

District I
1628 W. 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**

BGT1

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: Hilcorp Energy Company OGRID #: 372171
Address: 382 Road 3100 Aztec, NM 87410
Facility or well name: SAN JUAN 27-5 UNIT 69
API Number: 3003907139 OCD Permit Number: _____
U/L or Qtr/Qtr A Section 7 Township 27N Range 5W County: RIO ARRIBA
Center of Proposed Design: Latitude 36.59297°N Longitude -107.3938°W NAD27
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 _____

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

NMOCD
MAY 07 2019
DISTRICT III

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 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	☐ 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.

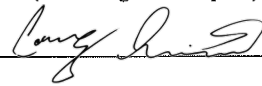
Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

18.

OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☒ OCD Conditions (see ~~attachment~~ ^{Front})

OCD Representative Signature:  Approval Date: _____

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: 4/24/2019

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 _____ Longitude _____ NAD: ☐ 1927 ☐ 1983

Operator Closure Certification:

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

Name (Print): Tammy Jones Title: Operations/Regulatory Technician – Sr.

Signature: Tammy Jones Date: 5/7/2019

e-mail address: tajones@hilcorp.com Telephone: (505)324-5185

**Hilcorp Energy Company
San Juan Basin
Below Grade Tank Closure Report**

Lease Name: SAN JUAN 27-5 UNIT 69

API No.: 3003907139

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. HILCORP 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, HILCORP 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. HILCORP 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. HILCORP 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 HILCORP 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. HILCORP will test the soils beneath the below-grade tank to determine whether a release has occurred. HILCORP 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. Hilcorp 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 HILCORP or the division determines that a release has occurred, then HILCORP 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 HILCORP 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 was 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:
- Operator's name
 - Location by Unit Letter, Section, Township, and Range. Well name and API number.

Notification is attached.

9. The surface owner shall be notified of HILCORP'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 sent via email. (See Attached) (Well located on Federal Land, certified mail is not required for Federal Land per BLM/OCD MOU.)

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 area was re-contoured to match fit, shape, line, form and texture of the surrounding area. Re-shaping including drainage control, to prevent ponding and erosion. Natural drainages were unimpeded and water bars and/or silt traps were placed in areas where needed to prevent erosion on a large scale. Final recontour has a uniform appearance with smooth surface, fitting the natural landscape.

11. HILCORP 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 be 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. Hilcorp will repeat seeding or planting will be continued until successful vegetative growth occurs.

Provision 13 was accomplished through complying with BLM seeding requirements as allowed by the BLM/OCD MOU.

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 area was backfilled and more than four feet of cover was achieved and the cover included one foot of suitable material to establish vegetation at the site.

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 **(Included as an attachment)**

Tammy Jones

From: Tammy Jones
Sent: Thursday, May 2, 2019 3:40 PM
To: Smith, Cory, EMNRD; 'l1thomas@blm.gov'; 'aadeloye@blm.gov'
Cc: Lindsay Dumas; Etta Trujillo; Clayton Hamilton; Trevor Coleman; John LaMond; Juanita Farrell; Lisa Jones
Subject: BGT Closure Notification - San Juan 27-5 Unit #69 3003907139

Subject: BGT Closure Notification

The subject well had a below-grade tank that was removed during remediation. Please contact me at any time if you have any questions or concerns.

Well Name: SAN JUAN 27-5 UNIT 69

API#: 3003907139

Location: Unit A (NE/NE) Section 7, T27N, R05W

Footages: 1090' FNL & 990' FEL

Operator: Hilcorp Energy Company **Surface Owner:** BLM

Reason: Remediation reference #NVF170333370

Tammy Jones | **HILCORP ENERGY** | San Juan East Regulatory | 505.324.5185 | tajones@hilcorp.com

OIL CONS. DIV DIST. 3

MAR 10 2017

Form C-141
Revised August 8, 2011Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Burlington Resources, a Wholly Owned Subsidiary of ConocoPhillips Company	Contact Brady Crouch
Address 3401 East 30 th St., Farmington, NM	Telephone No. 832-486-3016
Facility Name San Juan 27-5 No. 69	Facility Type Gas Well

Surface Owner Federal	Mineral Owner (SF-079391)	API No. 30-039-07139
-----------------------	---------------------------	----------------------

LOCATION OF RELEASE

Unit Letter A	Section 7	Township 27N	Range 5W	Feet from the 1090	North/South Line North	Feet from the 990	East/West Line East	County Rio Arriba
------------------	--------------	-----------------	-------------	-----------------------	---------------------------	----------------------	------------------------	----------------------

Latitude 36.59307 Longitude -107.39423

NATURE OF RELEASE

Type of Release Historic	Volume of Release Unknown	Volume Recovered
Source of Release Discovered below tank pit	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 05-15-14 @ 12:00 p.m.
Was Immediate Notice Given? ☐ Yes ☐ No ☐ Not Required	If YES, To Whom? N/A	
By Whom? N/A	Date and Hour N/A	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

OIL CONS. DIV DIST. 3

MAR 10 2017

Describe Cause of Problem and Remedial Action Taken.* Soil stain (contamination) was discovered after tank removal during a facility reset. Horiz. delineation via hand auger indicated impacted subsurface soils. Direct-push boring program advanced 14 borings to max 15ft. Refusal to DPT in bedrock at that depth. Field screening and lab analyses (TPH) indicated petrol hydrocarbon impacts outside bermed area. See attached data from assessment reports

Describe Area Affected and Cleanup Action Taken.* Five auger borings were drilled to 25-30 ft followed by 10 additional borings to 25 ft. to further delineate extent of subsurface hydrocarbon impacts. Field screening and lab analyses indicated most impacted area is geographically downslope to the southwest of tank berm. See attached data from assessment reports. To further characterize site for potential human health and environmental impacts, additional soil samples will be collected and analyzed for TX1005/TX1006 and PAH constituents. Results will be used in a human health risk and ecological risk assessment to aid in selection of remedial action.

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: <i>Joseph B. Crouch</i>	OIL CONSERVATION DIVISION	
Printed Name: Joseph B. Crouch	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Program Manager - RMI: R	Approval Date: 6/21/18	Expiration Date:
E-mail Address: j.brady.crouch@cop.com	Conditions of Approval: <i>→</i>	Attached ☒ Email <i>302</i>
Date: 3-8-17	Phone: 832-486-3016	

* Attach Additional Sheets If Necessary

NUF 170333370

Smith, Cory, EMNRD

From: Smith, Cory, EMNRD
Sent: Thursday, June 21, 2018 11:09 AM
To: 'Clara Cardoza'
Cc: Fields, Vanessa, EMNRD
Subject: San Juan 27-5 #69 (30-039-07139) Incident#nvf170333370

Clara,

OCD has received a ConocoPhillips now HilCorp C-141 "Initial" on 3/10/2017 for the San Juan 27-5 #69. After Review the OCD has approved the Initial C-141 "Assessment report" with the following conditions of approval.

- OCD has denied HEC request for risk base closure.
- OCD agrees with HEC site assessment the site ranking is a 10 due to distance from significant water course. The Closure standards will be 1,000 mg/kg TPH, 50 mg/kg BTEX and 10 mg/kg Benzene.
- HEC must return to the site and initiate remediation no later than September 21, 2018 this time frame includes submittal of a work plan and associated approval if needed.
- HEC will schedule with OCD District III to witness any final soil confirmation sampling.

If you have any questions please give me a call.

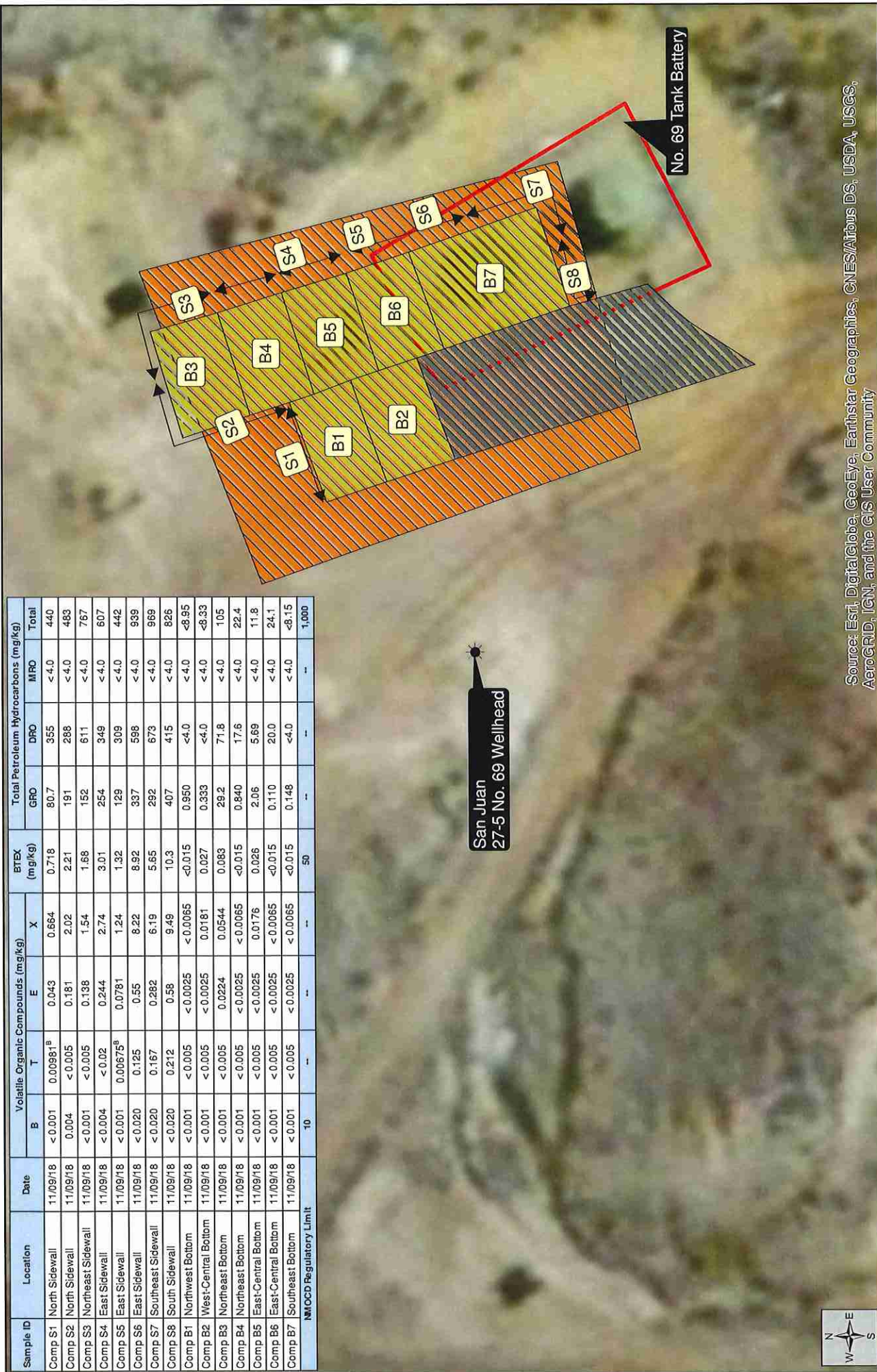
Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

SAN JUAN 27-5 UNIT 69 / API: 3003907139

Reference incident # NVF170333370

Analytical results to be filed with final C141.

Sample ID	Location	Date	Volatile Organic Compounds (mg/kg)				BTX (mg/kg)	Total Petroleum Hydrocarbons (mg/kg)			
			B	T	E	X		GRO	DRO	MRO	Total
Comp S1	North Sidewall	11/09/18	<0.001	0.00981 ^b	0.043	0.664	0.718	80.7	355	<4.0	440
Comp S2	North Sidewall	11/09/18	0.004	<0.005	0.181	2.02	2.21	191	288	<4.0	483
Comp S3	Northeast Sidewall	11/09/18	<0.001	<0.005	0.138	1.54	1.68	152	611	<4.0	767
Comp S4	East Sidewall	11/09/18	<0.004	<0.02	0.244	2.74	3.01	254	349	<4.0	607
Comp S5	East Sidewall	11/09/18	<0.001	0.00676 ^b	0.0781	1.24	1.32	129	309	<4.0	442
Comp S6	East Sidewall	11/09/18	<0.020	0.125	0.55	8.22	8.92	337	598	<4.0	939
Comp S7	Southeast Sidewall	11/09/18	<0.020	0.167	0.282	6.19	5.65	292	673	<4.0	969
Comp S8	South Sidewall	11/09/18	<0.020	0.212	0.58	9.49	10.3	407	415	<4.0	826
Comp B1	Northwest Bottom	11/09/18	<0.001	<0.005	<0.0025	<0.0065	<0.015	0.950	<4.0	<4.0	<8.95
Comp B2	West-Central Bottom	11/09/18	<0.001	<0.005	<0.0025	0.0181	0.027	0.333	<4.0	<4.0	<8.33
Comp B3	Northeast Bottom	11/09/18	<0.001	<0.005	0.0224	0.0544	0.083	29.2	71.8	<4.0	105
Comp B4	Northeast Bottom	11/09/18	<0.001	<0.005	<0.0025	<0.0065	<0.015	0.840	17.6	<4.0	22.4
Comp B5	East-Central Bottom	11/09/18	<0.001	<0.005	<0.0025	0.0176	0.026	2.06	5.69	<4.0	11.8
Comp B6	East-Central Bottom	11/09/18	<0.001	<0.005	<0.0025	<0.0065	<0.015	0.110	20.0	<4.0	24.1
Comp B7	Southeast Bottom	11/09/18	<0.001	<0.005	<0.0025	<0.0065	<0.015	0.148	<4.0	<4.0	<8.15
NMOC Regulatory Limit			10	--	--	--	50	--	--	--	1,000



Created By:
Russell Greer
March 7, 2019
TE Project No.: HEC-180034

Figure 7
Initial Excavation and
Confirmation Event No. 1

Project Status Report

San Juan 27-5 No. 69
Hilcorp Energy Company
Rio Arriba County, New Mexico

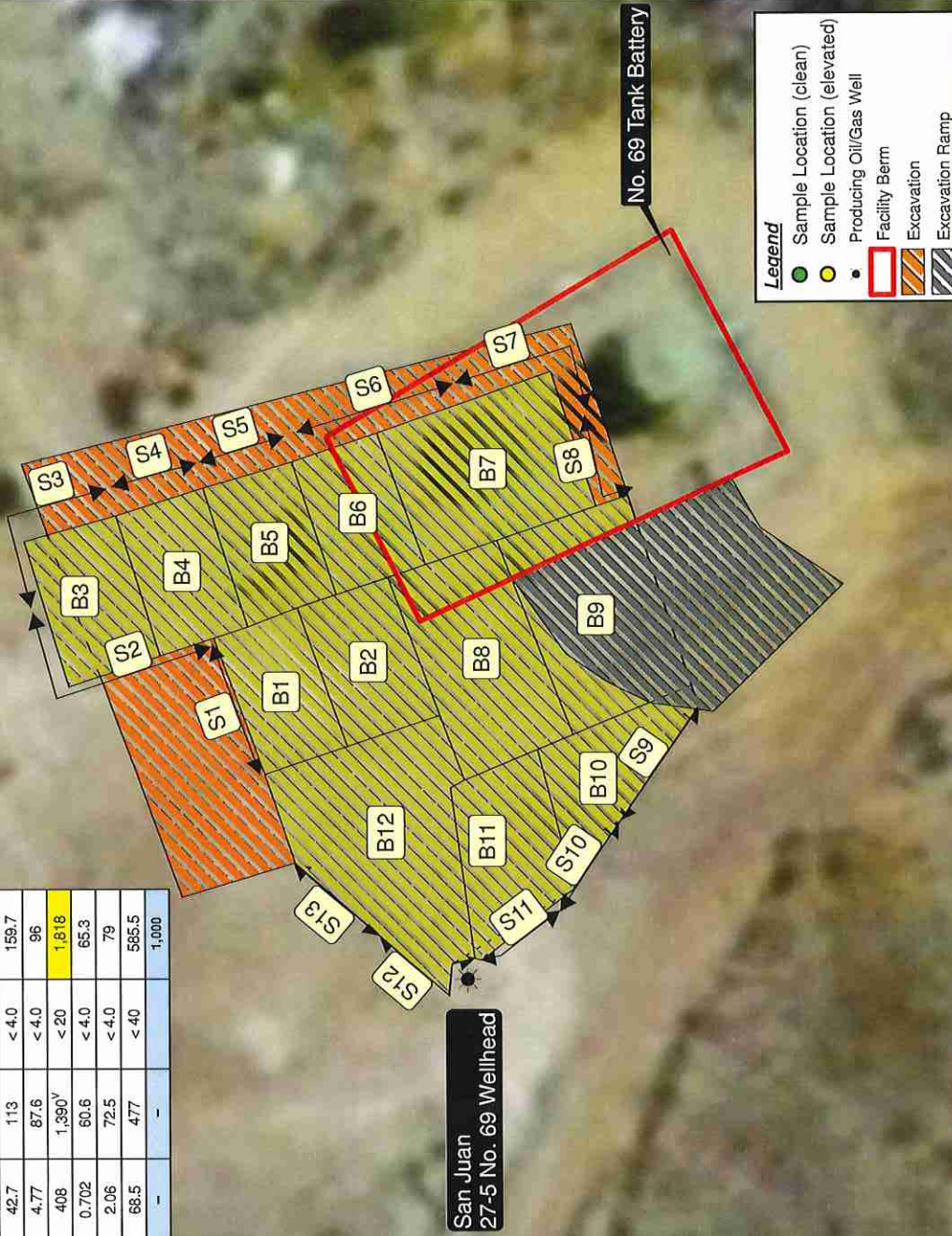
Scale: 1:500
0 50 100 150 200 250 Feet

Datum: NAD83
Imagery Source: ESRI
Vector Source: TE

Sample Date:
November 9, 2018

Producing Oil/Gas Well
Facility Berm
Excavation Slope/Bench
Excavation Ramp
Composite Soil Samples

Sample ID	Volatile Organic Compounds (mg/kg)				Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
	B	T	E	X					
S9	0.129	< 0.1	1.65	27.7	29,579	606	3,120	< 40	3,766
S10	0.792	1.06	12	212	225.85	3,290	6,690	< 40	10,020
S11	0.371	6.95	9.89	129	145.88	2,520	1,130	< 40	3,690
S12	< 0.02	0.105	0.575	8.55	9.25	410	406	< 20	836
S13	< 0.001	< 0.005	0.0119	0.322	0.34	42.7	113	< 4.0	159.7
B8	< 0.001	< 0.005	< 0.0025	< 0.0065	0.015	4.77	87.6	< 4.0	96
B9	< 0.008	< 0.04	0.384	9.86	10.29	408	1,390 ^v	< 20	1,818
B10	< 0.001	< 0.005	< 0.0025	< 0.0065	0.015	0.702	60.6	< 4.0	65.3
B11	< 0.001	< 0.005	0.00326	0.0151	0.02	2.06	72.5	< 4.0	79
B12	< 0.001	0.00739	0.0477	0.674	0.73	68.5	477	< 40	585.5
Site Criteria	10	—	—	—	50	—	—	—	1,000



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 8
Additional Excavation
and Confirmation Event No. 2



Created By:
Russell Greer
March 7, 2019
TE Project No.: HEC-180034

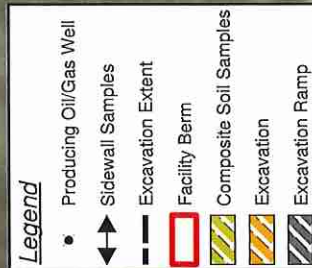
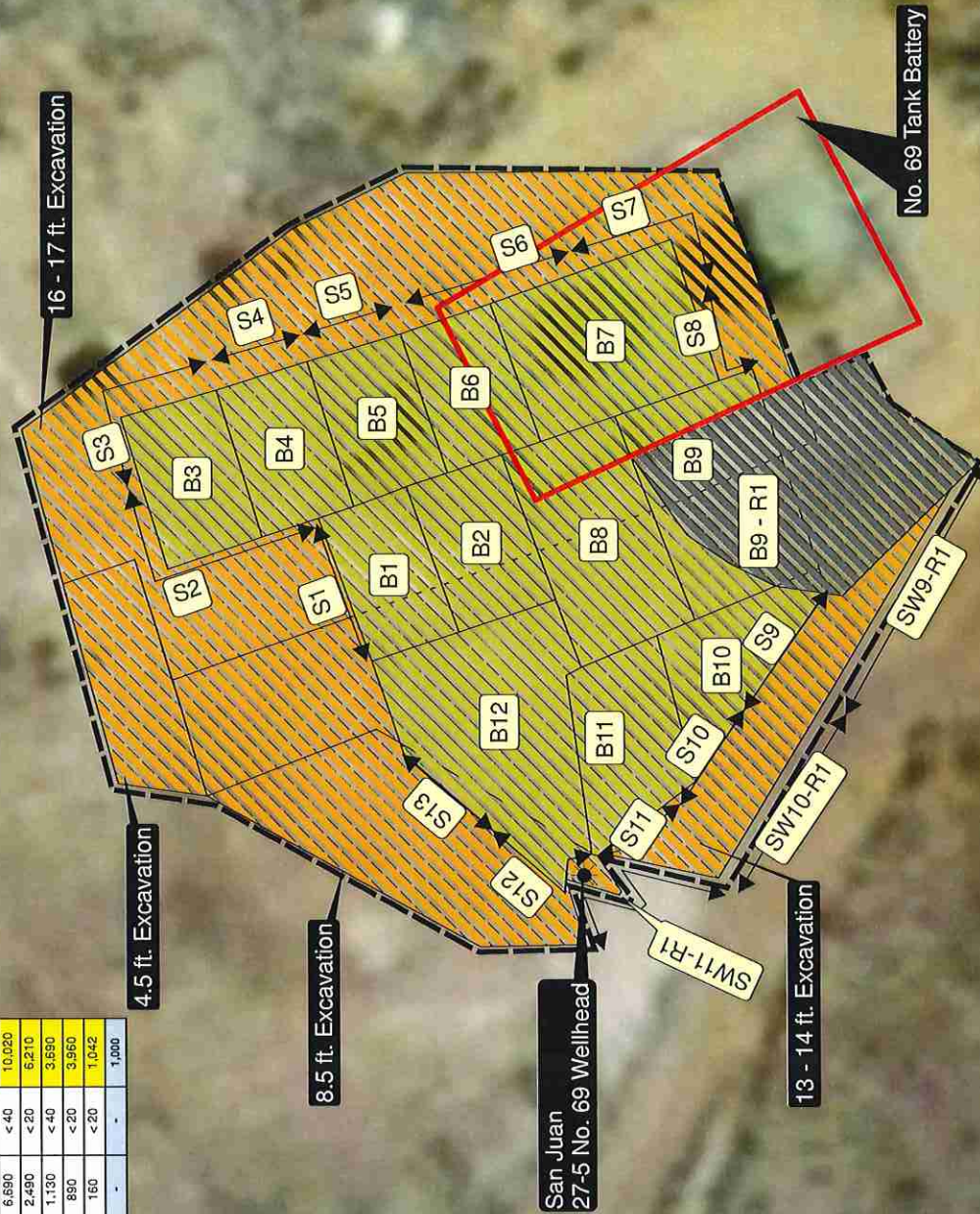
Project Status Report

San Juan 27-5 No. 69
Hilcorp Energy Company
Rio Arriba County, New Mexico

Sample Date:
November 28, 2018

Datum: NAD83
Imagery Source: ESRI
Vector Source: TE

Sample ID	Sample Date	Volatile Organic Compounds (mg/kg)					Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MBO (mg/kg)	TPH (mg/kg)
		B	T	E	X						
S9	11/19/18	0.129	<0.1	1.65	27.7		29.579	606	3.120	<40	3,765
SW9-R1	12/19/18	0.65	<2.5	3.75	106		110.4	2,620	2,020	<20	4,640
S10	11/19/18	0.792	1.06	12	212		225.85	3,290	6,890	<40	10,020
SW10-R1	12/19/18	1.56	<2.5	9.43	187		197.99	3,720	2,490	<20	6,210
S11	11/19/18	0.371	6.95	9.89	129		145.68	2,520	1,130	<40	3,690
SW11-R	12/19/18	2.07	24.5	9.64	139		175.21	3,070	890	<20	3,960
B9-R1	12/19/18	0.13	<1.0	1.45	26.6		28.18	882	160	<20	1,042
Site Criteria		10	-	-	-		50	-	-	-	1,000



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 9
Final Excavation Extent
and Confirmation Event No. 3

Project Status Report



San Juan 27-5 No. 69
Hilcorp Energy Company
Rio Arriba County, New Mexico

Created By:
Russell Greer
March 7, 2019
TE Project No.: HEC-180034

Sample Date:
December 11, 2018

Datum: NAD83
Imagery Source: ESRI
Vector Source: TE



November 14, 2018

HilCorp-Farmington, NM

Sample Delivery Group: L1043379
Samples Received: 11/12/2018
Project Number:
Description: San Juan 27-5 #69
Site: SAN JUAN 27-5 #69
Report To: Jim Foster
382 Road 3100
Aztec, NM 87401

Entire Report Reviewed By:



Olivia Studebaker
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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COMP S1 L1043379-01 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 09:15	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195701	1	11/14/18 09:14	11/14/18 09:21	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	200	11/12/18 12:57	11/13/18 04:57	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	1	11/12/18 12:57	11/13/18 23:36	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 13:10	KME
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	5	11/12/18 20:40	11/13/18 19:45	KME

¹ Cp² Tc³ Ss⁴ Cn

COMP S2 L1043379-02 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 09:25	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195701	1	11/14/18 09:14	11/14/18 09:21	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	200	11/12/18 12:57	11/13/18 05:21	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	1	11/12/18 12:57	11/13/18 23:55	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 02:45	KME

⁵ Sr⁶ Qc⁷ Gl⁸ Al

COMP S3 L1043379-03 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 09:35	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1196217	1	11/14/18 06:43	11/14/18 06:50	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	200	11/12/18 12:57	11/13/18 05:45	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	1	11/12/18 12:57	11/14/18 00:14	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 13:26	KME
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	5	11/12/18 20:40	11/13/18 20:01	KME

⁹ Sc

COMP S4 L1043379-04 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 09:45	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1196217	1	11/14/18 06:43	11/14/18 06:50	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	200	11/12/18 12:57	11/13/18 06:10	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	4	11/12/18 12:57	11/14/18 05:34	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 13:41	KME
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	5	11/12/18 20:40	11/13/18 22:01	KME

COMP S5 L1043379-05 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 09:55	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1196217	1	11/14/18 06:43	11/14/18 06:50	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	250	11/12/18 12:57	11/13/18 06:34	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	1	11/12/18 12:57	11/14/18 00:32	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 13:57	KME

COMP S6 L1043379-06 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 10:05	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195703	1	11/14/18 09:02	11/14/18 09:11	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	250	11/12/18 12:57	11/13/18 06:58	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1195439	20	11/12/18 12:57	11/13/18 03:22	BMB



COMP S6 L1043379-06 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 10:05	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	20	11/12/18 12:57	11/14/18 05:53	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 14:13	KME
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	5	11/12/18 20:40	11/13/18 22:13	KME

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

COMP S7 L1043379-07 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 10:15	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195703	1	11/14/18 09:02	11/14/18 09:11	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	250	11/12/18 12:57	11/13/18 07:22	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1195439	20	11/12/18 12:57	11/13/18 03:40	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	20	11/12/18 12:57	11/14/18 06:12	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 14:28	KME
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	5	11/12/18 20:40	11/13/18 22:26	KME

COMP S8 L1043379-08 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 10:25	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195703	1	11/14/18 09:02	11/14/18 09:11	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	250	11/12/18 12:57	11/13/18 07:46	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1195439	20	11/12/18 12:57	11/13/18 03:59	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	20	11/12/18 12:57	11/14/18 06:30	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 14:43	KME
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	5	11/12/18 20:40	11/13/18 22:38	KME

COMP B1 L1043379-09 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 10:35	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195703	1	11/14/18 09:02	11/14/18 09:11	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	1	11/12/18 12:57	11/13/18 08:10	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1195439	1	11/12/18 12:57	11/12/18 23:40	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	1	11/12/18 12:57	11/14/18 00:51	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 14:55	KME

COMP B2 L1043379-10 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 10:45	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195703	1	11/14/18 09:02	11/14/18 09:11	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	1	11/12/18 12:57	11/13/18 08:34	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1195439	1	11/12/18 12:57	11/12/18 23:59	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	1	11/12/18 12:57	11/14/18 01:10	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 15:09	KME



COMP B3 L1043379-11 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 10:55	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195703	1	11/14/18 09:02	11/14/18 09:11	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	100	11/12/18 12:57	11/13/18 08:58	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	1	11/12/18 12:57	11/14/18 04:57	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 15:25	KME

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

COMP B4 L1043379-12 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 11:05	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195703	1	11/14/18 09:02	11/14/18 09:11	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	1	11/12/18 12:57	11/13/18 09:23	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1195439	1	11/12/18 12:57	11/13/18 00:17	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1196182	1	11/12/18 12:57	11/14/18 05:16	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 15:40	KME

COMP B5 L1043379-13 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 11:15	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195703	1	11/14/18 09:02	11/14/18 09:11	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	1	11/12/18 12:57	11/13/18 09:47	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1195439	1	11/12/18 12:57	11/13/18 00:36	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 15:56	KME

COMP B6 L1043379-14 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 11:25	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195703	1	11/14/18 09:02	11/14/18 09:11	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	1	11/12/18 12:57	11/13/18 10:11	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1195439	1	11/12/18 12:57	11/13/18 00:54	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 16:12	KME

COMP B7 L1043379-15 Solid

			Collected by	Collected date/time	Received date/time
				11/09/18 11:35	11/12/18 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1195703	1	11/14/18 09:02	11/14/18 09:11	JD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1195452	1	11/12/18 12:57	11/13/18 10:35	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1195439	1	11/12/18 12:57	11/13/18 01:12	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1195381	1	11/12/18 20:40	11/13/18 16:27	KME



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Olivia Studebaker
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.8		1	11/14/2018 09:21	WG1195701

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	80.7		20.0	200	11/13/2018 04:57	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	99.7		77.0-120		11/13/2018 04:57	WG1195452

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	11/13/2018 23:36	WG1196182
Toluene	0.00981	B	0.00500	1	11/13/2018 23:36	WG1196182
Ethylbenzene	0.0430		0.00250	1	11/13/2018 23:36	WG1196182
Total Xylenes	0.664		0.00650	1	11/13/2018 23:36	WG1196182
(S) Toluene-d8	108		75.0-131		11/13/2018 23:36	WG1196182
(S) Dibromofluoromethane	96.7		65.0-129		11/13/2018 23:36	WG1196182
(S) a,a,a-Trifluorotoluene	107		80.0-120		11/13/2018 23:36	WG1196182
(S) 4-Bromofluorobenzene	112		67.0-138		11/13/2018 23:36	WG1196182

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	355		20.0	5	11/13/2018 19:45	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 13:10	WG1195381
(S) o-Terphenyl	84.2		18.0-148		11/13/2018 13:10	WG1195381
(S) o-Terphenyl	91.2		18.0-148		11/13/2018 19:45	WG1195381



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	85.2		1	11/14/2018 09:21	WG1195701

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPH (GC/FID) Low Fraction	191		20.0	200	11/13/2018 05:21	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	99.9		77.0-120		11/13/2018 05:21	WG1195452

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.00397		0.00100	1	11/13/2018 23:55	WG1196182
Toluene	ND		0.00500	1	11/13/2018 23:55	WG1196182
Ethylbenzene	0.181		0.00250	1	11/13/2018 23:55	WG1196182
Total Xylenes	2.02		0.00650	1	11/13/2018 23:55	WG1196182
(S) Toluene-d8	100		75.0-131		11/13/2018 23:55	WG1196182
(S) Dibromofluoromethane	94.9		65.0-129		11/13/2018 23:55	WG1196182
(S) a,a,a-Trifluorotoluene	109		80.0-120		11/13/2018 23:55	WG1196182
(S) 4-Bromofluorobenzene	108		67.0-138		11/13/2018 23:55	WG1196182

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	288		4.00	1	11/13/2018 02:45	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 02:45	WG1195381
(S) o-Terphenyl	97.1		18.0-148		11/13/2018 02:45	WG1195381



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.2		1	11/14/2018 06:50	WG1196217

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	152		20.0	200	11/13/2018 05:45	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	99.9		77.0-120		11/13/2018 05:45	WG1195452

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	11/14/2018 00:14	WG1196182
Toluene	ND		0.00500	1	11/14/2018 00:14	WG1196182
Ethylbenzene	0.138		0.00250	1	11/14/2018 00:14	WG1196182
Total Xylenes	1.54		0.00650	1	11/14/2018 00:14	WG1196182
(S) Toluene-d8	98.5		75.0-131		11/14/2018 00:14	WG1196182
(S) Dibromofluoromethane	99.5		65.0-129		11/14/2018 00:14	WG1196182
(S) a,a,a-Trifluorotoluene	107		80.0-120		11/14/2018 00:14	WG1196182
(S) 4-Bromofluorobenzene	135		67.0-138		11/14/2018 00:14	WG1196182

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	611		20.0	5	11/13/2018 20:01	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 13:26	WG1195381
(S) o-Terphenyl	91.1		18.0-148		11/13/2018 13:26	WG1195381
(S) o-Terphenyl	96.2		18.0-148		11/13/2018 20:01	WG1195381



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.1		1	11/14/2018 06:50	WG1196217

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPH (GC/FID) Low Fraction	254		20.0	200	11/13/2018 06:10	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	99.8		77.0-120		11/13/2018 06:10	WG1195452

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.00400	4	11/14/2018 05:34	WG1196182
Toluene	ND		0.0200	4	11/14/2018 05:34	WG1196182
Ethylbenzene	0.244		0.0100	4	11/14/2018 05:34	WG1196182
Total Xylenes	2.74		0.0260	4	11/14/2018 05:34	WG1196182
(S) Toluene-d8	107		75.0-131		11/14/2018 05:34	WG1196182
(S) Dibromofluoromethane	97.1		65.0-129		11/14/2018 05:34	WG1196182
(S) a,a,a-Trifluorotoluene	108		80.0-120		11/14/2018 05:34	WG1196182
(S) 4-Bromofluorobenzene	120		67.0-138		11/14/2018 05:34	WG1196182

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	349		20.0	5	11/13/2018 22:01	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 13:41	WG1195381
(S) o-Terphenyl	76.9		18.0-148		11/13/2018 13:41	WG1195381
(S) o-Terphenyl	89.6		18.0-148		11/13/2018 22:01	WG1195381



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.2		1	11/14/2018 06:50	WG1196217

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPH (GC/FID) Low Fraction	129		25.0	250	11/13/2018 06:34	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	100		77.0-120		11/13/2018 06:34	WG1195452

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.00100	1	11/14/2018 00:32	WG1196182
Toluene	0.00575	B	0.00500	1	11/14/2018 00:32	WG1196182
Ethylbenzene	0.0781		0.00250	1	11/14/2018 00:32	WG1196182
Total Xylenes	1.24		0.00650	1	11/14/2018 00:32	WG1196182
(S) Toluene-d8	109		75.0-131		11/14/2018 00:32	WG1196182
(S) Dibromofluoromethane	95.0		65.0-129		11/14/2018 00:32	WG1196182
(S) a,a,a-Trifluorotoluene	109		80.0-120		11/14/2018 00:32	WG1196182
(S) 4-Bromofluorobenzene	124		67.0-138		11/14/2018 00:32	WG1196182

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	309		4.00	1	11/13/2018 13:57	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 13:57	WG1195381
(S) o-Terphenyl	85.5		18.0-148		11/13/2018 13:57	WG1195381



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	89.1		1	11/14/2018 09:11	WG1195703

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	337		25.0	250	11/13/2018 06:58	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	98.7		77.0-120		11/13/2018 06:58	WG1195452

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.0200	20	11/14/2018 05:53	WG1196182
Toluene	0.125		0.100	20	11/13/2018 03:22	WG1195439
Ethylbenzene	0.550		0.0500	20	11/13/2018 03:22	WG1195439
Total Xylenes	8.22		0.130	20	11/13/2018 03:22	WG1195439
(S) Toluene-d8	98.5		75.0-131		11/13/2018 03:22	WG1195439
(S) Toluene-d8	115		75.0-131		11/14/2018 05:53	WG1196182
(S) Dibromofluoromethane	122		65.0-129		11/13/2018 03:22	WG1195439
(S) Dibromofluoromethane	102		65.0-129		11/14/2018 05:53	WG1196182
(S) a,a,a-Trifluorotoluene	102		80.0-120		11/13/2018 03:22	WG1195439
(S) a,a,a-Trifluorotoluene	108		80.0-120		11/14/2018 05:53	WG1196182
(S) 4-Bromofluorobenzene	105		67.0-138		11/13/2018 03:22	WG1195439
(S) 4-Bromofluorobenzene	113		67.0-138		11/14/2018 05:53	WG1196182

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	598		20.0	5	11/13/2018 22:13	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 14:13	WG1195381
(S) o-Terphenyl	87.7		18.0-148		11/13/2018 14:13	WG1195381
(S) o-Terphenyl	89.3		18.0-148		11/13/2018 22:13	WG1195381



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	87.9		1	11/14/2018 09:11	WG1195703

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	292		25.0	250	11/13/2018 07:22	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	99.3		77.0-120		11/13/2018 07:22	WG1195452

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.0200	20	11/14/2018 06:12	WG1196182
Toluene	0.157		0.100	20	11/13/2018 03:40	WG1195439
Ethylbenzene	0.282		0.0500	20	11/13/2018 03:40	WG1195439
Total Xylenes	5.19		0.130	20	11/13/2018 03:40	WG1195439
(S) Toluene-d8	96.4		75.0-131		11/13/2018 03:40	WG1195439
(S) Toluene-d8	113		75.0-131		11/14/2018 06:12	WG1196182
(S) Dibromofluoromethane	124		65.0-129		11/13/2018 03:40	WG1195439
(S) Dibromofluoromethane	102		65.0-129		11/14/2018 06:12	WG1196182
(S) a,a,a-Trifluorotoluene	105		80.0-120		11/13/2018 03:40	WG1195439
(S) a,a,a-Trifluorotoluene	108		80.0-120		11/14/2018 06:12	WG1196182
(S) 4-Bromofluorobenzene	107		67.0-138		11/13/2018 03:40	WG1195439
(S) 4-Bromofluorobenzene	105		67.0-138		11/14/2018 06:12	WG1196182

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	673		20.0	5	11/13/2018 22:26	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 14:28	WG1195381
(S) o-Terphenyl	88.5		18.0-148		11/13/2018 14:28	WG1195381
(S) o-Terphenyl	92.9		18.0-148		11/13/2018 22:26	WG1195381



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.1		1	11/14/2018 09:11	WG1195703

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	407		25.0	250	11/13/2018 07:46	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	98.4		77.0-120		11/13/2018 07:46	WG1195452

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.0200	20	11/14/2018 06:30	WG1196182
Toluene	0.212		0.100	20	11/13/2018 03:59	WG1195439
Ethylbenzene	0.580		0.0500	20	11/13/2018 03:59	WG1195439
Total Xylenes	9.49		0.130	20	11/13/2018 03:59	WG1195439
(S) Toluene-d8	96.5		75.0-131		11/13/2018 03:59	WG1195439
(S) Toluene-d8	115		75.0-131		11/14/2018 06:30	WG1196182
(S) Dibromofluoromethane	121		65.0-129		11/13/2018 03:59	WG1195439
(S) Dibromofluoromethane	99.4		65.0-129		11/14/2018 06:30	WG1196182
(S) a,a,a-Trifluorotoluene	102		80.0-120		11/13/2018 03:59	WG1195439
(S) a,a,a-Trifluorotoluene	109		80.0-120		11/14/2018 06:30	WG1196182
(S) 4-Bromofluorobenzene	103		67.0-138		11/13/2018 03:59	WG1195439
(S) 4-Bromofluorobenzene	112		67.0-138		11/14/2018 06:30	WG1196182

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	415		20.0	5	11/13/2018 22:38	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 14:43	WG1195381
(S) o-Terphenyl	86.9		18.0-148		11/13/2018 22:38	WG1195381
(S) o-Terphenyl	87.0		18.0-148		11/13/2018 14:43	WG1195381



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.2		1	11/14/2018 09:11	WG1195703

Volatile Organic Compounds (GC) by Method 8015D/GRO

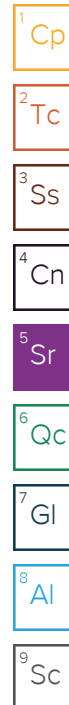
Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.950		0.100	1	11/13/2018 08:10	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	97.1		77.0-120		11/13/2018 08:10	WG1195452

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	11/14/2018 00:51	WG1196182
Toluene	ND		0.00500	1	11/12/2018 23:40	WG1195439
Ethylbenzene	ND		0.00250	1	11/12/2018 23:40	WG1195439
Total Xylenes	ND		0.00650	1	11/12/2018 23:40	WG1195439
(S) Toluene-d8	96.9		75.0-131		11/12/2018 23:40	WG1195439
(S) Toluene-d8	115		75.0-131		11/14/2018 00:51	WG1196182
(S) Dibromofluoromethane	121		65.0-129		11/12/2018 23:40	WG1195439
(S) Dibromofluoromethane	98.0		65.0-129		11/14/2018 00:51	WG1196182
(S) a,a,a-Trifluorotoluene	100		80.0-120		11/12/2018 23:40	WG1195439
(S) a,a,a-Trifluorotoluene	106		80.0-120		11/14/2018 00:51	WG1196182
(S) 4-Bromofluorobenzene	102		67.0-138		11/12/2018 23:40	WG1195439
(S) 4-Bromofluorobenzene	110		67.0-138		11/14/2018 00:51	WG1196182

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	11/13/2018 14:55	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 14:55	WG1195381
(S) o-Terphenyl	79.2		18.0-148		11/13/2018 14:55	WG1195381





Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	86.6		1	11/14/2018 09:11	WG1195703

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.333		0.100	1	11/13/2018 08:34	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	98.2		77.0-120		11/13/2018 08:34	WG1195452

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	11/14/2018 01:10	WG1196182
Toluene	ND		0.00500	1	11/12/2018 23:59	WG1195439
Ethylbenzene	ND		0.00250	1	11/12/2018 23:59	WG1195439
Total Xylenes	0.0181		0.00650	1	11/12/2018 23:59	WG1195439
(S) Toluene-d8	101		75.0-131		11/12/2018 23:59	WG1195439
(S) Toluene-d8	115		75.0-131		11/14/2018 01:10	WG1196182
(S) Dibromofluoromethane	121		65.0-129		11/12/2018 23:59	WG1195439
(S) Dibromofluoromethane	97.7		65.0-129		11/14/2018 01:10	WG1196182
(S) a,a,a-Trifluorotoluene	101		80.0-120		11/12/2018 23:59	WG1195439
(S) a,a,a-Trifluorotoluene	109		80.0-120		11/14/2018 01:10	WG1196182
(S) 4-Bromofluorobenzene	103		67.0-138		11/12/2018 23:59	WG1195439
(S) 4-Bromofluorobenzene	106		67.0-138		11/14/2018 01:10	WG1196182

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	11/13/2018 15:09	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 15:09	WG1195381
(S) o-Terphenyl	60.5		18.0-148		11/13/2018 15:09	WG1195381

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	93.1		1	11/14/2018 09:11	WG1195703

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	29.2		10.0	100	11/13/2018 08:58	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	99.9		77.0-120		11/13/2018 08:58	WG1195452

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	11/14/2018 04:57	WG1196182
Toluene	ND		0.00500	1	11/14/2018 04:57	WG1196182
Ethylbenzene	0.0224		0.00250	1	11/14/2018 04:57	WG1196182
Total Xylenes	0.0544		0.00650	1	11/14/2018 04:57	WG1196182
(S) Toluene-d8	83.1		75.0-131		11/14/2018 04:57	WG1196182
(S) Dibromofluoromethane	96.5		65.0-129		11/14/2018 04:57	WG1196182
(S) a,a,a-Trifluorotoluene	111		80.0-120		11/14/2018 04:57	WG1196182
(S) 4-Bromofluorobenzene	113		67.0-138		11/14/2018 04:57	WG1196182

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	71.8		4.00	1	11/13/2018 15:25	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 15:25	WG1195381
(S) o-Terphenyl	69.3		18.0-148		11/13/2018 15:25	WG1195381



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.0		1	11/14/2018 09:11	WG1195703

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.840		0.100	1	11/13/2018 09:23	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	97.4		77.0-120		11/13/2018 09:23	WG1195452

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	11/14/2018 05:16	WG1196182
Toluene	ND		0.00500	1	11/13/2018 00:17	WG1195439
Ethylbenzene	ND		0.00250	1	11/13/2018 00:17	WG1195439
Total Xylenes	ND		0.00650	1	11/13/2018 00:17	WG1195439
(S) Toluene-d8	99.3		75.0-131		11/13/2018 00:17	WG1195439
(S) Toluene-d8	119		75.0-131		11/14/2018 05:16	WG1196182
(S) Dibromofluoromethane	118		65.0-129		11/13/2018 00:17	WG1195439
(S) Dibromofluoromethane	97.6		65.0-129		11/14/2018 05:16	WG1196182
(S) a,a,a-Trifluorotoluene	103		80.0-120		11/13/2018 00:17	WG1195439
(S) a,a,a-Trifluorotoluene	107		80.0-120		11/14/2018 05:16	WG1196182
(S) 4-Bromofluorobenzene	104		67.0-138		11/13/2018 00:17	WG1195439
(S) 4-Bromofluorobenzene	106		67.0-138		11/14/2018 05:16	WG1196182

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	17.6		4.00	1	11/13/2018 15:40	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 15:40	WG1195381
(S) o-Terphenyl	68.5		18.0-148		11/13/2018 15:40	WG1195381

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Gl
8	Al
9	Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.0		1	11/14/2018 09:11	WG1195703

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPH (GC/FID) Low Fraction	2.06		0.100	1	11/13/2018 09:47	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	97.2		77.0-120		11/13/2018 09:47	WG1195452

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.00100	1	11/13/2018 00:36	WG1195439
Toluene	ND		0.00500	1	11/13/2018 00:36	WG1195439
Ethylbenzene	ND		0.00250	1	11/13/2018 00:36	WG1195439
Total Xylenes	0.0176		0.00650	1	11/13/2018 00:36	WG1195439
(S) Toluene-d8	99.0		75.0-131		11/13/2018 00:36	WG1195439
(S) Dibromofluoromethane	120		65.0-129		11/13/2018 00:36	WG1195439
(S) a,a,a-Trifluorotoluene	103		80.0-120		11/13/2018 00:36	WG1195439
(S) 4-Bromofluorobenzene	106		67.0-138		11/13/2018 00:36	WG1195439

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	5.69		4.00	1	11/13/2018 15:56	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 15:56	WG1195381
(S) o-Terphenyl	57.5		18.0-148		11/13/2018 15:56	WG1195381



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.1		1	11/14/2018 09:11	WG1195703

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.110		0.100	1	11/13/2018 10:11	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	98.3		77.0-120		11/13/2018 10:11	WG1195452

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	11/13/2018 00:54	WG1195439
Toluene	ND		0.00500	1	11/13/2018 00:54	WG1195439
Ethylbenzene	ND		0.00250	1	11/13/2018 00:54	WG1195439
Total Xylenes	ND		0.00650	1	11/13/2018 00:54	WG1195439
(S) Toluene-d8	97.0		75.0-131		11/13/2018 00:54	WG1195439
(S) Dibromofluoromethane	122		65.0-129		11/13/2018 00:54	WG1195439
(S) a,a,a-Trifluorotoluene	103		80.0-120		11/13/2018 00:54	WG1195439
(S) 4-Bromofluorobenzene	103		67.0-138		11/13/2018 00:54	WG1195439

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	20.0		4.00	1	11/13/2018 16:12	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 16:12	WG1195381
(S) o-Terphenyl	72.7		18.0-148		11/13/2018 16:12	WG1195381



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.1		1	11/14/2018 09:11	WG1195703

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPH (GC/FID) Low Fraction	0.148		0.100	1	11/13/2018 10:35	WG1195452
(S) a,a,a-Trifluorotoluene(FID)	98.4		77.0-120		11/13/2018 10:35	WG1195452

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.00100	1	11/13/2018 01:12	WG1195439
Toluene	ND		0.00500	1	11/13/2018 01:12	WG1195439
Ethylbenzene	ND		0.00250	1	11/13/2018 01:12	WG1195439
Total Xylenes	ND		0.00650	1	11/13/2018 01:12	WG1195439
(S) Toluene-d8	101		75.0-131		11/13/2018 01:12	WG1195439
(S) Dibromofluoromethane	119		65.0-129		11/13/2018 01:12	WG1195439
(S) a,a,a-Trifluorotoluene	102		80.0-120		11/13/2018 01:12	WG1195439
(S) 4-Bromofluorobenzene	105		67.0-138		11/13/2018 01:12	WG1195439

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.00	1	11/13/2018 16:27	WG1195381
C28-C40 Oil Range	ND		4.00	1	11/13/2018 16:27	WG1195381
(S) o-Terphenyl	79.4		18.0-148		11/13/2018 16:27	WG1195381

Method Blank (MB)

(MB) R3359851-1 11/14/18 09:21

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1043156-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1043156-01 11/14/18 09:21 • (DUP) R3359851-3 11/14/18 09:21

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	83.7	83.5	1	0.196		10

Laboratory Control Sample (LCS)

(LCS) R3359851-2 11/14/18 09:21

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

L1043379-06,07,08,09,10,11,12,13,14,15

 ${}^1\text{Cp}$ ${}^2\text{Tc}$ ${}^3\text{Ss}$ ${}^4\text{Cn}$ ${}^5\text{Sr}$ ${}^6\text{Qc}$ ⁷Gl ${}^8\text{Al}$ ${}^9\text{Sc}$

Method Blank (MB)

(MB) R3359788-1 11/14/18 06:50

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1043611-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1043611-01 11/14/18 06:50 • (DUP) R3359788-3 11/14/18 06:50

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	96.6	96.6	1	0.0445		10

Laboratory Control Sample (LCS)

(LCS) R3359788-2 11/14/18 06:50

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3359556-3 11/13/18 02:32				
Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	99.9			77.0-120

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3359556-1 11/13/18 01:20 • (LCSD) R3359556-2 11/13/18 01:44										
Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
TPH (GC/FID) Low Fraction	5.50	5.76	5.78	105	105	72.0-127			0.490	20
(S) a,a,a-Trifluorotoluene(FID)				104	105	77.0-120				

L1042999-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1042999-10 11/13/18 10:59 • (MS) R3359556-4 11/13/18 11:24 • (MSD) R3359556-5 11/13/18 11:48												
Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	81.6	105	102	17.0	15.1	25	10.0-151			2.42	28
(S) a,a,a-Trifluorotoluene(FID)					102	102		77.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3359549-2 11/12/18 21:34

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000885	⬇	0.000400	0.00100
Ethylbenzene	U		0.000530	0.00250
Toluene	U		0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	99.0			75.0-131
(S) Dibromofluoromethane	119			65.0-129
(S) a,a,a-Trifluorotoluene	102			80.0-120
(S) 4-Bromofluorobenzene	103			67.0-138

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Laboratory Control Sample (LCS)

(LCS) R3359549-1 11/12/18 20:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.120	96.1	70.0-123	
Ethylbenzene	0.125	0.120	96.2	74.0-126	
Toluene	0.125	0.114	91.5	75.0-121	
Xylenes, Total	0.375	0.369	98.4	72.0-127	
(S) Toluene-d8			97.8	75.0-131	
(S) Dibromofluoromethane			119	65.0-129	
(S) a,a,a-Trifluorotoluene			102	80.0-120	
(S) 4-Bromofluorobenzene			103	67.0-138	

L1043204-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1043204-04 11/12/18 23:03 • (MS) R3359549-3 11/13/18 04:17 • (MSD) R3359549-4 11/13/18 04:35

Analyte	Spike Amount mg/kg	Original Result	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.125		0.0933	0.0820	73.8	64.8	1	10.0-149			12.9	37
Ethylbenzene	0.125	ND	0.0895	0.0805	71.6	64.4	1	10.0-160			10.6	38
Toluene	0.125	ND	0.0874	0.0798	69.9	63.8	1	10.0-156			9.10	38
Xylenes, Total	0.375	ND	0.285	0.256	75.9	68.2	1	10.0-160			10.7	38
(S) Toluene-d8					97.9	99.7		75.0-131				
(S) Dibromofluoromethane					120	116		65.0-129				
(S) a,a,a-Trifluorotoluene					102	101		80.0-120				
(S) 4-Bromofluorobenzene					102	104		67.0-138				



Method Blank (MB)

(MB) R3359615-2 11/13/18 20:54

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
Ethylbenzene	0.000531	U	0.000530	0.00250
Toluene	0.00152	U	0.00125	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	115			75.0-131
(S) Dibromofluoromethane	95.6			65.0-129
(S) a,a,a-Trifluorotoluene	107			80.0-120
(S) 4-Bromofluorobenzene	104			67.0-138

Laboratory Control Sample (LCS)

(LCS) R3359615-1 11/13/18 19:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.125	0.116	92.5	70.0-123	
Ethylbenzene	0.125	0.114	90.8	74.0-126	
Toluene	0.125	0.112	89.7	75.0-121	
Xylenes, Total	0.375	0.345	92.0	72.0-127	
(S) Toluene-d8			112	75.0-131	
(S) Dibromofluoromethane			100	65.0-129	
(S) a,a,a-Trifluorotoluene			110	80.0-120	
(S) 4-Bromofluorobenzene			109	67.0-138	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3359221-1 11/13/18 02:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	92.3			18.0-148

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3359221-2 11/13/18 02:19 • (LCSD) R3359221-3 11/13/18 02:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	33.6	37.0	67.2	74.0	50.0-150			9.63	20
(S) o-Terphenyl				97.6	98.3	18.0-148				

L1043379-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1043379-02 11/13/18 02:45 • (MS) R3359221-4 11/13/18 03:02 • (MSD) R3359221-5 11/13/18 03:16

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	288	338	317	100	58.0	1	50.0-150	E		6.41	20
(S) o-Terphenyl					110	101		18.0-148				



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

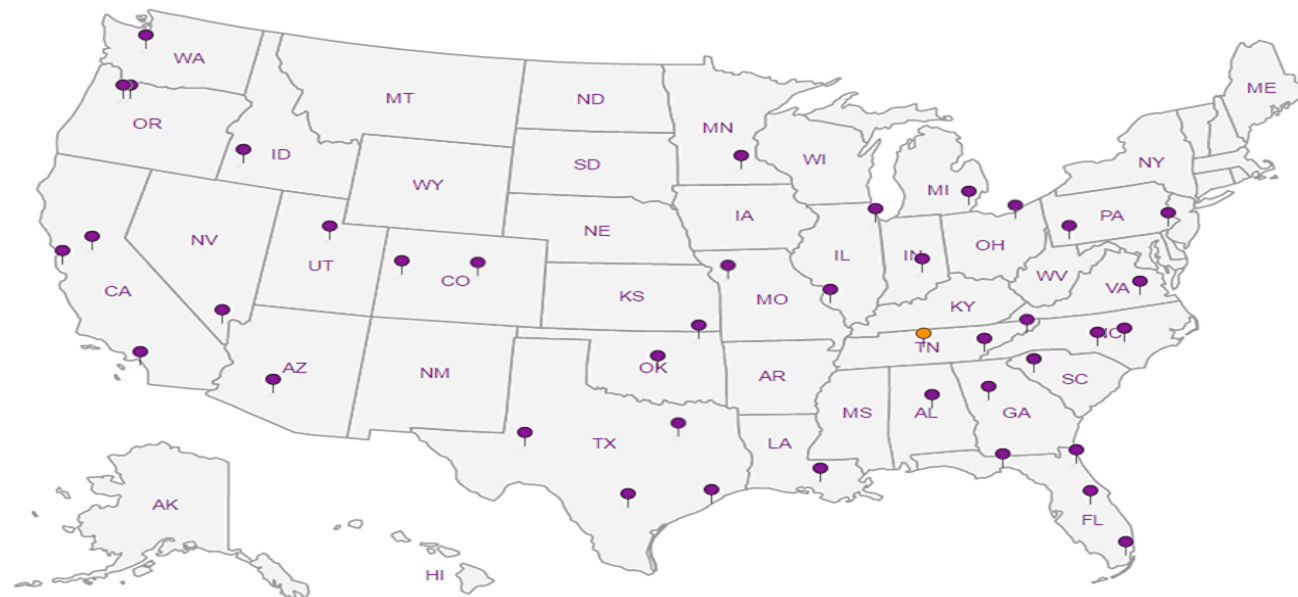
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



TestAmerica Houston

6310 Rothway Street

Houston, TX 77040-5862

Phone: 713.690.4444 Fax: 713.690.5646

Chain of Custody Record

C140

174019

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TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Client Contact		Project Manager: <u>Jim Foster</u>		Site Contact:		Date:		COC No:		
Company Name: <u>Timberwolf Env</u>		Tel/Fax:		Lab Contact:		Carrier:		1 of 2 COCs		
Address:		Analysis Turnaround Time		Filtered Sample (Y/N) <u>BTEX</u> Perform MS / MSD (Y/N) <u>TPH GLO, DRO</u> <u>(8015 Ext Range)</u>		Sampler:		For Lab Use Only:		
City/State/Zip: <u>Bryan TX 77807</u>		☐ CALENDAR DAYS ☐ WORKING DAYS				Walk-in Client:		Lab Sampling:		
Phone: <u>979-324-2139</u>		TAT if different from Below: <u>Same Day</u>				Job / SDG No.:				
Fax:		☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day								
Project Name: <u>San Juan 27-5 #69</u>										
Site:										
P.O.# <u>Invoice: Hilcorp - Farmington</u>										
Lindsay Dumas								L104337A		
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sample Specific Notes:			
Camp S1		10/9/18	0915	C	S	2	✓✓			
Camp S2			0925	C	S	2	✓✓			
Camp S3			0935	C	S	2	✓✓			
Camp S4			0945	C	S	2	✓✓			
Camp S5			0955	C	S	2	✓✓			
Camp S6			1005	C	S	2	✓✓			
Camp S7			1015	C	S	2	✓✓			
Camp S8			1025	C	S	2	✓✓			
Camp B1			1035	C	S	2	✓✓			
Camp B2			1045	C	S	2	✓✓			
Camp B3			1055	C	S	2	✓✓			
Camp B4		✓	1105	C	S	2	✓✓			
Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other										
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.										
☒ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown										
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)										
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months										
Special Instructions/QC Requirements & Comments:										
RAD SCREEN: <0.5 mR/hr										
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____		Corr'd: _____		Therm ID No.:		
Relinquished by: <u>[Signature]</u>		Company: <u>Timberwolf</u>		Date/Time: <u>11/10/18 1540</u>		Received by: <u>[Signature]</u>		Company: _____		
Relinquished by: _____		Company: _____		Date/Time: _____		Received by: _____		Company: _____		
Relinquished by: _____		Company: _____		Date/Time: _____		Received in Laboratory by: <u>[Signature]</u>		Company: _____		
								Date/Time: <u>11/12/18 0900</u>		

7837 085 386

Count=30

3.1°C 3.1°C TDA2

Phone: 713.690.4444 Fax: 713.690.5646

PACE
National

Pace National
174020

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

TAL-8210 (0713)

[illegible]

Count = 30

3.1% to 3.4% TDAZ

TDA

Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client: <u>HILORANM</u>		SDG# <u>61043379</u>			
Cooler Received/Opened On: <u>11/10/12/18</u>		Temperature: <table border="1"><tr><td></td><td></td></tr></table>			
Received By: <u>Troy Dunlap</u>					
Signature: <u>[Signature]</u>					
Receipt Check List	NP	Yes	No		
COC Seal Present / Intact?	☒	☐	☐		
COC Signed / Accurate?	☐	☒	☐		
Bottles arrive intact?	☐	☒	☐		
Correct bottles used?	☐	☒	☐		
Sufficient volume sent?	☐	☒	☐		
If Applicable	☐	☐	☐		
VOA Zero headspace?	☐	☐	☐		
Preservation Correct / Checked?	☐	☐	☐		



WELLSERVICES, INC.
SAN JUAN 27-5 UNIT WP69" NO"
LEISLE NO 51 010391 ELEV 4010' 6"
1050' N. 980' E. SEC. 7, T. 22N. R. 5 W. M. 10N
MO. ALBERTA COUNTY, N.M. MEXICO

