

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
ALEX FISCHER

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>TEP ROCKY MOUNTAIN LLC</u>	Operator No: <u>96850</u>	Phone Numbers
Address: <u>PO BOX 370</u>		Phone: <u>(970) 263-2760</u>
City: <u>PARACHUTE</u> State: <u>CO</u> Zip: <u>81635</u>		Mobile: <u>(970) 623-4875</u>
Contact Person: <u>Michael Gardner</u>	Email: <u>mgardner@terraep.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION
Remediation Project #: 5873 Initial Form 27 Document #: 2214617

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 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 <u>PIT CLOSURE</u>

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

Facility Type: <u>PIT</u>	Facility ID: <u>277095</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>CHEVRON TR 44-26-597</u>	Latitude: <u>39.579076</u>	Longitude: <u>-108.238531</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESE</u>	Sec: <u>26</u>	Twp: <u>5S</u>	Range: <u>97W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications OH 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? Yes

Other Potential Receptors within 1/4 mile

CRYSTAL CREEK ~1,840 FEET TO THE NW.

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	South and east side walls. Bottom	VISUAL, FIELD SCREENING, ANALYTICAL

INITIAL ACTION SUMMARY

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

At the location(s) of the pit which are the furthest downgradient, lowest in elevation and/or have the potential for pooling of liquid, field-screening will be performed and will utilize appropriate field equipment which may include, but is not limited to the following: a PetroFlag unit, a photoionization gas detector (PID), or similar, for detection of volatile hydrocarbons, in the immediate area of the pit footprint. Confirmation sample(s), Rule 905.b.(4), will be collected and submitted for lab analysis and verification to confirm compliance with Rule 910 and Table 910-1 (reference to specific analytes is provided below) relative to the aforementioned field screen activity. Other areas of the pit walls and floor will be inspected for evidence of impact via field screening and visual observation. Grab samples will be collected, as appropriate, to demonstrate diligence and thoroughness of investigation activities performed as directed in Rule 905.b.(1). In addition, all field screening activities and results will be documented and compiled into a summary report, table and/or map to be provided with the Site Closure Plan. Grab sample(s) will be submitted for laboratory analysis to confirm field screening activities. Sub-liner sample analytes will include considerations identified by Rule 910 and all contaminants of concern for soils from Table 910-1 excluding boron (see attached analyte list in Table 1 of Annex A; and Williams Highlands Pit Closure Plan, COGCC document #01175818). A visual assessment will be performed throughout the entire investigation process and will be adequately documented (e.g. field notes, observations, photographs, etc.) by qualified personnel. For additional information and detail of the proposed initial actions to be taken refer to the Williams Highlands Pit Closure Plan (COGCC document #01175818).

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):

Grab samples will be collected from the four (4) side walls and from the pit bottom at the lowest point. Any additional areas of concern (AOC) will be sampled separately to ensure pit compliance.

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 5
Number of soil samples exceeding 910-1 3
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 0

NA / ND

-- Highest concentration of TPH (mg/kg) 94
-- Highest concentration of SAR 19
BTEX > 910-1 No
Vertical Extent > 910-1 (in feet) 2

Groundwater

Number of groundwater samples collected 0
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 35
Number of groundwater monitoring wells installed 0
Number of groundwater samples exceeding 910-1 0

NA Highest concentration of Benzene (µg/l) _____
NA Highest concentration of Toluene (µg/l) _____
NA Highest concentration of Ethylbenzene (µg/l) _____
NA Highest concentration of Xylene (µg/l) _____
NA 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?

Background samples were collected for inorganic and arsenic comparison and allowance.

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.

The presence of impact has not been determined at this point. No impacts have been observed to date or any other indication that would suggest there has been an event that would result in

impact to the surrounding environment. However, should contamination be encountered the following actions will be taken: Any spill or release will be reported via a Form 19 and in accordance with Rule 906 and remediation shall be performed in accordance with requirements specified in Rules 909 and 910. Notification and consultation with the affected surface owner(s) shall be made with good faith effort and in accordance with Rule 906.c. Should a release be identified and attributed to the contents of the pit, the impacted area will be: excavated in which field screen instruments will guide the excavation and laboratory confirmation samples collected to demonstrate compliance with Table 910-1 of the COGCC 900-series rule; and placed within a lined and bermed containment cell pending remediation and disposal option described below. All pit contents will be evacuated and managed in accordance with all applicable local, state [i.e. Rule 905.b.(2)] and federal regulations. If disposal is required, the relevant media will be disposed of at an approved facility. The potential source - production pit - will be closed and reclaimed in accordance with the COGCC 900 and 1000 series rules, respectively. The synthetic liner will be removed either recycled/reused or disposed of at an approved facility as a solid waste and in accordance with Rule 905.b.(3). Williams personnel have no reason to suspect nor have they been informed of signs or conditions that would indicate past or present failure of the liner/containment system. For additional information and detail of how the potential sources is to be removed refer to the Williams Highlands Pit Closure Plan (COGCC document #01175818).

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.

No hydrocarbon impacts were encountered during pit closure operations. No remediation was necessary.

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
No Land Treatment
No Bioremediation (or enhanced bioremediation)
No Chemical oxidation
No Other _____

Groundwater Remediation Summary

No Bioremediation (or enhanced bioremediation)
No Chemical oxidation
No Air sparge / Soil vapor extraction
No Natural Attenuation
No 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.

The presence of impact has not been determined at this point. No impacts have been observed to date or any other indication that would suggest there has been an event that would result in impact to the surrounding environment. However, should it be observed or determined that groundwater impacts exist an appropriate site specific monitoring and remediation plan will be developed and submitted for approval. The monitoring and remediation plan will be developed to include, but is not limited to, number of sample wells and/or points; proposed location of sample wells and/or points; sampling schedule; analytical methods including analyte list(s); monitoring scheme including end point; and potential mitigation or remediation approaches if necessary [Rule 910 (4) E].

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: Quarterly Semi-Annually Annually Other Final closure _____
Report Type: Groundwater Monitoring Land Treatment Progress Report O&M Report
 Other Notice of Completion Report _____

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No _____

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: _____

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

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

Do all soils meet Table 910-1 standards? No _____

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? Yes _____

Does Groundwater meet Table 910-1 standards? Yes _____

Is additional groundwater monitoring to be conducted? No _____

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 pit 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.

Seeding of the disturbed area will be performed in accordance with its' intended use. The seed mix will be prescribed by the landowner. There are no known noxious weeds in the immediate area of the disturbance. A noxious weed survey is performed annually of the Trail Ridge field which includes this location. As a preventative measure, Williams seeds all disturbed areas as soon as practicable with temporary or sterile annual seed mixes to: provide soil stability, and serve as a nurse or cover crop for desired species; derived from the natural seed bank and/or the applied seed mix. Bare ground treatment is a common practice by Williams and any identified noxious weed species will be spot treated for immediate eradication and prevention of encroachment and dispersal. A plat of the location is attached for topographic and geographic reference.

Is the described reclamation complete? Yes _____

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. _____

Actual Spill or Release date, if known. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/31/2018

Date of commencement of Site Investigation. 08/31/2018

Date of completion of Site Investigation. 08/31/2018

REMEDIAL ACTION DATES

Date of commencement of Remediation. 08/31/2018

Date of completion of Remediation. 09/11/2018

SITE RECLAMATION DATES

Date of commencement of Reclamation. 09/25/2018

Date of completion of Reclamation. 10/02/2018

OPERATOR COMMENT

Please forward to Stan Spencer.
Notice of Completion Report (NOC) for pit closure. REM #5873.

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

Signed: Michael Gardner _____

Title: TEP Environmental _____

Submit Date: 01/24/2019 _____

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: John Heil _____

Date: 05/07/2019 _____

Remediation Project Number: 5873 _____

COA Type

Description

	NFA is not approved at this time and the request for closure box has been switched to NO.
	Operator indicates that the only residual soil impacts are greater than 3 feet below ground surface. Please provide the depth at which the 5 soil samples from the pit were taken.
	<p>Confirmation sample results on Doc# 401917493 exceed Table 910- 1 standards for EC (8.8 mmho/cm), pH (9.5) and SAR (18, 19). Please see FAQ (32) below, for relief for EC, pH and SAR exceedances and request relief from the COGCC for these constituents.</p> <p>FAQ 32) How will the COGCC apply the Table 910-1 concentration levels for pH, sodium adsorption ratio (SAR), and electrical conductivity (EC)?</p> <p>Consistent with its prior practice and Rule 1003, the COGCC will generally apply the Table 910-1 concentration levels for pH, SAR, and EC to soils that are within three (3) feet of the ground surface because elevated levels of pH, SAR, and EC in deeper soils should not adversely affect the successful reclamation of the site, which is the objective of these concentration levels. In addition, the COGCC requires that materials with elevated pH, SAR, or EC be buried under a minimum of three (3) feet of backfill cover and soil that satisfies either the Table 910-1 levels for pH, SAR, and EC or the background levels for such contaminants within three (3) feet of the ground surface at the site. In addition, the soil horizons must be replaced in their original relative position and reclaimed in accordance with 1000 Series Rules, including the establishment of vegetative cover on non-cropland and successful crop growth on cropland.</p>

Document number 401917464 provides background analytical (arsenic) for the TR 4" pipeline spill. Provide the proximity of this spill to pit facility ID 277095.

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.

<u>Att Doc Num</u>	<u>Name</u>
401789016	FORM 27-SUPPLEMENTAL-SUBMITTED
401789468	ANALYTICAL RESULTS
401789472	SOIL SAMPLE LOCATION MAP
401917464	ANALYTICAL RESULTS
401917493	ANALYTICAL RESULTS

Total Attach: 5 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Document number 401917493 provides a summary of the analytical report without units. Comparing the concentration levels to table 910-1, it is assumed that for the organics and metals, the units are mg/kg.	05/06/2019
Environmental	It is stated that no hydrocarbon impacts were encountered during pit closure operations. No remediation was necessary. A brief description of the pit closure operations should be provided including: when use of the pit ceased, fluids removal and disposition, liner removal and disposition along with dates pit closure operations took place. Note: confirmation samples were collected in august 2018 and the original f27 was submitted in 2011.	05/06/2019

Total: 2 comment(s)