

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

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

Form C-144
Revised April 3, 2017

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

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

16477
NMOCD
SEP 11 2018
DISTRICT III

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

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

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

1. Operator: BP America Production Company OGRID #: 778
Address: 380 North Airport Road, Durango, CO 81303
Facility or well name: GCU 188E
API Number: 3004524171 OCD Permit Number: _____
U/L or Qtr/Qtr B Section 30 Township 29N Range 12W County: San Juan
Center of Proposed Design: Latitude 36.70245 Longitude -108.13715 NAD83
Surface Owner: Federal State Private Tribal Trust or Indian Allotment

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

*Remplan operator to install MW
See Inct# NES 1826750 131*

3. **Below-grade tank:** Subsection I of 19.15.17.11 NMAC **TANK A**
Volume: 95 bbl Type of fluid: Produced Water
Tank Construction material: Steel
 Secondary containment with leak detection Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
 Visible sidewalls and liner Visible sidewalls only Other Double wall/ Double bottom; sidewalls not visible
Liner type: Thickness _____ mil HDPE PVC Other _____

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

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

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6.

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

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

7.

Signs: Subsection C of 19.15.17.11 NMAC

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

8.

Variations and Exceptions:

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

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

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

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

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

General siting

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

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

- Yes No
- NA

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

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

- Yes No
- NA

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

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

- Yes No

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

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

- Yes No

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

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

- Yes No

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

- FEMA map

- Yes No

Below Grade Tanks

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

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

- Yes No

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

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

- Yes No

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

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

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

- Yes No

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

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

- Yes No

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

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

- Yes No

Within 100 feet of a wetland.
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site Yes No

Temporary Pit Non-low chloride drilling fluid

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).
- Topographic map; Visual inspection (certification) of the proposed site Yes No

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

Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site Yes No

Within 300 feet of a wetland.
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site Yes No

Permanent Pit or Multi-Well Fluid Management Pit

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).
- Topographic map; Visual inspection (certification) of the proposed site Yes No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image Yes No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.
- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site Yes No

Within 500 feet of a wetland.
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site Yes No

10.
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

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

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

11.
Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

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

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

12.

Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC

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

- Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Climatological Factors Assessment
- Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- Quality Control/Quality Assurance Construction and Installation Plan
- Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- Nuisance or Hazardous Odors, including 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	<input type="checkbox"/> Yes <input type="checkbox"/> No

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<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: September 7, 2018
e-mail address: _____ Telephone: 505-330-9179

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

OCD Representative Signature: [Signature] Approval Date: 1/2/2019
Title: Environmental Specialist OCD Permit Number: _____

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

Closure Completion Date: 7/5/2018

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 36.70245 Longitude -108.13715 NAD: 1927 1983

22.

Operator Closure Certification:

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

Name (Print): _____ Title: _____

Signature:  _____ Date: _____

e-mail address: _____ Telephone: _____

BP AMERICA PRODUCTION COMPANY
SAN JUAN BASIN, NORTHWEST NEW MEXICO

BELOW-GRADE TANK CLOSURE PLAN

GCU 188E

API No. 3004524171

Unit Letter B Section 30 T 29N R 12W

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.

Notice is attached.

2. BP shall notify the division District III office verbally or by other means at least 72 hours, but not more than one (1) week, prior to any closure operation. The notice shall include the operator's name, and the location to be closed by unit letter, section, township and range. If the BGT closure is associated with a particular well, then the notice shall also include the well's name, number and API number.

Notice was provided and is attached.

3. BP shall remove liquids and sludge from the BGT prior to implementing a closure method and dispose of the liquids and sludge in a NMOCD's division-approved facility. The facilities to be used are:
 - a. BP Crouch Mesa Landfarm, Permit NM-02-003 (Solids)
 - b. JFJ Landfarm, Permit NM-01-010(B) (Solids and Sludge)
 - c. Basin Disposal, Permit NM-01-0005 (Liquids)
 - d. Envirotech Inc Soil Remediation Facility, Permit NM-01-0011 (Solids and Sludge)
 - e. BP Operated E.E. Elliott SWD #1, API 30-045-27799 (Liquids)

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

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

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

The BGT was transported for recycling.

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

All equipment associated with the BGT has been removed.

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

Constituents	Testing Method 95 bbl BGT	Release Verification (mg/Kg)	Sample results
Benzene	US EPA Method SW-846 8021B or 8260B	10	<0.017
Total BTEX	US EPA Method SW-846 8021B or 8260B	50	<0.066
TPH	US EPA Method SW-846 418.1 or 8015 extended	100	<49
Chlorides	US EPA Method 300.0 or 4500B	620	<30

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

Soil under the BGT was sampled for chloride, TPH and BTEX with all concentrations below the stated limits. Additionally, groundwater was exposed beneath the BGT base immediately after its removal. NMOCD was contacted, which then gave instructions to collect grab samples from the water to be lab analyzed for BTEX and chloride. A four (4) point composite sample of the soil sidewalls was collected also. Lab results of the soil & groundwater passed all but chloride in the water sample (680 mg/Kg). New Mexico Water Quality Control Commission closure standard for chloride in water is 250 mg/Kg. The field report and laboratory reports are attached.

- 7. BP shall notify the division District III office of its results on form C-141. **C-141 is attached.**

8. If it is determined that a release has occurred, then BP will comply with 19.15.30 NMAC and 19.15.29 NMAC, as appropriate.

Sampling results indicate a release has not occurred. Attached is a laboratory report and C-141.

9. If the sampling demonstrates that a release has not occurred or that any release does not exceed the concentrations specified above, then BP shall backfill the excavation, with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover, re-contour and re-vegetate the location. The location will be reclaimed if it is not with in the active process area

Sampling results indicate a release has not occurred. Attached is a laboratory report and field report. The location has been reclaimed as the well has been plugged and 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 area has been backfilled and BGT location's surface condition is clear. The location will be reclaimed when the well is plugged and abandoned.

11. The soil cover for closures where the BGT has been removed or remediated to the NMOCD's satisfaction shall consist of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater. The soil cover will be constructed to the site's existing grade and all practicable efforts will be made to prevent ponding of water and erosion of the cover material.

The area has been backfilled and BGT location's surface condition is clear. The location will be reclaimed when the well is plugged and abandoned.

12. BP shall seed the disturbed area the first growing season after closure of the BGT. Seeding will be accomplished by drilling on the contour whenever practical or by other division-approved methods. Vegetative cover will be, at a minimum, 70% of the native perennial vegetative cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation), consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintenance of that cover through two successive growing seasons. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation.

The area has been backfilled and BGT location's surface condition is clear. The location will be reclaimed when the well is plugged and abandoned.

13. BP shall seed, plant and re-seed pursuant to Paragraph (3) of Subsection I of 19.15.17.13 NMAC, until the location successfully achieves the required vegetative cover.

The area has been backfilled and BGT location's surface condition is clear. The location will be reclaimed when the well is plugged and abandoned.

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

The area has been backfilled and BGT location's surface condition is clear. The location will be reclaimed when the well is plugged and abandoned.

15. Within 60 days of closure completion, BP shall submit a closure report on NMOCD's form C-144, and will include the following:
 - a. proof of closure notification (surface owner and NMOCD)
 - b. sampling analytical reports; information required by 19.15.17 NMAC;
 - c. disposal facility name and permit number
 - d. details on back-filling, capping, covering, and where applicable re-vegetation application rates and seeding techniques and
 - e. site reclamation, photo documentation.

Closure report on C-144 form is included including photos of reclamation completion.

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

Certification section of C-144 has been completed.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
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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-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party BP America Production Company	OGRID 778
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address 380 North Airport Road, Durango, CO 81303	

Location of Release Source

Latitude 36.70245 Longitude -108.13715
(NAD 83 in decimal degrees to 5 decimal places)

Site Name GCU 188E	Site Type Natural Gas Well Site
Date Release Discovered	API# (if applicable) 3004524171

Unit Letter	Section	Township	Range	County
B	30	29N	12W	San Juan

Surface Owner: State Federal Tribal Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
No release confirmed, as soil samples were well below standard for chloride, but groundwater sampling indicates elevated chloride levels. BP will further investigate through delineation via drilling using hollow stem auger.

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Not required.	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input type="checkbox"/> The source of the release has been stopped. <input type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
--

If all the actions described above have not been undertaken, explain why:

Release not confirmed. Elevated chloride in groundwater will be addressed via delineation to determine if further action is required.

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Steve Moskal Title: Enviro Coord.
 Signature:  Date: September 7, 2018
 email: steven.moskal@bpx.com Telephone: 505-330-9179

OCD Only

Received by: _____ Date: _____

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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	5' _____ (ft bgs)
Did this release impact groundwater or surface water?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

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Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

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Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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Printed Name: _____ Title: _____
 Signature: _____ Date: _____
 email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

- Approved
 Approved with Attached Conditions of Approval
 Denied
 Deferral Approved

Signature: _____ Date: _____

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Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____



BP America Production Company
380 Airport Road
Durango, CO 81303

June 26, 2018

B Square Ranch LLC
3901 Bloomfield Highway
Farmington, NM 87401

Re: Notification of plans to close/remove a below grade tank
Well Name: GALLEGOS CANYON UNIT 188E

To Whom it May Concern,

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 June 29, 2018. If there aren't any unforeseen problems, the work should be completed within 10 working days.

Sincerely,

Erin Garifalos

BP America Production Company

Erin Dunman

From: Buckley, Farrah (CH2M HILL) <farrah.buckley@bp.com>
Sent: Friday, June 15, 2018 2:58 PM
To: Smith, Cory, EMNRD; Fields, Vanessa, EMNRD (Vanessa.Fields@state.nm.us)
Cc: jeffcblagg@aol.com; blagg_njv@yahoo.com; Erin Garifalos
Subject: RE: BP Pit Close Notification - GCU 188E

external-email: 0

The API on the original email was incorrect. I have corrected it below.

Thanks.
Farrah

From: Buckley, Farrah (CH2M HILL)
Sent: Friday, June 15, 2018 1:40 PM
To: 'Smith, Cory, EMNRD'; 'Fields, Vanessa, EMNRD (Vanessa.Fields@state.nm.us)'
Cc: 'jeffcblagg@aol.com'; 'blagg_njv@yahoo.com'; erin.garifalos@bpx.com
Subject: BP Pit Close Notification - GCU 188E

BP America Production Company
380 Airport Rd
Durango, CO 81303
Phone: (970) 247 6800

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

June 15, 2018

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

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

GALLEGOS CANYON UNIT 188E
API# 30-045-24171
(B) Section 30 – T29N – R12W
San Juan County, New Mexico

Dear Mr. Cory Smith and Mrs. Vanessa Fields,

In regards to the captioned subject and requirements of the NMOCD pit rule, this letter is notification that BP is planning to close a 95bbl BGT that will no longer be operational at this well site. We anticipate this work to start on or around June 22, 2018.

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

Sincerely,

Erin Garifalos

Field Environmental Coordinator – San Juan
Cell: 832-609-7048

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

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

CLIENT: **BP** **BLAGG ENGINEERING, INC.**
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199 API #: **3004524171**
TANK ID (if applicable): **A**

FIELD REPORT: (circle one): **BGT CONFIRMATION** / RELEASE INVESTIGATION / OTHER:
PAGE #: **1** of **1**

SITE INFORMATION: SITE NAME: **GCU # 188E**
QUAD/UNIT: **B** SEC: **30** TWP: **29N** RNG: **12W** PM: **NM** CNTY: **SJ** ST: **NM**
DATE STARTED: **06/29/18**
DATE FINISHED: _____
1/4 -1/4/FOOTAGE: **790'N / 1,620'E** **NW/NE** LEASE TYPE: FEDERAL / STATE **FEE** / INDIAN STRIKE
LEASE #: **-** PROD. FORMATION: **DK** CONTRACTOR: **BP - J. GONZALES** ENVIRONMENTAL SPECIALIST(S): **NJV**

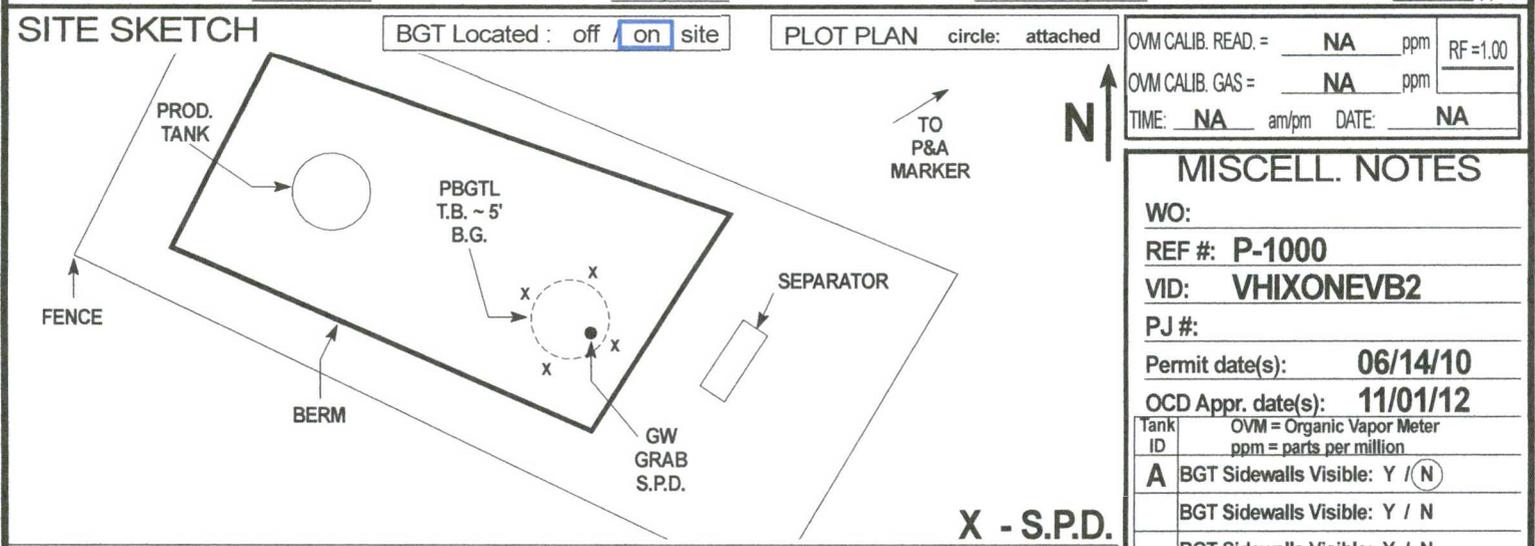
REFERENCE POINT: WELL HEAD (W.H.) GPS COORD.: **36.70266 X 108.13674** GL ELEV.: **5,304'**
1) **95 BGT (DW/DB)** GPS COORD.: **36.70245 X 108.13715** DISTANCE/BEARING FROM W.H.: **145', S58.5W**
2) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____
3) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____
4) _____ GPS COORD.: _____ DISTANCE/BEARING FROM W.H.: _____

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

SAMPLE ID	SAMPLE DATE	SAMPLE TIME	LAB ANALYSIS	OVN READING (ppm)
1) 4PC - TB @ 2'-3' (95)	06/29/18	1110	8015B/8021B/300.0 (CI)	NA
2) GW @ 4.5' (95)	06/29/18	1115	8260B/300.1 (CI)	NA
3) _____	_____	_____	_____	_____
4) _____	_____	_____	_____	_____
5) _____	_____	_____	_____	_____

SOIL DESCRIPTION: SOIL TYPE: **SAND** / SILTY SAND / SILT / SILTY CLAY / CLAY **GRAVEL** OTHER _____
SOIL COLOR: **DARK YELLOWISH ORANGE** PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC
COHESION (ALL OTHERS): **NON COHESIVE** / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD
CONSISTENCY (NON COHESIVE SOILS): **LOOSE** / **FIRM** / DENSE / VERY DENSE HC ODOR DETECTED: YES **NO** EXPLANATION - _____
MOISTURE: DRY / **SLIGHTLY MOIST** / MOIST / WET / SATURATED / SUPER SATURATED ANY AREAS DISPLAYING WETNESS: **YES** / NO EXPLANATION - **GROUNDWATER**
SAMPLE TYPE: GRAB **COMPOSITE** # OF PTS. **4**
DISCOLORATION/STAINING OBSERVED: YES **NO** EXPLANATION - _____

SITE OBSERVATIONS: LOST INTEGRITY OF EQUIPMENT: YES **NO** EXPLANATION - _____
APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR OCCURRED: YES **NO** EXPLANATION: _____
EQUIPMENT SET OVER RECLAIMED AREA: YES **NO** EXPLANATION - _____
OTHER: **NMOCED REP. NOT PRESENT TO WITNESS CONFIRMATION SAMPLING. GAS WELL HAS BEEN PLUGGED & ABANDONED (P&A). WELL PAD SHARED WITH BP'S GCU #395.**
EXCAVATION DIMENSION ESTIMATION: **NA** ft. X **NA** ft. X **NA** ft. EXCAVATION ESTIMATION (Cubic Yards): **NA**
DEPTH TO GROUNDWATER: **<50'** NEAREST WATER SOURCE: **<1,000'** NEAREST SURFACE WATER: **>300' / <1,000'** NMOCED TPH CLOSURE STD: **100** ppm



OVN CALIB. READ. = **NA** ppm RF=1.00
OVN CALIB. GAS = **NA** ppm
TIME: **NA** am/pm DATE: **NA**

MISCELL. NOTES
WO:
REF #: **P-1000**
VID: **VHIXONEVB2**
PJ #:
Permit date(s): **06/14/10**
OCD Appr. date(s): **11/01/12**
Tank ID: **A** OVM = Organic Vapor Meter ppm = parts per million
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: 3/15/2015.** ONSITE: **06/29/18**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 188E
Lab ID: 1806142-001

Client Sample ID: 4PC-SW @ 2 '-3' (95)
Collection Date: 6/29/2018 11:10:00 AM
Matrix: MEOH (SOIL) **Received Date:** 6/30/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	7/2/2018 11:31:08 AM	39003
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	7/2/2018 11:56:23 AM	A52411
Surr: BFB	108	70-130		%Rec	1	7/2/2018 11:56:23 AM	A52411
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/2/2018 12:42:36 PM	38999
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/2/2018 12:42:36 PM	38999
Surr: DNOP	103	70-130		%Rec	1	7/2/2018 12:42:36 PM	38999
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.017		mg/Kg	1	7/2/2018 11:56:23 AM	C52411
Toluene	ND	0.033		mg/Kg	1	7/2/2018 11:56:23 AM	C52411
Ethylbenzene	ND	0.033		mg/Kg	1	7/2/2018 11:56:23 AM	C52411
Xylenes, Total	ND	0.066		mg/Kg	1	7/2/2018 11:56:23 AM	C52411
Surr: 4-Bromofluorobenzene	122	70-130		%Rec	1	7/2/2018 11:56:23 AM	C52411
Surr: Toluene-d8	96.3	70-130		%Rec	1	7/2/2018 11:56:23 AM	C52411

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

Qualifiers:	<ul style="list-style-type: none"> * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit PQL Practical Quantitative Limit S % Recovery outside of range due to dilution or matrix 	<ul style="list-style-type: none"> B Analyte detected in the associated Method Blank E Value above quantitation range J Analyte detected below quantitation limits P Sample pH Not In Range RL Reporting Detection Limit W Sample container temperature is out of limit as specified
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Analytical Report

Lab Order 1806142

Date Reported: 7/5/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: GW @ 4.5' (95)

Project: GCU 188E

Collection Date: 6/29/2018 11:15:00 AM

Lab ID: 1806142-002

Matrix: AQUEOUS

Received Date: 6/30/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	680	50	*	mg/L	100	7/2/2018 1:47:21 PM	R52416
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Toluene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Ethylbenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Naphthalene	ND	2.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1-Methylnaphthalene	ND	4.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
2-Methylnaphthalene	ND	4.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Acetone	ND	10		µg/L	1	7/2/2018 12:01:16 PM	W52404
Bromobenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Bromodichloromethane	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Bromoform	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Bromomethane	ND	3.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
2-Butanone	ND	10		µg/L	1	7/2/2018 12:01:16 PM	W52404
Carbon disulfide	ND	10		µg/L	1	7/2/2018 12:01:16 PM	W52404
Carbon Tetrachloride	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Chlorobenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Chloroethane	ND	2.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Chloroform	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Chloromethane	ND	3.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
2-Chlorotoluene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
4-Chlorotoluene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
cis-1,2-DCE	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Dibromochloromethane	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Dibromomethane	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,2-Dichlorobenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,3-Dichlorobenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,4-Dichlorobenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Dichlorodifluoromethane	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,1-Dichloroethane	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,1-Dichloroethene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,2-Dichloropropane	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: GW @ 4.5' (95)

Project: GCU 188E

Collection Date: 6/29/2018 11:15:00 AM

Lab ID: 1806142-002

Matrix: AQUEOUS

Received Date: 6/30/2018 10:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: DJF
1,3-Dichloropropane	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
2,2-Dichloropropane	ND	2.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,1-Dichloropropene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Hexachlorobutadiene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
2-Hexanone	ND	10		µg/L	1	7/2/2018 12:01:16 PM	W52404
Isopropylbenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
4-Isopropyltoluene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
4-Methyl-2-pentanone	ND	10		µg/L	1	7/2/2018 12:01:16 PM	W52404
Methylene Chloride	ND	3.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
n-Butylbenzene	ND	3.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
n-Propylbenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
sec-Butylbenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Styrene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
tert-Butylbenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
trans-1,2-DCE	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,1,1-Trichloroethane	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,1,2-Trichloroethane	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Trichloroethene (TCE)	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Trichlorofluoromethane	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
1,2,3-Trichloropropane	ND	2.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Vinyl chloride	ND	1.0		µg/L	1	7/2/2018 12:01:16 PM	W52404
Xylenes, Total	ND	1.5		µg/L	1	7/2/2018 12:01:16 PM	W52404
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	7/2/2018 12:01:16 PM	W52404
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	7/2/2018 12:01:16 PM	W52404
Surr: Dibromofluoromethane	93.7	70-130		%Rec	1	7/2/2018 12:01:16 PM	W52404
Surr: Toluene-d8	104	70-130		%Rec	1	7/2/2018 12:01:16 PM	W52404

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

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

Chain-of-Custody Record

Client: **BLAGG ENGR. / BP AMERICA**

Turn-Around Time: **SAME DAY**
 Standard Rush

Mailing Address: **P.O. BOX 87**

Project Name: **GCU # 188E**

BLOOMFIELD, NM 87413

Project #:

Phone #: **(505) 632-1199**

Project Manager: **ERIN GARIFALOS**

email or Fax#:

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

Accreditation:
 NELAP Other

Sampler: **NELSON VELEZ**
 On Ice: Yes No *NV*

EDD (Type)

Sample Temperature: *3.9*



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.	BTEX + MTBE + THMs (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
6/29/18	1110	SOIL	4PC - SW @ 2' - 3' (95)	4 oz. - 1	Cool	-001	✓	✓										✓		✓
6/29/18	1115	WATER	GW @ 4.5' (95)	40 ml VOA - 2	HCl & Cool	-002									✓					✓
6/29/18	1115	WATER	GW @ 4.5' (95)	500 ml - 1	Cool													✓		✓

Date: 6/29/18 Time: 1100 Relinquished by: *[Signature]*

Received by: *Christa Wertz* Date: 6/29/18 Time: 1700

Remarks: **BILL DIRECTLY TO BP USING THE CONTACT WITH CORRESPONDING V & REFERENCE # WHEN APPLICABLE;**

Date: 6/29/18 Time: 1852 Relinquished by: *Christa Wertz*

Received by: *[Signature]* Date: 6/30/18 Time: 1015

CONTACT: **ERIN GARIFALOS / VANCE HIXON**
 VID: **VHIXONEVB2**
 Reference # **P - 1000**

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This copy is valid for...

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1806142
 05-Jul-18

Client: Blagg Engineering
Project: GCU 188E

Sample ID MB-39003	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 39003	RunNo: 52405								
Prep Date: 7/2/2018	Analysis Date: 7/2/2018	SeqNo: 1719465	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID LCS-39003	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 39003	RunNo: 52405								
Prep Date: 7/2/2018	Analysis Date: 7/2/2018	SeqNo: 1719466	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

Qualifiers:

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

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1806142
 05-Jul-18

Client: Blagg Engineering
Project: GCU 188E

Sample ID MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R52416		RunNo: 52416							
Prep Date:	Analysis Date: 7/2/2018		SeqNo: 1719798		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID LCS	SampType: lcs		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R52416		RunNo: 52416							
Prep Date:	Analysis Date: 7/2/2018		SeqNo: 1719799		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.5	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1806142

05-Jul-18

Client: Blagg Engineering
Project: GCU 188E

Sample ID	MB-38999	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	38999	RunNo:	52397					
Prep Date:	7/2/2018	Analysis Date:	7/2/2018	SeqNo:	1718308	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.7		10.00		96.7	70	130			

Sample ID	LCS-38999	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	38999	RunNo:	52397					
Prep Date:	7/2/2018	Analysis Date:	7/2/2018	SeqNo:	1718309	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	92.8	70	130			
Surr: DNOP	4.7		5.000		93.3	70	130			

Sample ID	MB-38981	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	38981	RunNo:	52397					
Prep Date:	6/29/2018	Analysis Date:	7/2/2018	SeqNo:	1719410	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: DNOP	10		10.00		102	70	130			
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Sample ID	LCS-38981	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	38981	RunNo:	52397					
Prep Date:	6/29/2018	Analysis Date:	7/2/2018	SeqNo:	1719411	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Surr: DNOP	4.7		5.000		94.2	70	130			
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Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1806142
05-Jul-18

Client: Blagg Engineering
Project: GCU 188E

Sample ID	100ng btex lcs	SampType:	LCS4	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	BatchQC	Batch ID:	C52411	RunNo:	52411					
Prep Date:		Analysis Date:	7/2/2018	SeqNo:	1718288	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.1	0.050	1.000	0	108	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.5	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	PBS	Batch ID:	C52411	RunNo:	52411					
Prep Date:		Analysis Date:	7/2/2018	SeqNo:	1718297	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	0.59		0.5000		117	70	130			
Surr: Toluene-d8	0.50		0.5000		99.6	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1806142

05-Jul-18

Client: Blagg Engineering

Project: GCU 188E

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	W52404	RunNo:	52404					
Prep Date:		Analysis Date:	7/2/2018	SeqNo:	1718775	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1806142

05-Jul-18

Client: Blagg Engineering

Project: GCU 188E

Sample ID rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: W52404	RunNo: 52404
Prep Date:	Analysis Date: 7/2/2018	SeqNo: 1718775 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.0	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		116	70	130			
Surr: Dibromofluoromethane	8.8		10.00		87.6	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID 100ng lcsb	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES
Client ID: LCSW	Batch ID: W52404	RunNo: 52404
Prep Date:	Analysis Date: 7/2/2018	SeqNo: 1718776 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1806142

05-Jul-18

Client: Blagg Engineering

Project: GCU 188E

Sample ID: 100ng lcsb	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: W52404	RunNo: 52404								
Prep Date:	Analysis Date: 7/2/2018	SeqNo: 1718776 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	20	1.0	20.00	0	102	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	92.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.5	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.1	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1806142

05-Jul-18

Client: Blagg Engineering

Project: GCU 188E

Sample ID	2.5ug gro lcs	SampType: LCS		TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID:	LCSS	Batch ID: A52411		RunNo: 52411						
Prep Date:		Analysis Date: 7/2/2018		SeqNo: 1718277			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	70	130			
Surr: BFB	460		500.0		92.1	70	130			

Sample ID	rb	SampType: MBLK		TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID:	PBS	Batch ID: A52411		RunNo: 52411						
Prep Date:		Analysis Date: 7/2/2018		SeqNo: 1718278			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	520		500.0		105	70	130			

Qualifiers:

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

Sample Log-In Check List

Client Name: **BLAGG**

Work Order Number: **1806142**

RcptNo: **1**

Received By: **Erin Melendrez** 6/30/2018 10:15:00 AM *EM*

Completed By: **Erin Melendrez** 6/30/2018 11:26:48 AM *EM*

Reviewed By: *JU 7-2-18*

LB: A 07/02/18

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: _____

Special Handling (if applicable)

15. 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: _____

16. Additional remarks:

17. Cooler Information

Cooler No.	Temp °C	Condition	Seal Intact	Seal No.	Seal Date	Signed By
1	3.9	Good	Yes			

