

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	NCS1913741281
District RP	
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party Hilcorp Energy Company	OGRID 372171
Contact Name Jennifer Deal	Contact Telephone 505-801-6517
Contact email jdeal@hilcorp.com	Incident # NCS1913741281
Contact mailing address 382 Road 3100, Aztec NM 87410	

### Location of Release Source

Latitude 36.7778969 \_\_\_\_\_ Longitude -107.8062668 \_\_\_\_\_  
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Mansfield 11	Site Type Gas Well
Date Release Discovered 5/2/2019 @ 4:00pm	API# 30-045-20992

Unit Letter	Section	Township	Range	County
N	29	30N	09W	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) 10.44	Volume Recovered (bbls) 0
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input checked="" type="checkbox"/> Other (describe) Historic Contamination	Volume/Weight Released (provide units) Unknown	Volume/Weight Recovered (provide units)

#### Cause of Release

While digging to install a new BGT at the Mansfield 11 historic contamination was encountered at approximately 4 feet deep. Hilcorp will assess the contamination to determine a path forward.

**From:** [Smith, Cory, EMNRD](#)  
**To:** [jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)  
**Cc:** [Devin Hencmann](#); [Ashley Ager](#); ["Josh Adams"](#)  
**Subject:** RE: Mansfield #11 (NCS1913741281) and Salty Dog (NCS1916853082)  
**Date:** Friday, June 12, 2020 9:46:00 AM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.png](#)

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All,

I have reviewed the Remediation plan for the Mansfield #11 incident nCS1913741281 and have approved it with the following conditions of Approval

- HEC must submit and get approval of a small Land farm permit pursuant to 19.15.36.16 NMAC and follow all applicable requirements.
- Once a small Land Farm permit is approved HEC will send notification of the approval to the Division District Office via email notifying of the approval.
- HEC vadose zone sampling request does not meet the requirement of part 36 and is denied
- During remediation HEC must maintain site security(fencing) and an egress at the open excavation to ensure the protection of fresh water, human health and the environment. If HEC chooses to back fill the excavation prior to completion of land farmed remediation this requirement is null.
- A full closure report for the excavation is due no later than July 15, 2022

The basis of this approval is that this landform will be onsite for an extended period of time and needs to be approved by the land owner. If you have any additional questions please give me a call.

Please keep a copy of this electronic communication for your files, as no paper copy of the approval will be delivered. The signed C-147 will be saved in 3RF-28 electronic file on the OCD website.

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](mailto:cory.smith@state.nm.us)

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**Sent:** Thursday, June 4, 2020 1:31 PM  
**To:** Smith, Cory, EMNRD <Cory.Smith@state.nm.us>

**Cc:** Devin Hencmann <dhenemann@ltenv.com>; Ashley Ager <aager@ltenv.com>;  
jdeal@hilcorp.com  
**Subject:** [EXT] RE: Mansfield #11 (NCS1913741281) and Salty Dog (NCS1916853082)

Thank you and hope you are doing well.



Joshua G. Adams, G.I.T.  
Staff Geologist  
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Mansfield #11 updated Remediation Work Plan (NCS1913741281) (PO: YRHNM-190912-C-1410)

- Salt Dog Water Transfer Station Stage 1 Abatement Plan (NCS1916853082) (PO: XK8BS-191220-C-1410)



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## 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>25-28</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 <b>not</b> 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

Page 4

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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: \_\_\_Jennifer Deal\_\_\_\_\_ Title: \_\_\_Environmental Specialist\_\_\_\_\_

Signature: \_\_\_\_\_  \_\_\_\_\_ Date: \_\_\_2/19/2020\_\_\_\_\_

email: \_\_\_jdeal@hilcorp.com\_\_\_\_\_ Telephone: \_\_\_(505) 324-5128\_\_\_\_\_

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

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## Remediation Plan

**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*


- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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Printed Name: Jennifer Deal Title: Environmental Specialist

Signature:  Date: 2/19/2020

email: jdeal@hilcorp.com Telephone: 505-324-5128

**OCD Only**

Received by: OCD Date: 2/16/2020

☐ Approved ☒ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature:  Date: 6/12/2020

COA attached/Emailed to Operator

**From:** [Smith, Cory, EMNRD](#)  
**To:** [jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)  
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LT Environmental, Inc.

848 East Second Avenue  
Durango, Colorado 81301  
970.385.1096

February 18, 2020

Mr. Cory Smith  
Environmental Specialist  
New Mexico Oil Conservation Division  
1000 Rio Brazos Road  
Aztec, New Mexico 87410

**RE: Revised Remediation Work Plan  
Hilcorp Energy Company  
Mansfield #11 – NCS1913741281  
San Juan County, New Mexico**

Dear Mr. Smith:

LT Environmental, Inc. (LTE), on behalf of Hilcorp Energy Corporation (Hilcorp), is pleased to present this revision to a previously approved remediation workplan to address remediation of impacted soil at the Mansfield #11 natural gas production well (Site) located in unit letter N of Section 29, Township 30 North, Range 9 West, in San Juan County, New Mexico. The original Remediation Work Plan dated September 13, 2019, proposed excavation of impacted soil and subsequent groundwater monitoring. The excavated soil was to be transported to a commercial disposal facility. Since approval was received from the New Mexico Oil Conservation Division (NMOCD) on December 3, 2019, Hilcorp has identified sufficient space on a nearby well pad to treat the impacted soil and eliminate the need for transport. This Revised Remediation Work Plan is being submitted to detail a plan for biopiling the recovered impacted soil. Once the closure standards are achieved, Hilcorp will backfill the original excavation with the remediated soil.

## **SITE HISTORY**

Site history was detailed in the original Remediation Work Plan and included excavation, delineation, groundwater monitoring well installation, and identification of NMOCD Closure Criteria through site characterization according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of 19.15.29.12 NMAC. Due to the Site having a depth to groundwater of less than 50 feet and a natural spring 85 feet north of the Site, the following NMOCD Table 1 closure criteria apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 100 mg/kg total petroleum hydrocarbons (TPH); and 600 mg/kg chloride.

Hilcorp proposed continued excavation of remaining impacted soil due to the large volume of soil already removed, an open excavation, and likely small volumes of remaining impact in soil. The NMOCD approved the remediation workplan with conditions of approval included as Attachment 1.



Excavation, confirmation soil sampling, and subsequent groundwater sampling will proceed as approved in the original Remediation Work Plan, including compliance with the conditions of approval. The only proposed changes include the following:

- Treat the excavated soil for reuse as backfill instead of transporting the soil to a commercial landfarm and
- Modify the closure schedule to allow sufficient time for soil remediation.

LTE has detailed the proposed biopiling design, monitoring, and closure methods below and provided a modified schedule for NMOCD review and approval.

### PROPOSED BIOPILING

Hilcorp will excavate 1,320 yds<sup>3</sup> of impacted soil as originally proposed at the Mansfield #11 and transport the impacted soil to the adjacent site to the north, the Mansfield #11N. Lateral distance between the Mansfield #11 and the Mansfield #11N is approximately 900 feet. Hilcorp proposes placing biopiles in a bermed remediation area at the Mansfield #11N that is approximately 54,000 square feet that at its maximum extent is approximately 390 feet long by 238 feet wide (Figure 1). The soil will be spread into windrows in that are variable in length due to the shape of the remediation area but will be approximately 3 feet in width and 2 feet in height with approximately 3 feet of space between each windrow. Hilcorp will attempt to make the windrows as small as possible given the available space. Hilcorp will construct a berm surrounding the entire area that will be approximately 3 feet high in order to prevent the unwanted discharge of soil from run-off events. Because treatment will include tilling, which could destroy a liner, no liner is proposed. Due to the lithology at the treatment site consisting of coarse graded sandstone with interbedded clay lags and fine grained material restricting migration and anticipated depth to groundwater of greater than 100 feet bgs based on the elevation change between the Site and the treatment site, LTE does not believe residual impact in the treated soil poses a threat to subsurface receptors.

Prior to creating the windrows for biopiling, Hilcorp will add 600 pounds (lbs) of 20-10-5 fertilizer to the impacted soil and mix thoroughly. The 20-10-5 fertilizer consists of 20 percent (%) nitrogen, 10% available phosphate, and 5% soluble potash and is used to boost microbial growth in soils. By increasing microbial activity, the microbial consumption of hydrocarbons is increased. Application rates are based on nitrogen being the most important constituent to promote biological activity within the soil. In order to elevate nitrogen levels in soil, the recommended dose is 3 to 4 pounds of nitrogen per 1000 ft<sup>3</sup> of soil. Optimal concentrations of nitrogen are between 50 milligrams per kilogram (mg/kg) and 200 mg/kg. Concentrations above 500 mg/kg inhibit microbial growth and will be avoided. In order to establish a baseline, Hilcorp will sample background concentrations of nitrogen prior to the addition of fertilizer.



Once the biopiles are constructed, Hilcorp will turn, or aerate, the soil monthly to allow for remediation. Each monthly event will include tilling and soil monitoring to ensure remediation is progressing as designed. Soil sampling will be conducted to evaluate degradation of the hydrocarbon constituents and to ensure optimal conditions for bioremediation. Subsequent addition of fertilizer or other amendments is described below and is conditional based upon soil sample analytical results determined during sample collection to monitor remediation progress.

## MONITORING

During each monthly tilling event, Hilcorp will collect soil samples to monitor remediation progress, make observations to ensure soil conditions are conducive to volatilization and microbial degradation, and inspect the biopiles and berms for potential damage. Observations and inspection results will be recorded on the attached inspection form and available for review at any time. All inspections forms will be included in any reports submitted to NMOCD.

### *Soil Sampling*

Each month, Hilcorp will collect fifteen 5-point composite samples at equal intervals and various depths from each individual windrow. Hilcorp will avoid collecting sample aliquots from the surface and near surface sections of the piles. The soil headspace from these composite soil samples will be field screened using a photo-ionization detector (PID) to monitor for the presence of volatile organic vapors. The procedure for field screening soil for volatile organic vapors includes:

*Calibrate the instrument and record calibration information in the field notes. The following Ambient Temperature Headspace Analysis (ATHA) field screening method will be utilized for the selection of subsurface soil samples; however, state and/or project specific requirements may be used in lieu of the following procedure:*

- 1. When collecting samples where splits may be destined for laboratory analysis, collect laboratory supplied sample jars prior to collecting field screening samples to minimize the potential for loss of volatile organic compounds (VOC's).*
- 2. Place a consistent amount of soil into a sealable plastic bag and seal tightly or place the soil into a pre-cleaned glass jar, covering the top of the jar with aluminum foil. Label the outside of the bag or the jar with the sample name, depth, time, and date.*
- 3. Allow the soil to equilibrate at approximately 70 degrees (°) Fahrenheit for approximately 10 minutes.*
- 4. Place the container on a clean work surface upwind of other volatile organic sources.*



*5. Insert the tip of a PID probe into the corner of the bag or through the foil jar cover to measure the meter reading of the headspace within the container. Allow the meter to equilibrate and then record the maximum measured concentration on the inspection form.*

Monitoring samples will be split and submitted for laboratory analysis quarterly. Laboratory analysis will include benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (EPA) Method 8021, TPH- GRO, TPH- DRO, and TPH-motor oil range organics (MRO) by EPA Method 8015, pH by Standard Method (SM) 4500 H+B, moisture content by American Standard Test Method (ASTM) D2216-92, Sodium Absorption Ratio (SAR), and nitrogen by SM 4500 NH<sub>3</sub>. TPH and BTEX results will indicate how much hydrocarbon impact remains in the soil and at what concentration for the different constituents. The nitrogen, pH, and SAR data will indicate if the soil is suitable to allow biologic activity to continue to breakdown hydrocarbons.

When laboratory analytical results indicate that a biopile is below the Closure Criteria for TPH and BTEX, no more aeration or amendment application will occur on that biopile and the result will constitute the closure sample for that biopile.

#### *Moisture Content*

In order to maintain optimum microbial hydrocarbon degradation conditions, soil moisture percent needs to remain between 10% and 20%. Hilcorp will use a soil moisture meter to record moisture content of soil within the stockpiles monthly. Moisture content will be measured from randomly selected places within each stockpile. If moisture content results from an individual biopile indicate values less than 10%, Hilcorp will water the stockpile until moisture contents are above 10% and record the amount of water used. Hilcorp will take special care not to over water the soil and prevent the pooling of any liquids within the remediation area.

#### *Temperature*

Optimum treatment temperatures for bioremediation range between 65 degrees Fahrenheit (°F) and 85°F. Temperatures should not exceed 135°F. Hilcorp will use an infrared thermometer to measure soil temperatures of each soil piles during the monthly monitoring events. Hilcorp will take the average of 5 temperature readings from the interior of each biopile to evaluate treatment temperatures.

#### *Visual Inspections*

Hilcorp will inspect the treatment area for damage to the berm, pooling of liquids, appropriate stabilization of the windrows, evidence of disturbance from stormwater, and the general weather conditions.

#### *Documentation*



Inspections must occur prior to mixing or water application. Hilcorp will complete a Monthly Inspection Form that will document field observations and activities including:

- Inspection date;
- Name of inspector;
- Weather;
- Field screening results (PID, temperatures, and moisture content results);
- Calibration records of PID and moisture content %;
- Samples collected for laboratory analysis;
- Time spent mixing soil;
- General site conditions;
- Any breeches of containment documented and repaired;
- Amount of water applied (if any);
- Amendments applied, type, quantity, and locations; and
- Any areas within the remediation areas that have evidence of pooling liquids and actions taken to prevent similar pooling in the future.

All data will be tabulated and monitored for remediation progress. If appropriate progress is not observed, additional actions will be taken as described in the Contingencies section below. The Monthly Inspection Form is included as Attachment 2.

### Backfilling

After soil sample results indicate soil has been remediated according to NMOCD Closure Criteria, Hilcorp will submit a report to the NMOCD documenting remediation progress and satisfactory sampling results with a request to backfill the excavation with soil from the biopiles. Once backfilling is approved, Hilcorp will backfill the excavation and conduct vadose zone sampling within the remediation area.

### Vadose Zone Sampling

After backfilling the treated soil, Hilcorp will collect 5-point composite soil samples from vadose zone soils beneath the area that biopiles were placed. Hilcorp will also collect additional vadose zone soil samples from areas where water may have collected during rain or watering events. Soil samples be collected from 6 inches below the native soil surface. The locations of the additional vadose zone samples (if any) to be taken beneath areas of where water may have pooled will be determined by the GPS coordinates taken by Hilcorp during the monthly inspections. Vadose zone soil samples will be submitted for laboratory analysis of BTEX by EPA Method 8021, TPH- GRO, TPH- DRO, and TPH- MRO by EPA Method 8015.

If vadose zone samples indicate an exceedance of the Closure Criteria, Hilcorp will remove the top 3 inches of soil beneath where the soil samples were collected. Once the near surface soil is





removed, Hilcorp will resample the vadose zone in that area. Hilcorp will continue to remove soil in 3-inch lifts of soil in these areas until the vadose zone sample are compliant with the Closure Criteria. Impacted soil from these areas will all be biopiled as described above.

### *Reclamation*

The total acreage of bare mineral soil expected to result from construction activities is expected to be between 0.1 and 1.0 acre total, and revegetation will follow the Bureau of Land Management – Farmington Field Office BLM-FFO's) *Vegetation Reclamation Procedure A*. Areas of bare mineral soil are expected to be small and localized in nature, and spot seeding will be done by broadcasting by hand in disturbed areas utilizing a BLM-FFO approved seed mix. The seeds will be covered using the most appropriate method as determined by site conditions at the time of seeding, which may include: spreading and crimping straw over the seeded area, raking the area by hand, dragging a chain or chain-linked fence over the seeded area, or applying tackifier/mulch products designed for reclamation purposes. The proposed remediation area will be seeded within 90 days of approval of the closure request, if weather conditions are favorable. If the area is unable to be seeded within this timeframe the BLM-FFO will be consulted to establish an approved time frame for seeding. Hilcorp will provide documentation to the BLM-FFO that the vegetation percent cover standards for the Pinyon-Juniper/sagebrush vegetation community have been attained before the BLM-FFO will issue a final abandonment notice or a relinquishment.

### **CONTINGENCIES**

Hilcorp proposes the following contingencies for lack of remediation progress, poor bioremediation environment, or unexpected deviations from this Work Plan:

- If moisture content results from an individual biopile indicate values less than 10%, Hilcorp will water the stockpile.
- If temperature or pH values fall out of range of ideal conditions for bioremediation, Hilcorp will propose additional measures to bring improve the conditions based on results and season/weather.
- If soil samples indicate nitrogen concentrations less than 50 mg/kg, more fertilizer will be added to the soil to promote microbial growth and remediation.
- If soil field screening results indicate increasing or stable concentrations of VOCs for three consecutive months, MicroBlaze will be applied to individual stockpiles demonstrating this increase. MicroBlaze will be applied at a rate of 0.1 gallons of MicroBlaze and 1 gallon of water (10%) to every cubic yard of soil.
- If concentration of TPH and BTEX do not decrease by at least 25% within the first 6 months of monitoring, an additional dose of MicroBlaze will be added to the biopiles that have not shown a 25% decrease in TPH and BTEX concentrations.





Smith, C.  
Page 7

- If TPH and BTEX concentrations do not decrease by 50% within the first 12 months of monitoring, an additional dose of MicroBlaze will be added to the biopiles have not shown a 25% decrease in TPH and BTEX concentrations.
- If remediation requires more 24 months, Hilcorp will submit a revised remediation work plan to address remaining impacts.

### Reporting

Hilcorp will submit either quarterly reports or a closure request to the NMOCD (based on the soil analytical results) detailing the following from each quarter:

- Field activities;
- Field screening results;
- Laboratory analytical results;
- Additional amendment application (if necessary);
- Any significant weather events and a general summary of the weather during the reporting period;
- Completed inspection forms; and
- Any recommendations.

Hilcorp will submit the quarterly report or a closure request by the last day of the quarter. The first report will be submitted at the end of the quarter when biopiling commences. If remediation has occurred within a single quarter, no quarterly report will be submitted but a request to backfill and closure request will be submitted to the NMOCD.

### Timeline

Hilcorp proposes to begin excavating soil and immediate biopiling within two weeks of approval of this Revised Remediation Work Plan. Hilcorp believes remediation will require 24 months to complete. Once soil is remediated and no exceedances are detected in the vadose zone samples, Hilcorp will backfill the excavation with the remediated soil. Hilcorp will submit a closure request to the NMOCD with 60 days of receiving the final laboratory results.

LTE appreciates the opportunity to provide this report to the NMOCD. If you have any questions or comments regarding this Work Plan, do not hesitate to contact Jennifer Deal at (505)-324-5128 or at [jdeal@hilcorp.com](mailto:jdeal@hilcorp.com).

Sincerely,

LT ENVIRONMENTAL, INC.



Smith, C.  
Page 8

A handwritten signature in black ink, reading 'Josh Adams', is shown. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Josh Adams, G.I.T.  
Staff Geologist

A handwritten signature in black ink, reading 'Ashley L. Ager', is shown. The signature is cursive and somewhat stylized, with the first name 'Ashley' being more prominent.

Ashley Ager, M.S., P.G.  
LTE Senior Geologist

cc: Jennifer Deal, Hilcorp Energy

Attachments:

Figure 1: Biopiling Area

Attachment 1: NMOCD Conditions of Approval

Attachment 2: Monthly Inspection Form



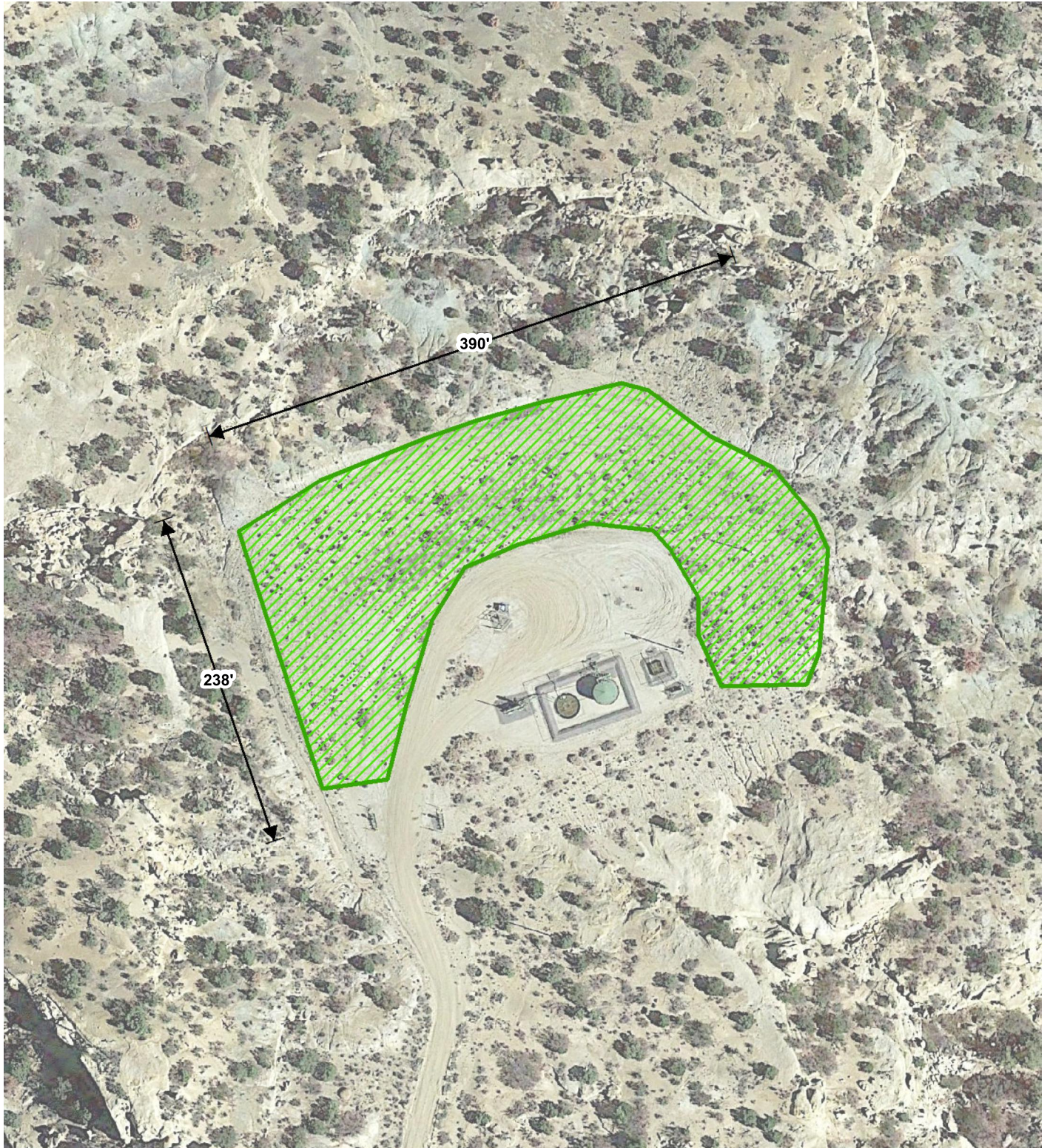
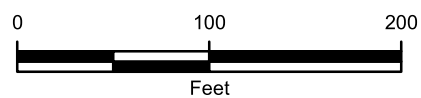


IMAGE COURTESY OF GOOGLE EARTH 2019

**LEGEND**

 PROPOSED LANDFARM (53,941.2 FT<sup>2</sup>)



**FIGURE 1**  
PROPOSED LANDFARM  
MANSFIELD 11N  
NESW SEC 29 T30S R9W  
SAN JUAN COUNTY, NEW MEXICO  
HILCORP ENERGY COMPANY





## Josh Adams

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**From:** Smith, Cory, EMNRD <Cory.Smith@state.nm.us>  
**Sent:** Monday, July 22, 2019 8:12 AM  
**To:** Jennifer Deal  
**Cc:** Josh Adams; Ashley Ager  
**Subject:** RE: NCS1913741281 Extension Request

Jennifer,

OCD approves HEC request for an extension for incident# nCS1913741281 to submit a completed Stage 1 and a proposed Stage 2 abatement plan no later than September 13, 2019.

For soil delineation at a minimum OCD recommends that HEC follows the guidelines of 19.15.29.11 NMAC for vertical and horizontal soil delineation. In addition please ensure that water samples collected for ground water delineation are sampled at a minimum for EPA 8260 (Full list), TDS and Cation/Anions. OCD also recommends the installation of an upgradient monitoring well.

Please include this approval in your Stage1/2 report.

If you have any questions please give me a call.

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

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**From:** Ashley Ager <aager@ltenv.com>  
**Sent:** Friday, July 19, 2019 8:51 AM  
**To:** Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Jennifer Deal <jdeal@hilcorp.com>  
**Cc:** Josh Adams <jadams@ltenv.com>  
**Subject:** [EXT] RE: NCS1913741281 Extension Request

Cory,

Following our discussion yesterday regarding transitions from remediation of soil impact (Part 29) to include remediation of groundwater impact (Part 30) and conversations with Hilcorp about timelines for drilling and response: Hilcorp requests the original extension of the 90-day deadline in Part 29 to September 13, 2019 with the understanding that the report submitted to NMOCD by that deadline will consist of a combined Stage 1 and Stage 2 abatement plan as required by Part 30. That means we will report full vertical and lateral delineation of soil and groundwater, and provide a plan for remediation of both soil and groundwater. A proposal for public notification will also be included.

Please let us know if that is acceptable and thanks for your help.

**Attachment 2  
Monthly Inspection Form**

**Mansfield #11  
San Juan County, New Mexico  
Hilcorp Energy Company**

**Inspector Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Weather:** \_\_\_\_\_

**General Site Conditions:**

\_\_\_\_\_  
\_\_\_\_\_

**Are there any breeches in the containment? Y\_\_\_\_\_ N\_\_\_\_\_**

**If so, were they repaired?**

\_\_\_\_\_  
\_\_\_\_\_

**Time spent mixing soil:** \_\_\_\_\_

**Amount of water applied (if any):** \_\_\_\_\_

**Amendments applied (type, quantity, location):**

\_\_\_\_\_  
\_\_\_\_\_

**Evidence of pooling liquids? Y \_\_\_\_\_ N \_\_\_\_\_**

**GPS coordinates of pooling liquids:**

\_\_\_\_\_  
\_\_\_\_\_

## Monthly Inspection Form

Mansfield #11  
San Juan County, New Mexico  
Hilcorp Energy Company

Inspector Name:

Date:

SAMPLE ID	PID (PPM)	SOIL MOISTURE (%)	Temp. (°F)	Sample Collected? (Y/N, date/time, analysis requested)
BP01				
BP02				
BP03				
BP04				
BP05				
BP06				
BP07				
BP08				
BP09				
BP10				
BP11				
BP12				
BP13				
BP14				
BP15				
BP16				
BP17				
BP18				
BP19				
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