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 April 3, 2017

**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

16105
45-22364

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
Facility or well name: ROELOFS B 002A
API Number: 3004522364 OCD Permit Number:
U/L or Qtr/Qtr O Section 15 Township 29N Range 08W County: San Juan
Center of Proposed Design: Latitude 36.72123 Longitude -107.65981 NAD83
Surface Owner: ■ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

OIL CONS. DIV DIST. 3
OCT 12 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 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 Single wall/ Double bottom; sidewalls not visible
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.

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.** ☐ Yes ☐ No ☐ NA
- ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells

**Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit .** ☐ Yes ☐ No ☐ NA
NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)** ☐ Yes ☐ No
- Written confirmation or verification from the municipality; Written approval obtained from the municipality

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** ☐ Yes ☐ No
- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

Within an unstable area. **(Does not apply to below grade tanks)** ☐ Yes ☐ No
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

Within a 100-year floodplain. **(Does not apply to below grade tanks)** ☐ Yes ☐ No
- FEMA map

## Below Grade Tanks

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). ☐ Yes ☐ No
- Topographic map; Visual inspection (certification) of the proposed site

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. ☐ Yes ☐ No
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

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

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) ☐ Yes ☐ No
- Topographic map; Visual inspection (certification) of the proposed site

Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. ☐ Yes ☐ No
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. ☐ Yes ☐ No
NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

| | |
|---|---|
| Within 100 feet of a wetland.<br>- 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).<br>- 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.<br>- 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;<br>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site | ☐ Yes ☐ No |
| Within 300 feet of a wetland.<br>- 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).<br>- 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.<br>- 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.<br>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site | ☐ Yes ☐ No |
| Within 500 feet of a wetland.<br>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site | ☐ Yes ☐ No |

10.

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

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

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

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

11.

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

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

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

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

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

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including $H_2S$, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.
**Proposed Closure:** 19.15.17.13 NMAC
***Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.***

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

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

14.
**Waste Excavation and Removal Closure Plan Checklist:** (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

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

15.
**Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC
***Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.***

| | |
|---|---|
| Ground water is less than 25 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☐ No<br>☐ NA |
| Ground water is between 25-50 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☐ No<br>☐ NA |
| Ground water is more than 100 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | ☐ Yes ☐ No<br>☐ 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).<br>- 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.<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image | ☐ Yes ☐ No |
| Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application.<br>- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site | ☐ Yes ☐ No |
| Written confirmation or verification from the municipality; Written approval obtained from the municipality | ☐ Yes ☐ No |
| Within 300 feet of a wetland.<br>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site | ☐ Yes ☐ No |
| Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance | |

| | |
|---|---|
| adopted pursuant to NMSA 1978, Section 3-27-3, as amended.<br>- Written confirmation or verification from the municipality; Written approval obtained from the municipality | ☐ Yes ☐ No |
| Within the area overlying a subsurface mine.<br>- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division | ☐ Yes ☐ No |
| Within an unstable area.<br>- 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.<br>- FEMA map | ☐ Yes ☐ No |

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

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

17.
**Operator Application Certification:**

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

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

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

**OCD Representative Signature:** Jonathan D. Kelly **Approval Date:** 10/30/2017

**Title:** Compliance Officer **OCD Permit Number:** _____

19.
**Closure Report (required within 60 days of closure completion):** 19.15.17.13 NMAC

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

■ **Closure Completion Date:** 7/28/2017

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 36.72123 Longitude -107.65981 NAD: ☐ 1927 ■ 1983

22.

**Operator Closure Certification:**

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

Name (Print): Erin Garifalos Title: Field Environmental Coordinator

Signature: erin garifalos Date: October 6, 2017

e-mail address: erin.garifalos@bp.com Telephone: (832) 609-7048

# BP AMERICA PRODUCTION COMPANY
SAN JUAN BASIN, NORTHWEST NEW MEXICO

BELOW-GRADE TANK CLOSURE PLAN

**ROELOFS B 002A**

**API No. 3004522364**

**Unit Letter O Section 15 T 29N R 08W**

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 | 10 | <0.019 |
| Total BTEX | US EPA Method SW-846 8021B or 8260B | 50 | <0.075 |
| TPH | US EPA Method SW-846 418.1 or 8015 extended | 100 | 22 |
| Chlorides | US EPA Method 300.0 or 4500B | 620 | <30 |

**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 chloride, TPH and BTEX with all concentrations below the stated limits. 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 occurred but is below regulatory standards. 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 occurred but is below regulatory standards. 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 and a 105 BBL shallow low profile above-grade tank set atop BGT location. 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 and a 105 BBL shallow low profile above-grade tank set atop BGT location. 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 and a 105 BBL shallow low profile above-grade tank set atop BGT location. 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 and a 105 BBL shallow low profile above-grade tank set atop BGT location. 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 and a 105 BBL shallow low profile above-grade tank set atop BGT location. 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 April 3, 2017

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 America Production Company | Contact Erin Garifalos |
| Address 200 Energy Court, Farmington, NM 87401 | Telephone No. (832) 609-7048 |
| Facility Name ROELOFS B 002A | Facility Type: Natural Gas Well |

| | | |
|---|---|---|
| Surface Owner: Federal | Mineral Owner: Federal | API No. 3004522364 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| O | 15 | 29N | 08W | 1,140 | South | 1,710 | East | San Juan |

Latitude 36.72123 Longitude -107.65981 NAD83

## 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: n/a | Date and Hour of Discovery: n/a |
| Was Immediate Notice Given? ☐ Yes ☐ No ☐ Not Required | If YES, To Whom? | |
| By Whom? | Date and Hour | |
| Was a Watercourse Reached? ☐ Yes ☐ 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 Chlorides, BTEX, and TPH below BGT closure standards. 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.

Signature: erin garifalos

Printed Name: Erin Garifalos

Title: Field Environmental Coordinator

E-mail Address: erin.garifalos@bp.com

Date: October 6, 2017 Phone: (832) 609-7048

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: Expiration Date:

Conditions of Approval: Attached ☐

* Attach Additional Sheets If Necessary

bp

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

July 19, 2017

Bureau of Land Management
Whitney Thomas
6251 College Suite A
Farmington, NM 87402

**VIA EMAIL**

Re: Notification of plans to close/remove a below grade tank
Well Name: ROELOFS B 002A
API #: 3004522364

Dear Mrs. Thomas,

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 July 24, 2017. 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

**Garifalos, Erin**

| | |
|---|---|
| **From:** | Buckley, Farrah (CH2M HILL) |
| **Sent:** | Wednesday, July 19, 2017 1:57 PM |
| **To:** | 'Smith, Cory, EMNRD'; 'Fields, Vanessa, EMNRD (Vanessa.Fields@state.nm.us)'; 'brandon.powell@state.nm.us' |
| **Cc:** | 'jeffcblagg@aol.com'; 'blagg_njv@yahoo.com'; Moskal, Steven; Garifalos, Erin |
| **Subject:** | BP Pit Close Notification - ROELOFS B 002A |

**BP America Production Company**
200 Energy Court
Farmington, NM 87401
Phone: (505) 326-9200

SENT VIA E-MAIL TO: CORY.SMITH@STATE.NM.US; VANESSA.FIELDS@STATE.NM.US

July 19, 2017

New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

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

ROELOFS B 002A
API 30-045-22364
(O) Section 15 – T29N – R8W
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 95bbl BGT that will no longer be operational at this well site. We anticipate this work to start on or around July 24, 2017 .

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 Buckley***
**BGT Project Support**
**970-946-9199 -cell**

CLIENT: BP

**BLAGG ENGINEERING, INC.**
**P.O. BOX 87, BLOOMFIELD, NM 87413**
**(505) 632-1199**

API #: 3004522364
TANK ID (if applicble): A

# FIELD REPORT:

(circle one): BGT CONFIRMATION / RELEASE INVESTIGATION / OTHER:

PAGE #: 1 of 1

## SITE INFORMATION:

SITE NAME: ROELOFS B # 2A

QUAD/UNIT: O SEC: 15 TWP: 29N RNG: 8W PM: NM CNTY: SJ ST: NM

1/4 -1/4/FOOTAGE: 1,140'S / 1,710'E SW/SE LEASE TYPE: FEDERAL / STATE / FEE / INDIAN

LEASE #: SF078415 PROD. FORMATION: MV CONTRACTOR: STRIKE MBF - R. POWELL

DATE STARTED: 07/26/17
DATE FINISHED:
ENVIRONMENTAL SPECIALIST(S): NJV

## REFERENCE POINT:

WELL HEAD (W.H.) GPS COORD.: 36.72139 X 107.66010 GL ELEV.: 6,726'

| | | | |
|---|---|---|---|
| 1) 95 BGT (DW/DB) | GPS COORD.: 36.72123 X 107.65981 | DISTANCE/BEARING FROM W.H.: 108', S51.5E |
| 2) | GPS COORD.: | DISTANCE/BEARING FROM W.H.: |
| 3) | GPS COORD.: | DISTANCE/BEARING FROM W.H.: |
| 4) | GPS COORD.: | DISTANCE/BEARING FROM W.H.: |

## SAMPLING DATA:

CHAIN OF CUSTODY RECORD(S) # OR LAB USED: HALL

| | SAMPLE ID: | SAMPLE DATE: | SAMPLE TIME: | LAB ANALYSIS: | OVM READING (ppm) |
|---|---|---|---|---|---|
| 1) | 5PC - TB @ 4.5' (95) | 07/26/17 | 1200 | 8015B/8021B/300.0 (Cl) | 227 |
| 2) | | | | | |
| 3) | | | | | |
| 4) | | | | | |
| 5) | | | | | |

## SOIL DESCRIPTION:

SOIL TYPE: SAND / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER BEDROCK (SANDSTONE)

SOIL COLOR: DARK YELLOWISH ORANGE TO OLIVE GRAY

COHESION (ALL OTHERS): NON COHESIVE / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE

CONSISTENCY (NON COHESIVE SOILS): LOOSE / FIRM / DENSE / VERY DENSE

MOISTURE: DRY / SLIGHTLY MOIST / MOIST / WET / SATURATED / SUPER SATURATED

SAMPLE TYPE: GRAB / COMPOSITE - # OF PTS. 5

DISCOLORATION/STAINING OBSERVED: YES / NO EXPLANATION - GRAY, BLACK, DUSKY BROWN AT BGT FOOTPRINT ONLY.

PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC

DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD

HC ODOR DETECTED: YES / NO EXPLANATION - BY INSTRUMENTATION ONLY.

ANY AREAS DISPLAYING WETNESS: YES / NO EXPLANATION -

## SITE OBSERVATIONS:

LOST INTEGRITY OF EQUIPMENT: YES / NO EXPLANATION - BOTTOM OF BGT MOST LIKELY.

APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR OCCURRED : YES / NO EXPLANATION: VISUAL STAINING DIRECTLY BENEATH BGT.

EQUIPMENT SET OVER RECLAIMED AREA: YES / NO EXPLANATION - 105 BBL SHALLOW LOW PROFILE ABOVE-GRADE TANK TO BE SET PARTIALLY ATOP BGT LOCATION.

OTHER: BGT CONSTRUCTION ACTUALLY SW/DB. NMOCD OR BLM NOT PRESENT TO WITNESS CONFIRMATION SAMPLING. BEDROCK APPROX. 5 FT. BELOW GRADE, OLIVE GRAY, VERY HARD, COMPETNENT, NO OBVIOUS &/OR APPARENT HYDROCARBON IMPACTS OBSERVED.

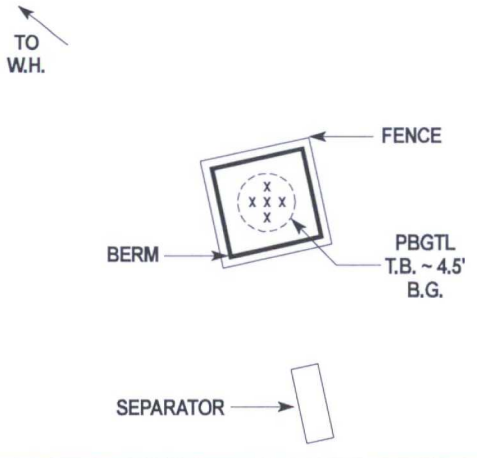
EXCAVATION DIMENSION ESTIMATION: NA ft. X NA ft. X NA ft. EXCAVATION ESTIMATION (Cubic Yards) : NA

DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1,000' NEAREST SURFACE WATER: >1,000' NMOCD TPH CLOSURE STD: 5,000 ppm

## SITE SKETCH

BGT Located : off / on site

PLOT PLAN circle: attached




OVM CALIB. READ. = 100.0 ppm RF =1.00
OVM CALIB. GAS = 100 ppm
TIME: 12:20 am/(pm) DATE: 07/26/17

## MISCELL. NOTES

WO:
REF #: P-861
VID: VHIXONEV11
PJ #:
Permit date(s): 06/14/10
OCD Appr. date(s): 05/31/17

| Tank ID | OVM = Organic Vapor Meter ppm = parts per million |
|---|---|
| A | BGT Sidewalls Visible: Y / (N) |
| | BGT Sidewalls Visible: Y / N |
| | BGT Sidewalls Visible: Y / N |

Magnetic declination: 10° E

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; PBGTL = 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.

NOTES: GOOGLE EARTH IMAGERY DATE: 10/5/2016. ONSITE: 07/26/17

**Analytical Report**
Lab Order **1707D57**
Date Reported: **7/28/2017**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering
**Project:** ROELOFS B #2A
**Lab ID:** 1707D57-001 **Matrix:** SOIL

**Client Sample ID:** 5PC-TB @ 4.5' (95)
**Collection Date:** 7/26/2017 12:00:00 PM
**Received Date:** 7/27/2017 7:50:00 AM

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 300.0: ANIONS** | | | | | | Analyst: **SRM** | |
| Chloride | ND | 30 | | mg/Kg | 20 | 7/27/2017 11:40:25 AM | 33039 |
| **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** | | | | | | Analyst: **TOM** | |
| Diesel Range Organics (DRO) | 22 | 9.4 | | mg/Kg | 1 | 7/27/2017 10:16:37 AM | 33038 |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 7/27/2017 10:16:37 AM | 33038 |
| Surr: DNOP | 99.6 | 70-130 | | %Rec | 1 | 7/27/2017 10:16:37 AM | 33038 |
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **NSB** | |
| Gasoline Range Organics (GRO) | ND | 3.8 | | mg/Kg | 1 | 7/27/2017 9:53:36 AM | 33011 |
| Surr: BFB | 89.0 | 54-150 | | %Rec | 1 | 7/27/2017 9:53:36 AM | 33011 |
| **EPA METHOD 8021B: VOLATILES** | | | | | | Analyst: **NSB** | |
| Benzene | ND | 0.019 | | mg/Kg | 1 | 7/27/2017 9:53:36 AM | 33011 |
| Toluene | ND | 0.038 | | mg/Kg | 1 | 7/27/2017 9:53:36 AM | 33011 |
| Ethylbenzene | ND | 0.038 | | mg/Kg | 1 | 7/27/2017 9:53:36 AM | 33011 |
| Xylenes, Total | ND | 0.075 | | mg/Kg | 1 | 7/27/2017 9:53:36 AM | 33011 |
| Surr: 4-Bromofluorobenzene | 106 | 66.6-132 | | %Rec | 1 | 7/27/2017 9:53:36 AM | 33011 |

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 |
| PQL | Practical Quanitative Limit | RL | Reporting Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |

# Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush SAME DAY

Project Name:
ROELOFS B # 2A

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.3


HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107


| Date | Time | Matrix | Sample Request ID | Container Type and # | Preservative Type | HEAL No. |
|---|---|---|---|---|---|---|
| 7/26/17 | 1200 | SOIL | 5PC - TB @ 4.5' (95) | 4 oz. - 1 | Cool | 001 |

Analysis Request

| BTEX + ~~MTBE + TMB's~~ (8021B) | BTEX + MTBE + TPH (Gas only) | TPH 8015B (GRO / DRO / MRO) | TPH (Method 418.1) | EDB (Method 504.1) | PAH (8310 or 8270SIMS) | RCRA 8 Metals | Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$) | 8081 Pesticides / 8082 PCB's | 8260B (VOA) | 8270 (Semi-VOA) | Chloride (soil - 300.0 / water - 300.1) | | Grab sample | 5 pt. composite sample | Air Bubbles (Y or N) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | | ✓ | | | | | | | | | ✓ | | | ✓ | |

| Date: | Time: | Relinquished by: | Received by: | Date | Time |
|---|---|---|---|---|---|
| 7/26/17 | 1401 | | | 7/26/17 | 1401 |
| 7/26/17 | 1844 | | | 07/27/17 | 0750 |

Remarks: BILL DIRECTLY TO BP USING THE CONTACT WITH CORRESPONDING VID & REFERENCE # WHEN APPLICABLE;
CONTACT: STEVE MOSKAL / VANCE HIXON
VID: VHIXONEV11
Reference # P - 861

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.

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1707D57**

*28-Jul-17*

**Client:** Blagg Engineering
**Project:** ROELOFS B #2A

| Sample ID | **MB-33039** | SampType: | **MBLK** | | TestCode: | **EPA Method 300.0: Anions** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBS** | Batch ID: | **33039** | | RunNo: | **44577** | | | | |
| Prep Date: | **7/27/2017** | Analysis Date: | **7/27/2017** | | SeqNo: | **1409374** | Units: | **mg/Kg** | | |

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

| Sample ID | **LCS-33039** | SampType: | **LCS** | | TestCode: | **EPA Method 300.0: Anions** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **LCSS** | Batch ID: | **33039** | | RunNo: | **44577** | | | | |
| Prep Date: | **7/27/2017** | Analysis Date: | **7/27/2017** | | SeqNo: | **1409375** | Units: | **mg/Kg** | | |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 14 | 1.5 | 15.00 | 0 | 91.0 | 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 |
| PQL | Practical Quanitative Limit | 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#: **1707D57**

*28-Jul-17*

**Client:** Blagg Engineering
**Project:** ROELOFS B #2A

| Sample ID **LCS-33038** | SampType: **LCS** | | | TestCode: **EPA Method 8015M/D: Diesel Range Organics** | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Client ID: **LCSS** | Batch ID: **33038** | | | RunNo: **44536** | | | | | |
| Prep Date: **7/27/2017** | Analysis Date: **7/27/2017** | | | SeqNo: **1408374** | | Units: **mg/Kg** | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 54 | 10 | 50.00 | 0 | 108 | 73.2 | 114 | | | |
| Surr: DNOP | 5.0 | | 5.000 | | 99.1 | 70 | 130 | | | |

| Sample ID **MB-33038** | SampType: **MBLK** | | | TestCode: **EPA Method 8015M/D: Diesel Range Organics** | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Client ID: **PBS** | Batch ID: **33038** | | | RunNo: **44536** | | | | | |
| Prep Date: **7/27/2017** | Analysis Date: **7/27/2017** | | | SeqNo: **1408375** | | 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 | 9.0 | | 10.00 | | 89.6 | 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 |
| PQL | Practical Quanitative Limit | 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#: **1707D57**

*28-Jul-17*

**Client:** Blagg Engineering
**Project:** ROELOFS B #2A

| Sample ID **MB-33011** | SampType: **MBLK** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **33011** | RunNo: **44550** |
| Prep Date: **7/26/2017** | Analysis Date: **7/27/2017** | SeqNo: **1409090** 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 | | 86.0 | 54 | 150 | | | |

| Sample ID **LCS-33011** | SampType: **LCS** | TestCode: **EPA Method 8015D: Gasoline Range** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **33011** | RunNo: **44550** |
| Prep Date: **7/26/2017** | Analysis Date: **7/27/2017** | SeqNo: **1409091** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 25 | 5.0 | 25.00 | 0 | 98.8 | 76.4 | 125 | | | |
| Surr: BFB | 970 | | 1000 | | 97.0 | 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 |
| PQL | Practical Quanitative Limit | RL | Reporting Detection Limit |
| S | % Recovery outside of range due to dilution or matrix | W | Sample container temperature is out of limit as specified |



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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1707D57**

*28-Jul-17*

**Client:** Blagg Engineering
**Project:** ROELOFS B #2A

| Sample ID **MB-33011** | SampType: **MBLK** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **PBS** | Batch ID: **33011** | RunNo: **44550** |
| Prep Date: **7/26/2017** | Analysis Date: **7/27/2017** | SeqNo: **1409112** 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 | 1.0 | | 1.000 | | 103 | 66.6 | 132 | | | |

| Sample ID **LCS-33011** | SampType: **LCS** | TestCode: **EPA Method 8021B: Volatiles** |
|---|---|---|
| Client ID: **LCSS** | Batch ID: **33011** | RunNo: **44550** |
| Prep Date: **7/26/2017** | Analysis Date: **7/27/2017** | SeqNo: **1409113** Units: **mg/Kg** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.90 | 0.025 | 1.000 | 0 | 90.3 | 80 | 120 | | | |
| Toluene | 0.92 | 0.050 | 1.000 | 0 | 91.7 | 80 | 120 | | | |
| Ethylbenzene | 0.91 | 0.050 | 1.000 | 0 | 91.2 | 80 | 120 | | | |
| Xylenes, Total | 2.8 | 0.10 | 3.000 | 0 | 93.5 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 1.1 | | 1.000 | | 107 | 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 |
| PQL | Practical Quanitative Limit | 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

*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: BLAGG Work Order Number: 1707D57 RcptNo: 1

Received By: Anne Thorne 7/27/2017 7:50:00 AM

Completed By: Anne Thorne 7/27/2017 8:09:05 AM

Reviewed By: SRC 07/27/17

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

## Special Handling (if applicable)

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

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

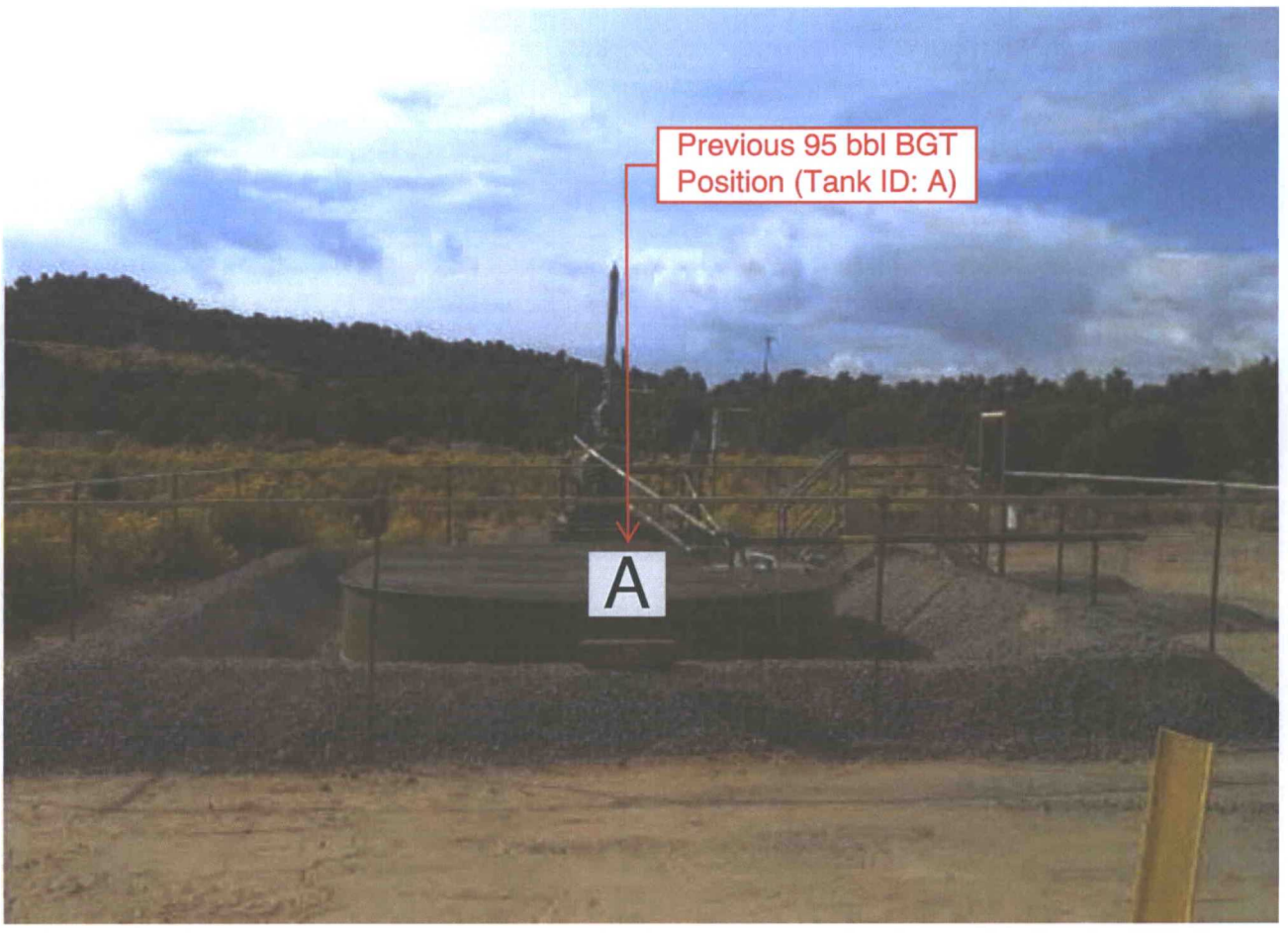
Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | 1.3 | Good | Yes | | | |


OR
505-947-9900
BP AMERICA PRODUCTION COMPANY
ROELOFS B 002A
API 3004522364 LEASE NMSF078415
1140 FSL 1710 FEL (O) SEC 15 T29N R8W
San Juan County ELEV 6726
LAT 36° 43' 17.220"
LONG 107°39' 36.540"


Previous 95 bbl BGT
Position (Tank ID: A)
A