

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.

15764

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: BP America Production Company OGRID #: 778  
Address: 200 Energy Court, Farmington, NM 87401 **OIL CONS. DIV DIST. 3**  
Facility or well name: GALLEGOS CANYON UNIT 290 **JAN 10 2017**  
API Number: 3004523821 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr J Section 15 Township 28N Range 12W County: San Juan  
Center of Proposed Design: Latitude 36.65907 Longitude -108.09518 NAD: ☐ 1927 ☒ 1983  
Surface Owner: ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

2.  
☐ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC *\* Release Confirmed. Additional C-144 Required.*  
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 **TANK A**  
Volume: 95 bbl Type of fluid: Produced water  
Tank Construction material: Steel  
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other Double wall/ Double bottom; no visible sidewalls  
Liner type: Thickness \_\_\_\_\_ mil ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_

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.

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5.

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

- ☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
- ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
- ☐ Alternate. Please specify \_\_\_\_\_

6.

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

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

7.

**Signs:** Subsection C of 19.15.17.11 NMAC

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

8.

**Variances and Exceptions:**

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

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

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

9.

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

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

**General siting**

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

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

☐ Yes ☐ No  
☐ NA

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

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

☐ Yes ☐ No  
☐ NA

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

- FEMA map

☐ Yes ☐ No

**Below Grade Tanks**

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

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

☐ Yes ☐ No



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

10.

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

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

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

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

11.

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

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

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

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



12.

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

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

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

13.

**Proposed Closure:** 19.15.17.13 NMAC

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

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

14.

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

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

15.

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

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

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



adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

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

☐ Yes ☐ No

Within the area overlying a subsurface mine.

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

☐ Yes ☐ No

Within an unstable area.

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

☐ Yes ☐ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☐ No

16.

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

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

17.

**Operator Application Certification:**

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

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

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

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

18.

**OCD Approval:** ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☒ OCD Conditions (see attachment) <sup>Front</sup>

OCD Representative Signature:  Approval Date: 1/31/17

Title: Environmental Spec. 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: 5/19/2016

20.

**Closure Method:**

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

21.

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

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

On-site Closure Location: Latitude 36.65907 Longitude -108.09518 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): Steve Moskal Title: Field Environmental Coordinator

Signature:  Date: January 10, 2017

e-mail address: steven.moskal@bp.com Telephone: (505) 326-9497



BP AMERICA PRODUCTION COMPANY  
SAN JUAN BASIN, NORTHWEST NEW MEXICO

BELOW-GRADE TANK CLOSURE PLAN

GALLEGOS CANYON UNIT 290

API No. 3004523821

Unit Letter J, Section 15, T28N, R12W

This plan will address the standard protocols and procedures for closure of below-grade tanks (BGTs) on BP America Production Company (BP) well sites. As stipulated in Paragraph A of 19.15.17.13 NMAC, BP shall close a BGT within the time periods provided in 19.15.17.13 NMAC, or by an earlier date that the New Mexico Oil Conservation Division (NMOCD) requires because of imminent danger to fresh water, public health, safety or the environment. If deviations from this plan are necessary, any specific changes will be included on form C-144 and approved by the NMOCD. BP shall close an existing BGT that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I of 19.15.17.11 NMAC within five years after June 16, 2008, if not retrofit with a BGT that complies with the BP NMOCD approved BGT design attached to the BP Design and Construction Plan. BP shall close an existing BGT that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, if not previously retrofitted to comply with the BP NMOCD approve BGT Design attached to the BP Design and Construction Plan, prior to any sale or change in operator pursuant to 19.15.9.9 NMAC. BP shall close the permitted BGT within 60 days of cessation of the BGTs operation or as required by the transitional provisions of Subsection B, D, or E of 19.15.17.17 NMAC.

**General Closure Plan**

1. BP shall notify the surface owner by certified mail that it plans to close a BGT. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records demonstrates compliance with this requirement.  
**Notice is attached.**
2. BP shall notify the division District III office verbally or by other means at least 72 hours, but not more than one (1) week, prior to any closure operation. The notice shall include the operator's name, and the location to be closed by unit letter, section, township and range. If the BGT closure is associated with a particular well, then the notice shall also include the well's name, number and API number.  
**Notice was provided and is attached.**
3. BP shall remove liquids and sludge from the BGT prior to implementing a closure method and dispose of the liquids and sludge in a NMOCD's division-approved facility. The facilities to be used are:
  - a. BP Crouch Mesa Landfarm, Permit NM-02-003 (Solids)
  - b. JFJ Landfarm, Permit NM-01-010(B) (Solids and Sludge)
  - c. Basin Disposal, Permit NM-01-0005 (Liquids)
  - d. Envirotech Inc Soil Remediation Facility, Permit NM-01-0011 (Solids and Sludge)
  - e. BP Operated E.E. Elliott SWD #1, API 30-045-27799 (Liquids)

- f. BP Operated 13 GCU SWD #1, API 30-045-28601 (Liquids)
- g. BP Operated GCU 259 SWD, API 30-045-20006 (Liquids)
- h. BP Operated GCU 306 SWD, API 30-045-24286 (Liquids)
- i. BP Operated GCU 307 SWD, API 30-045-24248 (Liquids)
- j. BP Operated GCU 328 SWD, API 30-045-24735 (Liquids)
- k. BP Operated Pritchard SWD #1, API 30-045-28351 (Liquids)

**All liquids and sludge in the BGT were removed and sent to one of the above NMOCD approved facilities for disposal.**

4. BP shall remove the BGT and dispose of it in a NMOCD approved facility or recycle, reuse, or reclaim it in a manner that the NMOCD approves. If a liner is present and must be disposed of it will be cleaned by scraping any soils or other attached materials on the liner to a de minimus amount and disposed at a permitted solid waste facility, pursuant to Subparagraph (m) of Paragraph (1) of Subsection C of 19.15.35.8 NMAC. Documentation as to the final disposition of the removed BGT will be provided in the final closure report.

**The BGT was transported for recycling.**

5. BP shall remove any on-site equipment associated with a BGT unless the equipment is required for well production.

**All equipment associated with the BGT has been removed.**

6. BP shall test the soils beneath the BGT to determine whether a release has occurred. BP shall collect at a minimum: a five (5) point composite sample and individual grab samples from any area that is wet, discolored or showing other evidence of a release and analyze for BTEX, TPH and chlorides. The testing methods for those constituents are as follows;

Constituents	Testing Method 95 bbl BGT	Release Verification (mg/Kg)	Sample results
Benzene	US EPA Method SW-846 8021B or 8260B	0.2	<0.021
Total BTEX	US EPA Method SW-846 8021B or 8260B	50	<0.085
TPH	US EPA Method SW-846 418.1 or 8015 extended	100	<49
Chlorides	US EPA Method 300.0 or 4500B	250 or background	1100

**Notes: mg/Kg = milligram per kilogram, BTEX = benzene, toluene, ethylbenzene, and total xylenes, TPH = total petroleum hydrocarbons. Other EPA methods that the division approves may be applied to all constituents listed. Chloride closure standards will be determined by which ever concentration level is greatest.**

**Soil under the BGT was sampled for TPH and BTEX with all concentrations below the stated limits. Chlorides exceeded the standard; however, the area was backfilled with clean, imported material and will not pose a threat to surface water or groundwater. The field report and laboratory reports are attached.**



7. BP shall notify the division District III office of its results on form C-141.  
**C-141 is attached.**
8. If it is determined that a release has occurred, then BP will comply with 19.15.30 NMAC and 19.15.29 NMAC, as appropriate.  
**Sampling results indicate a release has not occurred. Attached is a laboratory report and C-141.**
9. If the sampling demonstrates that a release has not occurred or that any release does not exceed the concentrations specified above, then BP shall backfill the excavation, with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover, re-contour and re-vegetate the location. The location will be reclaimed if it is not with in the active process area  
**Sampling results indicate a release has not occurred. Attached is a laboratory report and field report.**
10. BP shall reclaim the BGT location and all areas associated with the BGT including associated access roads to a safe and stable condition that blends with the surrounding undisturbed area. BP shall substantially restore the impacted surface area to the condition that existed prior to oil and gas operations by placement of the soil cover as provided in Subsection H of 19.15.17.13 NMAC, re-contour the location and associated areas to a contour that approximates the original contour and blends with the surrounding topography and re-vegetate according to Subsection I of 19.15.17.13 NMAC.  
**The area has been backfilled. The location will be reclaimed once the well is plugged and abandoned.**
11. The soil cover for closures where the BGT has been removed or remediated to the NMOCD's satisfaction shall consist of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater. The soil cover will be constructed to the site's existing grade and all practicable efforts will be made to prevent ponding of water and erosion of the cover material.  
**The area has been backfilled. The location will be reclaimed once the well is plugged and abandoned.**
12. BP shall seed the disturbed area the first growing season after closure of the BGT. Seeding will be accomplished by drilling on the contour whenever practical or by other division-approved methods. Vegetative cover will be, at a minimum, 70% of the native perennial vegetative cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation), consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintenance of that cover through two successive growing seasons. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation.  
**The area has been backfilled. The location will be reclaimed once the well is plugged and abandoned.**
13. BP shall seed, plant and re-seed pursuant to Paragraph (3) of Subsection I of 19.15.17.13 NMAC, until the location successfully achieves the required vegetative cover.

**The area has been backfilled. The location will be reclaimed once the well is plugged and abandoned.**

14. Pursuant to Paragraph (5) of Subsection I of 19.15.17.13 NMAC, BP shall notify the NMOCD when it has seeded or planted and when it successfully achieves re-vegetation.

**The area has been backfilled. The location will be reclaimed once the well is plugged and abandoned.**

15. Within 60 days of closure completion, BP shall submit a closure report on NMOCD's form C-144, and will include the following;

- a. proof of closure notification (surface owner and NMOCD)
- b. sampling analytical reports; information required by 19.15.17 NMAC;
- c. disposal facility name and permit number
- d. details on back-filling, capping, covering, and where applicable re-vegetation application rates and seeding techniques and
- e. site reclamation, photo documentation.

**BP did not meet the 60 closure completion requirement due to an error in internal tracking. Closure report on C-144 form is included including photos of reclamation completion.**

16. BP shall certify that all information in the report and attachments is accurate, truthful, and compliant with all applicable closure requirements and conditions specified in the approved closure plan.

**Certification section of C-144 has been completed.**



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

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 in  
accordance with 19.15.29 NMAC.

**Release Notification and Corrective Action**

**OPERATOR**

☐ Initial Report

☒ Final Report

Name of Company: BP	Contact: Steve Moskal	
Address: 200 Energy Court, Farmington, NM 87401	Telephone No.: 505-326-9497	
Facility Name: Gallegos Canyon Unit 290	Facility Type: Natural gas well	
Surface Owner: Fee	Mineral Owner: Fee	API No. 3004523821

**LOCATION OF RELEASE**

Unit Letter J	Section 15	Township 28N	Range 12W	Feet from the 1,520	North/South Line South	Feet from the 1,530	East/West Line East	County: San Juan
------------------	---------------	-----------------	--------------	------------------------	---------------------------	------------------------	------------------------	------------------

Latitude 36.65907° Longitude -108.09518°

**NATURE OF RELEASE**

Type of Release: none	Volume of Release: unknown	Volume Recovered: N/A
Source of Release: below grade tank – 95 bbl	Date and Hour of Occurrence: none	Date and Hour of Discovery: none
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* Sampling of the soil beneath the BGT was done during removal. Soil analysis resulted for BTEX and TPH below BGT closure standards. Chloride concentrations were elevated but at a depth of 5 feet below ground surface with an estimated depth to groundwater of >100' the levels pose no significant threat to surface or groundwater. Field reports and laboratory results are attached.

Describe Area Affected and Cleanup Action Taken.\* No action necessary. Final laboratory analysis determined no remedial action is required.

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: 

Printed Name: Steve Moskal

Approved by Environmental Specialist:

Title: Field Environmental Coordinator

Approval Date:

Expiration Date:

E-mail Address: steven.moskal@bp.com

Conditions of Approval:

Attached ☐

Date: January 10, 2017

Phone: 505-326-9497

\* Attach Additional Sheets If Necessary



**BP America Production Company**  
200 Energy Court  
Farmington, NM 87401

May 17, 2016

Bureau of Land Management  
Katherina Diemer  
6251 College Suite A  
Farmington, NM 87402

**VIA EMAIL**

Re: Notification of plans to close/remove a below grade tank  
Well Name: GALLEGOS CANYON UNIT 290  
API #: 3004526134

Dear Mrs. Diemer,

As part of the NM "Pit Rule": 19.15.17.13 Closure Requirements, Paragraph J. BP America Production Company (BP) is required to notify the surface owner of BP's plans to close/remove a below grade tank. BP wishes to inform you of our plans to close/remove the below grade tank on its well pad located on your surface. BP plans to commence this work on or about May 17, 2016. If there aren't any unforeseen problems, the work should be completed within 10 working days.

As a point of clarification, BP will be closing the below grade tank and either operating without one or replacing it with an above ground tank, the well site will continue to operate.

If witnessing of the tank removal is required please contact me for a specific time (505)-326-9497.

Sincerely,

Steven Moskal

BP America Production Company



**Moskal, Steven**

---

**From:** Moskal, Steven  
**Sent:** Tuesday, May 17, 2016 7:24 AM  
**To:** Diemer, Katherina  
**Cc:** Smith, Cory, EMNRD; Fields, Vanessa, EMNRD (Vanessa.Fields@state.nm.us); jeffcblagg@aol.com; blagg\_njv@yahoo.com  
**Subject:** Re: BP Pit Close Notification - GALLEGOS CANYON UNIT 347

Yes, in conjunction with the GCU 290, a shared location.

Steve Moskal  
Field Environmental Coordinator  
BP San Juan South  
Cell: (505) 330-9179

Sent from my mobile device

On May 17, 2016, at 7:08 AM, Diemer, Katherina <[kdiemer@blm.gov](mailto:kdiemer@blm.gov)> wrote:

This is scheduled for this morning at 9?

On Mon, Apr 25, 2016 at 7:31 AM, Moskal, Steven <[Steven.Moskal@bp.com](mailto:Steven.Moskal@bp.com)> wrote:

The BGT is scheduled to be removed on Wednesday, 4/27/2016, at or around 11:00 AM.

Thank you,

**Steve Moskal**

*BP Lower 48 – San Juan – Farmington*

*Field Environmental Coordinator*

Office: (505) 326-9497

Cell: (505) 330-9179

<image003.jpg>

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**From:** Railsback, Farrah (CH2M HILL)  
**Sent:** Friday, April 22, 2016 2:00 PM  
**To:** Smith, Cory, EMNRD; Fields, Vanessa, EMNRD ([Vanessa.Fields@state.nm.us](mailto:Vanessa.Fields@state.nm.us))  
**Cc:** [jeffcblagg@aol.com](mailto:jeffcblagg@aol.com); [blagg\\_njv@yahoo.com](mailto:blagg_njv@yahoo.com); Moskal, Steven  
**Subject:** BP Pit Close Notification - GALLEGOS CANYON UNIT 347

**BP America Production Company**

200 Energy Court  
Farmington, NM 87401  
Phone: (505) 326-9200

SENT VIA E-MAIL TO: [CORY.SMITH@STATE.NM.US](mailto:CORY.SMITH@STATE.NM.US); [VANESSA.FIELDS@STATE.NM.US](mailto:VANESSA.FIELDS@STATE.NM.US)

April 22, 2016

New Mexico Oil Conservation Division

1000 Rio Brazos Road

Aztec, New Mexico 87410



**RE: Notice of Proposed Below-Grade Tank (BGT) Closure**

GALLEGOS CANYON UNIT 347

API 30-045-26134

(J) Section 15 – T28N – R12W

San Juan County, New Mexico

Dear Mr. Cory Smith and Mrs. Vanessa Fields,

In regards to the captioned subject and requirements of the NMOCD pit rule, this letter is notification that BP is planning to close a 95 bbl BGT that will no longer be operational at this well site. We anticipate this work to start on or around April 25, 2016.

Should you have any questions, please feel free to contact BP at our Farmington office.

Sincerely,

Steven Moskal

BP Field Environmental Coordinator

(505) 326-9497

***Farrah Railsback***

**BGT Project Support**

**970-946-9199 -cell**

*This email and any attachments are intended only for the addressee(s) listed above and may contain confidential, proprietary, and/or privileged information. If you are not an intended recipient, please immediately advise the sender by return email, delete this email and any attachments, and destroy any copies of same. Any unauthorized review, use, copying disclosure or distribution of this email and any attachments is prohibited.*

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Katherina E Diemer  
Natural Resource Specialist  
Spills Coordinator  
Farmington Field Office  
6251 North College Boulevard  
Suite A  
Farmington, NM 87402  
Office: 505-564-7666  
Mobile: 505-436-4042  
email: [kdiemer@blm.gov](mailto:kdiemer@blm.gov)



CLIENT: <b>BP</b>	<b>BLAGG ENGINEERING, INC.</b> <b>P.O. BOX 87, BLOOMFIELD, NM 87413</b> <b>(505) 632-1199</b>	API #: <b>3004523821</b> TANK ID (if applicable): <b>B</b>
<b>FIELD REPORT:</b> (circle one): <u>BGT CONFIRMATION</u> / RELEASE INVESTIGATION / OTHER:		PAGE #: <b>1</b> of <b>1</b>
<b>SITE INFORMATION:</b> SITE NAME: <b>GCU # 290</b> QUAD/UNIT: <b>J</b> SEC: <b>15</b> TWP: <b>28N</b> RNG: <b>12W</b> PM: <b>NM</b> CNTY: <b>SJ</b> ST: <b>NM</b> 1/4 - 1/4/FOOTAGE: <b>1,520'S / 1,530'E NW/SE</b> LEASE TYPE: FEDERAL / STATE <u>FEE</u> INDIAN LEASE #: <b>-</b> PROD. FORMATION: <b>PC</b> CONTRACTOR: <b>STRIKE BP - A. SALAZAR</b>		DATE STARTED: <b>05/17/16</b> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST(S): <b>NJV</b>
<b>REFERENCE POINT:</b> WELL HEAD (W.H.) GPS COORD.: <b>36.65917 X 108.09528</b> GL ELEV.: <b>5,660'</b> 1) <b>95 BGT (DW/DB)</b> GPS COORD.: <b>36.65907 X 108.09518</b> DISTANCE/BEARING FROM W.H.: <b>43.5', S30E</b> 2) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____ 3) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____ 4) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____		
<b>SAMPLING DATA:</b> CHAIN OF CUSTODY RECORD(S) # OR LAB USED: <b>HALL</b> 1) SAMPLE ID: <b>5PC - TB @ 5' (95)</b> SAMPLE DATE: <b>05/17/16</b> SAMPLE TIME: <b>1025</b> LAB ANALYSIS: <b>8015B/8021B/300.0 (CI)</b> OVM READING (ppm): <b>NA</b> 2) SAMPLE ID: _____ SAMPLE DATE: _____ SAMPLE TIME: _____ LAB ANALYSIS: _____ OVM READING (ppm): _____ 3) SAMPLE ID: _____ SAMPLE DATE: _____ SAMPLE TIME: _____ LAB ANALYSIS: _____ OVM READING (ppm): _____ 4) SAMPLE ID: _____ SAMPLE DATE: _____ SAMPLE TIME: _____ LAB ANALYSIS: _____ OVM READING (ppm): _____		
<b>SOIL DESCRIPTION:</b> SOIL TYPE: <u>SAND</u> <u>SILTY SAND</u> SILT / SILTY CLAY / CLAY / GRAVEL <u>OTHER</u> <b>BEDROCK (SANDSTONE)</b> SOIL COLOR: <b>MODERATE BROWN TO OLIVE GRAY</b> PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC COHESION (ALL OTHERS): <u>NON COHESIVE</u> SLIGHTLY COHESIVE / COHESIVE <u>HIGHLY COHESIVE</u> DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD CONSISTENCY (NON COHESIVE SOILS): LOOSE <u>FIRM</u> DENSE <u>VERY DENSE</u> HC ODOR DETECTED: YES <u>NO</u> EXPLANATION - _____ MOISTURE: DRY <u>SLIGHTLY MOIST</u> MOIST / WET / SATURATED / SUPER SATURATED SAMPLE TYPE: GRAB <u>COMPOSITE</u> # OF PTS. <b>5</b> ANY AREAS DISPLAYING WETNESS: YES <u>NO</u> EXPLANATION - _____ DISCOLORATION/STAINING OBSERVED: YES <u>NO</u> EXPLANATION - _____		
<b>SITE OBSERVATIONS:</b> LOST INTEGRITY OF EQUIPMENT: YES <u>NO</u> EXPLANATION - _____ APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR OCCURRED: YES <u>NO</u> EXPLANATION: _____ EQUIPMENT SET OVER RECLAIMED AREA: <u>YES</u> NO EXPLANATION - <b>105 BBL SHALLOW LOW PROFILE ABOVE-GRADE TANK TO BE SET ATOP BGT LOCATION.</b> OTHER: <b>BEDROCK ENCOUNTERED @ 5.5 FT. BELOW GRADE. SANDSTONE - OLIVE GRAY IN COLOR. OCD &amp; BLM REPS ON-SITE TO WITNESS</b> <b>SAMPLE COLLECTION.</b> SOIL IMPACT DIMENSION ESTIMATION: <b>NA</b> ft. X <b>NA</b> ft. X <b>NA</b> ft. EXCAVATION ESTIMATION (Cubic Yards): <b>NA</b> DEPTH TO GROUNDWATER: <b>&gt;100'</b> NEAREST WATER SOURCE: <b>&gt;1,000'</b> NEAREST SURFACE WATER: <b>&lt;1,000'</b> NMOCDC TPH CLOSURE STD: <b>1,000</b> ppm		
<b>SITE SKETCH</b> BGT Located : off <u>on</u> site PLOT PLAN circle: <u>attached</u> <div style="text-align: center;"> </div> <p style="text-align: center;"><b>X - S.P.D.</b></p>		
NOTES: BGT = BELOW-GRADE TANK; E.D. = EXCAVATION DEPRESSION; B.G. = BELOW GRADE; B = BELOW; T.H. = TEST HOLE; ~ = APPROX.; W.H. = WELL HEAD; T.B. = TANK BOTTOM; PBGT = PREVIOUS BELOW-GRADE TANK LOCATION; SPD = SAMPLE POINT DESIGNATION; R.W. = RETAINING WALL; NA = NOT APPLICABLE OR NOT AVAILABLE; SW - SINGLE WALL; DW - DOUBLE WALL; SB - SINGLE BOTTOM; DB - DOUBLE BOTTOM.		<b>MISCELL. NOTES</b> WO: REF #: <b>P - 630</b> VID: <b>VHIXONEVB2</b> PJ #: Permit date(s): <b>06/08/10</b> OCD Appr. date(s): <b>05/25/11</b> Tank ID: <b>B</b> OVM = Organic Vapor Meter ppm = parts per million BGT Sidewalls Visible: Y <u>(N)</u> BGT Sidewalls Visible: Y / N BGT Sidewalls Visible: Y / N Magnetic declination: <b>10° E</b>
NOTES: <b>GOOGLE EARTH IMAGERY DATE: 3/15/2015.</b> ONSITE: <b>05/17/16</b>		

## Analytical Report

Lab Order 1605793

Date Reported: 5/19/2016

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: 5PC-TB@5' (95)

Project: GCU 290

Collection Date: 5/17/2016 10:25:00 AM

Lab ID: 1605793-001

Matrix: MEOH (SOIL)

Received Date: 5/18/2016 7:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	1100	30		mg/Kg	20	5/18/2016 11:27:47 AM	25381
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/18/2016 10:41:10 AM	25376
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/18/2016 10:41:10 AM	25376
Surr: DNOP	101	70-130		%Rec	1	5/18/2016 10:41:10 AM	25376
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	5/18/2016 10:44:19 AM	R34327
Surr: BFB	106	80-120		%Rec	1	5/18/2016 10:44:19 AM	R34327
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.021		mg/Kg	1	5/18/2016 10:44:19 AM	A34327
Toluene	ND	0.043		mg/Kg	1	5/18/2016 10:44:19 AM	A34327
Ethylbenzene	ND	0.043		mg/Kg	1	5/18/2016 10:44:19 AM	A34327
Xylenes, Total	ND	0.085		mg/Kg	1	5/18/2016 10:44:19 AM	A34327
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	5/18/2016 10:44:19 AM	A34327

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



[illegible]

If necessary, samples submitted to Environmental 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.

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605793

19-May-16

Client: Blagg Engineering

Project: GCU 290

Sample ID	MB-25381	SampType:	mbk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	25381	RunNo:	34348					
Prep Date:	5/18/2016	Analysis Date:	5/18/2016	SeqNo:	1058949	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-25381	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	25381	RunNo:	34348					
Prep Date:	5/18/2016	Analysis Date:	5/18/2016	SeqNo:	1058950	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	90	110			

## Qualifiers:

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1605793

19-May-16

Client: Blagg Engineering

Project: GCU 290

Sample ID	LCS-25376		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 25376		RunNo: 34312					
Prep Date:	5/18/2016		Analysis Date: 5/18/2016		SeqNo: 1057969		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.6	62.6	124			
Surr: DNOP	4.7		5.000		94.9	70	130			

Sample ID	MB-25376	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 25376			RunNo: 34312					
Prep Date:	5/18/2016	Analysis Date: 5/18/2016			SeqNo: 1057971		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	9.6		10.00		95.7	70	130			

Sample ID	1605792-001AMS		SampType: MS			TestCode: EPA Method 8015M/D: Diesel Range Organics				
Client ID:	BatchQC		Batch ID: 25376		RunNo: 34312					
Prep Date:	5/18/2016		Analysis Date: 5/18/2016			SeqNo: 1058180		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.6	47.89	8.838	71.6	33.9	141			
Surr: DNOP	4.4		4.789		91.9	70	130			

Sample ID	1605792-001AMSD		SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	BatchQC		Batch ID: 25376		RunNo: 34312					
Prep Date:	5/18/2016		Analysis Date: 5/18/2016		SeqNo: 1058181		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	68	10	49.75	8.838	120	33.9	141	45.4	20	R
Surr: DNOP	5.1		4.975		103	70	130	0	0	

Sample ID	LCS-25321		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 25321		RunNo: 34313					
Prep Date:	5/16/2016		Analysis Date: 5/18/2016		SeqNo: 1058336		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		88.6	70	130			

Sample ID	LCS-25322			SampType:	LCS			TestCode:	EPA Method 8015M/D: Diesel Range Organics		
Client ID:	LCSS			Batch ID:	25322			RunNo:	34313		
Prep Date:	5/16/2016			Analysis Date:	5/18/2016			SeqNo:	1058337	Units:	%Rec
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

### 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#: 1605793

19-May-16

Client: Blagg Engineering

Project: GCU 290

Sample ID	LCS-25322		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 25322		RunNo: 34313					
Prep Date:	5/16/2016		Analysis Date: 5/18/2016		SeqNo: 1058337		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		82.7	70	130			

Sample ID	MB-25321		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 25321		RunNo: 34313					
Prep Date:	5/16/2016		Analysis Date: 5/18/2016		SeqNo: 1058338		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.1		10.00		91.0	70	130			

Sample ID	MB-25322		SampType:		MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS		Batch ID:		25322		RunNo: 34313				
Prep Date:	5/16/2016		Analysis Date:		5/18/2016		SeqNo: 1058339		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	9.5		10.00		95.1	70	130				

## 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#: 1605793

19-May-16

Client: Blagg Engineering

Project: GCU 290

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R34327	RunNo:	34327					
Prep Date:		Analysis Date:	5/18/2016	SeqNo:	1058588	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	1100		1000		107	80	120			

Sample ID	2.5UG GRO LCSB	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R34327	RunNo:	34327					
Prep Date:		Analysis Date:	5/18/2016	SeqNo:	1058589	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	96.1	80	120			
Surr: BFB	1200		1000		116	80	120			

Sample ID	1605792-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R34327	RunNo:	34327					
Prep Date:		Analysis Date:	5/18/2016	SeqNo:	1058590	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.8	23.86	0	90.1	59.3	143			
Surr: BFB	1100		954.2		118	80	120			

Sample ID	1605792-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	BatchQC	Batch ID:	R34327	RunNo:	34327					
Prep Date:		Analysis Date:	5/18/2016	SeqNo:	1058591	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.86	0	91.5	59.3	143	1.54	20	
Surr: BFB	1100		954.2		116	80	120	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#: 1605793

19-May-16

Client: Blagg Engineering

Project: GCU 290

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	A34327	RunNo:	34327					
Prep Date:		Analysis Date:	5/18/2016	SeqNo:	1058603	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		111	80	120			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	A34327	RunNo:	34327					
Prep Date:		Analysis Date:	5/18/2016	SeqNo:	1058604	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	75.3	123			
Toluene	1.0	0.050	1.000	0	102	80	124			
Ethylbenzene	0.98	0.050	1.000	0	97.9	82.8	121			
Xylenes, Total	2.9	0.10	3.000	0	98.3	83.9	122			
Surr: 4-Bromofluorobenzene	1.2		1.000		119	80	120			

Sample ID	1605793-001AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	5PC-TB@5' (95)	Batch ID:	A34327	RunNo:	34327					
Prep Date:		Analysis Date:	5/18/2016	SeqNo:	1058605	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.021	0.8540	0	99.8	71.5	122			
Toluene	0.85	0.043	0.8540	0	99.5	71.2	123			
Ethylbenzene	0.83	0.043	0.8540	0	97.7	75.2	130			
Xylenes, Total	2.5	0.085	2.562	0.01488	97.1	72.4	131			
Surr: 4-Bromofluorobenzene	0.99		0.8540		116	80	120			

Sample ID	1605793-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	5PC-TB@5' (95)	Batch ID:	A34327	RunNo:	34327					
Prep Date:		Analysis Date:	5/18/2016	SeqNo:	1058606	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.021	0.8540	0	102	71.5	122	1.98	20	
Toluene	0.88	0.043	0.8540	0	103	71.2	123	3.29	20	
Ethylbenzene	0.85	0.043	0.8540	0	100	75.2	130	2.26	20	
Xylenes, Total	2.6	0.085	2.562	0.01488	99.8	72.4	131	2.75	20	
Surr: 4-Bromofluorobenzene	1.0		0.8540		119	80	120	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



Hall Environmental Analysis Laboratory  
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Albuquerque, NM 87109  
TEL: 505-343-3975 FAX: 505-343-1107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: **BLAGG**

Work Order Number: **1605793**

Rep/No: **1**

Received by/date:

Logged By: **Lindsay Mangin**

**5/18/2016 7:25:00 AM**

Completed By: **Lindsay Mangin**

**5/18/2016 7:53:41 AM**

Reviewed By:

### 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 ☐ # of preserved bottles checked for pH  
( $<2$  or  $>12$  unless noted)
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted?
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by: \_\_\_\_\_

### Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

### 18. Cooler Information

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



