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

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

Form C-144
Revised June 6, 2013

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

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

14438

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

RECEIVED
By Rvillalobos at 9:51 am, Dec 30, 2015

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

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

1.
Operator: Burlington Resources Oil & Gas Company, LP OGRID #: 14538
Address: PO BOX 4289, Farmington, NM 87499
Facility or well name: McGrath SWD 4
API Number: 30-045-25923 OCD Permit Number: _____
U/L or Qtr/Qtr B (NWNE) Section 34 Township 30N Range 12W County: San Juan
Center of Proposed Design: Latitude 36.773523 °N Longitude -108.082827 °W NAD: ☐ 1927 ☒ 1983
Surface Owner: ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

Constituents Exceed Standards outline by 19.15.17.13 NMAC. Please submit a separate C-141 under 19.15.29 NMAC

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

3.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 120 bbl Type of fluid: Produced Water
Tank Construction material: Metal
☐ Secondary containment with leak detection ☒ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____mil ☐ HDPE ☐ PVC ☒ Other Unspecified

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

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

6.

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

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.16.8 NMAC

8.

Variances and Exceptions:

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

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

☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

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

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

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

General siting

Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. - ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)** - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. **(Does not apply to below grade tanks)** - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. **(Does not apply to below grade tanks)** - FEMA map	☐ Yes ☐ No

Below Grade Tanks

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No

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

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
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 H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

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

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

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

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

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

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

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ 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	☐ 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 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	☐ 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 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	☐ Yes ☐ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ 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
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 the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

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

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

17.
Operator Application Certification:

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

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

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

OCD Representative Signature: Jonathan D. Kelly **Approval Date:** 6/27/2016

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

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

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

☒ **Closure Completion Date:** 7/12/2013

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 _____ °N _____ Longitude _____ °W _____ 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): Crystal Walker Title: Regulatory Coordinator

Signature: Crystal Walker Date: 12/15/15

e-mail address: crystal.walker@cop.com Telephone: (505) 326-9837

Burlington Resources Oil & Gas Company, LP
San Juan Basin
Below Grade Tank Closure Report
(Without Reclamation)

Lease Name: McGrath SWD 4
API No.: 30-045-25923

In accordance with Rule 19.15.17.13 NMAC the following information describes the closure of the below-grade tank referenced above. All proper documentation regarding closure activities is being included with the C-144.

General Plan:

1. BR shall close a below-grade tank within 60 days of cessation of operations per Subsection G.4 of 19.15.17.13 NMAC. This will include a) below-grade tanks that do 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, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC; b) an earlier date that the division requires because of imminent danger to fresh water, public health or the environment. For any closure, BR will file the C144 Closure Report as required.

   The below-grade tank referenced above was permitted and closed within 60 days of cessation of the below-grade tanks operation.

2. BR shall remove liquids and sludge from a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility. The facilities to be used will be Basin Disposal (Permit #NM-01-005), JFJ Landfarm % Industrial Ecosystem Inc. (Permit # NM-01-0010B) and Envirotech Land Farm (Permit #NM-01-011). The liner after being cleaned well (Subsection D, Paragraph 1, Subparagraph (m) of 19.15.9.712 NMAC) will be disposed of at the San Juan County Regional Landfill located on CR 3100.

   All recovered liquids were disposed of at Basin Disposal (Permit #NM-01-005) and any sludge or soil required to be removed to facilitate closure was hauled to Envirotech Land Farm (Permit #NM-01-011) and JFJ Landfarm % IEI (Permit #NM-01-0010B). The liner was cleaned per Subsection D, Paragraph 1, Subparagraph (m) of 19.15.9.712 NMAC was disposed of at the San Juan County Regional Landfill located on CR 3100.

3. BR Will receive prior approval to remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves.

   The below-grade tank was disposed of in a division-approved manner.

4. If there is any on-site equipment associated with a below-grade tank, then BR shall remove the equipment, unless the equipment is required for some other purpose.

   All on-site equipment associated with the below-grade tank was removed.

5. BR will test the soils beneath the below-grade tank to determine whether a release has occurred. BR shall collect, at a minimum, a five point, composite sample; collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyzed for the constituents listed in Table I of 19.15.17.13 NMAC. BR shall notify the division of its results on form C-141.

A five point composite sample was taken of the below-grade tank using sampling tools and all samples tested per Subsection B of 19.15.17.1 3(B)(1)(b). (Sample results attached). Form C-141 is attached.

Components	Tests Method	Limit (mg/kg)
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	100
Chlorides	EPA 300.0	250

6. If BR or the division determines that a release has occurred, then BR shall comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC, as appropriate.

   A release was determined for the above referenced well.

7. If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Table I of 19.15.17.13 NMAC, then BR shall backfill the excavation with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover; recontour and re-vegetate the site.

   The below-grade tank area passed all requirements of Paragraph (4) of Subsection E of 19.15.17.13 NMAC and will be backfilled with compacted, non-waste containing, earthen material.

8. Notice of Closure will be given prior to closure to the Aztec Division office between 72 hours and one week via email or verbally. The notification of closure will include the following:
   i. Operator's name
   ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.

   Closure notification was not found.

9. The surface owner shall be notified of BR's closing of the below-grade tank 72 hours, but not more than one week, prior to closure as per the approved closure plan via certified mail, return receipt requested.

   The closure process notification to the landowner was not found.

10. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be place in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.

    The below-grade tank was removed and the location is awaiting reclamation work.

11. BR shall seed the disturbed areas the first favorable growing season following closure of a below-grade tank. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM stipulated seed mixes will used on federally regulated lands and division-approved seed mixtures (administratively approved if required) will be utilized on all State or private lands. A uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre- disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds. If alternate seed mix is required by the state, private owner or tribe, it will be implemented with administrative approval if needed. BR will repeat seeding or planting will be continued until successful vegetative growth occurs.

    The below-grade tank was removed and the location is awaiting reclamation work.

12. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material, with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.

    The below-grade tank was removed and the location is awaiting reclamation work.

13. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on C-144 and incorporate the following:
    - Soil Backfilling and Cover Installation **(See Report)**
    - Re-vegetation application rates and seeding techniques **(See Report)**
    - Photo documentation of the site reclamation **(Included as an attachment)**
    - Confirmation Sampling Results **(Included as an attachment)**
    - Proof of closure notice **(Missing)**

McGrath SWD 4 (API# 3004525923)

The surface access lease for the subject well expired May 1, 2014 and two of the remediation excavations remain open in the South West corner and North East corner of the location. Please see attached aerial photo. These areas will be backfilled and reclamation of the entire location will be conducted upon an agreement reached with the surface owner for access and reclamation.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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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 to accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **Burlington Resources Oil & Gas Company**	Contact **Crystal Walker**
Address 3401 East 30th St, Farmington, NM	Telephone No.(505) 326-9837
Facility Name: **McGrath 4**	Facility Type: **SWD**

Surface Owner **Private**	Mineral Owner **BLM (SF-077922)**	API No.**30-045-25923**

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	**34**	**30N**	**12W**	**800**	**North**	**1730**	**East**	**San Juan**

Latitude 36.773523 Longitude -108.082827

NATURE OF RELEASE

Type of Release **Produced Fluids**	Volume of Release **Unknown**	Volume Recovered **66 cu. yds.**
Source of Release **Below Grade Tank**	Date and Hour of Occurrence **Unknown**	Date and Hour of Discovery **01/02/2014**
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.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Below Grade Tank Closure Activities

Describe Area Affected and Cleanup Action Taken.*
The below grade tank area was sampled with the facility removal of the subject well. The excavation was 10' X 18' X 10' and 66 cubic yards of soil was transported to a third party landfarm. Excavation and confirmation sampling occurred. Field results for the TPH were below the regulatory standards set forth in the NMOCD Guidelines for Remediation of Leaks, Spills and Releases; therefore no further action is required. The results for this area are attached for review. The excavation remains open at this time due to surface owner issues.

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: Crystal Walker	OIL CONSERVATION DIVISION	
Printed Name: Crystal Walker	Approved by Environmental Specialist:	
Title: **Regulatory Coordinator**	Approval Date:	Expiration Date:
E-mail Address: crystal.walker@cop.com	Conditions of Approval:	Attached ☐
Date: 12/15/15 Phone: (505) 326-9837		

* Attach Additional Sheets If Necessary

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EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	F3	Date Reported:	2/18/2014
Sample ID:	Excavation F East Wall	Date Sampled:	12/20/2013
Sample Matrix:	Soil	Date Analyzed:	12/20/2013
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**620**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Toni McKnight
Analyst

Toni McKnight, EIT
Printed

Review

Greg Crabtree, PE
Printed

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	F4	Date Reported:	2/18/2014
Sample ID:	Excavation F West Wall	Date Sampled:	12/20/2013
Sample Matrix:	Soil	Date Analyzed:	12/20/2013
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**192**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Toni McKnight
Analyst

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	EB	Date Reported:	2/18/2014
Sample ID:	East Berm Pile	Date Sampled:	12/20/2013
Sample Matrix:	Soil	Date Analyzed:	12/20/2013
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**416**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Toni McKnight
Analyst

Toni McKnight, EIT
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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	WB	Date Reported:	2/18/2014
Sample ID:	West Berm Pile	Date Sampled:	12/20/2013
Sample Matrix:	Soil	Date Analyzed:	12/20/2013
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**4,140**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Toni McKnight
Analyst

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CONTINUOUS CALIBRATION
EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Cal. Date: 20-Dec-13

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	
	200	204
	500	
	1000	

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

Toni McKnight
Analyst

2/18/2014
Date

Toni McKnight, EIT
Print Name

Review

2/18/2014
Date

Greg Crabtree, PE
Print Name

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	F1A	Date Reported:	2/18/2014
Sample ID:	Excavation F North Wall	Date Sampled:	1/2/2014
Sample Matrix:	Soil	Date Analyzed:	1/2/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**2,760**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Toni McKnight, EIT
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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	F2A	Date Reported:	2/18/2014
Sample ID:	Excavation F South Wall	Date Sampled:	1/2/2014
Sample Matrix:	Soil	Date Analyzed:	1/2/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**2,320**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	F5A	Date Reported:	2/18/2014
Sample ID:	Excavation F Bottom	Date Sampled:	1/2/2014
Sample Matrix:	Soil	Date Analyzed:	1/2/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**1,990**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	1	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/7/2014
Sample Matrix:	Soil	Date Analyzed:	1/7/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**1,180**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

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Review

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	2	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/7/2014
Sample Matrix:	Soil	Date Analyzed:	1/7/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**2,170**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	3	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/7/2014
Sample Matrix:	Soil	Date Analyzed:	1/7/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**2,250**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	4	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/7/2014
Sample Matrix:	Soil	Date Analyzed:	1/7/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**136**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
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Review

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	5	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/7/2014
Sample Matrix:	Soil	Date Analyzed:	1/7/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**2,570**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

for

Analyst

Tiffany McIntosh

Printed

Review

Toni McKnight, EIT

Printed

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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	6	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/7/2014
Sample Matrix:	Soil	Date Analyzed:	1/7/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**4,060**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
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Review

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	7	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/7/2014
Sample Matrix:	Soil	Date Analyzed:	1/7/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**128**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
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Review

Toni McKnight, EIT
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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	8	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/7/2014
Sample Matrix:	Soil	Date Analyzed:	1/7/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**2,100**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

Toni McKnight, EIT
Printed

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	9	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/7/2014
Sample Matrix:	Soil	Date Analyzed:	1/7/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**3,170**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

Toni McKnight, EIT
Printed

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CONTINUOUS CALIBRATION
EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Cal. Date: 7-Jan-14

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	
	200	212
	500	
	1000	

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

Analyst

2/17/2014
Date

Tiffany McIntosh
Print Name

Review

2/17/2014
Date

Toni McKnight, EIT
Print Name

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Analytical Laboratory

Analytical Report

Report Summary

Client: ConocoPhillips

Chain Of Custody Number: 16285

Samples Received: 1/7/2014 1:55:00PM

Job Number: 92115-2540

Work Order: P401011

Project Name/Location: McGrath #4 SWD

Entire Report Reviewed By: _____ Date: 1/8/14

Tim Cain, Laboratory Manager

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Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	08-Jan-14 13:52

Analyical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
1	P401011-01A	Soil	01/07/14	01/07/14	Glass Jar, 4 oz.

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Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	08-Jan-14 13:52

1

P401011-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg	1	1402012	01/07/14	01/08/14	EPA 8015D	
Diesel Range Organics (C10-C28)	**162**	30.0	mg/kg	1	1402011	01/07/14	01/08/14	EPA 8015D	
GRO and DRO Combined Fractions	**162**	5.00	mg/kg		[CALC]	01/07/14	01/08/14	EPA 8015D	

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Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	08-Jan-14 13:52

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1402011 - DRO Extraction EPA 3550C										
Blank (1402011-BLK1)				Prepared: 07-Jan-14 Analyzed: 08-Jan-14						
Diesel Range Organics (C10-C28)	ND	29.9	mg/kg							
Duplicate (1402011-DUP1)	Source: P401011-01			Prepared: 07-Jan-14 Analyzed: 08-Jan-14						
Diesel Range Organics (C10-C28)	158	29.9	mg/kg		162			2.39	30	
Matrix Spike (1402011-MS1)	Source: P401011-01			Prepared: 07-Jan-14 Analyzed: 08-Jan-14						
Diesel Range Organics (C10-C28)	402	31.6	mg/kg	263	162	91.3	75-125			

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Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	08-Jan-14 13:52

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1402012 - Purge and Trap EPA 5030A										
Blank (1402012-BLK1)				Prepared: 07-Jan-14 Analyzed: 08-Jan-14						
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg							
Duplicate (1402012-DUP1)		Source: P401010-01		Prepared: 07-Jan-14 Analyzed: 08-Jan-14						
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg		ND				30	
Matrix Spike (1402012-MS1)		Source: P401010-01		Prepared: 07-Jan-14 Analyzed: 08-Jan-14						
Gasoline Range Organics (C6-C10)	0.41		mg/L	0.450	0.03	85.3	75-125			

envirotech
Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	**Reported:**
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	08-Jan-14 13:52

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

RUSH

CHAIN OF CUSTODY RECORD

16285

Client: ConocoPhillips	Project Name / Location: McGrath #4 SWD
Email results to: T. McIntosh	Sampler Name: T. McIntosh
Client Phone No.:	Client No.: 92115-2540

ANALYSIS / PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative HNO_3	Preservative HCl	Preservative cool	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact
1	1/7/14	11:07	P401011-01	1 - 4oz jar			X	X													X	Y

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Tiffany McIntosh	1/7/14	1355	Miriam [illegible]	1/7/13	13:55
Relinquished by: (Signature)			Received by: (Signature)		

Sample Matrix
Soil ☑ Solid ☐ Sludge ☐ Aqueous ☐ Other ☐ ______

☐ Sample(s) dropped off after hours to secure drop off area.

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	1	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/10/2014
Sample Matrix:	Soil	Date Analyzed:	1/10/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**32**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

Toni McKnight, EIT
Printed

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	2	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/10/2014
Sample Matrix:	Soil	Date Analyzed:	1/10/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**1,060**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
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Review

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	3	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/10/2014
Sample Matrix:	Soil	Date Analyzed:	1/10/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**32**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	6	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/10/2014
Sample Matrix:	Soil	Date Analyzed:	1/10/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**432**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

Toni McKnight, EIT
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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	8	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/10/2014
Sample Matrix:	Soil	Date Analyzed:	1/10/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**120**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

Toni McKnight, EIT
Printed

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	9	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/10/2014
Sample Matrix:	Soil	Date Analyzed:	1/10/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**196**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

Toni McKnight, EIT
Printed

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CONTINUOUS CALIBRATION
EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Cal. Date: 10-Jan-14

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	
	200	185
	500	
	1000	

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

Analyst — Date: 2/17/2014

Tiffany McIntosh
Print Name

Review — Date: 2/17/2014

Toni McKnight, EIT
Print Name

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Analytical Laboratory

Analytical Report

Report Summary

Client: ConocoPhillips

Chain Of Custody Number: 16490

Samples Received: 1/10/2014 2:15:00PM

Job Number: 92115-2540

Work Order: P401025

Project Name/Location: McGrath #4 SWD

Entire Report Reviewed By: _____ Date: 1/14/14

Tim Cain, Laboratory Manager

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.

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Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	14-Jan-14 13:37

Analyical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
2	P401025-01A	Soil	01/10/14	01/10/14	Glass Jar, 4 oz.

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Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	14-Jan-14 13:37

2

P401025-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1402032	01/10/14	01/13/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1402032	01/10/14	01/13/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1402032	01/10/14	01/13/14	EPA 8021B	
p,m-Xylene	2.52	0.05	mg/kg	1	1402032	01/10/14	01/13/14	EPA 8021B	
o-Xylene	0.13	0.05	mg/kg	1	1402032	01/10/14	01/13/14	EPA 8021B	
Total Xylenes	2.65	0.05	mg/kg	1	1402032	01/10/14	01/13/14	EPA 8021B	
Total BTEX	2.65	0.05	mg/kg	1	1402032	01/10/14	01/13/14	EPA 8021B	
Surrogate: Bromochlorobenzene		*130 %*		*80-120*	*1402032*	*01/10/14*	*01/13/14*	*EPA 8021B*	*Surr1*
Surrogate: 1,3-Dichlorobenzene		*112 %*		*80-120*	*1402032*	*01/10/14*	*01/13/14*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	39.5	4.99	mg/kg	1	1402032	01/10/14	01/13/14	EPA 8015D	
Diesel Range Organics (C10-C28)	152	29.9	mg/kg	1	1402031	01/10/14	01/13/14	EPA 8015D	
GRO and DRO Combined Fractions	191	4.99	mg/kg		[CALC]	01/10/14	01/13/14	EPA 8015D	

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ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	14-Jan-14 13:37

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1402032 - Purge and Trap EPA 5030A										
Blank (1402032-BLK1)				Prepared: 10-Jan-14 Analyzed: 13-Jan-14						
Benzene	ND	0.05	mg/kg							
Toluene	ND	0.05	"							
Ethylbenzene	ND	0.05	"							
p,m-Xylene	ND	0.05	"							
o-Xylene	ND	0.05	"							
Total Xylenes	ND	0.05	"							
Total BTEX	ND	0.05	"							
Surrogate: 1,3-Dichlorobenzene	*52.8*		*ug/L*	*50.0*		*106*	*80-120*			
Surrogate: Bromochlorobenzene	*56.0*		"	*50.0*		*112*	*80-120*			
Duplicate (1402032-DUP1)	**Source: P401023-01**			Prepared: 10-Jan-14 Analyzed: 13-Jan-14						
Benzene	ND	0.05	mg/kg		ND				30	
Toluene	ND	0.05	"		ND				30	
Ethylbenzene	ND	0.05	"		ND				30	
p,m-Xylene	ND	0.05	"		ND				30	
o-Xylene	ND	0.05	"		ND				30	
Surrogate: 1,3-Dichlorobenzene	*51.9*		*ug/L*	*50.0*		*104*	*80-120*			
Surrogate: Bromochlorobenzene	*63.8*		"	*50.0*		*128*	*80-120*			*Surr1*
Matrix Spike (1402032-MS1)	**Source: P401023-01**			Prepared: 10-Jan-14 Analyzed: 13-Jan-14						
Benzene	47.9		ug/L	50.0	ND	95.9	39-150			
Toluene	48.4		"	50.0	ND	96.7	46-148			
Ethylbenzene	48.9		"	50.0	ND	97.7	32-160			
p,m-Xylene	97.3		"	100	ND	97.3	46-148			
o-Xylene	49.5		"	50.0	ND	99.1	46-148			
Surrogate: 1,3-Dichlorobenzene	*48.9*		"	*50.0*		*97.7*	*80-120*			
Surrogate: Bromochlorobenzene	*52.6*		"	*50.0*		*105*	*80-120*			

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Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	14-Jan-14 13:37

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1402031 - DRO Extraction EPA 3550C										
Blank (1402031-BLK1)				Prepared: 10-Jan-14 Analyzed: 13-Jan-14						
Diesel Range Organics (C10-C28)	ND	29.9	mg/kg							
Duplicate (1402031-DUP1)		Source: P401023-01		Prepared: 10-Jan-14 Analyzed: 13-Jan-14						
Diesel Range Organics (C10-C28)	ND	29.9	mg/kg		ND				30	
Matrix Spike (1402031-MS1)		Source: P401023-01		Prepared: 10-Jan-14 Analyzed: 13-Jan-14						
Diesel Range Organics (C10-C28)	266	31.6	mg/kg	263	ND	101	75-125			

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	**Reported:**
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	14-Jan-14 13:37

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1402032 - Purge and Trap EPA 5030A										
Blank (1402032-BLK1)				Prepared: 10-Jan-14 Analyzed: 13-Jan-14						
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg							
Duplicate (1402032-DUP1)		Source: P401023-01		Prepared: 10-Jan-14 Analyzed: 13-Jan-14						
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg		ND				30	
Matrix Spike (1402032-MS1)		Source: P401023-01		Prepared: 10-Jan-14 Analyzed: 13-Jan-14						
Gasoline Range Organics (C6-C10)	0.44		mg/L	0.450	0.01	95.3	75-125			

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Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	**Reported:**
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	14-Jan-14 13:37

Notes and Definitions

Surrl	Surrogate recovery was above acceptable limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

RUSH!

CHAIN OF COUSTODY RECORD

16490

Client:	Project Name / Location:
Conoco Phillips (hBr)	McGrath #4 SWD
Email results to: T. McIntosh	Sampler Name: T. McIntosh
Client Phone No.:	Client No.: 92115-2540

Sample No./ Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative HNO_3	Preservative HCl	Preservative cool	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact
2	1/10/14	1415		1-4oz jar			X	X	X												✓	✓

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Tiffany McIntosh	1/10/14	1415	Rene Ozazzi	1/10/14	1415
Relinquished by: (Signature)			Received by: (Signature)		

Sample Matrix

Soil ☑ Solid ☐ Sludge ☐ Aqueous ☐ Other ☐ ________

☐ Sample(s) dropped off after hours to secure drop off area.

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Analytical Laboratory

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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	2	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/14/2014
Sample Matrix:	Soil	Date Analyzed:	1/14/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**1,710**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

Toni McKnight, EIT
Printed

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info@envirotech-inc.com

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	3	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/14/2014
Sample Matrix:	Soil	Date Analyzed:	1/14/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**2,600**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

Toni McKnight, EIT
Printed

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	4	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/14/2014
Sample Matrix:	Soil	Date Analyzed:	1/14/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**212**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

Toni McKnight, EIT
Printed

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EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	5	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/14/2014
Sample Matrix:	Soil	Date Analyzed:	1/14/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**144**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

Toni McKnight, EIT
Printed

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	6	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/14/2014
Sample Matrix:	Soil	Date Analyzed:	1/14/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**236**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
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Review

Toni McKnight, EIT
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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	7	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/14/2014
Sample Matrix:	Soil	Date Analyzed:	1/14/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**3,720**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
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Review

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	8	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/14/2014
Sample Matrix:	Soil	Date Analyzed:	1/14/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**240**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
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Review

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	9	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/14/2014
Sample Matrix:	Soil	Date Analyzed:	1/14/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**164**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

Toni McKnight, EIT
Printed

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EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	ConocoPhillips	Project #:	92115-2540
Sample No.:	10	Date Reported:	2/17/2014
Sample ID:	Excavation D-F	Date Sampled:	1/14/2014
Sample Matrix:	Soil	Date Analyzed:	1/14/2014
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**164**	**5.0**

ND = Parameter not detected at the stated detection limit.

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

Comments: **McGrath #4 SWD**

Instrument calibrated to 200 ppm standard and zeroed before each sample.

Analyst

Tiffany McIntosh
Printed

Review

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Printed

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CONTINUOUS CALIBRATION
EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Cal. Date: 14-Jan-14

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	
	200	193
	500	
	1000	

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

Analyst — 2/17/2014 Date

Tiffany McIntosh
Print Name

Review — 2/17/2014 Date

Toni McKnight, EIT
Print Name

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Analytical Report

Report Summary

Client: ConocoPhillips
Chain Of Custody Number: 16294
Samples Received: 1/14/2014 4:55:00PM
Job Number: 92115-2540
Work Order: P401031
Project Name/Location: McGrath #4 SWD

Entire Report Reviewed By: _____ Date: 1/16/14

Tim Cain, Laboratory Manager

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.

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ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	**Reported:**
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	16-Jan-14 11:05

Analyical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
1	P401031-01A	Soil	01/14/14	01/14/14	Glass Jar, 4 oz.
2	P401031-02A	Soil	01/14/14	01/14/14	Glass Jar, 4 oz.
3	P401031-03A	Soil	01/14/14	01/14/14	Glass Jar, 4 oz.
7	P401031-04A	Soil	01/14/14	01/14/14	Glass Jar, 4 oz.

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ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	16-Jan-14 11:05

1

P401031-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Toluene	0.32	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Ethylbenzene	1.80	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
p,m-Xylene	6.28	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
o-Xylene	0.42	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Total Xylenes	6.69	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Total BTEX	8.81	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Surrogate: Bromochlorobenzene		*171 %*		*80-120*	*1403011*	*01/15/14*	*01/15/14*	*EPA 8021B*	*S-02*
Surrogate: 1,3-Dichlorobenzene		*119 %*		*80-120*	*1403011*	*01/15/14*	*01/15/14*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	156	5.00	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8015D	
Diesel Range Organics (C10-C28)	1200	29.9	mg/kg	1	1403012	01/15/14	01/15/14	EPA 8015D	

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ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	16-Jan-14 11:05

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P401031-02 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Ethylbenzene	ND	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
p,m-Xylene	**1.55**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
o-Xylene	**0.45**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Total Xylenes	**2.00**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Total BTEX	**2.00**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Surrogate: Bromochlorobenzene		*126 %*		*80-120*	*1403011*	*01/15/14*	*01/15/14*	*EPA 8021B*	*S-02*
Surrogate: 1,3-Dichlorobenzene		*116 %*		*80-120*	*1403011*	*01/15/14*	*01/15/14*	*EPA 8021B*	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	**50.3**	5.00	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8015D	
Diesel Range Organics (C10-C28)	**615**	30.0	mg/kg	1	1403012	01/15/14	01/15/14	EPA 8015D	

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ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	16-Jan-14 11:05

3

P401031-03 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Ethylbenzene	**0.91**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
p,m-Xylene	**20.9**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
o-Xylene	**2.11**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Total Xylenes	**23.0**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Total BTEX	**23.9**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Surrogate: Bromochlorobenzene		*145 %*		*80-120*	*1403011*	*01/15/14*	*01/15/14*	*EPA 8021B*	*S-02*
Surrogate: 1,3-Dichlorobenzene		*147 %*		*80-120*	*1403011*	*01/15/14*	*01/15/14*	*EPA 8021B*	*S-02*
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	**179**	5.00	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8015D	
Diesel Range Organics (C10-C28)	**813**	29.9	mg/kg	1	1403012	01/15/14	01/15/14	EPA 8015D	

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Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	**Reported:**
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	16-Jan-14 11:05

7

P401031-04 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Toluene	ND	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Ethylbenzene	**2.17**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
p,m-Xylene	**25.0**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
o-Xylene	**1.94**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Total Xylenes	**27.0**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Total BTEX	**29.1**	0.05	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8021B	
Surrogate: Bromochlorobenzene		*151 %*		*80-120*	*1403011*	*01/15/14*	*01/15/14*	*EPA 8021B*	*S-02*
Surrogate: 1,3-Dichlorobenzene		*154 %*		*80-120*	*1403011*	*01/15/14*	*01/15/14*	*EPA 8021B*	*S-02*
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	**180**	4.99	mg/kg	1	1403011	01/15/14	01/15/14	EPA 8015D	
Diesel Range Organics (C10-C28)	**1300**	29.9	mg/kg	1	1403012	01/15/14	01/15/14	EPA 8015D	

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Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	**Reported:**
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	16-Jan-14 11:05

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1403011 - Purge and Trap EPA 5030A										
Blank (1403011-BLK1)				Prepared & Analyzed: 15-Jan-14						
Benzene	ND	0.001	mg/kg							
Toluene	ND	0.001	"							
Ethylbenzene	ND	0.001	"							
p,m-Xylene	ND	0.001	"							
o-Xylene	ND	0.001	"							
Total Xylenes	ND	0.001	"							
Total BTEX	ND	0.001	"							
Surrogate: 1,3-Dichlorobenzene	*49.1*		*ug/L*	*50.0*		*98.2*	*80-120*			
Surrogate: Bromochlorobenzene	*50.4*		"	*50.0*		*101*	*80-120*			
Duplicate (1403011-DUP1)	**Source: P401031-01**			Prepared & Analyzed: 15-Jan-14						
Benzene	ND	0.05	mg/kg		ND				30	
Toluene	0.23	0.05	"		0.32			33.8	30	D1
Ethylbenzene	1.72	0.05	"		1.80			4.25	30	
p,m-Xylene	7.25	0.05	"		6.28			14.4	30	
o-Xylene	0.35	0.05	"		0.42			16.4	30	
Surrogate: 1,3-Dichlorobenzene	*65.4*		*ug/L*	*50.0*		*131*	*80-120*			*S-02*
Surrogate: Bromochlorobenzene	*95.3*		"	*50.0*		*191*	*80-120*			*S-02*
Matrix Spike (1403011-MS1)	**Source: P401031-01**			Prepared & Analyzed: 15-Jan-14						
Benzene	52.6		ug/L	50.0	ND	105	39-150			
Toluene	67.0		"	50.0	6.43	121	46-148			
Ethylbenzene	106		"	50.0	35.9	141	32-160			
p,m-Xylene	253		"	100	126	128	46-148			
o-Xylene	69.4		"	50.0	8.32	122	46-148			
Surrogate: 1,3-Dichlorobenzene	*56.9*		"	*50.0*		*114*	*80-120*			
Surrogate: Bromochlorobenzene	*93.7*		"	*50.0*		*187*	*80-120*			*S-02*

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Analytical Laboratory

ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	**Reported:**
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	16-Jan-14 11:05

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1403011 - Purge and Trap EPA 5030A										
Blank (1403011-BLK1)				Prepared & Analyzed: 15-Jan-14						
Gasoline Range Organics (C6-C10)	ND	0.10	mg/kg							
Duplicate (1403011-DUP1)		Source: P401031-01		Prepared & Analyzed: 15-Jan-14						
Gasoline Range Organics (C6-C10)	174	4.99	mg/kg		156			10.7	30	
Matrix Spike (1403011-MS1)		Source: P401031-01		Prepared & Analyzed: 15-Jan-14						
Gasoline Range Organics (C6-C10)	3.82		mg/L	0.450	3.13	154	75-125			SPK1

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ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	**Reported:**
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	16-Jan-14 11:05

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1403012 - DRO Extraction EPA 3550C										
Blank (1403012-BLK1)				Prepared & Analyzed: 15-Jan-14						
Diesel Range Organics (C10-C28)	ND	29.9	mg/kg							
Duplicate (1403012-DUP1)		Source: P401031-01		Prepared & Analyzed: 15-Jan-14						
Diesel Range Organics (C10-C28)	1010	29.9	mg/kg		1200			17.1	30	
Matrix Spike (1403012-MS1)		Source: P401031-01		Prepared & Analyzed: 15-Jan-14						
Diesel Range Organics (C10-C28)	1630	31.6	mg/kg	263	1200	163	75-125			SPK1

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ConocoPhillips	Project Name:	McGrath #4 SWD	
PO Box 2200	Project Number:	92115-2540	Reported:
Bartlesville OK, 74005	Project Manager:	Tiffany McIntosh	16-Jan-14 11:05

Notes and Definitions

SPK1	The spike recovery for this QC sample is outside of control limits.
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
DI	Duplicates or Matrix Spike Duplicates Relative Percent Difference exceeds 30%.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

RUSH!!!

CHAIN OF CUSTODY RECORD

16294

Client:	Project Name / Location:
ConocoPhillips (hBr)	McGrath #4 SWD
Email results to:	**Sampler Name:**
T. McIntosh	T. McIntosh
Client Phone No.:	**Client No.:**
505-608-1387	92115-2540

ANALYSIS / PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative: HNO_3	Preservative: HCl	Preservative: Cool	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact
1	1/14/14	1434	P401031-01	1-4oz jar			X	X	X												✓	✓
2	"	1436	P401031-02	"			"	"	"												✓	✓
3	"	1439	P401031-03	"			"	"	"												✓	✓
7	"	1448	P401031-04	"			"	"	"												✓	✓

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Tiffany McIntosh	1/14/14	16:52	[signature]	1/14/14	16:55
Relinquished by: (Signature)			Received by: (Signature)		

Sample Matrix

Soil ☑ Solid ☐ Sludge ☐ Aqueous ☐ Other ☐ _____

☐ Sample(s) dropped off after hours to secure drop off area.

ASAP RUSH!!!

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Analytical Laboratory

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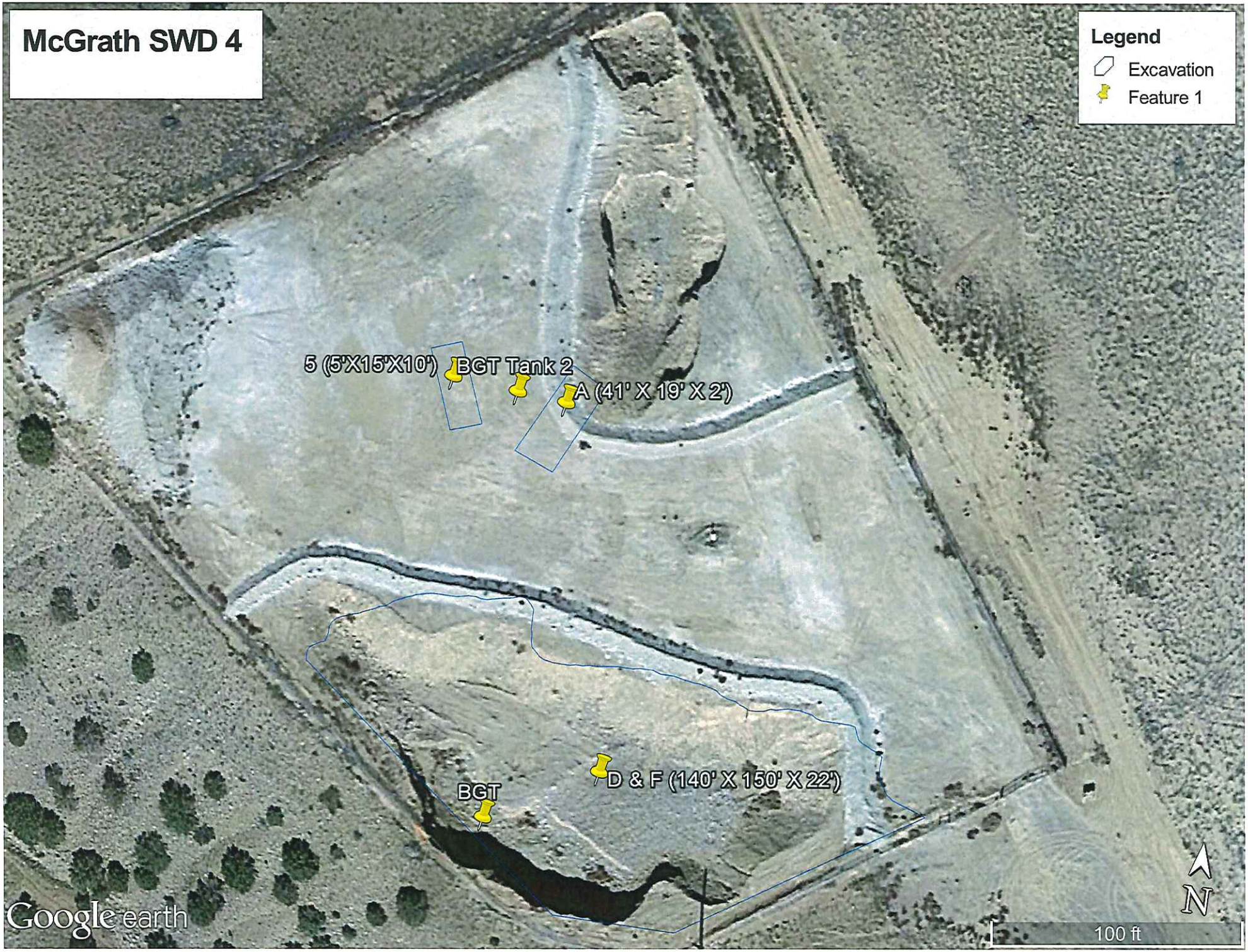
McGrath SWD 4
Legend
Excavation
Feature 1
5 (5'X15'X10')
BGT Tank 2
A (41' X 19' X 2')
D & F (140' X 150' X 22')
BGT
N
100 ft
Google earth