

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 NMOC District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOC District Office.

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
☒ 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: Schwerdtfeger A 3M
API Number: 30-045-11605 OCD Permit Number: _____
U/L or Qtr/Qtr D Section 6 Township 27N Range 8W County: San Juan
Center of Proposed Design: Latitude 36.60923 Longitude -107.727739 NAD83
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

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

3.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 95-Production bbl Type of fluid: Produced Water
Tank Construction material: Steel
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☒ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

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

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

6.

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

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

7.

Signs: Subsection C of 19.15.17.11 NMAC

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

8.

Variations and Exceptions:

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

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

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

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC***Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Siting criteria does not apply to drying pads or above-grade tanks.*****General siting****Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.**

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

☐ Yes ☐ No
☒ NA

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

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

☐ Yes ☐ No
☒ NA

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

- FEMA map

☐ Yes ☐ No

Below Grade Tanks

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

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

☐ Yes ☒ No

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

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

☐ Yes ☒ No

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

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

Within 100 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Temporary Pit Non-low chloride drilling fluid

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;

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

☐ Yes ☐ No

Within 300 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Permanent Pit or Multi-Well Fluid Management Pit

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

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

☐ Yes ☐ No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

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

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

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

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

10.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

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

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

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

11.

Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC

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

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

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

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

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

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H₂S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13. **Proposed Closure:** 19.15.17.13 NMAC

Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

- Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ Below-grade Tank ☐ Multi-well Fluid Management Pit
☐ Alternative
- Proposed Closure Method: ☒ Waste Excavation and Removal
☐ Waste Removal (Closed-loop systems only)
☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
☐ In-place Burial ☐ On-site Trench Burial
☐ Alternative Closure Method

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

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

15. **Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC

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

| | |
|---|---|
| Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA |
| Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA |
| Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA |
| Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Written confirmation or verification from the municipality; Written approval obtained from the municipality | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance | |

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)
Report

OCD Representative Signature: Victoria Venegas **Approval Date:** 12/30/2021

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

19.

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

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

☒ **Closure Completion Date:** 7/30/2019

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

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): Kandis Roland Title: Operations/Regulatory Technician – Sr

Signature: Kandis Roland Date: 9/22/2020

e-mail address: kroland@hilcorp.com Telephone: (505) 324-5149

**Hilcorp Energy Company
San Juan Basin: New Mexico Assets
Below Grade Tank Closure Report**

Lease Name: Schwerdtfeger A 3M
API No.: 30-045-11605

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 Requirements:

1. Prior to initiating any BGT closure, except in the case of an emergency, HILCORP will notify the surface owner of the intent to close the BGT by certified mail no later than 72 hours or one week before closure and a copy of this notification will be included in the closure report. In the case of an emergency, the surface owner will be notified as soon as practical.

The surface owner was notified by email of the closure process and the notification is attached.

2. Notice of closure will be given to the District Division office between 72 hours and one week of the scheduled closure via email or phone. The notification of closure will include the following:
 - a. Operators Name
 - b. Well Name and API Number
 - c. Location

Notification is attached.

3. All liquids will be removed from the BGT following cessation of operation. Produced water will be disposed of at one of HILCORP's approved Salt Water Disposal facilities or at a District Division approved facility.

All recovered liquids were disposed of at an approved SWD facility or an approved District Division facility within 60 days of cessation of operation.

4. Solids and sludge's will be shoveled and/or vacuumed out for disposal at one of the District Division approved facilities, depending on the proximity of the BGT site: Envirotech Land Farm (Permit #NM-01-011), JFJ Land Farm % Industrial Ecosystems Inc. (Permit #NM-01-0010B), and Basin Disposal (Permit #NM-01-005).

Any sludge or soil required to be removed to facilitate closure was transported to Envirotech Land Farm (Permit # NM-01-011) and/or JFJ Landfarm % IEI (Permit# NM-01-0010B).

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5. HILCORP will obtain prior approval from District Division to dispose, recycle, reuse, or reclaim the BGT and provide documentation of the disposition of the BGT in the closure report. Steel materials will be recycled or reused as approved by the District Division. Fiberglass tanks will be empty, cut up or shredded, and EPA cleaned for disposal as solid waste. Liner materials will be cleaned without soils or contaminated material for disposal as solid waste. Fiberglass tanks and liner materials will meet the conditions of 19.15.35 NMAC. Disposal will be at a licensed disposal facility, presently San Juan County Landfill operated by Waste Management under NMED Permit SWM-052426.

The below-grade tank was disposed of in a division-approved manner. The liner was cleaned per 19.15.35.8.C(1)(m) NMAC and disposed of at the San Juan County Regional Landfill located on CR 3100.

6. Any equipment associated with the BGT that is no longer required for some other purpose, following the closure, will be removed.

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

7. Following removal of the tank and any liner material, HILCORP will test the soils beneath the BGT as follows:
 - a. At a minimum, a five-point composite sample will be taken to include any obvious stained or wet soils or any other evidence of contamination.
 - b. The laboratory sample shall be analyzed for the constituents listed in Table I of 19.15.17.13.

A five point composite sample was taken of the below-grade tank using sampling tools and all samples tested per Table I of 19.15.17.13 and the results are attached.

8. If the District Division and/or HILCORP determine there is a release, HILCORP will comply with 19.15.17.13.C.3b.

A release was determined for the above referenced well.

9. Upon completion of the tank removal, pursuant to 19.15.17.13.C.3c, if all contaminant concentrations are less than or equal to the parameters listed in Table I of 19.15.17.13 NMAC, the excavation will be backfilled with non-waste earthen material compacted and covered with a minimum of one foot top soil or background thickness whichever is greater and to existing grade. The surface will be re-contoured to match the native grade and to prevent ponding.

The tank removal area passed all requirements of Table I of 19.15.17.13 NMAC and was backfilled with compacted, non-waste containing, earthen material which included at least one foot of suitable material to establish vegetation at the site.

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10. For those portions of the former BGT area no longer required for production activities, HILCORP will seed the disturbed area the first favorable growing season after the BGT is covered. Seeding will be accomplished via drilling on the contour whenever practical, or by other District Division-approved methods. HILCORP will notify the District Division when reclamation and re-vegetation is complete.

Reclamation of the BGT shall be considered complete when:

- Vegetative cover reflects a life form ratio of +/- 50% of pre disturbance levels.
- Total percent plant cover of at least 70% of pre-disturbance levels (Excluding noxious weeds) OR
- Pursuant to 19.15.17.13.H.5d HILCORP will comply with obligations imposed by other applicable federal or tribal agencies in which there re-vegetation and reclamation requirements provide equal or better protection of fresh water, human health and the environment.

Provision 10 will be accomplished pursuant to 19.15.17.H.5d and notification will be submitted upon completion.

11. For those portions of the former BGT area required for production activities, reseeding will be done at well abandonment, and following the procedure noted above.

The former BGT area is required for production activities and reseeding will be completed upon plug and abandonment, per the procedure noted above.

Closure Report:

All closure activities will include proper documentation and will be submitted to OCD within 60 days of the BGT closure on a Closure Report using District Division Form C-144. The Report will include the following:

- Proof of Closure Notice (surface owner and District Division) **(Attached)**
- Backfilling & cover installation **(See Report)**
- Confirmation Sampling Analytical Results **(Attached)**
- Application Rate & Seeding techniques **(See Report)**
- Photo Documentation of Reclamation **(Attached)**

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State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
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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 | OGRID 372171 |
| Contact Name Clara Cardoza | Contact Telephone 505.564.0733 |
| Contact email ccardoza@hilcorp.com | Incident # (assigned by OCD) NCS1915527449 |
| Contact mailing address 382 CR 3100, Aztec NM 87410 | |

Location of Release Source

Latitude 36.6088295 Longitude -107.7280273
(NAD 83 in decimal degrees to 5 decimal places)

| | |
|---|-----------------------------------|
| Site Name Schwerdtfeger A 3M | Site Type Well Site |
| Date Release Discovered BGT Closure 5/31/2019 | API# (if applicable) 30-045-11605 |

| Unit Letter | Section | Township | Range | County |
|-------------|---------|----------|-------|----------|
| D | 06 | 27N | 8W | 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 checked="" type="checkbox"/> Other (describe) Historic | Volume/Weight Released (provide units) Unknown | Volume/Weight Recovered (provide units) n/a |

Cause of Release Closure of two BGTs on site – the 95 bbl BGT did not meet closure standards.

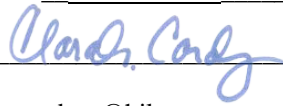
State of New Mexico
Oil Conservation Division

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

| | |
|---|--|
| Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If YES, for what reason(s) does the responsible party consider this a major release? |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? | |

Initial Response

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

| |
|--|
| <input type="checkbox"/> The source of the release has been stopped. <input type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately. |
| If all the actions described above have <u>not</u> been undertaken, explain why: N/A |
| 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>Clara Cardoza</u> Title: <u>Environmental Specialist</u> Signature: <u></u> Date: <u>12/04/2019</u> email: <u>ccardoza@hilcorp.com</u> Telephone: <u>505.564.0733</u> |
| <u>OCD Only</u> Received by: _____ Date: _____ |

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

Site Assessment/Characterization

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

| | |
|---|---|
| What is the shallowest depth to groundwater beneath the area affected by the release? | <u>< 50</u> (ft bgs) |
| Did this release impact groundwater or surface water? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 1000 feet of any other fresh water well or spring? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of a wetland? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release overlying a subsurface mine? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release overlying an unstable area such as karst geology? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within a 100-year floodplain? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Did the release impact areas not on an exploration, development, production, or storage site? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

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

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

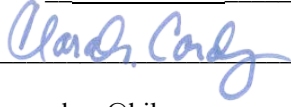
- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

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

State of New Mexico
Oil Conservation Division

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

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: Clara Cardoza Title: Environmental Specialist
Signature:  Date: 12/04/2019
email: ccardoza@hilcorp.com Telephone: 505.564.0733

OCD Only

Received by: _____ Date: _____

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

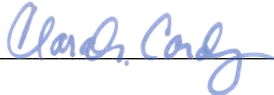
Closure

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

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

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

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Clara Cardoza Title: Environmental Specialist
Signature:  Date: 12/04/2019
email: ccardoza@hilcorp.com Telephone: 505.564.0733

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Clara Cardoza

From: OCDOnline@state.nm.us
Sent: Tuesday, February 18, 2020 2:33 PM
To: Clara Cardoza
Subject: [EXTERNAL] New Mexico OCD Application Submission was Approved by the OCD

The Oil Conservation Division (OCD) has approved the application PO: MVAE3-191204-C-1410.
The original application was submitted by Clara Cardoza for HILCORP ENERGY COMPANY.

The user added the additional comment:

"Closure Report Approved, Release Resolved, Signed C-141 in incident# NCS1915527449 file. "

If you are concerned about receiving this email or have any other questions,
please feel free to contact our Santa Fe OCD office.

New Mexico Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

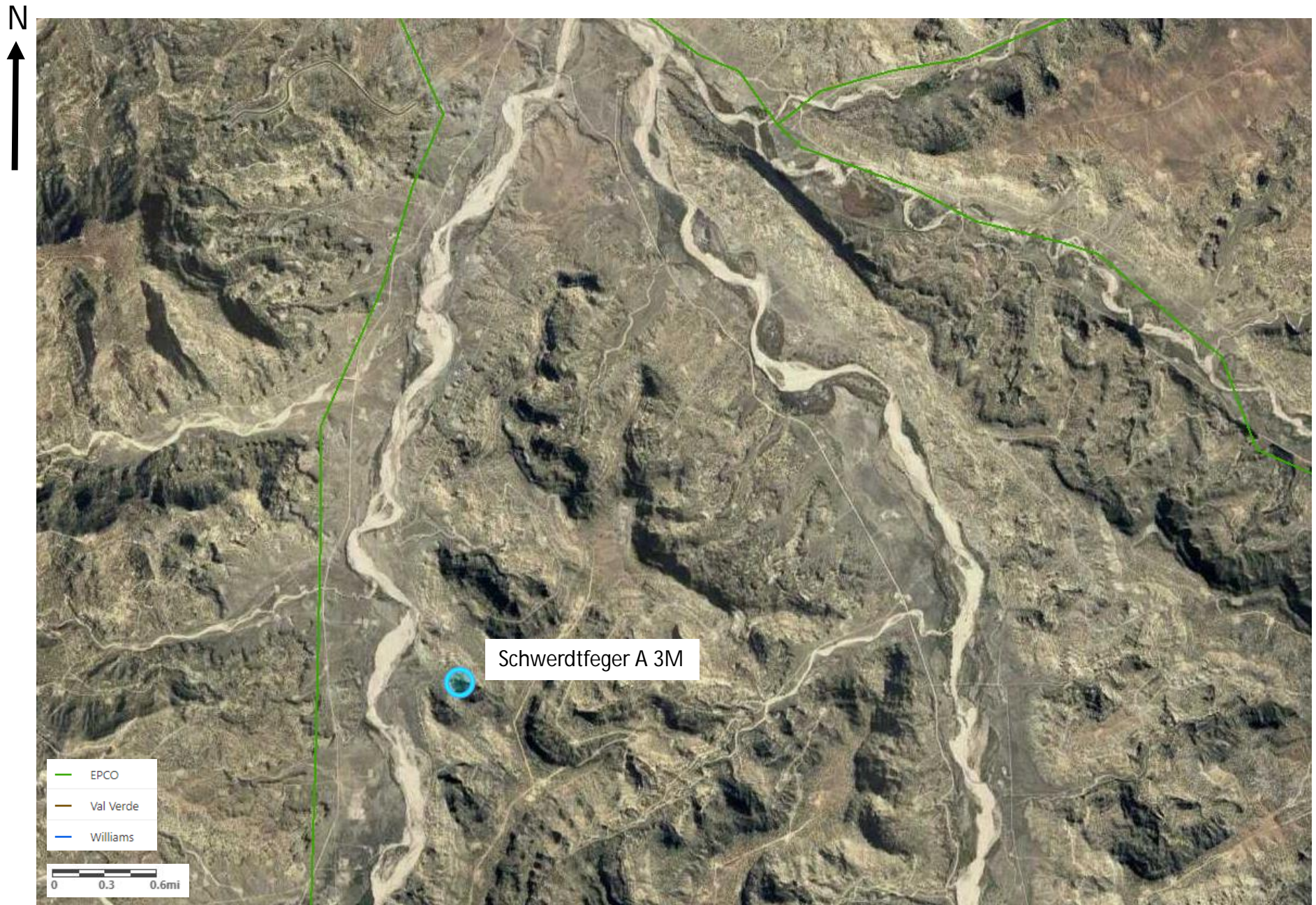
Executive Summary

On May 31, 2019 Hilcorp Energy sampled 2 – BGTs at the Schwerdtfeger A 3M for closure. The 95 bbl BGT did not pass in accordance with the approved BGT pit closure plan approved by NMOCD on 07/06/2016. Hilcorp then requested permission to backfill both BGTs with the intent of re-excavating and removing remaining contaminants of the 95 bbl BGT once the re-fracing was completed at that site (email included).

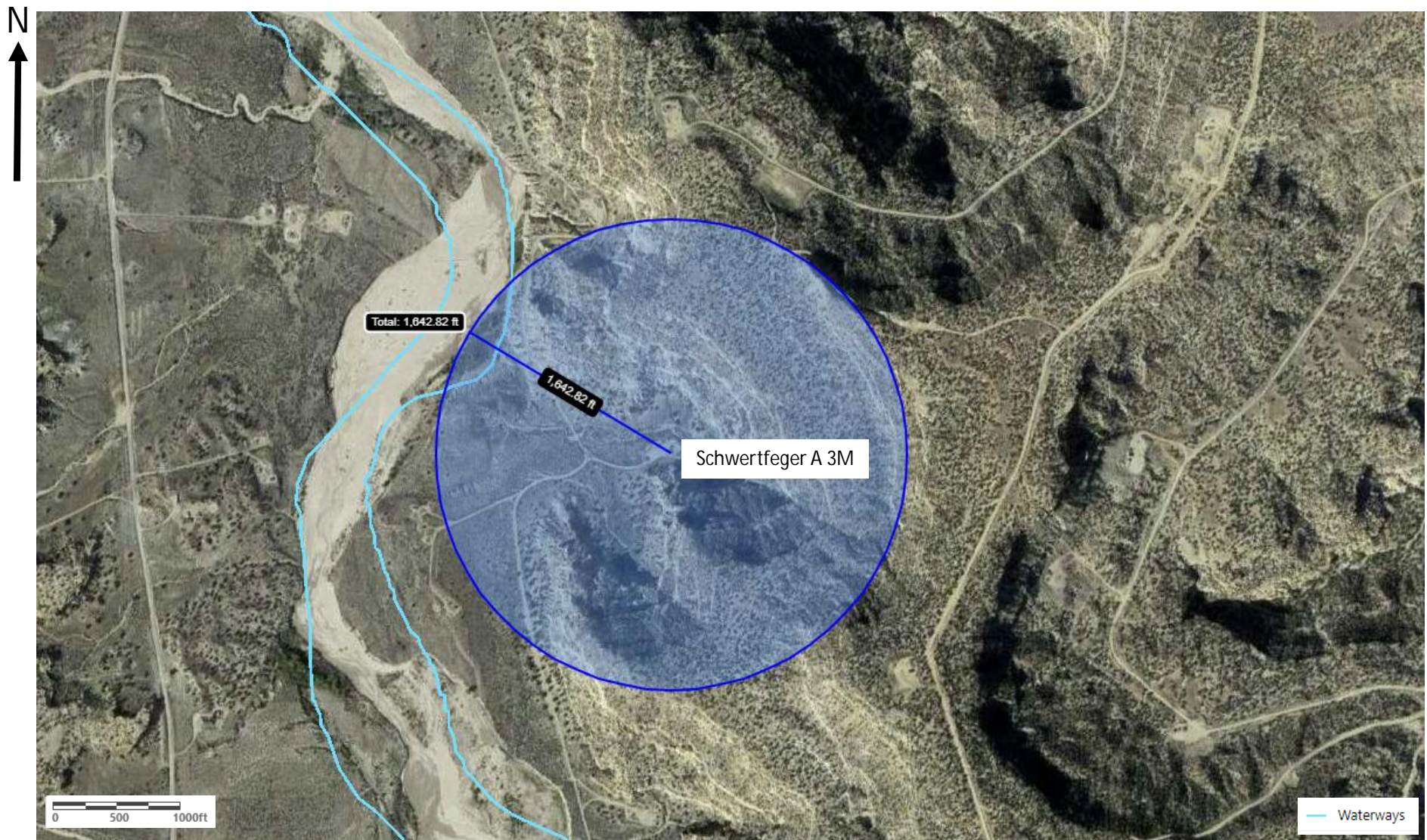
Confirmation samples were taken in the area of the 95 bbl BGT on July 15, 2019 in accordance with NMAC 19.15.29.12.D. NMOCD was present for sampling. Three sample were taken and came back in compliance with clean up action levels. A variance was approved for sampling methods and is included in this report.



- 95 bbl BGT
- 21 bbl BGT

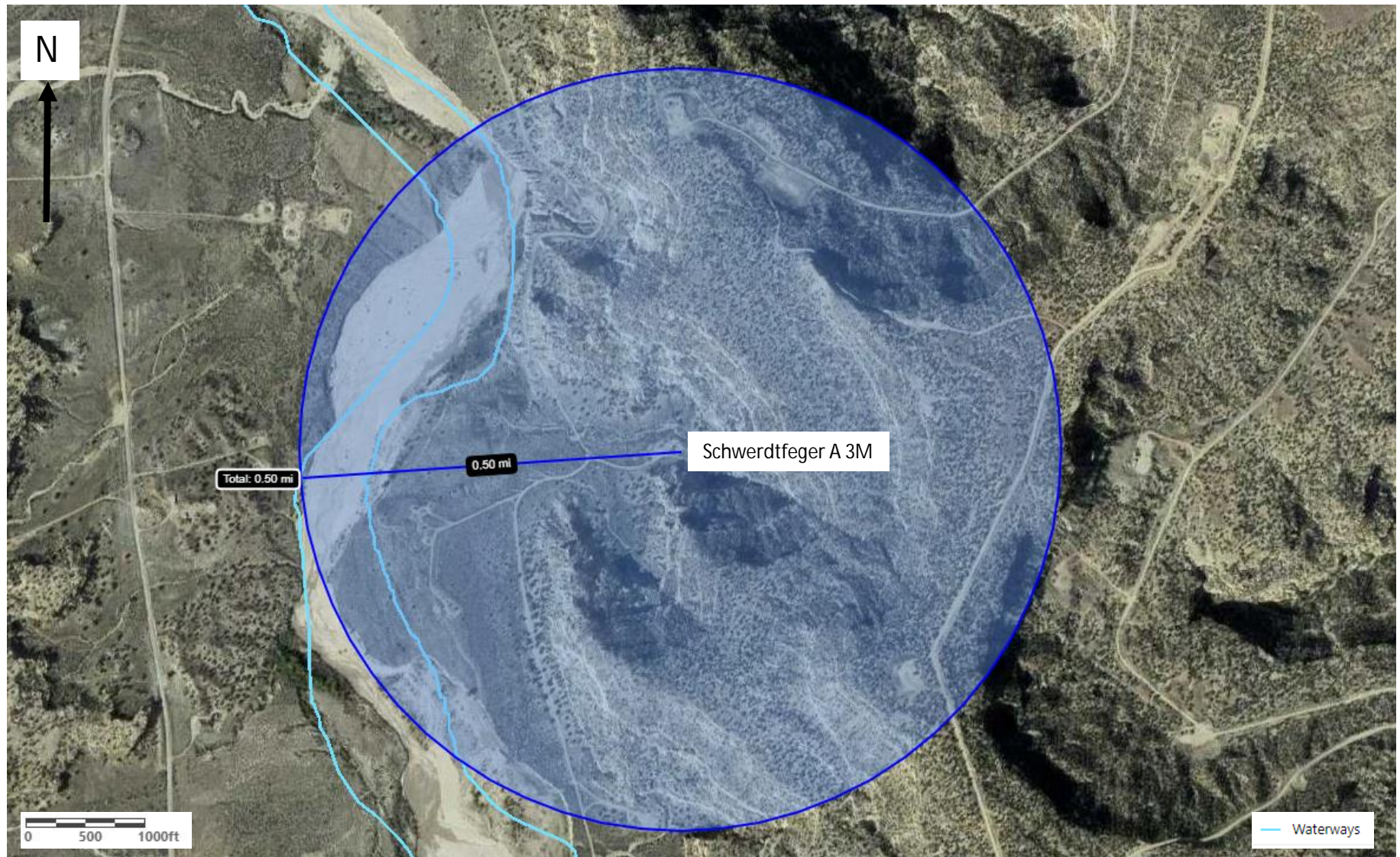


Distance to watercourse



Distance to watercourse approximately 1,643 ft

Water sources or courses within ½ mile



Depth to groundwater



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

PLSS Search:

Section(s): 5, 6, 7, 8 Township: 27N Range: 08W

The data is furnished by the NM/OSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/2/19 3:18 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

PLSS Search:

Section(s): 36 Township: 28N Range: 09W

The data is furnished by the NM/OSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/2/19 3:22 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

PLSS Search:

Section(s): 1, 12 Township: 27N Range: 09W

The data is furnished by the NM/OSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/2/19 3:20 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

PLSS Search:

Section(s): 31, 32 Township: 28N Range: 08W

The data is furnished by the NM/OSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/2/19 3:24 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER

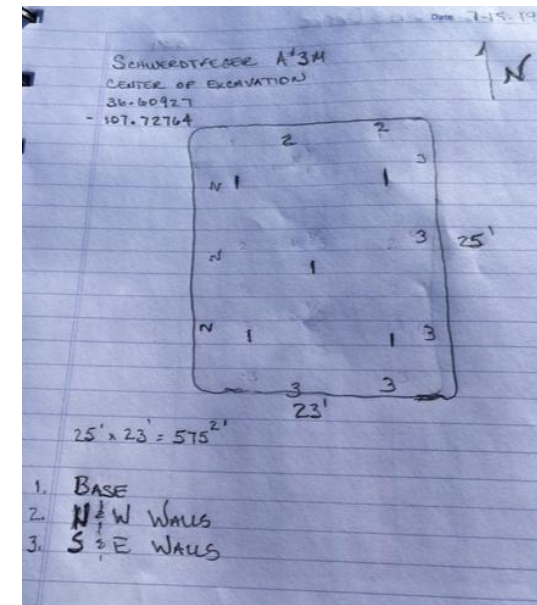
No data available on the NM Office State Engineers. Default to the closure clean-up standards from BGT permit of < 50 ft for groundwater depth. For any future reporting and/or closures this will be revisited as necessary.

Depth to groundwater



No groundwater depth data available on the NM Office of the State Engineer website or cathodic data from HEC

Sample locations from excavation of 95 bbl BGT



Data table of soil contaminant concentration data

| Sample Name | Date | Field VOCs by PID (ppm) | Laboratory Results | | | | | | | | | | |
|--------------------|----------|-------------------------------|---------------------|--------------------------|--------------------------|--------------------------|----------------------|-----------------------------------|--------------------|--------------------|-------------------------|----------------------------|-----------------------|
| | | | Chloride (mg/kg) | TPH as DRO (mg/kg) | TPH as GRO (mg/kg) | TPH as MRO (mg/kg) | Total TPH (mg/kg) | TPH as GRO + DRO (mg/kg) | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylene (mg/kg) | Total BTEX (mg/kg) |
| NMOCD Action Level | | - | 600 | - | - | - | 100 | - | 10 | - | - | - | 50 |
| 95 bbl pit | 05/31/19 | n/a | ND | 210.00 | ND | 240.00 | 450.00 | 210.00 | ND | ND | ND | ND | 0 |
| 21 bbl pit | 05/31/19 | n/a | ND | ND | ND | ND | 0.00 | 0.00 | ND | ND | ND | ND | 0 |
| N 1/3 Base | 07/11/19 | n/a | ND | 21 | ND | 50 | 71.00 | 21.00 | ND | ND | ND | ND | 0 |
| M 1/3 Base | 07/11/19 | n/a | ND | ND | ND | ND | 0.00 | 0.00 | ND | ND | ND | ND | 0 |
| S 1/3 Base | 07/11/19 | n/a | ND | ND | ND | ND | 0.00 | 0.00 | ND | ND | ND | ND | 0 |

Confirmation samples taken on 5/31/2019 in accordance with NMAC 19.15.29.12.D. The 95 bbl BGT failed on Total TPH. The area of the BGT was excavated and samples were taken again on 7/11/2019 in accordance with NMAC 19.15.29.12.D. NMOCD was present during the sampling event. Because there was no groundwater data for this site the closure standards from the BGT permit was utilized. For any future reporting and/or closures this will be revisited as necessary.

Clara Cardoza

From: Christine Brock
Sent: Tuesday, May 28, 2019 2:19 PM
To: 'Smith, Cory, EMNRD'
Cc: Whitney Thomas - BLM (l1thomas@blm.gov); 'Adeloye, Abiodun'; Cheryl Weston; Kandis Roland; Clara Cardoza; Eufracio Trujillo
Subject: 72 Hour notification - Schwerdtfeger A 3M / API 30-045-11605

Subject: 72 Hour BGT Closure Notification

Anticipated Start Date: **Friday, May 31, 2019 at approximately 10:00 a.m.**

The subject well has **two** 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: Schwerdtfeger A 3M

API#: 30-045-11605

Location: Unit D (NWNW), Section 06, T27N, R08W

Footages: 885' FNL & 815' FWL

Operator: Hilcorp **Surface Owner: Federal (Lease #SF-079319)**

Reason: Tanks are out of service so they are being removed from location.

Thank you,

Christine Brock

Hilcorp Energy Company
San Juan South Regulatory
Office: 505-324-5155
cbrock@hilcorp.com

Clara Cardoza

From: Clara Cardoza
Sent: Thursday, July 11, 2019 9:10 AM
To: 'Powell, Brandon, EMNRD'; 'cory.smith@state.nm.us'
Cc: 'Abiodun Adeloye'; 'whitney thomas (l1thomas@blm.gov)'; Kurt Hoekstra
Subject: RE: Schwerdtfeger A 3M - API 30-045-11605 NCS1915527449

Please let this serve as notice for confirmation samples at the Schwerdtfeger A 3M for 9 a.m. on Monday July 15th. Please let me know if you have any questions.

Thank you,
Clara

From: Clara Cardoza
Sent: Monday, June 17, 2019 9:46 AM
To: 'Powell, Brandon, EMNRD' <Brandon.Powell@state.nm.us>; 'cory.smith@state.nm.us' <cory.smith@state.nm.us>
Cc: 'Abiodun Adeloye' <aadeloye@blm.gov>; Christine Brock <cbrock@hilcorp.com>; whitney thomas (l1thomas@blm.gov) <l1thomas@blm.gov>
Subject: RE: Schwerdtferger A 3M - API 30-045-11605 NCS1915527449

Brandon/Cory, I just wanted to give you an update on this work. The rig had some delays and we were unable to get to this work as we had hoped last week. Our plan is to begin work on Thursday June 20th. Please let me know if you have any questions.

Thank you,
Clara

From: Clara Cardoza
Sent: Monday, June 3, 2019 3:52 PM
To: Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>
Cc: cory.smith@state.nm.us; Abiodun Adeloye <aadeloye@blm.gov>; Christine Brock <cbrock@hilcorp.com>
Subject: Schwerdtferger A 3M - API 30-045-11605

Brandon, here is a recap of our conversation this afternoon with additional information. Hilcorp's closure samples for the 95 bbl BGT at the Schwerdtferger A 3M came back above standards (the 21bbl BGT came back ND). We are in the process of re-fracing this location which is scheduled to occur on Wednesday June 5th. With the NMOCs approval we will backfill both pits for the short term until the re-fracing is done and should be re-excavating the 95 bbl BGT by the middle of next week. If there are any delays to this schedule we will keep you apprised.

Please let me know if you have any further questions.

Thank you,

Clara M Cardoza
Environmental Specialist
505-564-0733 (O)
505-793-2784 (C)



Clara Cardoza

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Monday, July 15, 2019 11:35 AM
To: Kurt Hoekstra
Cc: Clara Cardoza
Subject: [EXTERNAL] RE: [EXT] Schwerdtfeger A # 3M

Kurt,

As discussed onsite OCD approves the alternative sampling for today's event.

Please include this approval in HEC Closure report.

Thank you.

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

From: Kurt Hoekstra <khoekstra@hilcorp.com>
Sent: Monday, July 15, 2019 11:33 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Clara Cardoza <ccardoza@hilcorp.com>
Subject: [EXT] Schwerdtfeger A # 3M

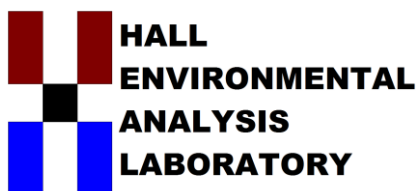
Hello Cory, per our conversation on location today I took three confirmation samples; one composite of the base, one composite of the north and west walls, and one composite of the south and east walls.

Thank you

Kurt Hoekstra
Field Environmental Specialist
505-486-9543
khoekstra@hilcorp.com

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Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 05, 2019

Clara Cardoza
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: Schwerdtferger A 3M

OrderNo.: 1906006

Dear Clara Cardoza:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/1/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1906006

Date Reported: 6/5/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: 95 bbl pit

Project: Schwerdtferger A 3M

Collection Date: 5/31/2019 10:35:00 AM

Lab ID: 1906006-001

Matrix: SOIL

Received Date: 6/1/2019 8:30:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--|--------|----------|------|-------|----|----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: TOM |
| Diesel Range Organics (DRO) | 210 | 9.7 | | mg/Kg | 1 | 6/3/2019 10:55:37 AM |
| Motor Oil Range Organics (MRO) | 240 | 48 | | mg/Kg | 1 | 6/3/2019 10:55:37 AM |
| Surr: DNOP | 111 | 70-130 | | %Rec | 1 | 6/3/2019 10:55:37 AM |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 3.9 | | mg/Kg | 1 | 6/3/2019 12:51:01 PM |
| Surr: BFB | 88.2 | 73.8-119 | | %Rec | 1 | 6/3/2019 12:51:01 PM |
| EPA METHOD 8021B: VOLATILES | | | | | | Analyst: NSB |
| Benzene | ND | 0.020 | | mg/Kg | 1 | 6/3/2019 12:51:01 PM |
| Toluene | ND | 0.039 | | mg/Kg | 1 | 6/3/2019 12:51:01 PM |
| Ethylbenzene | ND | 0.039 | | mg/Kg | 1 | 6/3/2019 12:51:01 PM |
| Xylenes, Total | ND | 0.078 | | mg/Kg | 1 | 6/3/2019 12:51:01 PM |
| Surr: 4-Bromofluorobenzene | 99.6 | 80-120 | | %Rec | 1 | 6/3/2019 12:51:01 PM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: MRA |
| Chloride | ND | 60 | | mg/Kg | 20 | 6/3/2019 1:49:14 PM |

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 1 of 8

Analytical Report

Lab Order 1906006

Date Reported: 6/5/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: 21 bbl pit

Project: Schwerdtferger A 3M

Collection Date: 5/31/2019 10:50:00 AM

Lab ID: 1906006-002

Matrix: SOIL

Received Date: 6/1/2019 8:30:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--|--------|----------|------|-------|----|----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: TOM |
| Diesel Range Organics (DRO) | ND | 9.1 | | mg/Kg | 1 | 6/3/2019 11:39:37 AM |
| Motor Oil Range Organics (MRO) | ND | 46 | | mg/Kg | 1 | 6/3/2019 11:39:37 AM |
| Surr: DNOP | 106 | 70-130 | | %Rec | 1 | 6/3/2019 11:39:37 AM |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 3.3 | | mg/Kg | 1 | 6/3/2019 1:14:41 PM |
| Surr: BFB | 91.8 | 73.8-119 | | %Rec | 1 | 6/3/2019 1:14:41 PM |
| EPA METHOD 8021B: VOLATILES | | | | | | Analyst: NSB |
| Benzene | ND | 0.017 | | mg/Kg | 1 | 6/3/2019 1:14:41 PM |
| Toluene | ND | 0.033 | | mg/Kg | 1 | 6/3/2019 1:14:41 PM |
| Ethylbenzene | ND | 0.033 | | mg/Kg | 1 | 6/3/2019 1:14:41 PM |
| Xylenes, Total | ND | 0.067 | | mg/Kg | 1 | 6/3/2019 1:14:41 PM |
| Surr: 4-Bromofluorobenzene | 103 | 80-120 | | %Rec | 1 | 6/3/2019 1:14:41 PM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: MRA |
| Chloride | ND | 60 | | mg/Kg | 20 | 6/3/2019 2:26:42 PM |

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

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

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1906006

05-Jun-19

Client: HILCORP ENERGY**Project:** Schwerdtferger A 3M

| Sample ID: MB-45328 | SampType: mblk | TestCode: EPA Method 300.0: Anions | | | | | | | | |
|----------------------------|--------------------------------|---|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 45328 | RunNo: 60349 | | | | | | | | |
| Prep Date: 6/3/2019 | Analysis Date: 6/3/2019 | SeqNo: 2041072 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | ND | 1.5 | | | | | | | | |

| Sample ID: LCS-45328 | SampType: lcs | TestCode: EPA Method 300.0: Anions | | | | | | | | |
|-----------------------------|--------------------------------|---|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 45328 | RunNo: 60349 | | | | | | | | |
| Prep Date: 6/3/2019 | Analysis Date: 6/3/2019 | SeqNo: 2041073 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 14 | 1.5 | 15.00 | 0 | 90.3 | 90 | 110 | | | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Page 3 of 8

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1906006

05-Jun-19

Client: HILCORP ENERGY**Project:** Schwerdtferger A 3M

| Sample ID: LCS-45319 | SampType: LCS | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | | |
|-----------------------------|--------------------------------|--|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 45319 | RunNo: 60335 | | | | | | | | |
| Prep Date: 6/3/2019 | Analysis Date: 6/3/2019 | SeqNo: 2039825 Units: mg/Kg | | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 50 | 10 | 50.00 | 0 | 99.3 | 63.9 | 124 | | | |
| Surr: DNOP | 4.4 | | 5.000 | | 87.0 | 70 | 130 | | | |

| Sample ID: MB-45319 | SampType: MBLK | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | | |
|--------------------------------|--------------------------------|--|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 45319 | RunNo: 60335 | | | | | | | | |
| Prep Date: 6/3/2019 | Analysis Date: 6/3/2019 | SeqNo: 2039826 Units: mg/Kg | | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 9.4 | | 10.00 | | 93.5 | 70 | 130 | | | |

| Sample ID: 1906001-001AMS | SampType: MS | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | | |
|----------------------------------|--------------------------------|--|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: 45319 | RunNo: 60335 | | | | | | | | |
| Prep Date: 6/3/2019 | Analysis Date: 6/3/2019 | SeqNo: 2040444 Units: mg/Kg | | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 43 | 9.7 | 48.45 | 0 | 87.8 | 57 | 142 | | | |
| Surr: DNOP | 5.0 | | 4.845 | | 104 | 70 | 130 | | | |

| Sample ID: 1906001-001AMSD | SampType: MSD | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | | |
|-----------------------------------|--------------------------------|--|-----------|-------------|------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: 45319 | RunNo: 60335 | | | | | | | | |
| Prep Date: 6/3/2019 | Analysis Date: 6/3/2019 | SeqNo: 2040605 Units: mg/Kg | | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 50 | 10 | 50.10 | 0 | 99.7 | 57 | 142 | 16.0 | 20 | |
| Surr: DNOP | 5.5 | | 5.010 | | 109 | 70 | 130 | 0 | 0 | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Page 4 of 8

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1906006

05-Jun-19

Client: HILCORP ENERGY**Project:** Schwerdtferger A 3M

| Sample ID: 1905E76-001AMS | SampType: MS | TestCode: EPA Method 8015D: Gasoline Range | | | | | | | | |
|----------------------------------|--------------------------------|---|-----------|-------------|--------------------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: 45310 | RunNo: 60347 | | | | | | | | |
| Prep Date: 5/31/2019 | Analysis Date: 6/3/2019 | SeqNo: 2041211 | | | Units: %Rec | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | 1000 | | 958.8 | | 109 | 73.8 | 119 | | | |

| Sample ID: 1905E76-001AMSD | SampType: MSD | TestCode: EPA Method 8015D: Gasoline Range | | | | | | | | |
|-----------------------------------|--------------------------------|---|-----------|-------------|--------------------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: 45310 | RunNo: 60347 | | | | | | | | |
| Prep Date: 5/31/2019 | Analysis Date: 6/3/2019 | SeqNo: 2041212 | | | Units: %Rec | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | 1000 | | 973.7 | | 105 | 73.8 | 119 | 0 | 0 | |

| Sample ID: 1906003-007AMS | SampType: MS | TestCode: EPA Method 8015D: Gasoline Range | | | | | | | | |
|----------------------------------|--------------------------------|---|-----------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: R60347 | RunNo: 60347 | | | | | | | | |
| Prep Date: | Analysis Date: 6/3/2019 | SeqNo: 2041222 | | | Units: mg/Kg | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 30 | 5.0 | 25.00 | 3.317 | 105 | 69.1 | 142 | | | |
| Surr: BFB | 1500 | | 1000 | | 145 | 73.8 | 119 | | | S |

| Sample ID: 1906003-007AMSD | SampType: MSD | TestCode: EPA Method 8015D: Gasoline Range | | | | | | | | |
|-----------------------------------|--------------------------------|---|-----------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: R60347 | RunNo: 60347 | | | | | | | | |
| Prep Date: | Analysis Date: 6/3/2019 | SeqNo: 2041223 | | | Units: mg/Kg | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 29 | 5.0 | 25.00 | 3.317 | 101 | 69.1 | 142 | 3.72 | 20 | |
| Surr: BFB | 1400 | | 1000 | | 145 | 73.8 | 119 | 0 | 0 | S |

| Sample ID: 2.5UG GRO LCS | SampType: LCS | TestCode: EPA Method 8015D: Gasoline Range | | | | | | | | |
|---------------------------------|--------------------------------|---|-----------|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: R60347 | RunNo: 60347 | | | | | | | | |
| Prep Date: | Analysis Date: 6/3/2019 | SeqNo: 2041224 | | | Units: mg/Kg | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 24 | 5.0 | 25.00 | 0 | 96.2 | 80.1 | 123 | | | |
| Surr: BFB | 1100 | | 1000 | | 106 | 73.8 | 119 | | | |

| Sample ID: LCS-45303 | SampType: LCS | TestCode: EPA Method 8015D: Gasoline Range | | | | | | | | |
|-----------------------------|--------------------------------|---|-----------|-------------|--------------------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 45303 | RunNo: 60347 | | | | | | | | |
| Prep Date: 5/31/2019 | Analysis Date: 6/3/2019 | SeqNo: 2041225 | | | Units: %Rec | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | 1100 | | 1000 | | 109 | 73.8 | 119 | | | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1906006

05-Jun-19

Client: HILCORP ENERGY**Project:** Schwerdtferger A 3M

| Sample ID: MB-45303 | SampType: MBLK | | | TestCode: EPA Method 8015D: Gasoline Range | | | | | | |
|-----------------------------|--------------------------------|-----|-----------|---|--------------------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 45303 | | | RunNo: 60347 | | | | | | |
| Prep Date: 5/31/2019 | Analysis Date: 6/3/2019 | | | SeqNo: 2041226 | Units: %Rec | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB | 990 | | 1000 | | 98.8 | 73.8 | 119 | | | |

| Sample ID: RB | SampType: MBLK | | | TestCode: EPA Method 8015D: Gasoline Range | | | | | | |
|-------------------------------|--------------------------------|-----|-----------|---|---------------------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: R60347 | | | RunNo: 60347 | | | | | | |
| Prep Date: | Analysis Date: 6/3/2019 | | | SeqNo: 2041227 | Units: mg/Kg | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 940 | | 1000 | | 93.7 | 73.8 | 119 | | | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1906006

05-Jun-19

Client: HILCORP ENERGY**Project:** Schwerdtferger A 3M

| Sample ID: 100NG BTEX LCS | SampType: LCS | TestCode: EPA Method 8021B: Volatiles | | | | | | | | |
|----------------------------------|--------------------------------|--|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: B60347 | RunNo: 60347 | | | | | | | | |
| Prep Date: | Analysis Date: 6/3/2019 | SeqNo: 2041231 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 0.92 | 0.025 | 1.000 | 0 | 91.6 | 80 | 120 | | | |
| Toluene | 0.94 | 0.050 | 1.000 | 0 | 94.1 | 80 | 120 | | | |
| Ethylbenzene | 0.95 | 0.050 | 1.000 | 0 | 95.0 | 80 | 120 | | | |
| Xylenes, Total | 2.9 | 0.10 | 3.000 | 0 | 95.5 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 1.1 | | 1.000 | | 107 | 80 | 120 | | | |

| Sample ID: 1905E76-003AMS | SampType: MS | TestCode: EPA Method 8021B: Volatiles | | | | | | | | |
|----------------------------------|--------------------------------|--|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: 45310 | RunNo: 60347 | | | | | | | | |
| Prep Date: 5/31/2019 | Analysis Date: 6/3/2019 | SeqNo: 2041235 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 1.0 | | 0.9852 | | 106 | 80 | 120 | | | |

| Sample ID: 1905E76-003AMSD | SampType: MSD | TestCode: EPA Method 8021B: Volatiles | | | | | | | | |
|-----------------------------------|--------------------------------|--|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: 45310 | RunNo: 60347 | | | | | | | | |
| Prep Date: 5/31/2019 | Analysis Date: 6/3/2019 | SeqNo: 2041236 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 1.0 | | 0.9434 | | 110 | 80 | 120 | 0 | 0 | |

| Sample ID: 1906003-008AMS | SampType: MS | TestCode: EPA Method 8021B: Volatiles | | | | | | | | |
|----------------------------------|--------------------------------|--|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: B60347 | RunNo: 60347 | | | | | | | | |
| Prep Date: | Analysis Date: 6/3/2019 | SeqNo: 2041244 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 0.93 | 0.025 | 1.000 | 0 | 93.0 | 63.9 | 127 | | | |
| Toluene | 0.96 | 0.050 | 1.000 | 0 | 96.2 | 69.9 | 131 | | | |
| Ethylbenzene | 0.98 | 0.050 | 1.000 | 0 | 98.2 | 71 | 132 | | | |
| Xylenes, Total | 3.0 | 0.10 | 3.000 | 0 | 100 | 71.8 | 131 | | | |
| Surr: 4-Bromofluorobenzene | 1.1 | | 1.000 | | 108 | 80 | 120 | | | |

| Sample ID: 1906003-008AMSD | SampType: MSD | TestCode: EPA Method 8021B: Volatiles | | | | | | | | |
|-----------------------------------|--------------------------------|--|---------------------|-------------|------|----------|-----------|-------|----------|------|
| Client ID: BatchQC | Batch ID: B60347 | RunNo: 60347 | | | | | | | | |
| Prep Date: | Analysis Date: 6/3/2019 | SeqNo: 2041245 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | 0.93 | 0.025 | 1.000 | 0 | 92.7 | 63.9 | 127 | 0.269 | 20 | |
| Toluene | 0.96 | 0.050 | 1.000 | 0 | 96.4 | 69.9 | 131 | 0.291 | 20 | |
| Ethylbenzene | 0.98 | 0.050 | 1.000 | 0 | 97.6 | 71 | 132 | 0.664 | 20 | |
| Xylenes, Total | 3.0 | 0.10 | 3.000 | 0 | 98.7 | 71.8 | 131 | 1.57 | 20 | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Page 7 of 8

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1906006

05-Jun-19

Client: HILCORP ENERGY**Project:** Schwerdtferger A 3M

| Sample ID: 1906003-008AMSD | SampType: MSD | TestCode: EPA Method 8021B: Volatiles | | | | | | | | |
|-----------------------------------|--------------------------------|--|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: BatchQC | Batch ID: B60347 | RunNo: 60347 | | | | | | | | |
| Prep Date: | Analysis Date: 6/3/2019 | SeqNo: 2041245 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 1.1 | | 1.000 | | 106 | 80 | 120 | 0 | 0 | |

| Sample ID: LCS-45303 | SampType: LCS | TestCode: EPA Method 8021B: Volatiles | | | | | | | | |
|-----------------------------|--------------------------------|--|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 45303 | RunNo: 60347 | | | | | | | | |
| Prep Date: 5/31/2019 | Analysis Date: 6/3/2019 | SeqNo: 2041246 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 1.1 | | 1.000 | | 108 | 80 | 120 | | | |

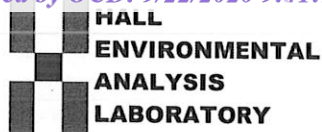
| Sample ID: MB-45303 | SampType: MBLK | TestCode: EPA Method 8021B: Volatiles | | | | | | | | |
|-----------------------------|--------------------------------|--|--------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 45303 | RunNo: 60347 | | | | | | | | |
| Prep Date: 5/31/2019 | Analysis Date: 6/3/2019 | SeqNo: 2041247 | Units: %Rec | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 1.1 | | 1.000 | | 110 | 80 | 120 | | | |

| Sample ID: RB | SampType: MBLK | TestCode: EPA Method 8021B: Volatiles | | | | | | | | |
|----------------------------|--------------------------------|--|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: B60347 | RunNo: 60347 | | | | | | | | |
| Prep Date: | Analysis Date: 6/3/2019 | SeqNo: 2041248 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene | ND | 0.025 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 1.0 | | 1.000 | | 105 | 80 | 120 | | | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **HILCORP ENERGY FAR**Work Order Number: **1906006**RcptNo: **1**Received By: **Desiree Dominguez** 6/1/2019 8:30:00 AMCompleted By: **Desiree Dominguez** 6/1/2019 10:08:46 AMReviewed By: **YU 6/1/19***DD**DD*

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐4. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐5. Sample(s) in proper container(s)? Yes ☒ No ☐6. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐7. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐8. Was preservative added to bottles? Yes ☐ No ☒ NA ☐9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒10. Were any sample containers received broken? Yes ☐ No ☒11. Does paperwork match bottle labels? Yes ☒ No ☐

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐13. Is it clear what analyses were requested? Yes ☒ No ☐14. Were all holding times able to be met? Yes ☒ No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: **DAD 6/1/19**

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

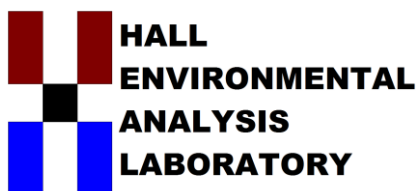
Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1 | 2.3 | Good | Not Present | | | |



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 16, 2019

Clara Cardoza
Hilcorp Energy
PO Box PO Box 4700
Farmington, NM 84701
TEL:
FAX

RE: SCHWERDTFEGER A 3M

OrderNo.: 1907593

Dear Clara Cardoza:

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/12/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1907593

Date Reported: 7/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy

Client Sample ID: N 1/3 BASE

Project: SCHWERDTFEGER A 3M

Collection Date: 7/11/2019 10:12:00 AM

Lab ID: 1907593-001

Matrix: SOIL

Received Date: 7/12/2019 8:05:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | 21 | 9.8 | | mg/Kg | 1 | 7/12/2019 9:57:01 AM |
| Motor Oil Range Organics (MRO) | 50 | 49 | | mg/Kg | 1 | 7/12/2019 9:57:01 AM |
| Surr: DNOP | 99.2 | 70-130 | | %Rec | 1 | 7/12/2019 9:57:01 AM |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 18 | | mg/Kg | 5 | 7/12/2019 10:46:37 AM |
| Surr: BFB | 89.5 | 73.8-119 | | %Rec | 5 | 7/12/2019 10:46:37 AM |
| EPA METHOD 8021B: VOLATILES | | | | | | Analyst: NSB |
| Methyl tert-butyl ether (MTBE) | ND | 0.36 | | mg/Kg | 5 | 7/12/2019 10:46:37 AM |
| Benzene | ND | 0.089 | | mg/Kg | 5 | 7/12/2019 10:46:37 AM |
| Toluene | ND | 0.18 | | mg/Kg | 5 | 7/12/2019 10:46:37 AM |
| Ethylbenzene | ND | 0.18 | | mg/Kg | 5 | 7/12/2019 10:46:37 AM |
| Xylenes, Total | ND | 0.36 | | mg/Kg | 5 | 7/12/2019 10:46:37 AM |
| Surr: 4-Bromofluorobenzene | 91.5 | 80-120 | | %Rec | 5 | 7/12/2019 10:46:37 AM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: smb |
| Chloride | ND | 60 | | mg/Kg | 20 | 7/12/2019 11:46:39 AM |

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

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

Page 1 of 7

Analytical Report

Lab Order 1907593

Date Reported: 7/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy

Client Sample ID: M 1/3 BASE

Project: SCHWERDTFEGER A 3M

Collection Date: 7/11/2019 10:15:00 AM

Lab ID: 1907593-002

Matrix: SOIL

Received Date: 7/12/2019 8:05:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | ND | 9.9 | | mg/Kg | 1 | 7/12/2019 10:19:05 AM |
| Motor Oil Range Organics (MRO) | ND | 49 | | mg/Kg | 1 | 7/12/2019 10:19:05 AM |
| Surr: DNOP | 105 | 70-130 | | %Rec | 1 | 7/12/2019 10:19:05 AM |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 19 | | mg/Kg | 5 | 7/12/2019 11:10:02 AM |
| Surr: BFB | 94.5 | 73.8-119 | | %Rec | 5 | 7/12/2019 11:10:02 AM |
| EPA METHOD 8021B: VOLATILES | | | | | | Analyst: NSB |
| Methyl tert-butyl ether (MTBE) | ND | 0.38 | | mg/Kg | 5 | 7/12/2019 11:10:02 AM |
| Benzene | ND | 0.094 | | mg/Kg | 5 | 7/12/2019 11:10:02 AM |
| Toluene | ND | 0.19 | | mg/Kg | 5 | 7/12/2019 11:10:02 AM |
| Ethylbenzene | ND | 0.19 | | mg/Kg | 5 | 7/12/2019 11:10:02 AM |
| Xylenes, Total | ND | 0.38 | | mg/Kg | 5 | 7/12/2019 11:10:02 AM |
| Surr: 4-Bromofluorobenzene | 96.7 | 80-120 | | %Rec | 5 | 7/12/2019 11:10:02 AM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: smb |
| Chloride | ND | 60 | | mg/Kg | 20 | 7/12/2019 11:59:03 AM |

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

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Analytical Report

Lab Order 1907593

Date Reported: 7/16/2019

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy

Client Sample ID: S 1/3 BASE

Project: SCHWERDTFEGER A 3M

Collection Date: 7/11/2019 10:20:00 AM

Lab ID: 1907593-003

Matrix: SOIL

Received Date: 7/12/2019 8:05:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed |
|--|--------|----------|------|-------|----|-----------------------|
| EPA METHOD 8015M/D: DIESEL RANGE ORGANICS | | | | | | Analyst: BRM |
| Diesel Range Organics (DRO) | ND | 9.5 | | mg/Kg | 1 | 7/12/2019 10:41:10 AM |
| Motor Oil Range Organics (MRO) | ND | 47 | | mg/Kg | 1 | 7/12/2019 10:41:10 AM |
| Surr: DNOP | 102 | 70-130 | | %Rec | 1 | 7/12/2019 10:41:10 AM |
| EPA METHOD 8015D: GASOLINE RANGE | | | | | | Analyst: NSB |
| Gasoline Range Organics (GRO) | ND | 20 | | mg/Kg | 5 | 7/12/2019 11:33:28 AM |
| Surr: BFB | 94.7 | 73.8-119 | | %Rec | 5 | 7/12/2019 11:33:28 AM |
| EPA METHOD 8021B: VOLATILES | | | | | | Analyst: NSB |
| Methyl tert-butyl ether (MTBE) | ND | 0.40 | | mg/Kg | 5 | 7/12/2019 11:33:28 AM |
| Benzene | ND | 0.10 | | mg/Kg | 5 | 7/12/2019 11:33:28 AM |
| Toluene | ND | 0.20 | | mg/Kg | 5 | 7/12/2019 11:33:28 AM |
| Ethylbenzene | ND | 0.20 | | mg/Kg | 5 | 7/12/2019 11:33:28 AM |
| Xylenes, Total | ND | 0.40 | | mg/Kg | 5 | 7/12/2019 11:33:28 AM |
| Surr: 4-Bromofluorobenzene | 97.0 | 80-120 | | %Rec | 5 | 7/12/2019 11:33:28 AM |
| EPA METHOD 300.0: ANIONS | | | | | | Analyst: smb |
| Chloride | ND | 60 | | mg/Kg | 20 | 7/12/2019 12:11:28 PM |

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

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

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**WO#: **1907593****16-Jul-19**

Client: Hilcorp Energy
Project: SCHWERDTFEGER A 3M

| Sample ID: MB-46150 | SampType: mblk | TestCode: EPA Method 300.0: Anions | | | | | | | | |
|-----------------------------|---------------------------------|---|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 46150 | RunNo: 61355 | | | | | | | | |
| Prep Date: 7/12/2019 | Analysis Date: 7/12/2019 | SeqNo: 2080349 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | ND | 1.5 | | | | | | | | |

| Sample ID: LCS-46150 | SampType: lcs | TestCode: EPA Method 300.0: Anions | | | | | | | | |
|-----------------------------|---------------------------------|---|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 46150 | RunNo: 61355 | | | | | | | | |
| Prep Date: 7/12/2019 | Analysis Date: 7/12/2019 | SeqNo: 2080350 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride | 14 | 1.5 | 15.00 | 0 | 95.0 | 90 | 110 | | | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1907593

16-Jul-19

Client: Hilcorp Energy
Project: SCHWERDTFEGER A 3M

| Sample ID: LCS-46149 | SampType: LCS | | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | |
|-----------------------------|---------------------------------|-----|--|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: 46149 | | RunNo: 61332 | | | | | | | |
| Prep Date: 7/12/2019 | Analysis Date: 7/12/2019 | | SeqNo: 2079460 | | Units: mg/Kg | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 52 | 10 | 50.00 | 0 | 104 | 63.9 | 124 | | | |
| Surr: DNOP | 4.4 | | 5.000 | | 87.7 | 70 | 130 | | | |

| Sample ID: MB-46149 | SampType: MBLK | | TestCode: EPA Method 8015M/D: Diesel Range Organics | | | | | | | |
|--------------------------------|---------------------------------|-----|--|-------------|---------------------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: 46149 | | RunNo: 61332 | | | | | | | |
| Prep Date: 7/12/2019 | Analysis Date: 7/12/2019 | | SeqNo: 2079461 | | Units: mg/Kg | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | ND | 10 | | | | | | | | |
| Motor Oil Range Organics (MRO) | ND | 50 | | | | | | | | |
| Surr: DNOP | 9.3 | | 10.00 | | 93.4 | 70 | 130 | | | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1907593

16-Jul-19

Client: Hilcorp Energy
Project: SCHWERDTFEGER A 3M

| Sample ID: RB | SampType: MBLK | TestCode: EPA Method 8015D: Gasoline Range | | | | | | | | |
|-------------------------------|---------------------------------|---|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: G61346 | RunNo: 61346 | | | | | | | | |
| Prep Date: | Analysis Date: 7/12/2019 | SeqNo: 2079994 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND | 5.0 | | | | | | | | |
| Surr: BFB | 950 | | 1000 | | 94.9 | 73.8 | 119 | | | |

| Sample ID: 2.5UG GRO LCS | SampType: LCS | TestCode: EPA Method 8015D: Gasoline Range | | | | | | | | |
|---------------------------------|---------------------------------|---|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: G61346 | RunNo: 61346 | | | | | | | | |
| Prep Date: | Analysis Date: 7/12/2019 | SeqNo: 2079995 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 23 | 5.0 | 25.00 | 0 | 90.4 | 80.1 | 123 | | | |
| Surr: BFB | 1100 | | 1000 | | 105 | 73.8 | 119 | | | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1907593

16-Jul-19

Client: Hilcorp Energy
Project: SCHWERDTFEGER A 3M

| Sample ID: RB | SampType: MBLK | TestCode: EPA Method 8021B: Volatiles | | | | | | | | |
|--------------------------------|---------------------------------|--|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: PBS | Batch ID: B61346 | RunNo: 61346 | | | | | | | | |
| Prep Date: | Analysis Date: 7/12/2019 | SeqNo: 2080006 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Methyl tert-butyl ether (MTBE) | ND | 0.10 | | | | | | | | |
| Benzene | ND | 0.025 | | | | | | | | |
| Toluene | ND | 0.050 | | | | | | | | |
| Ethylbenzene | ND | 0.050 | | | | | | | | |
| Xylenes, Total | ND | 0.10 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 0.96 | | 1.000 | | 95.8 | 80 | 120 | | | |

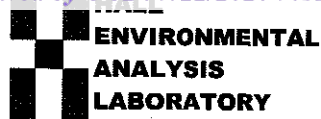
| Sample ID: 100NG BTEX LCS | SampType: LCS | TestCode: EPA Method 8021B: Volatiles | | | | | | | | |
|----------------------------------|---------------------------------|--|---------------------|-------------|------|----------|-----------|------|----------|------|
| Client ID: LCSS | Batch ID: B61346 | RunNo: 61346 | | | | | | | | |
| Prep Date: | Analysis Date: 7/12/2019 | SeqNo: 2080007 | Units: mg/Kg | | | | | | | |
| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Methyl tert-butyl ether (MTBE) | 0.81 | 0.10 | 1.000 | 0 | 80.5 | 80 | 120 | | | |
| Benzene | 0.92 | 0.025 | 1.000 | 0 | 91.9 | 80 | 120 | | | |
| Toluene | 0.95 | 0.050 | 1.000 | 0 | 95.2 | 80 | 120 | | | |
| Ethylbenzene | 0.95 | 0.050 | 1.000 | 0 | 94.9 | 80 | 120 | | | |
| Xylenes, Total | 2.8 | 0.10 | 3.000 | 0 | 94.4 | 80 | 120 | | | |
| Surr: 4-Bromofluorobenzene | 0.96 | | 1.000 | | 95.6 | 80 | 120 | | | |

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

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Sample Log-In Check List

Client Name: HILCORP ENERGY

Work Order Number: 1907593

RcptNo: 1

Received By: Desiree Dominguez 7/12/2019 8:05:00 AM

Completed By: Anne Thorne 7/12/2019 8:36:18 AM

Reviewed By: DAD 7/12/19

Chain of Custody

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

Log In

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

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1 | 1.5 | Good | Yes | | | |

Schwerdtfeger A 3M

API: 30-045-11605

Backfill Photo



District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 10300

CONDITIONS

| | |
|--|--|
| Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002 | OGRID: 372171 |
| | Action Number: 10300 |
| | Action Type: [C-144] PIT Generic Plan (C-144) |

CONDITIONS

| Created By | Condition | Condition Date |
|------------|-----------|----------------|
| vvenegas | None | 12/30/2021 |