

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

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

Form C-144
Revised April 3, 2017

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

BGT-1

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

- Type of action:
[ ] Below grade tank registration
[ ] Permit of a pit or proposed alternative method
[X] 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: Lodewick 15
API Number: 30-045-27719 OCD Permit Number:
U/L or Qtr/Qtr L Section 30 Township 27N Range 09W County: San Juan
Center of Proposed Design: Latitude 36.543922 Longitude 107.835256 NAD83
Surface Owner: [X] 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.
[X] 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 [X] 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 [X] Other Unspecified

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

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

6.  
**Netting:** Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)  
 Screen  Netting  Other \_\_\_\_\_  
 Monthly inspections (If netting or screening is not physically feasible)

7.  
**Signs:** Subsection C of 19.15.17.11 NMAC  
 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers  
 Signed in compliance with 19.15.16.8 NMAC

8.  
**Variations and Exceptions:**  
 Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.  
**Please check a box if one or more of the following is requested, if not leave blank:**  
 Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.  
 Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.  
**Siting Criteria (regarding permitting):** 19.15.17.10 NMAC  
*Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Siting criteria does not apply to drying pads or above-grade tanks.*

| <u>General siting</u>   |  |
|---|--|
| <b><u>Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.</u></b><br>- <input type="checkbox"/> NM Office of the State Engineer - iWATERS database search; <input type="checkbox"/> USGS; <input type="checkbox"/> Data obtained from nearby wells  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input checked="" type="checkbox"/> NA |
| <b><u>Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.</u></b><br>NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input checked="" type="checkbox"/> 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. <b>(Does not apply to below grade tanks)</b><br>- Written confirmation or verification from the municipality; Written approval obtained from the municipality                              | <input type="checkbox"/> Yes <input type="checkbox"/> No   |
| Within the area overlying a subsurface mine. <b>(Does not apply to below grade tanks)</b><br>- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division  | <input type="checkbox"/> Yes <input type="checkbox"/> No   |
| Within an unstable area. <b>(Does not apply to below grade tanks)</b><br>- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map  | <input type="checkbox"/> Yes <input type="checkbox"/> No   |
| Within a 100-year floodplain. <b>(Does not apply to below grade tanks)</b><br>- FEMA map  | <input type="checkbox"/> Yes <input type="checkbox"/> No   |
| <b><u>Below Grade Tanks</u></b>   |  |
| Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).<br>- Topographic map; Visual inspection (certification) of the proposed site  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                |
| Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;.<br>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                |
| <b><u>Temporary Pit using Low Chloride Drilling Fluid</u></b> (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.)<br>- Topographic map; Visual inspection (certification) of the proposed site   | <input type="checkbox"/> Yes <input type="checkbox"/> No   |
| Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image   | <input type="checkbox"/> Yes <input type="checkbox"/> 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.<br>NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> No   |

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

**Temporary Pit Non-low chloride drilling fluid**

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

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

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

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

**Permanent Pit or Multi-Well Fluid Management Pit**

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

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

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

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

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

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

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

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

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

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

- Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- Climatological Factors Assessment
- Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- Quality Control/Quality Assurance Construction and Installation Plan
- Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- Nuisance or Hazardous Odors, including H<sub>2</sub>S, 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.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is between 25-50 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is more than 100 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).<br>- Topographic map; Visual inspection (certification) of the proposed site                        | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image  | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application.<br>- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Written confirmation or verification from the municipality; Written approval obtained from the municipality   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 300 feet of a wetland.<br>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |

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

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

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

17. **Operator Application Certification:**

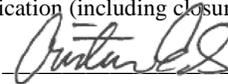
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

e-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_

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

**OCD Representative Signature:**  **Approval Date:** 09/30/2020

**Title:** Environmental Specialist **OCD Permit Number:** 30-045-27719

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:** 06/29/2020

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

22.

**Operator Closure Certification:**

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

Name (Print): Cherylene Weston Title: Operations/Regulatory Technician-Sr.

Signature: Cherylene Weston Date: 07/16/2020

e-mail address: cweston@hilcorp.com Telephone: 505-564-0779

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

**Lease Name: Lodewick #15**

**API No.: 30-045-27719**

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.

7/14/2020

**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 not 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:
- i. Operator's name
  - ii. 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 placed 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)**

## Cheryl Weston

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**From:** Cheryl Weston  
**Sent:** Tuesday, June 9, 2020 7:36 AM  
**To:** 'Smith, Cory, EMNRD'  
**Cc:** 'Adeloye, Abiodun'; Kandis Roland; Kurt Hoekstra; Roman Lucero; Clara Cardoza; Freddie Garcia  
**Subject:** RE: 72 Hour notification - Lodewick 15 (API 30-045-27719)

**Update: Tank will not be removed; it will be moved and re-set above grade.**

---

**From:** Cheryl Weston  
**Sent:** Tuesday, June 9, 2020 7:23 AM  
**To:** 'Smith, Cory, EMNRD' <Cory.Smith@state.nm.us>  
**Cc:** 'Adeloye, Abiodun' <aadeloye@blm.gov>; Kandis Roland <kroland@hilcorp.com>; Kurt Hoekstra <khoekstra@hilcorp.com>; Roman Lucero <rlucero@hilcorp.com>; Clara Cardoza <ccardoza@hilcorp.com>; Freddie Garcia <fgarcia@hilcorp.com>  
**Subject:** 72 Hour notification - Lodewick 15 (API 30-045-27719)

**Subject: 72 Hour BGT Closure Notification**

**Anticipated Start Date: Monday, June 15, 2020 at approximately 9:00 a.m.**

The subject well has **one** below-grade tank that will begin the closure process between 72 hours and one week from this notification. Please contact me at any time if you have any questions or concerns.

**Well Name:** Lodewick #15

**API#:** 30-045-27719

**Location:** Unit L (NWSW), Section 30, T27N, R09W

**Footages:** 1840' FSL & 875' FWL

**Operator:** Hilcorp Energy **Surface Owner: Federal (Lease NMNM02861)**

**Reason:** Tank is out of service and is being removed from location.

Thanks,

Cheryl Weston  
San Juan South Regulatory  
505-564-0779  
[cweston@hilcorp.com](mailto:cweston@hilcorp.com)



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

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

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

|                |  |
|----------------|--|
| Incident ID    |  |
| District RP    |  |
| Facility ID    |  |
| Application ID |  |

## Release Notification

### Responsible Party

|                         |                              |                   |                   |
|-------------------------|------------------------------|-------------------|-------------------|
| Responsible Party       | Hilcorp Energy Company       | OGRID             | 372171            |
| Contact Name            | Cherylene Weston             | Contact Telephone | (505) 564-0779    |
| Contact email           | cweston@hilcorp.com          | Incident #        | (assigned by OCD) |
| Contact mailing address | 382 Road 3100 Aztec NM 87410 |                   |                   |

### Location of Release Source

Latitude 36.543922 Longitude -107.835256  
(NAD 83 in decimal degrees to 5 decimal places)

|                         |             |                      |              |
|-------------------------|-------------|----------------------|--------------|
| Site Name               | Lodewick 15 | Site Type            | Gas Well     |
| Date Release Discovered | N/A         | API# (if applicable) | 30-045-27719 |

| Unit Letter | Section | Township | Range | County   |
|-------------|---------|----------|-------|----------|
| L           | 30      | 27N      | 9W    | SAN JUAN |

Surface Owner:  State  Federal  Tribal  Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

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

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

Cause of Release

No release was encountered during the BGT Closure.

State of New Mexico  
Oil Conservation Division

|                |  |
|----------------|--|
| Incident ID    |  |
| District RP    |  |
| Facility ID    |  |
| Application ID |  |

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

### Initial Response

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

|  |
|--|
| <input type="checkbox"/> The source of the release has been stopped.<br><input type="checkbox"/> The impacted area has been secured to protect human health and the environment.<br><input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.<br><input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.   |
| If all the actions described above have <u>not</u> been undertaken, explain why:<br><br><br>   |
| Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.  |
| I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. |
| Printed Name: <u>Cherylene Weston</u> Title: <u>Operations/Regulatory Technician – Sr.</u><br>Signature: <u>Cherylene Weston</u> Date: <u>07/09/2020</u><br>email: <u>cweston@hilcorp.com</u> Telephone: <u>(505) 564-0779</u>   |
| <b>OCD Only</b><br><br>Received by: _____ Date: _____  |



# ANALYTICAL REPORT

June 22, 2020

Lodewick 15 - API#: 3004527719

## HilCorp-Farmington, NM

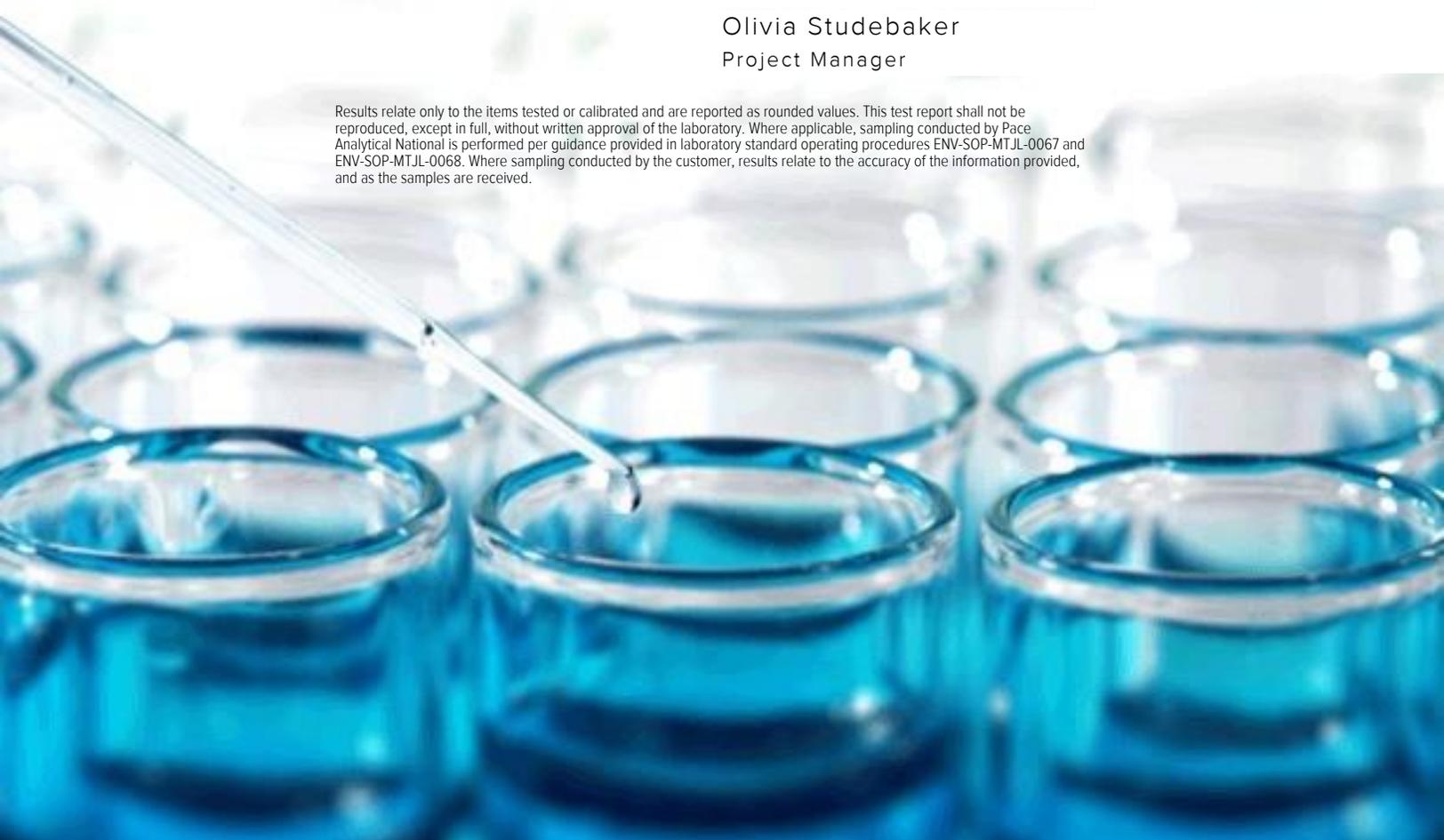
Sample Delivery Group: L1229655  
 Samples Received: 06/16/2020  
 Project Number: Lodewick 14 &15  
 Description: Lodewick 14 and Lodewick 15 BGT samples  
 Site: LODEWICK 14 &15  
 Report To: Clara Cardoza  
 382 Road 3100  
 Aztec, NM 87410



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 Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



|   |           |   |
|---|-----------|---|
| <b>Cp: Cover Page</b>                               | <b>1</b>  |  |
| <b>Tc: Table of Contents</b>                        | <b>2</b>  |   |
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| <b>Cn: Case Narrative</b>                           | <b>4</b>  |   |
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| LODEWICK 14 L1229655-02                             | <b>6</b>  |  |
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| Volatile Organic Compounds (GC) by Method 8015/8021 | <b>8</b>  |  |
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| <b>Gl: Glossary of Terms</b>                        | <b>11</b> |  |
| <b>Al: Accreditations &amp; Locations</b>           | <b>12</b> |  |
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**LODEWICK 15 L1229655-01 Solid**

Collected by C Cardoza  
 Collected date/time 06/15/20 09:49  
 Received date/time 06/16/20 08:45

| Method  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Wet Chemistry by Method 300.0                       | WG1494713 | 1        | 06/18/20 21:10        | 06/19/20 01:29     | ELN     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1494838 | 1        | 06/17/20 11:18        | 06/19/20 02:33     | DWR     | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1495261 | 1        | 06/19/20 21:37        | 06/21/20 10:59     | JN      | Mt. Juliet, TN |

1 Cp

2 Tc

3 Ss

4 Cn

**LODEWICK 14 L1229655-02 Solid**

Collected by C Cardoza  
 Collected date/time 06/15/20 09:11  
 Received date/time 06/16/20 08:45

| Method  | Batch     | Dilution | Preparation date/time | Analysis date/time | Analyst | Location       |
|---|-----------|----------|-----------------------|--------------------|---------|----------------|
| Wet Chemistry by Method 300.0                       | WG1494713 | 1        | 06/18/20 21:10        | 06/19/20 01:39     | ELN     | Mt. Juliet, TN |
| Volatile Organic Compounds (GC) by Method 8015/8021 | WG1494838 | 1        | 06/17/20 11:18        | 06/19/20 02:55     | DWR     | Mt. Juliet, TN |
| Semi-Volatile Organic Compounds (GC) by Method 8015 | WG1495261 | 1        | 06/19/20 21:37        | 06/21/20 11:13     | TJD     | Mt. Juliet, TN |

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

Collected date/time: 06/15/20 09:49

L1229655

Wet Chemistry by Method 300.0

| Analyte  | Result | Qualifier | RDL  | Dilution | Analysis         | Batch                     |
|----------|--------|-----------|------|----------|------------------|---------------------------|
| Chloride | 176    |           | 20.0 | 1        | 06/19/2020 01:29 | <a href="#">WG1494713</a> |

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte                         | Result | Qualifier | RDL      | Dilution | Analysis         | Batch                     |
|---------------------------------|--------|-----------|----------|----------|------------------|---------------------------|
| Benzene                         | ND     |           | 0.000500 | 1        | 06/19/2020 02:33 | <a href="#">WG1494838</a> |
| Toluene                         | ND     |           | 0.00500  | 1        | 06/19/2020 02:33 | <a href="#">WG1494838</a> |
| Ethylbenzene                    | ND     |           | 0.000500 | 1        | 06/19/2020 02:33 | <a href="#">WG1494838</a> |
| Total Xylene                    | ND     |           | 0.00150  | 1        | 06/19/2020 02:33 | <a href="#">WG1494838</a> |
| TPH (GC/FID) Low Fraction       | ND     |           | 0.100    | 1        | 06/19/2020 02:33 | <a href="#">WG1494838</a> |
| (S) a,a,a-Trifluorotoluene(FID) | 92.2   |           | 77.0-120 |          | 06/19/2020 02:33 | <a href="#">WG1494838</a> |
| (S) a,a,a-Trifluorotoluene(PID) | 95.2   |           | 72.0-128 |          | 06/19/2020 02:33 | <a href="#">WG1494838</a> |

3 Ss

4 Cn

5 Sr

6 Qc

Semi-Volatile Organic Compounds (GC) by Method 8015

| Analyte              | Result | Qualifier | RDL      | Dilution | Analysis         | Batch                     |
|----------------------|--------|-----------|----------|----------|------------------|---------------------------|
| C10-C28 Diesel Range | 12.5   |           | 4.00     | 1        | 06/21/2020 10:59 | <a href="#">WG1495261</a> |
| C28-C40 Oil Range    | 70.8   |           | 4.00     | 1        | 06/21/2020 10:59 | <a href="#">WG1495261</a> |
| (S) o-Terphenyl      | 51.4   |           | 18.0-148 |          | 06/21/2020 10:59 | <a href="#">WG1495261</a> |

7 Gl

8 Al

9 Sc

Collected date/time: 06/15/20 09:11

L1229655

Wet Chemistry by Method 300.0

| Analyte  | Result | Qualifier | RDL  | Dilution | Analysis date / time | Batch                     |
|----------|--------|-----------|------|----------|----------------------|---------------------------|
| Chloride | 39.0   |           | 20.0 | 1        | 06/19/2020 01:39     | <a href="#">WG1494713</a> |

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015/8021

| Analyte                         | Result | Qualifier | RDL      | Dilution | Analysis date / time | Batch                     |
|---------------------------------|--------|-----------|----------|----------|----------------------|---------------------------|
| Benzene                         | ND     |           | 0.000500 | 1        | 06/19/2020 02:55     | <a href="#">WG1494838</a> |
| Toluene                         | ND     |           | 0.00500  | 1        | 06/19/2020 02:55     | <a href="#">WG1494838</a> |
| Ethylbenzene                    | ND     |           | 0.000500 | 1        | 06/19/2020 02:55     | <a href="#">WG1494838</a> |
| Total Xylene                    | ND     |           | 0.00150  | 1        | 06/19/2020 02:55     | <a href="#">WG1494838</a> |
| TPH (GC/FID) Low Fraction       | ND     |           | 0.100    | 1        | 06/19/2020 02:55     | <a href="#">WG1494838</a> |
| (S) a,a,a-Trifluorotoluene(FID) | 92.2   |           | 77.0-120 |          | 06/19/2020 02:55     | <a href="#">WG1494838</a> |
| (S) a,a,a-Trifluorotoluene(PID) | 94.8   |           | 72.0-128 |          | 06/19/2020 02:55     | <a href="#">WG1494838</a> |

3 Ss

4 Cn

5 Sr

6 Qc

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        | 06/21/2020 11:13     | <a href="#">WG1495261</a> |
| C28-C40 Oil Range    | ND     |           | 4.00     | 1        | 06/21/2020 11:13     | <a href="#">WG1495261</a> |
| (S) o-Terphenyl      | 46.5   |           | 18.0-148 |          | 06/21/2020 11:13     | <a href="#">WG1495261</a> |

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 300.0

[L1229655-01,02](#)

Method Blank (MB)

(MB) R3540684-1 06/18/20 22:38

| Analyte  | MB Result | MB Qualifier | MB MDL | MB RDL |
|----------|-----------|--------------|--------|--------|
|          | mg/kg     |              | mg/kg  | mg/kg  |
| Chloride | U         |              | 9.20   | 20.0   |

1 Cp

2 Tc

3 Ss

Laboratory Control Sample (LCS)

(LCS) R3540684-2 06/18/20 22:48

| Analyte  | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|----------|--------------|------------|----------|-------------|---------------|
|          | mg/kg        | mg/kg      | %        | %           |               |
| Chloride | 200          | 205        | 103      | 90.0-110    |               |

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method 8015/8021

[L1229655-01,02](#)

Method Blank (MB)

(MB) R3541441-3 06/18/20 18:49

| Analyte                            | MB Result | MB Qualifier | MB MDL   | MB RDL   |
|------------------------------------|-----------|--------------|----------|----------|
|                                    | mg/kg     |              | mg/kg    | mg/kg    |
| Benzene                            | U         |              | 0.000120 | 0.000500 |
| Toluene                            | U         |              | 0.000150 | 0.00500  |
| Ethylbenzene                       | U         |              | 0.000110 | 0.000500 |
| Total Xylene                       | U         |              | 0.000460 | 0.00150  |
| TPH (GC/FID) Low Fraction          | 0.0546    | J            | 0.0217   | 0.100    |
| (S)<br>a,a,a-Trifluorotoluene(FID) | 93.0      |              |          | 77.0-120 |
| (S)<br>a,a,a-Trifluorotoluene(PID) | 98.6      |              |          | 72.0-128 |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

Laboratory Control Sample (LCS)

(LCS) R3541441-1 06/18/20 17:26

| Analyte                            | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|------------------------------------|--------------|------------|----------|-------------|---------------|
|                                    | mg/kg        | mg/kg      | %        | %           |               |
| Benzene                            | 0.0500       | 0.0468     | 93.6     | 76.0-121    |               |
| Toluene                            | 0.0500       | 0.0451     | 90.2     | 80.0-120    |               |
| Ethylbenzene                       | 0.0500       | 0.0474     | 94.8     | 80.0-124    |               |
| Total Xylene                       | 0.150        | 0.139      | 92.7     | 37.0-160    |               |
| (S)<br>a,a,a-Trifluorotoluene(FID) |              |            | 92.8     | 77.0-120    |               |
| (S)<br>a,a,a-Trifluorotoluene(PID) |              |            | 96.9     | 72.0-128    |               |

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3541441-2 06/18/20 18:05

| Analyte                            | Spike Amount | LCS Result | LCS Rec. | Rec. Limits | LCS Qualifier |
|------------------------------------|--------------|------------|----------|-------------|---------------|
|                                    | mg/kg        | mg/kg      | %        | %           |               |
| TPH (GC/FID) Low Fraction          | 5.50         | 5.27       | 95.8     | 72.0-127    |               |
| (S)<br>a,a,a-Trifluorotoluene(FID) |              |            | 96.9     | 77.0-120    |               |
| (S)<br>a,a,a-Trifluorotoluene(PID) |              |            | 107      | 72.0-128    |               |

Volatile Organic Compounds (GC) by Method 8015/8021

[L1229655-01,02](#)

L1229181-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1229181-06 06/18/20 23:26 • (MS) R3541441-4 06/19/20 05:09

| Analyte                            | Spike Amount<br>mg/kg | Original Result<br>mg/kg | MS Result<br>mg/kg | MS Rec.<br>% | Dilution | Rec. Limits<br>% | MS Qualifier |
|------------------------------------|-----------------------|--------------------------|--------------------|--------------|----------|------------------|--------------|
| Benzene                            | 5.00                  | 1.20                     | 5.27               | 81.4         | 100      | 10.0-155         |              |
| Toluene                            | 5.00                  | 0.500                    | 5.08               | 91.6         | 100      | 10.0-160         |              |
| Ethylbenzene                       | 5.00                  | 15.6                     | 18.8               | 64.0         | 100      | 10.0-160         |              |
| Total Xylene                       | 15.0                  | 59.6                     | 67.7               | 54.0         | 100      | 10.0-160         |              |
| (S)<br>a,a,a-Trifluorotoluene(FID) |                       |                          |                    | 108          |          | 77.0-120         |              |
| (S)<br>a,a,a-Trifluorotoluene(PID) |                       |                          |                    | 111          |          | 72.0-128         |              |

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method 8015

[L1229655-01.02](#)

Method Blank (MB)

(MB) R3541042-1 06/21/20 09:45

| Analyte              | MB Result<br>mg/kg | MB Qualifier | MB MDL<br>mg/kg | MB RDL<br>mg/kg |
|----------------------|--------------------|--------------|-----------------|-----------------|
| C10-C28 Diesel Range | U                  |              | 1.61            | 4.00            |
| C28-C40 Oil Range    | U                  |              | 0.274           | 4.00            |
| (S) o-Terphenyl      | 77.5               |              |                 | 18.0-148        |

Laboratory Control Sample (LCS)

(LCS) R3541042-2 06/21/20 09:59

| Analyte              | Spike Amount<br>mg/kg | LCS Result<br>mg/kg | LCS Rec.<br>% | Rec. Limits<br>% | LCS Qualifier |
|----------------------|-----------------------|---------------------|---------------|------------------|---------------|
| C10-C28 Diesel Range | 50.0                  | 49.4                | 98.8          | 50.0-150         |               |
| (S) o-Terphenyl      |                       |                     | 77.8          | 18.0-148         |               |

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

## 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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### 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. |
| Uncertainty (Radiochemistry) | Confidence level of 2 sigma.   |
| 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

|   |   |
|---|---|
| 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 <sup>1</sup>     | n/a              |
| Colorado                | TN00003     | New York                    | 11742            |
| Connecticut             | PH-0197     | North Carolina              | Env375           |
| Florida                 | E87487      | North Carolina <sup>1</sup> | DW21704          |
| Georgia                 | NELAP       | North Carolina <sup>3</sup> | 41               |
| Georgia <sup>1</sup>    | 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 <sup>1,6</sup> | 90010       | South Carolina              | 84004            |
| Kentucky <sup>2</sup>   | 16          | South Dakota                | n/a              |
| Louisiana               | AI30792     | Tennessee <sup>1,4</sup>    | 2006             |
| Louisiana <sup>1</sup>  | LA180010    | Texas                       | T104704245-18-15 |
| Maine                   | TN0002      | Texas <sup>5</sup>          | 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             |

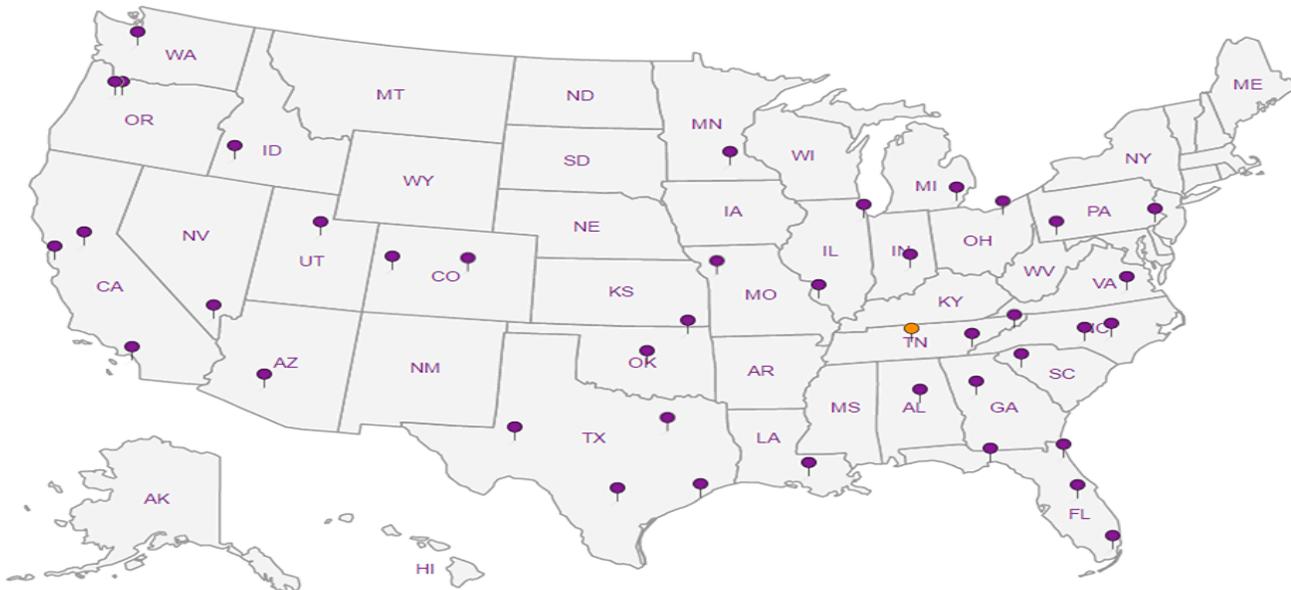
### Third Party Federal Accreditations

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

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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.



1 Cp

2 Tc

3 Ss

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7 Gl

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9 Sc



The Lodewick 15 well's fiberglass above grade tank was registered incorrectly as a metal tank in 2008 by the previous Operator. Hilcorp requests closure of the BGT permit. The fiberglass pit was removed and a new above grade tank was set in place.



