

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



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402195503

Receive Date:

10/02/2019

Report taken by:

Jim Hughes

Site Investigation and Remediation Workplan (Supplemental Form)

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. However, this shall not preclude the Operator from taking immediate action to protect public health or safety, the environment, wildlife, or livestock.

This Form 27 describes site conditions as currently understood by the Operator; approval of this Form 27 by COGCC is based on the site conditions accurately described herein; any changes in site conditions identified during or subsequent to the performance of the approved workplan may necessitate additional investigation or remediation which shall be described on a supplemental Form 27. This Form 27 is intended to provide basic information regarding the proposed site investigation and remediation actions, but the workplan may be more fully described in attached documentation.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

OPERATOR INFORMATION

Name of Operator: <u>HILCORP ENERGY COMPANY</u>	Operator No: <u>10133</u>	Phone Numbers
Address: <u>P O BOX 61229</u>		Phone: <u>(505) 324-5128</u>
City: <u>HOUSTON</u>	State: <u>TX</u>	Zip: <u>77208</u>
Contact Person: <u>Jennifer Deal</u>	Email: <u>jdeal@hilcorp.com</u>	Mobile: <u>()</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 13661Initial Form 27 Document #: 402053151

PURPOSE INFORMATION

- | | |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water |
| <input type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure | <input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input checked="" type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation | <input type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste | <input type="checkbox"/> Rule 906.c.: Director request |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input type="checkbox"/> Other _____ |

SITE INFORMATION

N Multiple Facilities (in accordance with Rule 909.c.)

Facility Type: <u>LOCATION</u>	Facility ID: <u>312126</u>	API #: _____	County Name: <u>LA PLATA</u>
Facility Name: <u>TIFFANY EAST-N32N6W 17NENW</u>	Latitude: <u>37.021700</u>	Longitude: <u>-107.527280</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NENW</u>	Sec: <u>17</u>	Twp: <u>32N</u>	Range: <u>6W</u>
Meridian: <u>N</u>		Sensitive Area? <u>Yes</u>	

SITE CONDITIONS

General soil type - USCS Classifications SMMost Sensitive Adjacent Land Use ~200 feet east of agricultural pastureIs domestic water well within 1/4 mile? YesIs surface water within 1/4 mile? YesIs groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

SITE INVESTIGATION PLAN

TYPE OF WASTE:

☒ E&P Waste

☐ Other E&P Waste

☐ Non-E&P Waste

☒ Produced Water

☐ Workover Fluids

☐ Oil

☐ Tank Bottoms

☐ Condensate

☐ Pigging Waste

☐ Drilling Fluids

☐ Rig Wash

☐ Drill Cuttings

☐ Spent Filters

☐ Pit Bottoms

☐ Other (as described by EPA)

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	SAR	sampling

INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

Reference Initial Form 19 Document No. 402012610. On May 1, 2019, an environmental scientist conducted soil assessment activities to better understand the soil conditions of the off-pad non-vegetated zone south of the pad. The footprint of the non-vegetated area covers approximately 0.64 acres on the south end of the reclaimed area and is distinguished by a lack of vegetation and light-colored soil.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

☒ Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

Samples were collected for site characterization and results are described in the attached report. Additional soil sampling will be completed in the late summer or early fall months of 2019 to monitor the attenuation of the soil. Based on the laboratory analytical results, a determination will be made if the remediation project can be closed or if additional attenuation or remediation implementation is necessary.

Proposed Groundwater Sampling

☐ Will groundwater samples be collected as part of this investigation? (Number, analyses, and locations of samples):

Proposed Surface Water Sampling

☐ Will surface water samples be collected as part of this investigation? (Number, analyses, and locations of samples):

Additional Investigative Actions

☐ Additional alternative investigative actions described in attached Site Investigation Plan (summary):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 10

Number of soil samples exceeding 910-1 5

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 27878

NA / ND

NA Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 70

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 3

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 200'

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 910-1 0

 Highest concentration of Benzene (µg/l)

 Highest concentration of Toluene (µg/l)

 Highest concentration of Ethylbenzene (µg/l)

 Highest concentration of Xylene (µg/l)

 Highest concentration of Methane (mg/l)

Surface Water

0 Number of surface water samples collected

0 Number of surface water samples exceeding 910-1

If surface water is impacted, other agency notification may be required.

OTHER INVESTIGATION INFORMATION

☐ Were impacts to adjacent property or offsite impacts identified?

☒ Were background samples collected as part of this site investigation?

Yes, two background samples were collected at depths of 0-6" and 30-36".

☐ Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards)

Volume of liquid waste (barrels)

☐ Is further site investigation required?

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? No _____

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

In-Situ remediation

REMEDICATION SUMMARY

Describe how remediation of existing impacts to soil and groundwater is to be accomplished (i.e. summarize remedial action plan). Provide a brief narrative description including: technical justification, schedule for implementation, estimated time to attain NFA status, plus plans and specifications for the selected remedial action technology.

Based on the laboratory analytical results and site observations the following actions will be completed this summer: Cultivate in (75) 50-lb bales of hay for bulking of hard pan soil; cultivate in additional nutrients/organic matter in the form of 200 ponds of 13-13-13 fertilizer; cultivate in 600 pounds of food grade acetic acid to address the slightly elevated pH levels and break down the calcium carbonate to allow the calcium to absorb into the soil; cultivate in 300 pounds limestone (CaCO₃) to address the calcium deficiency; and cultivate in material with a large disk that will reach the full vertical extent of the 3-foot impacted zone. (Reference attached workplan)

Soil Remediation Summary

☒ In Situ

_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
Yes _____ Natural Attenuation
_____ Other _____

☐ Ex Situ

_____ Excavate and offsite disposal
_____ If Yes: Estimated Volume (Cubic Yards) _____
_____ Name of Licensed Disposal Facility or COGCC Facility ID # _____
_____ Excavate and onsite remediation
_____ Land Treatment
_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Other _____

Groundwater Remediation Summary

☐ _____ Bioremediation (or enhanced bioremediation)
☐ _____ Chemical oxidation
☐ _____ Air sparge / Soil vapor extraction
☐ _____ Natural Attenuation
☐ _____ Other _____

GROUNDWATER MONITORING

If groundwater has been impacted, describe proposed monitoring plan, including # of wells or sample points, monitoring schedule, analytical methods, points of compliance. Attach a groundwater monitoring location diagram.

Groundwater is not anticipated to be encountered.

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other _____

Report Type: ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report
☐ Other _____

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? _____

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Volume of E&P Waste (solid) in cubic yards _____

E&P waste (solid) description _____

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: _____

Volume of E&P Waste (liquid) in barrels _____

E&P waste (liquid) description _____

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: _____

REMEDATION COMPLETION REPORT

REMEDATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No _____

Do all soils meet Table 910-1 standards? _____

Does the previous reply indicate consideration of background concentrations? _____

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? _____

Does Groundwater meet Table 910-1 standards? _____

Is additional groundwater monitoring to be conducted? _____

RECLAMATION PLAN

RECLAMATION PLANNING

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing.

The following is a summary of activities conducted at the site:

- June 21, 2019: Hilcorp tilled the soil and added 200 lbs of 13-13-13 fertilizer, 300 lbs of limestone, and 600 lbs of food-grade acetic acid, then thoroughly watered the area to address the elevated SAR levels. Photos of the site after tilling and amendment application are attached.
- August 22, 2019: collected additional soil monitoring samples to assess the progress of remediation. SAR levels remained elevated. The site requires more time for remediation, which was slowed due to lack of precipitation this summer. A figure showing original and monitoring soil sample locations is attached.
- Hilcorp intends to conduct a second application of limestone, fertilizer, and gypsum on October 18, 2019. Hilcorp will continue with the planned seeding, watering, and hydro mulching planned at that time. Another monitoring event will occur in the spring.
- Should any areas not support vegetation this spring, additional amendment or watering events will be scheduled.

(See attached photo log and lab results)

After additional soil sampling is completed in the late summer or early fall 2019, seed area with land owner desired seed mix and cover with hay. Native grasses are recommended. Water area if high rainfall is not expected and repeat in early Spring. All disturbances created will be recontoured to match existing grades. (Reference attached workplan)

Is the described reclamation complete? No _____

Does the reclamation described herein constitute interim or final reclamation of the Oil and Gas Location?

☐ Interim? ☐ Final?

Did the Surface Owner approve the seed mix? _____

If NO, does the seed mix comply with local soil conservation district recommendations? _____

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. _____

Actual Spill or Release date, if known. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/01/2019

Date of commencement of Site Investigation. 05/01/2019

Date of completion of Site Investigation. _____

REMEDIAL ACTION DATES

Date of commencement of Remediation. _____

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

I added comments in the Reclamation plan tab describing actions taken so far and pathforward in regards to the remediation plan. I have also attached a photo log and a site diagram showing sample results.

I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: Jennifer Deal

Title: Environmental Specialist

Submit Date: 10/02/2019

Email: jdeal@hilcorp.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: Jim Hughes

Date: 10/08/2019

Remediation Project Number: 13661

COA Type

Description

	Upon approval of this Supplemental Form 27 Site Investigation and Remediation Workplan the operator shall submit a Supplemental Form 19 requesting closure of Spill/Release Point ID #464165, with work proceeding under an approved Form 27 (REM #13661).
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Attachment Check List

Upon approval, the approved Form 27 and all listed attachments will be indexed to the Remediation Project file. Only the approved Form 27 will also be indexed to the related Facilities.

Att Doc Num

Name

402195503	FORM 27-SUPPLEMENTAL-SUBMITTED
402195520	SOIL SAMPLE LOCATION MAP
402195522	PHOTOS

Total Attach: 3 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)