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

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

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

15646

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

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

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, 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.

OIL CONS. DIV DIST. 3
OCT 31 2016

1.
Operator: BP AMERICA PRODUCTION COMPANY OGRID #: 778
Address: 200 Energy Court, Farmington, NM 87401
Facility or well name: HUGHES 001E
API Number: 3004525457 OCD Permit Number:
U/L or Qtr/Qtr C Section 21.0 Township 29.0N Range 12W County: San Juan County
Center of Proposed Design: Latitude 36.71611 Longitude -107.68475 NAD: ☐1927 ☒1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☐ **Pit:** Subsection F or G of 19.15.17.11 NMAC
*Constituents Exceed Closure STANDARDS of 19.15.17.13 NMAC, Additional C-141 Required.
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☐ 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.
☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type: Thickness _____mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____

4.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC **Tank ID:** A
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 SIDEWALLS NOT VISIBLE
Liner type: Thickness _____mil ☐ HDPE ☐ PVC ☐ Other _____

5.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

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6.

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_____

7.

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)

8.

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

9.

Administrative Approvals 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:

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

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

10.

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. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. **Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.**

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to permanent pits)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

11.
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: _____

12.
Closed-loop Systems 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.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - 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: _____

☐ Previously Approved Operating and Maintenance Plan API Number: _____ *(Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)*

13.
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

14.
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 ☐ Closed-loop System ☐ 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 (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.
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 F 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 I of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)
Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations:
☐ 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 I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.
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 may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ 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	☐ Yes ☐ No ☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; 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. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

18.
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 F of 19.15.17.13 NMAC
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements 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 Subsection F of 19.15.17.13 NMAC
☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F 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 I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.
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: _____

20.
OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☒ OCD Conditions (see attachment) FRONT

OCD Representative Signature: _____ **Approval Date:** 11-8-16

Title: Environmental Spec **OCD Permit Number:** _____

21.
Closure Report (required within 60 days of closure completion): Subsection K of 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:** 10\26\2016

22.
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.

23.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24.
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)
☐ 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 36.71611 Longitude -107.68475 NAD: ☐ 1927 ☒ 1983

25.
Operator Closure Certification:

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

Name (Print): Steve Moskal Title: Field Environmental Coordinator

Signature: _____ Date: 10\26\2016

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

BP AMERICA PRODUCTION COMPANY

SAN JUAN BASIN, NORTHWEST NEW MEXICO

BELOW-GRADE TANK CLOSURE PLAN

Hughes # 1E – Tank ID: A
API #: 3004525457
Unit Letter C, Section 21, T29N, R8W

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 documented in the attached email.

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/or sludge within 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	Release Verification (mg/Kg)	Sample Results
Benzene	US EPA Method SW-846 8021B or 8260B	0.2	<0.082
Total BTEX	US EPA Method SW-846 8021B or 8260B	50	41.7
TPH	US EPA Method SW-846 418.1	100	980
Chlorides	US EPA Method 300.0 or 4500B	250 or background	<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 beneath the BGT was sampled for TPH, BTEX, and chloride. Benzene, total BTEX, & chloride below the stated limits. TPH by Method 8015M/D exceeded release verification. A field 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 revealed evidence of a release has occurred. BP to adhere to NMOCD's Spill & Release guidelines.

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 revealed evidence of a release has occurred. Upon receiving the preliminary lab results from the excavation, NMOCD granted verbal approval to backfill with clean, earthen material (confirmation sample below NMOCD's Spill & Release guidelines closure standard for TPH). This area is within the active well pad will be reclaimed once the well is plugged & abandoned.

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 BGT area has been backfilled and will be reclaimed once the well has been plugged & 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 BGT area has been backfilled and will be reclaimed once the well has been plugged & 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 BGT area has been backfilled and will be reclaimed once the well has been plugged & 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 BGT area has been backfilled and will be reclaimed once the well has been plugged & 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 successfully completed.

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 & contains a photo of the 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.

Moskal, Steven

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Monday, September 19, 2016 1:39 PM
To: Moskal, Steven
Cc: blagg_njv@yahoo.com; Fields, Vanessa, EMNRD
Subject: RE: Hughes 001E BGT Closure

Categories: Action Needed

Steve,

The OCD grants your request for closure, Please include this email in the final C-141.

Thank you,

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Moskal, Steven [mailto:Steven.Moskal@bp.com]
Sent: Tuesday, September 06, 2016 7:17 AM
To: Smith, Cory, EMNRD
Cc: blagg_njv@yahoo.com; Hixon, Vance E; Fields, Vanessa, EMNRD
Subject: RE: Hughes 001E BGT Closure

Cory,

Can you provide an answer to my request below?

Thank you,

Steve Moskal
BP Lower 48 – San Juan – Farmington
Field Environmental Coordinator
Office: (505) 326-9497
Cell: (505) 330-9179

From: Moskal, Steven
Sent: Tuesday, August 30, 2016 10:55 AM
To: 'Smith, Cory, EMNRD'; Fields, Vanessa, EMNRD
Cc: blagg_njv@yahoo.com
Subject: RE: Hughes 001E BGT Closure

I should have included the field notes in my previous email. Please find in the attached document.

Thanks again,

Steve Moskal
BP Lower 48 – San Juan – Farmington
Field Environmental Coordinator
Office: (505) 326-9497
Cell: (505) 330-9179

From: Moskal, Steven
Sent: Tuesday, August 30, 2016 10:53 AM
To: 'Smith, Cory, EMNRD'; Fields, Vanessa, EMNRD
Cc: blagg_njv@yahoo.com
Subject: Hughes 001E BGT Closure

Cory and/or Vanessa,

Attached are the laboratory results for the BGT closure sampling at the Hughes 001E location. While the laboratory results exceed the BGT closure standard, the results for TPH only exceed the spill and release guidelines by 29 ppm with a site ranking of 10. I have also included a site ranking criteria sheet. The TPH exceeds with an included 49 ppm MRO which is not highly mobile and poses no significant threat to the environment, surface waters or groundwater.

Also included is laboratory results from two test holes advanced during the BGT closure, one on the west side of the BGT and one on the south side of the BGT. The test holes were advanced in the downgradient direction of the BGT. The data presented from the test holes demonstrate that the contamination is isolated to the BGT base.

Please let me know if you approve a variance for closure following the spill and release guidelines.

Thank you,

Steve Moskal
BP Lower 48 – San Juan – Farmington
Field Environmental Coordinator
Office: (505) 326-9497
Cell: (505) 330-9179

Tank ID: A

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 America Production Company**	Contact **Steve Moskal**
Address **200 Energy Court, Farmington, NM 87401**	Telephone No. **(505) 326-9497**
Facility Name **HUGHES 001E**	Facility Type **Natural Gas Well**

Surface Owner **Federal**	Mineral Owner **Bureau of Land Management**	API No. **3004525457**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	**21**	**29N**	**8W**	**790**	**NORTH**	**1,520**	**WEST**	**SAN JUAN**

Latitude 36.71611 Longitude -107.68475

NATURE OF RELEASE

Type of Release **Exempt Waste from BGT (oil/condensate)**	Volume of Release **Unknown**	Volume Recovered **None**
Source of Release **95 bbl BGT**	Date and Hour of Occurrence **Unknown**	Date and Hour of Discovery **8/24/2016 11:35 am (during BGT removal).**
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.* **Nature of release undetermined. Sampling beneath BGT was conducted immediately after removal. 5 point composite sample collected for laboratory analyses (TPH, BTEX, & chloride). Lab results for benzene, total BTEX, & chlorides were below the BGT permit closure plan standards. TPH = 980 mg/Kg by method 8015B (BGT permit closure plan standard = 100 mg/Kg). Field & laboratory analytical reports are attached.**

Describe Area Affected and Cleanup Action Taken.* **Hydrocarbon impacted soils below BGT foot print. Impacted soils were below NMOCD's Spill & Release Guidelines for TPH, therefore no cleanup action was necessary. Final laboratory results support closure of the BGT location.**

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:

Printed Name: **Steve Moskal**

Title: **Environmental Field Coordinator**

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

Date: October 26, 2016 Phone: (505) 326.9497

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: Expiration Date:

Conditions of Approval: Attached ☐

* Attach Additional Sheets If Necessary

#NCS 1631339855

Moskal, Steven

From:	Railsback, Farrah (CH2M HILL)
Sent:	Wednesday, August 17, 2016 2:18 PM
To:	Smith, Cory, EMNRD; Fields, Vanessa, EMNRD (Vanessa.Fields@state.nm.us)
Cc:	jeffcblagg@aol.com; blagg_njv@yahoo.com; Moskal, Steven
Subject:	BP Pit Close Notification - HUGHES 001E

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

August 17, 2016

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

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

HUGHES 001E
API 30-045-25457
(C) Section 21 – T29N – R08W
San Juan County, New Mexico

Dear Mr. Cory Smith and Mrs. Vanessa Fields,

In regards to the captioned subject and requirements of the NMOCD pit rule, this letter is notification that BP is planning to close a 95 bbl BGT that will no longer be operational at this well site. We anticipate this work to start on or around August 24, 2016.

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

Sincerely,

Steven Moskal

BP Field Environmental Coordinator

(505) 326-9497

Farrah Railsback
BGT Project Support
970-946-9199 -cell

bp

BP America Production Company
200 Energy Court
Farmington, NM 87401

August 17, 2016

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

VIA EMAIL

Re: Notification of plans to close/remove a below grade tank
Well Name: HUGHES 001E
API #: 3004525457

Dear Mrs. Diemer,

As part of the NM "Pit Rule": 19.15.17.13 Closure Requirements, Paragraph J. BP America Production Company (BP) is required to notify the surface owner of BP's plans to close/remove a below grade tank. BP wishes to inform you of our plans to close/remove the below grade tank on its well pad located on your surface. BP plans to commence this work on or about August 24, 2016. If there aren't any unforeseen problems, the work should be completed within 10 working days.

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

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

Sincerely,

Steven Moskal

BP America Production Company

CLIENT: BP

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

API #: 3004525457
TANK ID (if applicble): A

FIELD REPORT:

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

PAGE #: 1 of 2

SITE INFORMATION:

SITE NAME: HUGHES #1E

QUAD/UNIT: C SEC: 21 TWP: 29N RNG: 8W PM: NM CNTY: SJ ST: NM

1/4 -1/4/FOOTAGE: 790'N / 1,520'W NE/NW LEASE TYPE: FEDERAL / STATE / FEE / INDIAN

LEASE #: SF078046 PROD. FORMATION: MV CONTRACTOR: STRIKE BP - A. SALAZAR

DATE STARTED: 08/24/16
DATE FINISHED:
ENVIRONMENTAL SPECIALIST(S): NJV

REFERENCE POINT:

WELL HEAD (W.H.) GPS COORD.: 36.71615 X 107.68445 GL ELEV.: 6,452'

1) 95 BGT (SW/DB)	GPS COORD.: 36.71611 X 107.68475	DISTANCE/BEARING FROM W.H.: 99', S84.5W
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

					OVM READING (ppm)
1) SAMPLE ID: 5PC - TB @ 6' (95)	SAMPLE DATE: 08/24/16	SAMPLE TIME: 1140	LAB ANALYSIS: 8015B/8021B/300.0 (Cl)		921
2) SAMPLE ID:	SAMPLE DATE:	SAMPLE TIME:	LAB ANALYSIS:		
3) SAMPLE ID:	SAMPLE DATE:	SAMPLE TIME:	LAB ANALYSIS:		
4) SAMPLE ID:	SAMPLE DATE:	SAMPLE TIME:	LAB ANALYSIS:		

SOIL DESCRIPTION:

SOIL TYPE: SAND / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER

SOIL COLOR: MOSTLY DARK YELLOWISH BROWN

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 BENEATH BGT AFTER REMOVAL.

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 - PHYSICALLY FROM EXCAVATION AFTER BGT REMOVAL.

ANY AREAS DISPLAYING WETNESS: YES / NO EXPLANATION - CONDENSATE &/OR WATER

SITE OBSERVATIONS:

LOST INTEGRITY OF EQUIPMENT: YES / NO EXPLANATION - BGT BOTTOM CORRODED IN SEVERAL LOCATIONS.

APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR OCCURRED : YES / NO EXPLANATION: DISCOLORED SOILS & PHYSICAL HYDROCARBON ODOR.

EQUIPMENT SET OVER RECLAIMED AREA: YES / NO EXPLANATION - UNKNOWN AT THIS TIME.

OTHER:

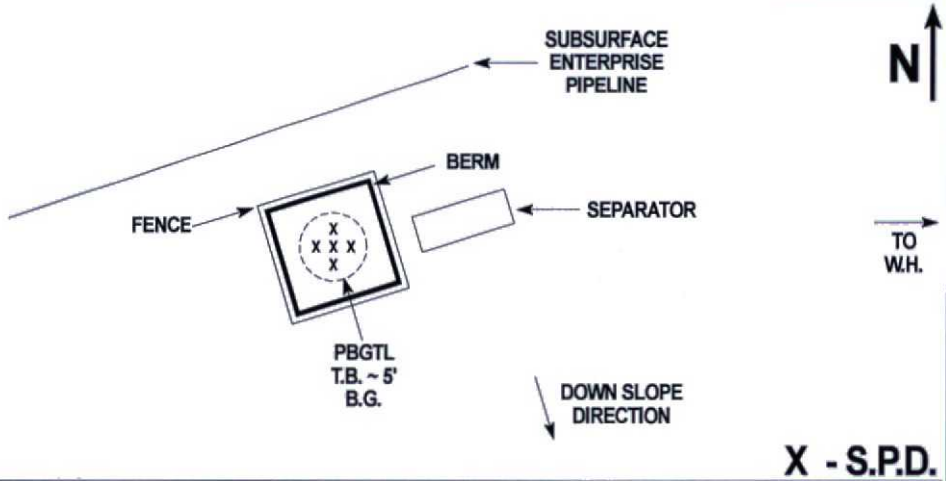
SOIL IMPACT DIMENSION ESTIMATION: NA ft. X NA ft. X NA ft. EXCAVATION ESTIMATION (Cubic Yards) : NA

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

SITE SKETCH

BGT Located : off / on site

PLOT PLAN circle: attached



OVM CALIB. READ. = 53.0 ppm RF =0.52
OVM CALIB. GAS = 100 ppm
TIME: 1:00 am/pm DATE: 08/24/16

MISCELL. NOTES

WO:
REF #: P - 655
VID: VHIXONEVB2
PJ #:
Permit date(s): 06/09/10
OCD Appr. date(s): 08/29/16

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: 3/16/2016. ONSITE: 08/24/16

CLIENT: BP

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

API #: 3004525457
TANK ID (if applicble): A

FIELD REPORT:

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

PAGE #: 2 of 2

SITE INFORMATION:

SITE NAME: HUGHES #1E

DATE STARTED: 08/24/16
DATE FINISHED:

QUAD/UNIT: C SEC: 21 TWP: 29N RNG: 8W PM: NM CNTY: SJ ST: NM

1/4 -1/4/FOOTAGE: 790'N / 1,520'W NE/NW LEASE TYPE: FEDERAL / STATE / FEE / INDIAN

LEASE #: SF078046 PROD. FORMATION: MV CONTRACTOR: STRIKE BP - A. SALAZAR

ENVIRONMENTAL SPECIALIST(S): NJV

REFERENCE POINT:

WELL HEAD (W.H.) GPS COORD.: 36.71615 X 107.68445 GL ELEV.: 6,452'

1) 95 BGT (SW/DB)	GPS COORD.: 36.71611 X 107.68475	DISTANCE/BEARING FROM W.H.: 99', S84.5W
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

							OVM READING (ppm)
1) SAMPLE ID:	5PC - TB @ 6' (95)	SAMPLE DATE: 08/24/16	SAMPLE TIME: 1140	LAB ANALYSIS:	8015B/8021B/300.0 (Cl)		921
2) SAMPLE ID:	TH1 @ 8.5'	SAMPLE DATE: 08/24/16	SAMPLE TIME: 1220	LAB ANALYSIS:	8015B/8021B/300.0 (Cl)		34.5
3) SAMPLE ID:	TH2 @ 9'	SAMPLE DATE: 08/24/16	SAMPLE TIME: 1235	LAB ANALYSIS:	8015B/8021B/300.0 (Cl)		29.8
4) SAMPLE ID:		SAMPLE DATE:	SAMPLE TIME:	LAB ANALYSIS:			

SOIL DESCRIPTION:

SOIL TYPE: SAND / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER

SOIL COLOR: MOSTLY DARK YELLOWISH BROWN

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 BENEATH BGT AFTER REMOVAL.

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 - PHYSICALLY FROM EXCAVATION AFTER BGT REMOVAL.

ANY AREAS DISPLAYING WETNESS: YES / NO EXPLANATION - CONDENSATE &/OR WATER

SITE OBSERVATIONS:

LOST INTEGRITY OF EQUIPMENT: YES / NO EXPLANATION - BGT BOTTOM CORRODED AT NUMEROUS POINTS.

APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR OCCURRED: YES / NO EXPLANATION: DISCOLORED SOILS & PHYSICAL HYDROCARBON ODOR.

EQUIPMENT SET OVER RECLAIMED AREA: YES / NO EXPLANATION - UNKNOWN AT THIS TIME.

OTHER: ONLY ABLE TO ADVANCE 2 TEST HOLES FOR DELINEATION DUE TO SUBSURFACE UTILITIES ON NORTH & EAST SIDES OF BGT. BOTH TEST HOLES HAD SIMILAR LITHOLOGY & DID NOT SHOW ANY EVIDENCE OF IMPACTS.

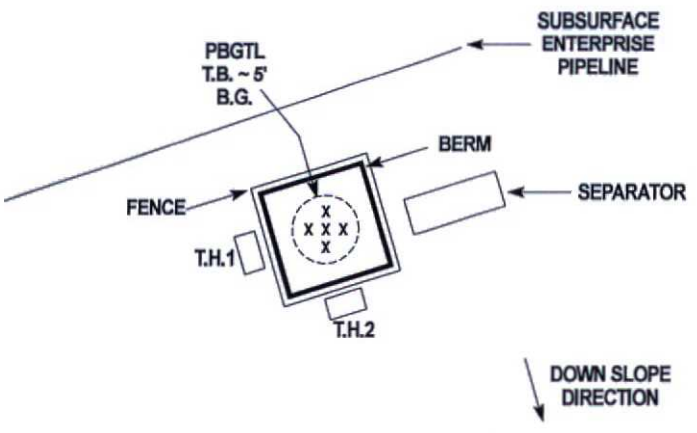
SOIL IMPACT DIMENSION ESTIMATION: NA ft. X NA ft. X NA ft. EXCAVATION ESTIMATION (Cubic Yards): NA

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

SITE SKETCH

BGT Located: off / on site

PLOT PLAN circle: attached



OVM CALIB. READ. = 53.0 ppm RF = 0.52
OVM CALIB. GAS = 100 ppm
TIME: 1:00 am/pm DATE: 08/24/16

MISCELL. NOTES

WO:
REF #: P - 655
VID: VHIXONEVB2
PJ #:
Permit date(s): 06/09/10
OCD Appr. date(s): 08/29/16

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: 3/16/2016. ONSITE: 08/24/16

Analytical Report
Lab Order **1608E28**
Date Reported: **8/26/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Hughes 1E
Lab ID: 1608E28-001
Matrix: MEOH (SOIL)

Client Sample ID: 5PC-TB@6'(95)
Collection Date: 8/24/2016 11:40:00 AM
Received Date: 8/25/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	8/25/2016 11:13:05 AM	27168
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	260	9.7		mg/Kg	1	8/25/2016 10:52:39 AM	27162
Motor Oil Range Organics (MRO)	49	48		mg/Kg	1	8/25/2016 10:52:39 AM	27162
Surr: DNOP	86.5	70-130		%Rec	1	8/25/2016 10:52:39 AM	27162
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	720	160		mg/Kg	50	8/25/2016 12:53:45 PM	G36759
Surr: BFB	160	68.3-144	S	%Rec	50	8/25/2016 12:53:45 PM	G36759
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.82		mg/Kg	50	8/25/2016 12:53:45 PM	B36759
Toluene	ND	1.6		mg/Kg	50	8/25/2016 12:53:45 PM	B36759
Ethylbenzene	2.7	1.6		mg/Kg	50	8/25/2016 12:53:45 PM	B36759
Xylenes, Total	39	3.3		mg/Kg	50	8/25/2016 12:53:45 PM	B36759
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	50	8/25/2016 12:53:45 PM	B36759

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

Qualifiers:

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

Analytical Report
Lab Order **1608E26**
Date Reported: **8/26/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Hughes 1E
Lab ID: 1608E26-001
Matrix: MEOH (SOIL)
Client Sample ID: TH1-8.5' (West Side)
Collection Date: 8/24/2016 12:20:00 PM
Received Date: 8/25/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	8/25/2016 10:48:15 AM	27168
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/25/2016 11:14:36 AM	27162
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/25/2016 11:14:36 AM	27162
Surr: DNOP	87.2	70-130		%Rec	1	8/25/2016 11:14:36 AM	27162
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	8/25/2016 11:39:54 AM	G36759
Surr: BFB	85.0	68.3-144		%Rec	1	8/25/2016 11:39:54 AM	G36759
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	8/25/2016 11:39:54 AM	B36759
Toluene	ND	0.035		mg/Kg	1	8/25/2016 11:39:54 AM	B36759
Ethylbenzene	ND	0.035		mg/Kg	1	8/25/2016 11:39:54 AM	B36759
Xylenes, Total	ND	0.069		mg/Kg	1	8/25/2016 11:39:54 AM	B36759
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	1	8/25/2016 11:39:54 AM	B36759

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Hughes 1E
Lab ID: 1608E26-002
Matrix: MEOH (SOIL)
Client Sample ID: TH2-9' (South Side)
Collection Date: 8/24/2016 12:35:00 PM
Received Date: 8/25/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	45	30		mg/Kg	20	8/25/2016 11:00:40 AM	27168
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	8/25/2016 11:36:28 AM	27162
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/25/2016 11:36:28 AM	27162
Surr: DNOP	90.0	70-130		%Rec	1	8/25/2016 11:36:28 AM	27162
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	8/25/2016 12:04:33 PM	G36759
Surr: BFB	86.6	68.3-144		%Rec	1	8/25/2016 12:04:33 PM	G36759
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	8/25/2016 12:04:33 PM	B36759
Toluene	ND	0.038		mg/Kg	1	8/25/2016 12:04:33 PM	B36759
Ethylbenzene	ND	0.038		mg/Kg	1	8/25/2016 12:04:33 PM	B36759
Xylenes, Total	ND	0.075		mg/Kg	1	8/25/2016 12:04:33 PM	B36759
Surr: 4-Bromofluorobenzene	92.3	80-120		%Rec	1	8/25/2016 12:04:33 PM	B36759

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

Qualifiers:

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

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: HUGHES # 1E

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 3.5

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1608E28	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)
8/24/16	1140	SOIL	5PC - TB @ 6 ' (95)	4 oz. - 1	Cool	-001	✓		✓									✓			✓	

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/24/16	1516		Christ Walle	8/24/16	1514
8/24/16	2031	Christ Walle		08/25/16	0800

Remarks: BILL DIRECTLY TO BP USING THE CIRCLED CONTACT WITH CORRESPONDING VID & REFERENCE # WHEN APPLICABLE:

VID:	Vance Hixon VHIXONEVB2	Steve Moskal VDRINKJWA1	John Ritchie VDRINKJWA1
Reference #	P - 655		

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.

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: HUGHES # 1E

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 3.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1608E26	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)
8/24/16	1220	SOIL	TH1 @ 8.5' (WEST SIDE)	4oz.-1	Cool	-001	✓		✓									✓		✓		
8/24/16	1235	SOIL	TH2 @ 9' (SOUTH SIDE)	4oz.-1	Cool	-002	✓		✓									✓		✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/24/16	1510			8/24/16	1510
8/24/16	2031			08/25/16	0800

Remarks: BILL DIRECTLY TO BP USING THE CIRCLED CONTACT WITH CORRESPONDING VID & REFERENCE # WHEN APPLICABLE:

	Vance Hixon	Steve Moskal	John Ritchie
VID:	VHIXONEVB2	VMOS6HQFEC	VRITCJWFEC
Reference #	P-655		

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#: **1608E28**

26-Aug-16

Client: Blagg Engineering
Project: Hughes 1E

Sample ID	MB-27168	SampType:	mblk	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	27168	RunNo:	36775					
Prep Date:	8/25/2016	Analysis Date:	8/25/2016	SeqNo:	1139951	Units:	mg/Kg			

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

Sample ID	LCS-27168	SampType:	lcs	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	27168	RunNo:	36775					
Prep Date:	8/25/2016	Analysis Date:	8/25/2016	SeqNo:	1139952	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608E28**

26-Aug-16

Client: Blagg Engineering
Project: Hughes 1E

Sample ID	LCS-27162	SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS	Batch ID:	27162		RunNo:	36745				
Prep Date:	8/25/2016	Analysis Date:	8/25/2016		SeqNo:	1138933	Units:	mg/Kg		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.7	62.6	124			
Surr: DNOP	4.2		5.000		83.5	70	130			

Sample ID	MB-27162	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	27162		RunNo:	36745				
Prep Date:	8/25/2016	Analysis Date:	8/25/2016		SeqNo:	1138934	Units:	mg/Kg		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.9		10.00		89.3	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608E28**

26-Aug-16

Client: Blagg Engineering
Project: Hughes 1E

Sample ID	**5ML RB**	SampType: **MBLK**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID: **G36759**			RunNo: **36759**					
Prep Date:		Analysis Date: **8/25/2016**			SeqNo: **1139606**		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		890		1000		88.7	68.3	144			

Sample ID	**2.5UG GRO LCS**	SampType: **LCS**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID: **G36759**			RunNo: **36759**					
Prep Date:		Analysis Date: **8/25/2016**			SeqNo: **1139607**		Units: **mg/Kg**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		26	5.0	25.00	0	104	80	120			
Surr: BFB		960		1000		96.5	68.3	144			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608E28**

26-Aug-16

Client: Blagg Engineering

Project: Hughes 1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B36759**	RunNo: **36759**
Prep Date:	Analysis Date: **8/25/2016**	SeqNo: **1139612** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		92.8	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B36759**	RunNo: **36759**
Prep Date:	Analysis Date: **8/25/2016**	SeqNo: **1139613** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	75.3	123			
Toluene	1.1	0.050	1.000	0	107	80	124			
Ethylbenzene	1.0	0.050	1.000	0	101	82.8	121			
Xylenes, Total	2.9	0.10	3.000	0	97.8	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1608E28 RcptNo: 1

Received by/date: AG 08/25/16

Logged By: Ashley Gallegos 8/25/2016 8:00:00 AM AG

Completed By: Ashley Gallegos 8/25/2016 8:41:12 AM AG

Reviewed By: JC 08/25/16

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° 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	3.5	Good	Yes			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608E26**

26-Aug-16

Client: Blagg Engineering

Project: Hughes 1E

Sample ID	**MB-27168**	SampType: **mblk**			TestCode: **EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID: **27168**			RunNo: **36775**				
Prep Date:	**8/25/2016**	Analysis Date: **8/25/2016**			SeqNo: **1139951**	Units: **mg/Kg**			

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

Sample ID	**LCS-27168**	SampType: **lcs**			TestCode: **EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID: **27168**			RunNo: **36775**				
Prep Date:	**8/25/2016**	Analysis Date: **8/25/2016**			SeqNo: **1139952**	Units: **mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608E26**

26-Aug-16

Client: Blagg Engineering
Project: Hughes 1E

Sample ID	LCS-27162	SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS	Batch ID:	27162		RunNo:	36745				
Prep Date:	8/25/2016	Analysis Date:	8/25/2016		SeqNo:	1138933	Units:	mg/Kg		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.7	62.6	124			
Surr: DNOP	4.2		5.000		83.5	70	130			

Sample ID	MB-27162	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	27162		RunNo:	36745				
Prep Date:	8/25/2016	Analysis Date:	8/25/2016		SeqNo:	1138934	Units:	mg/Kg		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.9		10.00		89.3	70	130			

Sample ID	1608E24-001AMS	SampType:	MS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	BatchQC	Batch ID:	27162		RunNo:	36745				
Prep Date:	8/25/2016	Analysis Date:	8/25/2016		SeqNo:	1139346	Units:	mg/Kg		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.76	5.554	78.4	33.9	141			
Surr: DNOP	4.7		5.076		91.9	70	130			

Sample ID	1608E24-001AMSD	SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	BatchQC	Batch ID:	27162		RunNo:	36745				
Prep Date:	8/25/2016	Analysis Date:	8/25/2016		SeqNo:	1139347	Units:	mg/Kg		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	49.90	5.554	68.8	33.9	141	12.9	20	
Surr: DNOP	4.5		4.990		90.1	70	130	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608E26**

26-Aug-16

Client: Blagg Engineering
Project: Hughes 1E

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS	Batch ID:	G36759	RunNo:	36759				
Prep Date:		Analysis Date:	8/25/2016	SeqNo:	1139606	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	890		1000		88.7	68.3	144			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	LCSS	Batch ID:	G36759	RunNo:	36759				
Prep Date:		Analysis Date:	8/25/2016	SeqNo:	1139607	Units:	mg/Kg		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	80	120			
Surr: BFB	960		1000		96.5	68.3	144			

Sample ID	1608E26-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	TH1-8.5' (West Side)	Batch ID:	G36759	RunNo:	36759				
Prep Date:		Analysis Date:	8/25/2016	SeqNo:	1139608	Units:	mg/Kg		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	3.5	17.30	0	98.6	59.3	143			
Surr: BFB	660		692.0		95.4	68.3	144			

Sample ID	1608E26-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	TH1-8.5' (West Side)	Batch ID:	G36759	RunNo:	36759				
Prep Date:		Analysis Date:	8/25/2016	SeqNo:	1139609	Units:	mg/Kg		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	3.5	17.30	0	93.1	59.3	143	5.76	20	
Surr: BFB	650		692.0		93.9	68.3	144	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608E26**

26-Aug-16

Client: Blagg Engineering

Project: Hughes 1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B36759**	RunNo: **36759**
Prep Date:	Analysis Date: **8/25/2016**	SeqNo: **1139612** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		92.8	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B36759**	RunNo: **36759**
Prep Date:	Analysis Date: **8/25/2016**	SeqNo: **1139613** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	75.3	123			
Toluene	1.1	0.050	1.000	0	107	80	124			
Ethylbenzene	1.0	0.050	1.000	0	101	82.8	121			
Xylenes, Total	2.9	0.10	3.000	0	97.8	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID **1608E26-002AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **TH2-9' (South Side)**	Batch ID: **B36759**	RunNo: **36759**
Prep Date:	Analysis Date: **8/25/2016**	SeqNo: **1139614** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.66	0.019	0.7524	0	87.5	71.5	122			
Toluene	0.62	0.038	0.7524	0	82.1	71.2	123			
Ethylbenzene	0.63	0.038	0.7524	0	84.1	75.2	130			
Xylenes, Total	1.9	0.075	2.257	0	83.6	72.4	131			
Surr: 4-Bromofluorobenzene	0.72		0.7524		95.8	80	120			

Sample ID **1608E26-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **TH2-9' (South Side)**	Batch ID: **B36759**	RunNo: **36759**
Prep Date:	Analysis Date: **8/25/2016**	SeqNo: **1139615** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.65	0.019	0.7524	0	85.8	71.5	122	1.90	20	
Toluene	0.62	0.038	0.7524	0	83.0	71.2	123	1.05	20	
Ethylbenzene	0.62	0.038	0.7524	0	81.8	75.2	130	2.76	20	
Xylenes, Total	1.8	0.075	2.257	0	81.8	72.4	131	2.20	20	
Surr: 4-Bromofluorobenzene	0.73		0.7524		96.4	80	120	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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: 1608E26 | RcptNo: 1

Received by/date: 08/25/16

Logged By: Ashley Gallegos 8/25/2016 8:00:00 AM

Completed By: Ashley Gallegos 8/25/2016 8:35:24 AM

Reviewed By: JC 08/25/16

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° 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	3.5	Good	Yes			


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