

State of Colorado
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
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Document Number:

403728316

Receive Date:

03/22/2024

Report taken by:

Krystal Heibel

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 ECMC 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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATION

Name of Operator: <u>BROWN OIL & GAS LLC</u>	Operator No: <u>11001</u>	Phone Numbers
Address: <u>10481 COUNTY ROAD 20.5</u>		Phone: <u>(970) 522-1072</u>
City: <u>STERLING</u>	State: <u>CO</u>	Zip: <u>80751</u>
Contact Person: <u>Mark Brown</u>	Email: <u>brownoilandgas1@gmail.com</u>	Mobile: <u>()</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 19018 Initial Form 27 Document #: 402720652

PURPOSE INFORMATION

- ☒ Rule 913.c.(1): Pit or Cuttings Trench closure.
- ☐ Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- ☐ Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- ☐ Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- ☐ Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- ☐ Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- ☐ Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- ☒ Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- ☒ Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- ☐ Rule 913.g: Changes of Operator.
- ☒ Rule 915.b: Request to leave elevated inorganics in situ.
- ☐ Other: _____

SITE INFORMATION

Yes Multiple Facilities

Facility Type: <u>WELL</u>	Facility ID: _____	API #: <u>075-09351</u>	County Name: <u>LOGAN</u>
Facility Name: <u>CEDAR CREEK RANCH 1-Y</u>	Latitude: <u>40.776540</u>	Longitude: <u>-103.361431</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>1</u>	Twp: <u>9N</u>	Range: <u>54W</u>
Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>		

Facility Type: <u>PIT</u>	Facility ID: <u>287328</u>	API #: _____	County Name: <u>LOGAN</u>
Facility Name: <u>CEDAR CREEK RANCH 1-Y</u>	Latitude: <u>40.776610</u>	Longitude: <u>-103.360600</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>1</u>	Twp: <u>9N</u>	Range: <u>54W</u>
Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>		

Facility Type:	LOCATION	Facility ID:	312327	API #:		County Name:	LOGAN
Facility Name:		CEDAR CREEK RANCH-69N54W 1SWSW		Latitude:	40.776610	Longitude:	-103.360610
				** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr:	SWSW	Sec:	1	Twp:	9N	Range:	54W
		Meridian:	6	Sensitive Area?		Yes	

SITE CONDITIONS

General soil type - USCS Classifications GC Most Sensitive Adjacent Land Use none

Is domestic water well within 1/4 mile? No 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

County road 21 is 1.11 miles away
Riverine is approximately 0.13 to the south of the site
Nearest groundwater well, installed in 2004, is located approximately 0.56 miles to the south and indicates a static water level of 41 feet bgs.

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	Unknown	lab analysis

INITIAL ACTION SUMMARY

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

A Form 27-Initial (Doc. No. 402720652) was approved on July 16, 2021, and a Form 27-Supplemental (Doc. No. 402864248) was denied on February 22, 2023. All 10 soil sample locations from the sampling events in 2022 and 2023, including the background sample were returned above the Table 915-1 standards for Arsenic. The arsenic concentrations are representative of background conditions. The laboratory analytical data are summarized in the attached summary tables and provided in the attached laboratory analytical reports. A topographic map of the site was included as an attachment to Form 27-S (Doc. No. 403647563). Based on the February 2, 2024 and March 1, 2024, confirmation soil sampling laboratory analytical results, approval for site closure and reclamation is being requested. The laboratory analytical data is provided in the attached summary tables. Analytical reports and soil sample locations are presented in the attached site figures

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):

Based on the laboratory analytical data from the February 2, 2024, confirmation soil sampling event, some constituents of concern from the Series 900 Rules Table 915-1 are below regulatory standards or within background concentrations (arsenic). Slightly elevated pH concentrations are observed in the samples collected from the flowline area. It is being proposed to leave this material in place and monitor vegetation growth. The operator is requesting the approval of residential soil screening levels based on no pathway to groundwater existing. Soil sample locations and results are included as attached documents to this report.

Proposed Groundwater Sampling

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

Groundwater is not anticipated to be encountered during soil sampling activities. The nearest registered groundwater well, installed in 2004, is located approximately 0.56 miles south of the site and the well construction log indicated a depth to static groundwater level at 41 feet bgs.

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

NA / ND

Number of soil samples collected 23

Number of soil samples exceeding 915-1 23

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

Approximate areal extent (square feet) 0

ND Highest concentration of TPH (mg/kg)

Highest concentration of SAR

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 5

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet)

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 915-1

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 915-1

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 additional background samples were collected sufficiently away from the impacted area to reflect conditions not impacted by oil and gas activity and were obtained from similar depths and soil horizons or lithologic materials for comparison to confirmation soil samples. All background samples were submitted for analysis arsenic. The location of the samples is shown on the attached soil sample location figure.

☐ 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.

Impacted material from E&P waste was not encountered during site investigation activities and the February 2, 2024, confirmation sampling event confirmed that impacts from oil and gas operations are not present.

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.

Impacted material from E&P waste was not encountered during site investigation activities and the February 2, 2024, confirmation sampling event confirmed that impacts from oil and gas operations are not present.

Soil Remediation Summary

☐ In Situ

☐ Ex Situ

Bioremediation (or enhanced bioremediation)

Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards)

Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECOM Facility ID #

_____ Natural Attenuation
_____ Other _____

_____ 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.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

☒ Quarterly☐ Semi-Annually☐ Annually☐ Other

☐ Request Alternative Reporting Schedule:

☐ Semi-Annually☐ Annually☐ Other

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

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

☒ Other Site closure request

Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Brown Oil & Gas is current on form 1B. Liability insurance meets ECMC standards and is fully bonded with the state of Colorado.

Operator anticipates the remaining cost for this project to be: \$ 15000

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

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

E&P waste (liquid) description

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes

If YES:

☒ Compliant with Rule 913.h.(1).

☐ Compliant with Rule 913.h.(2).

☐ Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards? No

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards? Yes

Is additional groundwater monitoring to be conducted? _____

Operator shall comply with the ECMC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

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.

Brown Oil & Gas will coordinate with the landowner to verify that vegetation regrowth is successful. Should growth be unsuccessful, additional reclamation activities may be required and will be coordinated with the landowner.

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 provide the seed mix? No

If YES, does the seed mix comply with local soil conservation district recommendations? _____

Did the local soil conservation district provide the seed mix? No

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 05/01/2024

Proposed date of completion of Reclamation. 07/01/2024

IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

PRIOR DATES

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

Actual Spill or Release date, or date of discovery. 06/16/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/15/2021

Proposed site investigation commencement. 06/10/2021

Proposed completion of site investigation. 02/02/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 02/02/2024

Proposed date of completion of Remediation. 03/01/2024

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

☐ Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

OPERATOR COMMENT

Per the COA on Form 27 Doc #403688704 additional background samples were collected to characterize arsenic concentrations at the site. Based on the results of these samples, the arsenic concentration at the flowline center on site (6.54 mg/kg) is within the acceptable range of soil variability (5.66-7.40 mg/kg) and is not attributed to oil and gas activities. Therefore, Brown Oil & Gas is requesting closure of the remediation project.

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

Signed: Drezden Kinnaird

Title: Consultant

Submit Date: 03/22/2024

Email: dkinnaird@cgrs.com

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

ECMC Approved: Krystal Heibel

Date: 05/22/2024

Remediation Project Number: 19018

COA Type**Description**

0 COA	

ATTACHMENT 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**

403728316	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403728320	SOIL SAMPLE LOCATION MAP
403728322	ANALYTICAL RESULTS
403728323	ANALYTICAL RESULTS
403800571	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 5 Files

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

Environmental	Based on the information presented, it appears the elevated pH samples appear to be de minimis in quantity or within the range of background pH; therefore, elevated pH may not be associated with E&P activities. It appears that no further remedial action is necessary at this time and the ECMC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding ECMC standards or background levels or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required.	05/22/2024
Environmental	Per Doc# 403688704, ECMC approves Operator's request for use of Residential SSLs based on the depth to groundwater and the local lithology suggesting a pathway to groundwater at this location is not likely.	05/22/2024
Environmental	Based on the Operator's assessment of background conditions at the subject location, arsenic results for confirmation soil samples appear to be representative of background as opposed to E&P activities. Therefore, the Operator's demonstration of background will be accepted as an alternative to the default standard in ECMC's Table 915-1.	05/22/2024

Total: 3 comment(s)