

State of Colorado Oil and Gas Conservation Commission

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Document Number:

402562109

Receive Date:

Report taken by:

Site Investigation and Remediation Workplan (Initial 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: TEP ROCKY MOUNTAIN LLC	Operator No: 96850	Phone Numbers
Address: PO BOX 370		Phone: (970) 623-4875
City: PARACHUTE	State: CO Zip: 81635	Mobile: (970) 263-2760
Contact Person: Michael Gardner	Email: mgardner@terraep.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: Initial Form 27 Document #: 402562109

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 checked="" type="checkbox"/> Other Historical subsurface remediation |

SITE INFORMATION

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

Facility Type: LOCATION	Facility ID: 314929	API #:	County Name: RIO BLANCO
Facility Name: GOVT-EQUITY-62S98W 26NENW	Latitude: 39.852702	Longitude: -108.364768	
** correct Lat/Long if needed: Latitude: 39.851940		Longitude: -108.366709	
QtrQtr: NENW	Sec: 26	Twp: 2S	Range: 98W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications CL Most Sensitive Adjacent Land Use Rangeland

Is domestic water well within 1/4 mile? Yes Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

Black Sulphur Creek located approximately 740 feet away. An abandoned monitoring well located on the C-27A location (1,755 feet to the west/northwest) indicated a static water level of 7 feet. The elevation difference between the C-27A and Gov 298-26-1 is ~73 feet, suggesting that groundwater could be ~80-100 feet deep.

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	TBD	Analytical data results

INITIAL ACTION SUMMARY

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

While performing a due diligence around a party buried tank (PBT) for an asset acquisition screening, historical hydrocarbon impacts were observed below the ground surface starting at 5-feet and extending to 10-11 feet where a hard compacted layer was encountered. A track mounted drilling rig was utilized to complete six (6) boreholes around the PBT and pad perimeter to obtain subsurface soil samples for TPH and BTEX, as the purpose of the sampling was for a due diligence acquisition screening.

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):

As of 12/29/20, six (6) subsurface soil grab samples have been collected and analyzed for TPH and BTEX. Further site investigation activities will consist of soil samples being analyzed for full COGCC Table 910-1 constituents.

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):

Additional subsurface soil site investigation is needed to delineate the horizontal and vertical extent of impacts.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 6

Number of soil samples exceeding 910-1 4

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 5625

NA / ND

-- Highest concentration of TPH (mg/kg) 11560

NA Highest concentration of SAR

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 11

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 80'

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?

☐ 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?

Further investigation is needed to determine lateral and vertical extent of impacts

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

The source of the impacted soil has yet to be determine as these are historical impacts believed to date back to the previous operator (Whiting Oil & Gas). Impacts will likely be excavated and hauled for offsite dispsosal or remediated in-situ

REMEDIATION 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.

Remediation of the impacted subsurface soils may consist of excavation and offsite disposal, in-situ bioremediation, SVE or other remediation options. Update remediation information will be provided on future Supplemental Form 27 submittals after further delineation has been completed to determine the lateral and vertical extent of impacts.

Soil Remediation Summary

☐ In Situ

- ☐ Bioremediation (or enhanced bioremediation)
- ☐ Chemical oxidation
- ☐ Air sparge / Soil vapor extraction
- ☐ 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 impacts are not expected at this time. However, if it is determined that groundwater is impacted, a separate groundwater remediation and monitoring plan will be completed.

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: _____

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 pad surface will be reclaimed to the present grade of the location or to the approximate original contour of the landscape and consistent with the 1000-series Rule.

Any seeding of the disturbed area will be performed in accordance with its' intended use.

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? ☐ Yes _____

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

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. 12/08/2020

Actual Spill or Release date, if known. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 12/07/2020

Date of commencement of Site Investigation. 12/07/2020

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

Please forward onto Steven Arauza

As previously stated in this Initial Form 27 and within the notifications/correspondence to the COGCC (including the Form 19's). These subsurface impacts were discovered as the result of a due diligence performed by Terra Energy during the asset acquisition review of the Ursa Gov 298-26-1, with the primarily focus to examine the subsoils around the partly buried tank (PBT). Additional delineation is needed to determine the full lateral and vertical extent of impacts.

Once the asset acquisition transaction has been completed, Terra will provide a more detailed remediation plan, consisting of additional delineation description via drilling rig borehole or excavation via trackhoe/backhoe. At this time, it is believed that subsurface impacts date back to the previous operator (Whiting) and are confined to the pad perimeter as no daylighting or other indications within the downgradient hillside to the north or east suggest impacts have migrated offsite. Additional records review will be performed to determine if possible remediation occurred under previous regulations prior to 2009.

Note that the Form 10 transition, converting the location from Ursa to Terra Energy is currently in process, but not yet approved.

Due to the location, winter conditions, weight stipulations on Country Road 5 and ability to safely access the site with heavy equipment, further delineation is tentatively planned for the Spring 2021.

Attached are the requested documents (per Supplemental Form 19 – Doc# 402557062)

- Raw analytical soil data reports for TPH & BTEX
- Borehole logs
- Borehole location map
- Analytical tracking table

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

Signed: ` Mike Gardner _____

Title: TEP Environmental _____

Submit Date: ` _____

Email: mgardner@terraep.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: _____

Date: _____

Remediation Project Number: _____

COA Type**Description**

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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**

402562384	ANALYTICAL RESULTS
402562385	ANALYTICAL RESULTS
402562390	SOIL SAMPLE LOCATION MAP
402562394	LOGS

Total Attach: 4 Files

General Comments**User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)