

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

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

Form C-144
Revised June 6, 2013

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

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

- 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: <u>Hilcorp Energy Company</u>	OGRID #: <u>372171</u>
Address: <u>382 Road 3100 Aztec, NM 87410</u>	
Facility or well name: <u>San Juan 32-8 Unit 230 POD 2</u>	
API Number: <u>30-045-27970</u>	OCD Permit Number: <u>15997</u>
U/L or Qtr/Qtr <u>G</u>	Section <u>28</u> Township <u>32N</u> Range <u>08W</u> County: <u>San Juan</u>
Center of Proposed Design: Latitude <u>36.955851°N</u> Longitude <u>-107.675157°W</u> NAD: <input type="checkbox"/> 1927 <input checked="" type="checkbox"/> 1983	
Surface Owner: <input checked="" type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Tribal Trust or Indian Allotment	
2.	
<input type="checkbox"/> Pit: Subsection F, G or J of 19.15.17.11 NMAC	
Temporary: <input type="checkbox"/> Drilling <input type="checkbox"/> Workover	
<input type="checkbox"/> Permanent <input type="checkbox"/> Emergency <input type="checkbox"/> Cavitation <input type="checkbox"/> P&A	
<input type="checkbox"/> Lined <input type="checkbox"/> Unlined Liner type: Thickness <u> </u> mil <input type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other <u> </u>	
<input type="checkbox"/> String-Reinforced	
Liner Seams: <input type="checkbox"/> Welded <input type="checkbox"/> Factory <input type="checkbox"/> Other <u> </u> Volume: <u> </u> bbl Dimensions: L <u> </u> x W <u> </u> x D <u> </u>	
DENIED * Release Granted over 100 mg/kg TPH Resubmit.	
BY: <u>Cory Smith</u> DATE: <u>4/26/14</u> (505) 334-6178 Ext. 115 Chloride Drilling Fluid <input type="checkbox"/> yes <input type="checkbox"/> no	
3.	
<input checked="" type="checkbox"/> Below-grade tank: Subsection I of 19.15.17.11 NMAC	
Volume: <u>120</u> bbl Type of fluid: <u>Produced Water</u>	
Tank Construction material: <u>Metal</u>	
<input type="checkbox"/> Secondary containment with leak detection <input checked="" type="checkbox"/> Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off	
<input type="checkbox"/> Visible sidewalls and liner <input type="checkbox"/> Visible sidewalls only <input type="checkbox"/> Other <u> </u>	
Liner type: Thickness <u>45</u> mil <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input checked="" type="checkbox"/> Other <u>LLDPE</u>	
4.	
<input type="checkbox"/> 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)	
<input type="checkbox"/> 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)	
<input type="checkbox"/> Four foot height, four strands of barbed wire evenly spaced between one and four feet	
<input type="checkbox"/> Alternate. Please specify <u> </u>	

6.
Netting: Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

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

7.
Signs: Subsection C of 19.15.17.11 NMAC

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

8.
Variances and Exceptions:

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

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

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

9.
Siting Criteria (regarding permitting): 19.15.17.10 NMAC

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

General siting

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

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

☐ Yes ☐ No
☒ NA

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

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

☐ Yes ☐ No
☒ NA

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

- FEMA map

☐ Yes ☐ No

Below Grade Tanks

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

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

☐ Yes ☒ No

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

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

☐ Yes ☒ No

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

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300 feet 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	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

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

<input type="checkbox"/> Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
<input type="checkbox"/> Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
<input type="checkbox"/> Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
<input type="checkbox"/> 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
<input type="checkbox"/> Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
<input type="checkbox"/> Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
<input type="checkbox"/> Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
<input type="checkbox"/> Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
<input type="checkbox"/> Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
<input type="checkbox"/> Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
<input type="checkbox"/> 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 DENIED ☐ an (only) ☐ OCD Conditions (see attachment)

OCD Representative Signat _____ **Approval Date:** _____

Title: _____ **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:** 12/1/2018

20.
Closure Method:
☒ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

21.
Closure Report Attachment Checklist: *Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*

<input checked="" type="checkbox"/> Proof of Closure Notice (surface owner and division)
<input type="checkbox"/> Proof of Deed Notice (required for on-site closure for private land only)
<input type="checkbox"/> Plot Plan (for on-site closures and temporary pits)
<input checked="" type="checkbox"/> Confirmation Sampling Analytical Results (if applicable)
<input type="checkbox"/> Waste Material Sampling Analytical Results (required for on-site closure)
<input type="checkbox"/> Disposal Facility Name and Permit Number
<input checked="" type="checkbox"/> Soil Backfilling and Cover Installation
<input checked="" type="checkbox"/> Re-vegetation Application Rates and Seeding Technique
<input checked="" type="checkbox"/> Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude _____ °N _____ °W _____ Longitude _____ °W _____ NAD: ☐ 1927 ☐ 1983

Operator Closure Certification:

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

Name (Print) Amanda Walker Title: Operations/Regulatory Technician Sr.

Signature:  Date: 4/4/2019

e-mail address: mwalker@hilcorp.com Telephone: (505) 324.5122

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

Lease Name: San Juan 32-8 Unit 230 POD 2

API No.: 30-045-27970

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).

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 not 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.

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 not required for production activities and reseeding will be / completed on 11/01/2019 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)**

Mandi Walker

From: Mandi Walker
Sent: Friday, November 16, 2018 12:50 PM
To: Smith, Cory, EMNRD; Fields, Vanessa, EMNRD
Cc: Chad Perkins; Mandi Walker; Priscilla Shorty; Jennifer Deal; Clara Cardoza; 'Savage, Jack'
Subject: SJ 32-8 Unit 230 POD (1&2) BGT 72 Hour Closure Notice
Attachments: SJ 32-8 Unit 230 POD 1.pdf; SJ 32-8 Unit 230 POD 2.pdf

Importance: High

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

Well Name: San Juan 32-8 Unit 230 POD (1 & 2)
API#: 30-045-27970
Location: G, Sec 28, T32N, R08W
Footages: 2014' FNL & 1378' FEL
Operator: Hilcorp Energy
Surface Owner: BLM
Scheduled Date & Time of Start: 11/21/2018 @ 9am

Mandi Walker

San Juan North Regulatory Technician

Hilcorp Energy

505.324.5122

mwalker@hilcorp.com

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Hilcorp Energy Company	OGRID 372171
Contact Name Amanda Walker	Contact Telephone (505) 324-5122
Contact email mwalker@hilcorp.com	Incident # (assigned by OCD)
Contact mailing address 382 Road 3100 Aztec NM 87410	

Location of Release Source

Latitude 36.955851 Longitude -107.675157
(NAD 83 in decimal degrees to 5 decimal places)

Site Name SJ 32-8 Unit 230 POD 2	Site Type Gas Well
Date Release Discovered N/A	API# 30-045-27970

Unit Letter	Section	Township	Range	County
G	28	32N	08W	San Juan

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

Nature and Volume of Release

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

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

Cause of Release

No release was encountered during the BGT Closure.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

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

<input type="checkbox"/> The source of the release has been stopped. <input type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.
If all the actions described above have <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>Amanda Walker</u> Title: <u>Operations/Regulatory Technician – Sr.</u> Signature: <u></u> Date: <u>4/4/19</u> email: <u>mwalker@hilcorp.com</u> Telephone: <u>(505) 324-5122</u>
<u>OCD Only</u> Received by: _____ Date: _____



ANALYTICAL REPORT

November 30, 2018

HilCorp-Farmington, NM

Sample Delivery Group: L1046816
Samples Received: 11/23/2018
Project Number:
Description: SJ 32-8 POD Pit Closure
Site: SJ 32-8 POD
Report To: Clara Cardoza
382 Road 3100
Aztec, NM 87401

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

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



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



NW PIT BASE L1046816-01 Solid

Collected by
Chad Perkins

Collected date/time
11/21/18 11:00

Received date/time
11/23/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1200933	1	11/24/18 11:00	11/29/18 00:04	ELN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1201424	1	11/23/18 16:25	11/26/18 20:00	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1201271	1	11/27/18 07:59	11/29/18 07:46	KME

Cp

²Tc

³Ss

SE PIT BASE L1046816-02 Solid

Collected by
Chad Perkins

Collected date/time
11/21/18 11:00

Received date/time
11/23/18 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1200933	1	11/24/18 11:00	11/29/18 00:13	ELN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1201424	1	11/23/18 16:25	11/26/18 20:22	JHH
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1201271	1	11/27/18 07:59	11/29/18 08:02	KME

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁶Al

⁹Sc



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

Olivia Studebaker
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

NW PIT BASE

Collected date/time: 11/21/18 11:00

SAMPLE RESULTS - 01

L1046816

ONE LAB. NATIONWIDE.



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	47.0		10.0	1	11/29/2018 00:04	WG1200933

Cp

Tc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000500	1	11/26/2018 20:00	WG1201424
Toluene	ND		0.00500	1	11/26/2018 20:00	WG1201424
Ethylbenzene	ND		0.000500	1	11/26/2018 20:00	WG1201424
Total Xylene	ND		0.00150	1	11/26/2018 20:00	WG1201424
TPH (GC/FID) Low Fraction	ND		0.100	1	11/26/2018 20:00	WG1201424
(S) <i>o,o</i> , <i>o</i> -Trifluorotoluene(FID)	91.6		77.0-120		11/26/2018 20:00	WG1201424
(S) <i>o,o</i> , <i>o</i> -Trifluorotoluene(PID)	88.3		72.0-128		11/26/2018 20:00	WG1201424

Ss

Cn

Sr

Qc

Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	292		4.00	1	11/29/2018 07:46	WG1201271
C28-C40 Oil Range	263		4.00	1	11/29/2018 07:46	WG1201271
(S) <i>o</i> -Terphenyl	86.5		18.0-148		11/29/2018 07:46	WG1201271

Al

Sc

SE PIT BASE

Collected date/time: 11/21/18 11:00

SAMPLE RESULTS - 02

L1046816

ONE LAB. NATIONWIDE.



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	68.7		10.0	1	11/29/2018 00:13	WG1200933

Cp

Tc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000500	1	11/26/2018 20:22	WG1201424
Toluene	ND		0.00500	1	11/26/2018 20:22	WG1201424
Ethylbenzene	ND		0.000500	1	11/26/2018 20:22	WG1201424
Total Xylene	ND		0.00150	1	11/26/2018 20:22	WG1201424
TPH (GC/FID) Low Fraction	ND		0.100	1	11/26/2018 20:22	WG1201424
(S) a,a,a-Trifluorotoluene(FID)	91.0		77.0-120		11/26/2018 20:22	WG1201424
(S) a,a,a-Trifluorotoluene(PID)	87.2		72.0-128		11/26/2018 20:22	WG1201424

Ss

Cn

Sr

Qc

Gl

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.00	1	11/29/2018 08:02	WG1201271
C28-C40 Oil Range	16.7		4.00	1	11/29/2018 08:02	WG1201271
(S) o-Terphenyl	97.6		18.0-148		11/29/2018 08:02	WG1201271

Al

Sc

WG1200933

Wet Chemistry by Method 9056A

QUALITY CONTROL SUMMARY

L1046816-01,02

ONE LAB. NATIONWIDE.



Method Blank (MB)

(MB) R3363874-1 11/28/18 21:35

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	U		0.795	10.0

L1046533-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1046533-05 11/28/18 22:01 • (DUP) R3363874-3 11/28/18 22:10

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	13600	14500	20	5.88		15

L1046821-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1046821-06 11/29/18 01:40 • (DUP) R3363874-6 11/29/18 01:49

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	191	148	1	24.9	<u>J3</u>	15

Laboratory Control Sample (LCS)

(LCS) R3363874-2 11/28/18 21:44

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chloride	200	208	104	80.0-120	

L1046816-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1046816-02 11/29/18 00:13 • (MS) R3363874-4 11/29/18 00:22 • (MSD) R3363874-5 11/29/18 00:30

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chloride	500	68.7	609	589	108	104	1	80.0-120			3.31	15

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

WG1201424

Volatile Organic Compounds (GC) by Method 8015/8021

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.

L1046816-01,02

Method Blank (MB)

(MB) R3363115-5 11/26/18 12:32

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000275	J	0.000120	0.000500
Toluene	0.000183	J	0.000150	0.00500
Ethylbenzene	0.000123	J	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	92.0			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	87.4			72.0-128

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3363115-1 11/26/18 10:46 • (LCSD) R3363115-2 11/26/18 11:08

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0511	0.0508	102	102	76.0-121			0.471	20
Toluene	0.0500	0.0519	0.0513	104	103	80.0-120			1.18	20
Ethylbenzene	0.0500	0.0513	0.0508	103	102	80.0-124			0.879	20
Total Xylene	0.150	0.160	0.158	107	105	37.0-160			1.51	20
(S) a,a,a-Trifluorotoluene(FID)				91.6	91.3	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				84.7	85.0	72.0-128				

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

(LCS) R3363115-3 11/26/18 11:29 • (LCSD) R3363115-4 11/26/18 11:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.89	5.46	107	99.2	72.0-127			7.66	20
(S) a,a,a-Trifluorotoluene(FID)				107	106	77.0-120				
(S) a,a,a-Trifluorotoluene(PID)				98.9	98.9	72.0-128				

WG1201424

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.



Volatile Organic Compounds (GC) by Method 8015/8021

L1046816-01,02

L1046674-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1046674-01 11/26/18 16:50 • (MS) R3363115-6 11/26/18 21:04 • (MSD) R3363115-7 11/26/18 21:25

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	ND	0.431	0.540	34.1	42.8	25	10.0-155			22.5	32
Toluene	0.0500	ND	0.474	0.592	37.9	47.4	25	10.0-160			22.2	34
Ethylbenzene	0.0500	ND	0.526	0.657	42.1	52.6	25	10.0-160			22.1	32
Total Xylene	0.150	ND	1.64	2.05	43.8	54.6	25	10.0-160	<u>J6</u>	<u>J6</u>	22.0	32
(S) a,a,a-Trifluorotoluene(FID)					95.0	92.1		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					87.4	86.5		72.0-128				

L1046674-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1046674-01 11/26/18 16:50 • (MS) R3363115-8 11/26/18 21:46 • (MSD) R3363115-9 11/26/18 22:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	60.1	64.6	43.7	47.0	25	10.0-151			7.24	28
(S) a,a,a-Trifluorotoluene(FID)					100	101		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					94.3	94.4		72.0-128				

Cp

Tc

Ss

Cn

Sr

Qc

GI

AI

Sc

WG1201271

Semi-Volatile Organic Compounds (GC) by Method 8015

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.

L1046816-01,02

Method Blank (MB)

(MB) R3363864-1 11/29/18 04:53

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	86.8			18.0-148

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

(LCS) R3363864-2 11/29/18 05:09 • (LCSD) R3363864-3 11/29/18 05:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	38.0	40.8	76.0	81.6	50.0-150			7.11	20
(S) o-Terphenyl				85.9	90.5	18.0-148				

L1046071-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1046071-17 11/29/18 08:47 • (MS) R3363864-4 11/29/18 09:23 • (MSD) R3363864-5 11/29/18 09:37

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	55.0	13000	12300	13100	0.000	200	10	50.0-150	<u>E V</u>	<u>E V</u>	6.06	20
(S) o-Terphenyl					0.000	0.000		18.0-148	<u>J2</u>	<u>J2</u>		

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.



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

 ${}^9\text{Sc}$ ¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

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[illegible]







