

State of Colorado Oil and Gas Conservation Commission

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Document Number:

402071332

Receive Date:

06/12/2019

Report taken by:

John Heil

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 13721

Initial Form 27 Document #: 402067472

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 checked="" 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 type="checkbox"/> Other _____ |

SITE INFORMATION

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

Facility Type: PIT	Facility ID: 374696	API #: _____	County Name: GARFIELD
Facility Name: JOLLY 16-23D	Latitude: 39.529489	Longitude: -107.563782	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNW	Sec: 16	Twp: 6S	Range: 91W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications OH

Most Sensitive Adjacent Land Use Pasture/farmland
@ 2020ft to the east with an elevation difference of 754ft

Is domestic water well within 1/4 mile? No

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

Garfield Creek lies approximately 3075ft to the east and an unnamed ephemeral drainage lies approximately 3700ft to the west.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | |
| <input type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> Other (as described by EPA) | |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	SOILS	TBD	field screening, confirmation 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.

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.
-PetroFlag unit,
-photoionization gas detector (PID),
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, 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 Notice of Completion (NOC) Report. 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.

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):

Five (5) grab samples will initially be collected from the pit subsoils along the side walls at a point positioned center at a depth of 3-4 feet below ground surface (bgs) from the crest of the pit. An additional sample will be collected off the bottom of the pit at the lowest point. All samples will be analyzed for COGCC Table 910-1 thresholds. Sample locations will be provided in a sample location map attached to the closure summary. Any additional identified areas of concern will be sampled independently for TPH/BTEX for initial concentrations.

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 0

Was the areal and vertical extent of soil contamination delineated?

Approximate areal extent (square feet) 0

NA / ND

-- Highest concentration of TPH (mg/kg) 430

-- Highest concentration of SAR 87

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 0

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 92'

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?

Three (3) background samples were collected from the nearby undisturbed soil and analyzed for arsenic and inorganics (SAR/EC/pH)

☐ 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? Yes _____

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Pit subliner soil did not exceed COGCC Table 910-1 thresholds with the exception to arsenic and inorganics. The arsenic concentrations observed are comparable with background concentrations. Although SAR concentrations are elevated above background concentrations, these areas will be managed by capping with 3ft of native cover. In addition to mitigating any impacts by covering with at least 3 feet of native fill material, TEP would also request relief from the SAR standards as provided by the FAQ #32, and also from the arsenic standard as provided in FAQ #31.

The pit liner has been removed and hauled off-site to an approved commercial solid waste disposal facility.

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.

The extent of any contaminated areas will be determined through excavation and sampling until COGCC cleanup standards are achieved. Impacts to ground water resources are not expected at this time, but will be assessed during remedial activities. If contaminated soils are identified and require excavation (depending upon the volume), these soils will either be land-farmed and treated onsite, or they may be hauled to an off-site, approved disposal facility. If soils are land-farmed on-site, they will be treated with a microbial agent to enhance the bio-degradation of hydrocarbons in soil. Treatment would begin immediately and would continue until such a time that subsequent sampling shows that the soils can meet COGCC cleanup standards. If soils cannot be land-farmed, they will be hauled offsite to a commercial disposal facility that is permitted to accept E&P wastes.

Soil Remediation Summary

☐ In Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ Other _____

☒ Ex Situ

Yes _____ Excavate and offsite disposal

_____ If Yes: Estimated Volume (Cubic Yards) _____ 0

_____ Name of Licensed Disposal Facility or COGCC Facility ID # _____

No _____ Excavate and onsite remediation

No _____ Land Treatment

No _____ Bioremediation (or enhanced bioremediation)

No _____ Chemical oxidation

_____ 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.

Groundwater impacts are not suspected at this time. The nearest ground water well (Permit # 234309) indicates static water levels are at 92ft.

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Facility Closure Report

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

☒ Other Notice of Completion (NOC)

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:

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? Yes

Does the previous reply indicate consideration of background concentrations? Yes

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? 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.

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. _____

Actual Spill or Release date, if known. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). _____

Date of commencement of Site Investigation. 06/24/2019

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

Please forward to John Heil

Attached are the analytical lab reports, a data tracking spreadsheet and sample location map for the KP 22-16 pit. All results indicate that soils satisfy COGCC Table 910-1, with the exception of arsenic and inorganics. All areas where arsenic and inorganics are located will be covered with at least 3 feet of clean fill material. No landfarming or off-site disposal of soil is required at this time.

TEP is requesting consideration to the arsenic and inorganic exceedances as outlined in FAQ 31 & 32 due to background arsenic concentrations being consistent with confirmation concentrations observed within the pit. Additionally, all areas with inorganics exceedances will be capped with a minimum of 3ft native cover during the interim reclaim.

Please note that the surface water sample notation on the initial Form 27 was an error as it was a duplicate sentence from the previous box that (Proposed Soil Sampling). The section has been updated and no surface water samples have been collected nor are any anticipated.

TEP is requesting closure of the KP 22-16 (Jolly 16-23D) Production Pit (facility ID 374696) and REM# 13721.

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: 06/12/2019

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: 06/12/2019

Remediation Project Number: 13721

COA Type

Description

	Operator shall contact the surface owner regarding an alleged historic spill and elevated inorganics. The Operator will report back to the COGCC with the surface owners feedback/comments.
	Provide a Supplemental F27 for Remediation ID 13721 including a summary of the pit use including maintenance (patching, relining, etc). Additionally, the summary should include field observations (with photos) of when the pit was taken out of service, liner inspected, and removed. Provide a discussion on whether over excavation of the pit occurred, the volume of material removed, and final disposition of that material.
	Within 3-days of passing this Supplemental F27 (Doc number 402071332) provide a Initial/Supplemental F19, acknowledging an alleged historical spill occurred based on the analytical data provided and the depth at which the samples were collected.

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>
402071332	FORM 27-SUPPLEMENTAL-SUBMITTED
402071345	ANALYTICAL RESULTS
402071346	ANALYTICAL RESULTS
402071415	SOIL SAMPLE LOCATION MAP

Total Attach: 4 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Remediation Completion Report box for final closure was switched to NO at this time for Remediation ID 13721.	06/12/2019
Environmental	<p>Closure of REM 13721 is denied based on the following:</p> <p>Per communication with Operator, samples collected and analyzed from the pit walls were at approximately 15 feet below ground surface (bgs) and from the pit bottom approximately 20 feet bgs (see June 12, 2019 emails uploaded to REM 13721).</p> <p>Analytical results provide indicate exceedances of inorganics. North Wall: SAR 77 (Table 910-1=\leq 12); pH 9.24 (Table 910-1= 6-9); EC 7 (Table 910-1=\leq4 or 2Xbackground) East Wall: SAR 87; pH 9.17; EC 14; TPH 430 mg/kg (Table 910-1 = 500 mg/kg) West Wall: SAR 37; pH 9.03; EC 6</p>	06/12/2019

Total: 2 comment(s)