

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

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or
13099 Proposed Alternative Method Permit or Closure Plan Application

Type of action: ☐ Below grade tank registration
☐ Permit of a pit or proposed alternative method
45-08429 ☒ 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

OIL CONS. DIV DIST. 3

SEP 03 2015

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

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

1.
Operator: BP America Production Company OGRID #: 778
Address: 200 Energy Court, Farmington, NM 87401
Facility or well name: Sammons GC C 1
API Number: 3004508429 OCD Permit Number: _____
U/L or Qtr/Qtr N Section 7 Township 29N Range 9W County: San Juan
Center of Proposed Design: Latitude 36.73317 Longitude -107.82263 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 *** BGT Closed Prior to approval of Closure Plan for this Tank**
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____ bbl Dimensions: L _____ x W _____ x D _____

3.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 95.0 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 walled/double bottomed; side walls 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 _____

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

10.

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

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

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

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

11.

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

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

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

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

12.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC

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

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H₂S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.
Proposed Closure: 19.15.17.13 NMAC

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

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

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

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

15.
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC

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

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

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

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

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

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

Name (Print): _____ Title: _____
 Signature: _____ Date: _____
 e-mail address: _____ Telephone: _____

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

OCD Representative Signature: *Janet D. Kelly* Approval Date: *10/5/2015*
 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: *11/20/2008*

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 *36.73317* Longitude *-107.82263* 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 MoskalTitle: Field Environmental CoordinatorSignature: Date: August 31, 2015e-mail address: steven.moskal@bp.comTelephone: (505) 326-9497

BP AMERICA PRODUCTION COMPANY
SAN JUAN BASIN, NORTHWEST NEW MEXICO

BELOW-GRADE TANK CLOSURE PLAN

Sammons GC C 1
API No. 3004508429
Unit Letter N, Section 7, T29N, R9W

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 approved 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.
No notice was made due to misunderstanding of the BGT notice requirements at that time.
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.
No notice was made due to misunderstanding of the BGT notice requirements at that time.
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 to a storage area for sale and re-use.

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 | 0.0016 |
| Total BTEX | US EPA Method SW-846 8021B or 8260B | 50 | 0.0778 |
| TPH | US EPA Method SW-846 418.1/ <u>8015B</u> | 100 | 82.6/ <u>ND</u> |
| Chlorides | US EPA Method 300.0 or 4500B | 250 or background | 5.0 |

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 laboratory analysis of TPH, BTEX and chloride with results below the stated limits.

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.

Laboratory results indicate no significant release has occurred.

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 within the active process area

The area of the BGT was backfilled with clean soil and remains within the active well pad.

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 of the BGT was backfilled with clean soil and remains within the active well pad.

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 of the BGT was backfilled with clean soil and remains within the active well pad. The area will be reseeded 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 of the BGT was backfilled with clean soil and remains within the active well pad. The area will be reseeded 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 of the BGT was backfilled with clean soil and remains within the active well pad. The area will be reseeded 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.

BP will notify NMOCD when re-vegetation is successful.

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.

Closure report on C-144 form is included.

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: Sammons GC C 1 | Facility Type: Natural gas well | |
| Surface Owner: Federal | Mineral Owner: Federal | API No. 3004508429 |

LOCATION OF RELEASE

| | | | | | | | | |
|------------------|--------------|-----------------|-------------|-----------------------|---------------------------|------------------------|------------------------|------------------|
| Unit Letter N | Section 7 | Township 29N | Range 9W | Feet from the 270' | North/South Line South | Feet from the 1,450 | East/West Line West | County: San Juan |
|------------------|--------------|-----------------|-------------|-----------------------|---------------------------|------------------------|------------------------|------------------|

Latitude 36.73317 Longitude -107.82263

NATURE OF RELEASE

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

If a Watercourse was Impacted, Describe Fully.*

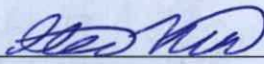
Describe Cause of Problem and Remedial Action Taken.

During removal of a below grade tank (95 bbl), soil was sampled with no significant impacts noted.

Describe Area Affected and Cleanup Action Taken.

During removal of a below grade tank, soil was sampled to ensure a release had not occurred. The attached laboratory results indicate no significant impacts. The location of the BGT has been backfilled and will be reclaimed once the active well is plugged and abandoned.

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:  | | OIL CONSERVATION DIVISION | |
| 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 <input type="checkbox"/> |
| Date: August 31, 2015 Phone: 505-326-9497 | | | |

* Attach Additional Sheets If Necessary

30-045-08429

CLIENT:

BP

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

LOCATION NO: -
COCR NO: 5758

FIELD REPORT: PIT CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: SAMMONS GC C WELL #: 1 TYPE: 95 BGT (SW/DB)
QUAD/UNIT: N SEC: 7 TWP: 29N RNG: 9W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: 270'S / 1,450'W SE/SW CONTRACTOR: L & L

DATE STARTED: 11/14/08
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: JCB

EXCAVATION APPROX. NA FT. x NA FT. x NA FT. DEEP. CUBIC YARDAGE: NA
DISPOSAL FACILITY: NA REMEDIATION METHOD: NA
LAND USE: RANGE LEASE: FEE FORMATION: DK

FIELD NOTES & REMARKS:
PIT LOCATED APPROXIMATELY 54 FT. S20W FROM WELLHEAD.
DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1,000' NEAREST SURFACE WATER: <1,000'
NMOCD RANKING SCORE: 10 NMOCD TPH CLOSURE STD: 1,000 PPM

SOIL AND EXCAVATION DESCRIPTION:
SOIL TYPE: SAND / SILTY SAND / SILT / SILTY CLAY / CLAY GRAVEL OTHER
SOIL COLOR: DARK YELLOWISH ORANGE
COHESION (ALL OTHERS): NON COHESIVE SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE
CONSISTENCY (NON COHESIVE SOILS): LOOSE FIRM DENSE / VERY DENSE
PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC
DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD
MOISTURE: DRY SLIGHTLY MOIST MOIST / WET / SATURATED / SUPER SATURATED
DISCOLORATION/STAINING OBSERVED: YES NO EXPLANATION -
HC ODOR DETECTED: YES NO EXPLANATION -
SAMPLE TYPE: GRAB COMPOSITE # OF PTS. 5
ADDITIONAL COMMENTS: BGT - SW - SINGLE WALLED, DB - DOUBLE BOTTOM WITH VISIBLE SIDEWALLS.
GROUND LEVEL ELEVATION: 5,802 FT. NO APPARENT EVIDENCE OF A RELEASE OBSERVED FROM BGT.

OVM CALIB. READ. = NA ppm
OVM CALIB. GAS = NA ppm RF = 0.52
TIME: NA am/pm DATE: NA

SCALE
0 FT

FIELD 418.1 CALCULATIONS

| SAMP. TIME | SAMP. ID | LAB NO. | WEIGHT (g) | mL FREON | DILUTION | READING | CALC. (ppm) |
|------------|----------|---------|------------|----------|----------|---------|-------------|
| | | | | | | | |
| | | | | | | | |

PIT PERIMETER

WELL HEAD

N

PREVIOUS BGT LOCATION T.B. ~ 6' B.G.

FENCE

BERM

WOODEN RETAINING WALL

OVM READING

| SAMPLE ID | FIELD HEADSPACE (ppm) |
|-----------|-----------------------|
| 1 @ | |
| 2 @ | |
| 3 @ | |
| 4 @ | |
| 5 @ | |
| | |
| | |
| | |
| | |
| | |

LAB SAMPLES

| SAMPLE ID | ANALYSIS | TIME |
|------------|------------------|------|
| 95 BGT | 418.1, 8015B, | 0935 |
| 5-pt. @ 7' | 8021B, 4500B(CI) | |
| | | |
| | | |
| | | |

PIT PROFILE

NOT APPLICABLE

TRAVEL NOTES:

CALLOUT:

ONSITE: 11/14/08

| | | | |
|----------------------|------------------|------------------|------------|
| Client: | Blagg/BP | Project #: | 94034-0010 |
| Sample ID: | 95 BGT 5-pt @ 7' | Date Reported: | 11-20-08 |
| Laboratory Number: | 48154 | Date Sampled: | 11-14-08 |
| Chain of Custody No: | 5758 | Date Received: | 11-14-08 |
| Sample Matrix: | Soil | Date Extracted: | 11-17-08 |
| Preservative: | Cool | Date Analyzed: | 11-17-08 |
| Condition: | Intact | Analysis Needed: | TPH-418.1 |

| Parameter | Concentration (mg/kg) | Det. Limit (mg/kg) |
|-------------------------------------|--------------------------|--------------------------|
| Total Petroleum Hydrocarbons | 82.6 | 5.0 |

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Sammons GC C #1.**

Analyst

Review



**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

| | | | |
|----------------------|------------------|---------------------|------------|
| Client: | Blagg/BP | Project #: | 94034-0010 |
| Sample ID: | 95 BGT 5-pt @ 7' | Date Reported: | 11-19-08 |
| Laboratory Number: | 48154 | Date Sampled: | 11-14-08 |
| Chain of Custody No: | 5758 | Date Received: | 11-14-08 |
| Sample Matrix: | Soil | Date Extracted: | 11-17-08 |
| Preservative: | Cool | Date Analyzed: | 11-18-08 |
| Condition: | Intact | Analysis Requested: | 8015 TPH |

| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | ND | 0.2 |
| Diesel Range (C10 - C28) | ND | 0.1 |
| Total Petroleum Hydrocarbons | ND | 0.2 |

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Sammons GC C #1.**

Analyst

Review



EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

| | | | |
|--------------------|------------------|---------------------|------------|
| Client: | Blagg/BP | Project #: | 94034-0010 |
| Sample ID: | 95 BGT 5-pt @ 7' | Date Reported: | 11-19-08 |
| Laboratory Number: | 48154 | Date Sampled: | 11-14-08 |
| Chain of Custody: | 5758 | Date Received: | 11-14-08 |
| Sample Matrix: | Soil | Date Analyzed: | 11-18-08 |
| Preservative: | Cool | Date Extracted: | 11-17-08 |
| Condition: | Intact | Analysis Requested: | BTEX |

| Parameter | Concentration (ug/Kg) | Det. Limit (ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene | 1.6 | 0.9 |
| Toluene | 24.2 | 1.0 |
| Ethylbenzene | 11.3 | 1.0 |
| p,m-Xylene | 31.9 | 1.2 |
| o-Xylene | 8.8 | 0.9 |
| Total BTEX | 77.8 | |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|---------------------|------------------|
| | Fluorobenzene | 96.0 % |
| | 1,4-difluorobenzene | 96.0 % |
| | Bromochlorobenzene | 96.0 % |

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Sammons GC C #1.

Analyst

Review




Chloride

| | | | |
|----------------|------------------|-------------------|------------|
| Client: | Blagg/BP | Project #: | 94034-0010 |
| Sample ID: | 95 BGT 5-pt @ 7' | Date Reported: | 11-19-08 |
| Lab ID#: | 48154 | Date Sampled: | 11-14-08 |
| Sample Matrix: | Soil | Date Received: | 11-14-08 |
| Preservative: | Cool | Date Analyzed: | 11-18-08 |
| Condition: | Intact | Chain of Custody: | 5758 |

| Parameter | Concentration (mg/Kg) |
|----------------|-----------------------|
| Total Chloride | 5.0 |

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Sammons GC C #1.**


Analyst


Review

CHAIN OF CUSTODY RECORD

5758

| Client: BLACO/BP | | | Project Name / Location: SAMMUNS GC C # 1 | | | ANALYSIS / PARAMETERS | | | | | | | | | | | | | | | | |
|----------------------------------|-------------|-------------|---|------------------|--------------------------|---|--|------------------------------|--------------------|-------------------|---------------|----------------|-----|---------------|-----|------------------|----------|--------------|--|-------------|---------------|---|
| Client Address: | | | Sampler Name: J. BLACO | | | | | | | | | | | | | | | | | | | |
| Client Phone No.: | | | Client No.: 94034-010 | | | | | | | | | | | | | | | | | | | |
| Sample No./ Identification | Sample Date | Sample Time | Lab No. | Sample Matrix | No./Volume of Containers | Preservative H ₂ O ₂ HCl | | TPH (Method 8015) | BTEX (Method 8021) | VOC (Method 8260) | RCRA 8 Metals | Cation / Anion | RCI | TCLP with H/P | PAH | TPH (418.1) | CHLORIDE | | | Sample Cool | Sample Intact | |
| 95 B&T 5-pb 27 | 11/14/03 | 0935 | 48154 | Soil Solid | Sludge Aqueous | 1-402 | | | X | X | | | | | | | X | X | | | X | ✓ |
| | | | | Soil Solid | Sludge Aqueous | | | | | | | | | | | | | | | | | |
| | | | | Soil Solid | Sludge Aqueous | | | | | | | | | | | | | | | | | |
| | | | | Soil Solid | Sludge Aqueous | | | | | | | | | | | | | | | | | |
| | | | | Soil Solid | Sludge Aqueous | | | | | | | | | | | | | | | | | |
| | | | | Soil Solid | Sludge Aqueous | | | | | | | | | | | | | | | | | |
| | | | | Soil Solid | Sludge Aqueous | | | | | | | | | | | | | | | | | |
| | | | | Soil Solid | Sludge Aqueous | | | | | | | | | | | | | | | | | |
| | | | | Soil Solid | Sludge Aqueous | | | | | | | | | | | | | | | | | |
| | | | | Soil Solid | Sludge Aqueous | | | | | | | | | | | | | | | | | |
| | | | | Soil Solid | Sludge Aqueous | | | | | | | | | | | | | | | | | |
| | | | | Soil Solid | Sludge Aqueous | | | | | | | | | | | | | | | | | |
| Relinquished by: (Signature) | | | | Date 11/14/03 | | Time 1548 | | Received by: (Signature) | | | | | | | | Date 11-14-03 | | Time 1548 | | | | |
| Relinquished by: (Signature) | | | | | | | | Received by: (Signature) | | | | | | | | | | | | | | |
| Relinquished by: (Signature) | | | | | | | | Received by: (Signature) | | | | | | | | | | | | | | |

ENVIROTECH INC.

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505-632-0615



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS
QUALITY ASSURANCE REPORT

| | | | |
|--------------------|-----------------------|------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | QA/QC | Date Reported: | 11-20-08 |
| Laboratory Number: | 11-17-TPH.QA/QC 48152 | Date Sampled: | N/A |
| Sample Matrix: | Freon-113 | Date Analyzed: | 11-17-08 |
| Preservative: | N/A | Date Extracted: | 11-17-08 |
| Condition: | N/A | Analysis Needed: | TPH |

| Calibration | I-Cal Date | C-Cal Date | I-Cal RF: | C-Cal RF: | % Difference | Accept. Range |
|-------------|------------|------------|-----------|-----------|--------------|---------------|
| | 11-03-08 | 11-17-08 | 1,420 | 1,520 | 7.0% | +/- 10% |

| Blank Conc. (mg/Kg) | Concentration | Detection Limit |
|---------------------|---------------|-----------------|
| TPH | ND | 9.1 |

| Duplicate Conc. (mg/Kg) | Sample | Duplicate | % Difference | Accept. Range |
|-------------------------|--------|-----------|--------------|---------------|
| TPH | 1,310 | 1,540 | 17.5% | +/- 30% |

| Spike Conc. (mg/Kg) | Sample | Spike Added | Spike Result | % Recovery | Accept Range |
|---------------------|--------|-------------|--------------|------------|--------------|
| TPH | 1,310 | 2,000 | 3,240 | 97.9% | 80 - 120% |

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: QA/QC for Samples 48152, 48154, 48161 and 48168.

Analyst

Review



EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

| | | | |
|--------------------|--------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 11-18-08 QA/QC | Date Reported: | 11-19-08 |
| Laboratory Number: | 48152 | Date Sampled: | N/A |
| Sample Matrix: | Methylene Chloride | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 11-18-08 |
| Condition: | N/A | Analysis Requested: | TPH |

| | I-Cal Date | I-Cal RF: | C-Cal RF: | % Difference | Accept. Range |
|-------------------------|------------|-------------|-------------|--------------|---------------|
| Gasoline Range C5 - C10 | 05-07-07 | 1.0038E+003 | 1.0042E+003 | 0.04% | 0 - 15% |
| Diesel Range C10 - C28 | 05-07-07 | 1.0137E+003 | 1.0141E+003 | 0.04% | 0 - 15% |

| Blank Conc. (mg/L - mg/Kg) | Concentration | Detection Limit |
|------------------------------|---------------|-----------------|
| Gasoline Range C5 - C10 | ND | 0.2 |
| Diesel Range C10 - C28 | ND | 0.1 |
| Total Petroleum Hydrocarbons | ND | 0.2 |

| Duplicate Conc. (mg/Kg) | Sample | Duplicate | % Difference | Accept. Range |
|-------------------------|--------|-----------|--------------|---------------|
| Gasoline Range C5 - C10 | ND | ND | 0.0% | 0 - 30% |
| Diesel Range C10 - C28 | ND | ND | 0.0% | 0 - 30% |

| Spike Conc. (mg/Kg) | Sample | Spike Added | Spike Result | % Recovery | Accept. Range |
|-------------------------|--------|-------------|--------------|------------|---------------|
| Gasoline Range C5 - C10 | ND | 250 | 252 | 101% | 75 - 125% |
| Diesel Range C10 - C28 | ND | 250 | 248 | 99.2% | 75 - 125% |

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 48152, 48154 - 48159, 48161, 48169, and 48170.

Analyst

Review



EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

| | | | |
|--------------------|----------------|----------------|----------|
| Client: | N/A | Project #: | N/A |
| Sample ID: | 11-18-BT QA/QC | Date Reported: | 11-19-08 |
| Laboratory Number: | 48152 | Date Sampled: | N/A |
| Sample Matrix: | Soil | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 11-18-08 |
| Condition: | N/A | Analysis: | BTEX |

| Calibration and Detection Limits (ug/L) | I-Cal RF: | C-Cal RF: | %Diff | Blank Conc | Detect. Limit |
|--|-------------|-----------------------|-------|---------------|------------------|
| | | Accept. Range 0 - 15% | | | |
| Benzene | 3.9668E+007 | 3.9747E+007 | 0.2% | ND | 0.1 |
| Toluene | 3.0837E+007 | 3.0899E+007 | 0.2% | ND | 0.1 |
| Ethylbenzene | 2.3108E+007 | 2.3154E+007 | 0.2% | ND | 0.1 |
| p,m-Xylene | 2.3108E+007 | 2.3154E+007 | 0.2% | ND | 0.1 |
| o-Xylene | 2.2454E+007 | 2.2499E+007 | 0.2% | ND | 0.1 |

| Duplicate Conc. (ug/Kg) | Sample | Duplicate | %Diff. | Accept Range | Detect. Limit |
|-------------------------|--------|-----------|--------|--------------|---------------|
| Benzene | 1.6 | 1.7 | 6.3% | 0 - 30% | 0.9 |
| Toluene | 8.5 | 8.6 | 1.2% | 0 - 30% | 1.0 |
| Ethylbenzene | 2.0 | 1.9 | 5.0% | 0 - 30% | 1.0 |
| p,m-Xylene | 8.6 | 8.3 | 3.5% | 0 - 30% | 1.2 |
| o-Xylene | 3.3 | 3.5 | 6.1% | 0 - 30% | 0.9 |

| Spike Conc. (ug/Kg) | Sample | Amount Spiked | Spiked Sample | % Recovery | Accept Range |
|---------------------|--------|---------------|---------------|------------|--------------|
| Benzene | 1.6 | 50.0 | 50.6 | 98.1% | 39 - 150 |
| Toluene | 8.5 | 50.0 | 56.2 | 96.1% | 46 - 148 |
| Ethylbenzene | 2.0 | 50.0 | 50.0 | 96.2% | 32 - 160 |
| p,m-Xylene | 8.6 | 100 | 106 | 97.1% | 46 - 148 |
| o-Xylene | 3.3 | 50.0 | 50.3 | 94.4% | 46 - 148 |

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 48152, 48154 - 48159, 48161, 48169, and 48170.

Analyst

Review

