	<b>LCSS</b>		Batch ID:	<b>28292</b>		RunNo:	<b>38265</b>			
Prep Date:	<b>10/26/2016</b>		Analysis Date:	<b>10/27/2016</b>		SeqNo:	<b>1194737</b>	Units:	<b>mg/Kg</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.75	0.025	1.000	0	75.5	75.2	115			
Toluene	0.88	0.050	1.000	0	87.5	80.7	112			
Ethylbenzene	0.96	0.050	1.000	0	96.4	78.9	117			
Xylenes, Total	2.9	0.10	3.000	0	96.5	79.2	115			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID	<b>1610C13-001AMS</b>		SampType:	<b>MS</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>			
Client ID:	<b>BGT S-1</b>		Batch ID:	<b>28292</b>		RunNo:	<b>38265</b>			
Prep Date:	<b>10/26/2016</b>		Analysis Date:	<b>10/27/2016</b>		SeqNo:	<b>1194741</b>	Units:	<b>mg/Kg</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.048	0.9690	0	98.3	71.5	122			
Toluene	0.98	0.097	0.9690	0	101	71.2	123			
Ethylbenzene	1.1	0.097	0.9690	0	112	75.2	130			
Xylenes, Total	3.2	0.19	2.907	0.2808	100	72.4	131			
Surr: 4-Bromofluorobenzene	2.6		1.938		134	80	120			S

Sample ID	<b>1610C13-001AMSD</b>		SampType:	<b>MSD</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>			
Client ID:	<b>BGT S-1</b>		Batch ID:	<b>28292</b>		RunNo:	<b>38265</b>			
Prep Date:	<b>10/26/2016</b>		Analysis Date:	<b>10/27/2016</b>		SeqNo:	<b>1194742</b>	Units:	<b>mg/Kg</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.049	0.9785	0	112	71.5	122	13.9	20	
Toluene	1.1	0.098	0.9785	0	115	71.2	123	13.6	20	
Ethylbenzene	1.2	0.098	0.9785	0	127	75.2	130	13.5	20	
Xylenes, Total	3.7	0.20	2.935	0.2808	115	72.4	131	13.5	20	
Surr: 4-Bromofluorobenzene	2.8		1.957		141	80	120	0	0	S

## 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: 1610C13

RcptNo: 1

Received by/date:

cc

10/25/16

Logged By: Lindsay Mangin

10/25/2016 8:30:00 AM

*Lindsay Mangin*

Completed By: Lindsay Mangin

10/25/2016 1:58:40 PM

*Lindsay Mangin*

Reviewed By:

*jc* 10/25/16

### 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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> 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	5.0	Good	Yes			

<b>Chain-of-Custody Record</b>		Turn-Around Time:
Client: Animas Environmental Services, LLC	<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Rush
Mailing Address: 604 W Pinon St. Farmington, NM 87401	Project Name: COPC SAN JUAN 28-7 Unit 220M	
Phone #: 505-564-2281	Project #:	
Email or Fax#: eskyles@animasenvironmental.com	Project Manager: E. Skyles	
QA/QC Package: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)	Sampler: CL/SG	
Accreditation: <input type="checkbox"/> NELAP <input type="checkbox"/> Other	On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> EDD (Type)	Sample Temperature: 50	

☒ Standard ☐ Rush

COPC SAN JUAN 28-7 Unit 220M

Project #:

**Project Manager:**

E. Skyles

Sampler: CL/SG

On Ice, ☒ Yes ☐ No

Sample Temperature: 5.0

[illegible]

Date: 10/24/16	Time: 1812	Relinquished by: <i>[Signature]</i>	Received by: <i>[Signature]</i>	Date 10/24/16	Time 1812
Date: 10/24/16	Time: 1942	Relinquished by: <i>[Signature]</i>	Received by: <i>[Signature]</i>	Date 10/25/16	Time 083

Ordered by: Bobby Spearman *Call w/ questions*

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





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 16, 2016

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

RE: COPC San Juan 28-7 Unit 220M

OrderNo.: 1612431

Dear Corwin Lameman:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/8/2016 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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1612431

Date Reported: 12/16/2016

CLIENT: Animas Environmental

Client Sample ID: SB-3

Project: COPC San Juan 28-7 Unit 220M

Collection Date: 12/7/2016 11:35:00 AM

Lab ID: 1612431-001

Matrix: SOIL

Received Date: 12/8/2016 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>MAB</b>
Petroleum Hydrocarbons, TR	1100	190		mg/Kg	10	12/13/2016	29123
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	75	30		mg/Kg	20	12/13/2016 5:31:29 PM	29153
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	370	10		mg/Kg	1	12/14/2016 7:56:28 PM	29134
Motor Oil Range Organics (MRO)	290	50		mg/Kg	1	12/14/2016 7:56:28 PM	29134
Surr: DNOP	87.7	70-130		%Rec	1	12/14/2016 7:56:28 PM	29134
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	43	5.0		mg/Kg	1	12/12/2016 1:22:41 PM	29099
Surr: BFB	357	68.3-144	S	%Rec	1	12/12/2016 1:22:41 PM	29099
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	12/12/2016 1:22:41 PM	29099
Toluene	ND	0.050		mg/Kg	1	12/12/2016 1:22:41 PM	29099
Ethylbenzene	ND	0.050		mg/Kg	1	12/12/2016 1:22:41 PM	29099
Xylenes, Total	ND	0.10		mg/Kg	1	12/12/2016 1:22:41 PM	29099
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	12/12/2016 1:22:41 PM	29099

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#: 1612431

16-Dec-16

Client: Animas Environmental

Project: COPC San Juan 28-7 Unit 220M

Sample ID	MB-29153	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	29153	RunNo:	39371					
Prep Date:	12/13/2016	Analysis Date:	12/13/2016	SeqNo:	1232526	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-29153	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	29153	RunNo:	39371					
Prep Date:	12/13/2016	Analysis Date:	12/13/2016	SeqNo:	1232527	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	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#: 1612431

16-Dec-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 Unit 220M

Sample ID	MB-29123	SampType:	MBLK	TestCode:	EPA Method 418.1: TPH					
Client ID:	PBS	Batch ID:	29123	RunNo:	39347					
Prep Date:	12/12/2016	Analysis Date:	12/13/2016	SeqNo:	1231723	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-29123	SampType:	LCS	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS	Batch ID:	29123	RunNo:	39347					
Prep Date:	12/12/2016	Analysis Date:	12/13/2016	SeqNo:	1231724	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	120	20	100.0	0	120	80.7	121			

Sample ID	LCSD-29123	SampType:	LCSD	TestCode:	EPA Method 418.1: TPH					
Client ID:	LCSS02	Batch ID:	29123	RunNo:	39347					
Prep Date:	12/12/2016	Analysis Date:	12/13/2016	SeqNo:	1231725	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	120	20	100.0	0	121	80.7	121	1.09	20	S

### 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#: 1612431

16-Dec-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 Unit 220M

Sample ID	LCS-29134		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 29134		RunNo: 39356					
Prep Date:	12/12/2016		Analysis Date: 12/13/2016		SeqNo: 1231856		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	89.0	63.8	116			
Surr: DNOP	4.2		5.000		84.4	70	130			

Sample ID	MB-29134	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 29134			RunNo: 39356					
Prep Date:	12/12/2016	Analysis Date: 12/13/2016			SeqNo: 1231857		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	7.8		10.00		78.0	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#: 1612431

16-Dec-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 Unit 220M

Sample ID	MB-29099	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	29099	RunNo:	39314					
Prep Date:	12/9/2016	Analysis Date:	12/12/2016	SeqNo:	1230865	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	860		1000		86.2	68.3	144			

Sample ID	LCS-29099	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	29099	RunNo:	39314					
Prep Date:	12/9/2016	Analysis Date:	12/12/2016	SeqNo:	1230866	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.0	74.6	123			
Surr: BFB	940		1000		94.2	68.3	144			

Sample ID	1612431-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SB-3	Batch ID:	29099	RunNo:	39314					
Prep Date:	12/9/2016	Analysis Date:	12/12/2016	SeqNo:	1230869	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	61	5.0	24.98	43.28	70.4	61.3	150			
Surr: BFB	2900		999.0		295	68.3	144			S

Sample ID	1612431-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SB-3	Batch ID:	29099	RunNo:	39314					
Prep Date:	12/9/2016	Analysis Date:	12/12/2016	SeqNo:	1230870	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	77	4.7	23.56	43.28	141	61.3	150	22.8	20	R
Surr: BFB	3400		942.5		362	68.3	144	0	0	S

### 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#: 1612431

16-Dec-16

Client: Animas Environmental  
Project: COPC San Juan 28-7 Unit 220M

Sample ID	<b>MB-29099</b>		SampType:	<b>MBLK</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>			
Client ID:	<b>PBS</b>		Batch ID:	<b>29099</b>		RunNo:	<b>39314</b>			
Prep Date:	<b>12/9/2016</b>		Analysis Date:	<b>12/12/2016</b>		SeqNo:	<b>1230878</b>		Units: <b>mg/Kg</b>	
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	0.95		1.000		95.4	80	120			

Sample ID	<b>LCS-29099</b>		SampType:	<b>LCS</b>		TestCode:	<b>EPA Method 8021B: Volatiles</b>			
Client ID:	<b>LCSS</b>		Batch ID:	<b>29099</b>		RunNo:	<b>39314</b>			
Prep Date:	<b>12/9/2016</b>		Analysis Date:	<b>12/12/2016</b>		SeqNo:	<b>1230879</b>		Units: <b>mg/Kg</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	109	75.2	115			
Toluene	1.0	0.050	1.000	0	103	80.7	112			
Ethylbenzene	1.0	0.050	1.000	0	99.9	78.9	117			
Xylenes, Total	3.0	0.10	3.000	0	99.4	79.2	115			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	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: 1612431

RcptNo: 1

Received by/date:

LM

12/08/16

Logged By:

Andy Jansson

12/8/2016 8:10:00 AM

Completed By:

Andy Jansson

12/08/16

Reviewed By:

*[Signature]*

12/09/16

### 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	1.1	Good	Yes			



ant: Animas Environmental Services

illing Address: 604 W. Pinon St  
Farmington NM 87401

one #: 505-564-2281

ail or Fax#: clavemancanimasenvironmental.com

/QC Package:

Standard ☐ Level 4 (Full Validation)

creditation

NELAP ☐ Other \_\_\_\_\_

EDD (Type) \_\_\_\_\_

☒ Standard      ☐ Rush

CSPC San Juan 28-7 Unit 220M

Project Manager:

C. Lammert





Sampler:

CL/SB

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.1

[illegible]

ite:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
7/16	1641			12/7/16	1641	Bill to ConicoPhillips. WOF: 21739273 Ordered by: Bobby Spennman
ite:	Time:	Relinquished by:	Received by:	Date	Time	Supervisor: Schaaphok UseID: KATLW Aren: 7 Call w/ Questions
7/16	1910			12/08/16	0810	

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



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

June 01, 2017

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

RE: COPC SAN JUAN 28-7 UNIT 220M

OrderNo.: 1705E88

Dear Elizabeth McNally:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/31/2017 for the analyses presented in the following report.

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

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

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

Sincerely,

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

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705E88

Date Reported: 6/1/2017

CLIENT: Animas Environmental

Client Sample ID: SC-1

Project: COPC SAN JUAN 28-7 UNIT 220M

Collection Date: 5/30/2017 10:12:00 AM

Lab ID: 1705E88-001

Matrix: SOIL

Received Date: 5/31/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	20	9.6		mg/Kg	1	5/31/2017 11:57:59 AM	32035
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/31/2017 11:57:59 AM	32035
Surr: DNOP	96.4	70-130		%Rec	1	5/31/2017 11:57:59 AM	32035
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: RAA
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	5/31/2017 9:49:30 AM	R43151
Surr: BFB	140	54-150		%Rec	1	5/31/2017 9:49:30 AM	R43151
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: RAA
Benzene	ND	0.017		mg/Kg	1	5/31/2017 9:49:30 AM	B43151
Toluene	ND	0.033		mg/Kg	1	5/31/2017 9:49:30 AM	B43151
Ethylbenzene	ND	0.033		mg/Kg	1	5/31/2017 9:49:30 AM	B43151
Xylenes, Total	ND	0.067		mg/Kg	1	5/31/2017 9:49:30 AM	B43151
Surr: 4-Bromofluorobenzene	115	66.6-132		%Rec	1	5/31/2017 9:49:30 AM	B43151

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 1705E88

Date Reported: 6/1/2017

CLIENT: Animas Environmental

Client Sample ID: SC-2

Project: COPC SAN JUAN 28-7 UNIT 220M

Collection Date: 5/30/2017 10:02:00 AM

Lab ID: 1705E88-002

Matrix: SOIL

Received Date: 5/31/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	11	9.7		mg/Kg	1	5/31/2017 12:20:00 PM	32035
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/31/2017 12:20:00 PM	32035
Surr: DNOP	96.1	70-130		%Rec	1	5/31/2017 12:20:00 PM	32035
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	5/31/2017 10:13:24 AM	R43151
Surr: BFB	98.5	54-150		%Rec	1	5/31/2017 10:13:24 AM	R43151
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>
Benzene	ND	0.016		mg/Kg	1	5/31/2017 10:13:24 AM	B43151
Toluene	ND	0.032		mg/Kg	1	5/31/2017 10:13:24 AM	B43151
Ethylbenzene	ND	0.032		mg/Kg	1	5/31/2017 10:13:24 AM	B43151
Xylenes, Total	ND	0.064		mg/Kg	1	5/31/2017 10:13:24 AM	B43151
Surr: 4-Bromofluorobenzene	116	66.6-132		%Rec	1	5/31/2017 10:13:24 AM	B43151

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 1705E88

Date Reported: 6/1/2017

CLIENT: Animas Environmental

Client Sample ID: SC-3

Project: COPC SAN JUAN 28-7 UNIT 220M

Collection Date: 5/30/2017 10:43:00 AM

Lab ID: 1705E88-003

Matrix: SOIL

Received Date: 5/31/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/31/2017 12:42:03 PM	32035
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/31/2017 12:42:03 PM	32035
Surr: DNOP	98.5	70-130		%Rec	1	5/31/2017 12:42:03 PM	32035
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: RAA
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	5/31/2017 10:37:11 AM	R43151
Surr: BFB	95.1	54-150		%Rec	1	5/31/2017 10:37:11 AM	R43151
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: RAA
Benzene	ND	0.016		mg/Kg	1	5/31/2017 10:37:11 AM	B43151
Toluene	ND	0.032		mg/Kg	1	5/31/2017 10:37:11 AM	B43151
Ethylbenzene	ND	0.032		mg/Kg	1	5/31/2017 10:37:11 AM	B43151
Xylenes, Total	ND	0.064		mg/Kg	1	5/31/2017 10:37:11 AM	B43151
Surr: 4-Bromofluorobenzene	116	66.6-132		%Rec	1	5/31/2017 10:37:11 AM	B43151

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	Page 3 of 8
	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 1705E88

Date Reported: 6/1/2017

CLIENT: Animas Environmental

Client Sample ID: SC-4

Project: COPC SAN JUAN 28-7 UNIT 220M

Collection Date: 5/30/2017 10:36:00 AM

Lab ID: 1705E88-004

Matrix: SOIL

Received Date: 5/31/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	63	10		mg/Kg	1	5/31/2017 1:04:14 PM	32035
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/31/2017 1:04:14 PM	32035
Surr: DNOP	101	70-130		%Rec	1	5/31/2017 1:04:14 PM	32035
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: RAA
Gasoline Range Organics (GRO)	ND	15		mg/Kg	5	5/31/2017 11:01:05 AM	R43151
Surr: BFB	94.1	54-150		%Rec	5	5/31/2017 11:01:05 AM	R43151
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: RAA
Benzene	ND	0.076		mg/Kg	5	5/31/2017 11:01:05 AM	B43151
Toluene	ND	0.15		mg/Kg	5	5/31/2017 11:01:05 AM	B43151
Ethylbenzene	ND	0.15		mg/Kg	5	5/31/2017 11:01:05 AM	B43151
Xylenes, Total	ND	0.31		mg/Kg	5	5/31/2017 11:01:05 AM	B43151
Surr: 4-Bromofluorobenzene	115	66.6-132		%Rec	5	5/31/2017 11:01:05 AM	B43151

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	Page 4 of 8
	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 1705E88

Date Reported: 6/1/2017

CLIENT: Animas Environmental

Client Sample ID: SC-5

Project: COPC SAN JUAN 28-7 UNIT 220M

Collection Date: 5/30/2017 10:26:00 AM

Lab ID: 1705E88-005

Matrix: SOIL

Received Date: 5/31/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	670	9.8		mg/Kg	1	5/31/2017 1:26:16 PM	32035
Motor Oil Range Organics (MRO)	220	49		mg/Kg	1	5/31/2017 1:26:16 PM	32035
Surr: DNOP	109	70-130		%Rec	1	5/31/2017 1:26:16 PM	32035
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>RAA</b>
Gasoline Range Organics (GRO)	55	16		mg/Kg	5	5/31/2017 11:24:57 AM	R43151
Surr: BFB	229	54-150	S	%Rec	5	5/31/2017 11:24:57 AM	R43151
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>RAA</b>
Benzene	ND	0.081		mg/Kg	5	5/31/2017 11:24:57 AM	B43151
Toluene	ND	0.16		mg/Kg	5	5/31/2017 11:24:57 AM	B43151
Ethylbenzene	ND	0.16		mg/Kg	5	5/31/2017 11:24:57 AM	B43151
Xylenes, Total	1.6	0.32		mg/Kg	5	5/31/2017 11:24:57 AM	B43151
Surr: 4-Bromofluorobenzene	123	66.6-132		%Rec	5	5/31/2017 11:24:57 AM	B43151

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#: 1705E88

01-Jun-17

Client: Animas Environmental  
Project: COPC SAN JUAN 28-7 UNIT 220M

Sample ID	LCS-32035		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 32035		RunNo: 43153					
Prep Date:	5/31/2017		Analysis Date: 5/31/2017		SeqNo: 1358341		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.2	73.2	114			
Surr: DNOP	4.2		5.000		85.0	70	130			

Sample ID	MB-32035	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 32035			RunNo: 43153					
Prep Date:	5/31/2017	Analysis Date: 5/31/2017			SeqNo: 1358342		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	9.1		10.00		91.1	70	130			

Sample ID	1705E88-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1	Batch ID:	32035	RunNo:	43153					
Prep Date:	5/31/2017	Analysis Date:	5/31/2017	SeqNo:	1358729	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	75	9.3	46.30	20.31	118	55.8	122			
Surr: DNOP	4.4		4.630		96.1	70	130			

Sample ID	1705E88-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	SC-1		Batch ID:	32035		RunNo:	43153				
Prep Date:	5/31/2017		Analysis Date:	5/31/2017		SeqNo:	1358730		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	68	10	51.02	20.31	94.2	55.8	122	9.14	20		
Surr: DNOP	5.0		5.102		97.5	70	130	0	0		

### 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#: 1705E88

01-Jun-17

Client: Animas Environmental  
Project: COPC SAN JUAN 28-7 UNIT 220M

Sample ID	1705E88-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-1	Batch ID:	R43151	RunNo:	43151					
Prep Date:		Analysis Date:	5/31/2017	SeqNo:	1359036	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	3.3	16.71	2.901	95.2	77.8	128			
Surr: BFB	1000		668.4		149	54	150			

Sample ID	1705E88-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-1	Batch ID:	R43151	RunNo:	43151					
Prep Date:		Analysis Date:	5/31/2017	SeqNo:	1359037	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	3.3	16.71	2.901	94.4	77.8	128	0.678	20	
Surr: BFB	1000		668.4		153	54	150	0	0	S

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R43151	RunNo:	43151					
Prep Date:		Analysis Date:	5/31/2017	SeqNo:	1359038	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.0	76.4	125			
Surr: BFB	1100		1000		107	54	150			

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R43151	RunNo:	43151					
Prep Date:		Analysis Date:	5/31/2017	SeqNo:	1359039	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	920		1000		92.2	54	150			

### 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#: 1705E88

01-Jun-17

Client: Animas Environmental  
Project: COPC SAN JUAN 28-7 UNIT 220M

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B43151	RunNo:	43151					
Prep Date:		Analysis Date:	5/31/2017	SeqNo:	1359043	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	104	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.1	0.050	1.000	0	105	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		114	66.6	132			

Sample ID	1705E88-002AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SC-2	Batch ID:	B43151	RunNo:	43151					
Prep Date:		Analysis Date:	5/31/2017	SeqNo:	1359044	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.64	0.016	0.6390	0	99.6	61.5	138			
Toluene	0.65	0.032	0.6390	0.005432	101	71.4	127			
Ethylbenzene	0.65	0.032	0.6390	0	102	70.9	132			
Xylenes, Total	2.0	0.064	1.917	0.01719	103	76.2	123			
Surr: 4-Bromofluorobenzene	0.79		0.6390		124	66.6	132			

Sample ID	1705E88-002AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SC-2	Batch ID:	B43151	RunNo:	43151					
Prep Date:		Analysis Date:	5/31/2017	SeqNo:	1359045	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.63	0.016	0.6390	0	98.1	61.5	138	1.56	20	
Toluene	0.64	0.032	0.6390	0.005432	98.5	71.4	127	2.85	20	
Ethylbenzene	0.64	0.032	0.6390	0	99.9	70.9	132	1.93	20	
Xylenes, Total	2.0	0.064	1.917	0.01719	101	76.2	123	1.49	20	
Surr: 4-Bromofluorobenzene	0.75		0.6390		117	66.6	132	0	0	

Sample ID	RB	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID: B43151			RunNo: 43151					
Prep Date:		Analysis Date: 5/31/2017			SeqNo: 1359046		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		112	66.6	132			

### 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: 1705E88

RcptNo: 1

Received By: Anne Thorne

5/31/2017 7:15:00 AM

Completed By: Anne Thorne

5/31/2017 7:35:03 AM

Reviewed By:

5/31/17

### 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			



[illegible]

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



