

State of Colorado Oil and Gas Conservation Commission

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Report taken by:

KRIS NEIDEL

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: ENTEK GRB LLC	Operator No: 10323	Phone Numbers Phone: (307) 200-1930 Mobile: ()
Address: 165 SOUTH UNION #366		
City: LAKEWOOD State: CO Zip: 80228		
Contact Person: Kristen Stocks	Email: kristen.stocks@savercreekenterprises.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 8432 Initial Form 27 Document #: 2148934

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 PIT CLOSURE |

SITE INFORMATION

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

Facility Type: PIT	Facility ID: 289419	API #:	County Name: MOFFAT
Facility Name: ROBIDOUX 13-7	Latitude: 40.995330	Longitude: -107.325200	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SWNE	Sec: 13	Twp: 12N	Range: 89W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications ML Most Sensitive Adjacent Land Use RESIDENTIAL

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

NONE.

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	1 soil sample 3-6'	Soil Borings

INITIAL ACTION SUMMARY

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

THE ROBIDOUX 13-7 DRILLING PIT WAS LIKELY BACKFILLED WITHOUT AN APPROVED CLOSURE PLAN. RESIDUAL DRILLING MATERIALS MAY BE PRESENT IN THE FORMER PIT AND NATIVE SOILS BENEATH THE BOTTOM OF THE FORMER PIT MAY BE IMPACTED WITH PETROLEUM PRODUCT. TO DETERMINE IF PETROLEUM IMPACTED DRILLING MATERIALS OR SOILS ARE PRESENT, THE FORMER PIT LOCATION SHALL BE IDENTIFIED (~60' X 100') AND FIVE BORINGS SHALL BE ADVANCED WITHIN THE FORMER PIT FOOTPRINT. FIGURE 1 ILLUSTRATES THE GENERAL LOCATION OF THE PIT BASED ON COGCC RECORDED LAT/LONG OF THE WELLHEAD AND 5 PROPOSED BORING LOCATIONS FROM HISTORICAL GOOGLE EARTH PHOTOS. THE BORINGS WILL BE ADVANCED USING A SIMCO 2800 HSHT RIG (4" SOLID STEM AUGER) AND SPLIT SPOON SAMPLES WILL BE COLLECTED AT 1.5-2.0' INTERVALS. THE BORINGS WILL BE ADVANCED FROM GROUND SURFACE TO A MINIMUM OF 2' BELOW THE BOTTOM OF THE PIT. THE SPLIT SPOON SAMPLES WILL BE PHOTOGRAPHED AND VISUALLY INSPECTED FOR PETROLEUM AND/OR PETROLEUM STAINING. IF PETROLEUM AND/OR PETROLEUM STAINING IS OBSERVED, SAMPLE(S) WILL BE COLLECTED AND ANALYZED FOR TPH. IF SAMPLE ANALYSIS RESULTS INDICATE CONCENTRATIONS OF GREATER THAN 500 MG/KG OF TPH IN THE BACKFILLED MATERIAL, RESIDUAL DRILLING MATERIAL (IF PRESENT) OR NATIVE SOILS, A CLOSURE PLAN THAN MAY INCLUDE PIT EXCAVATION, MATERIAL MIXING AND SAMPLING OF TABLE 910-1 PARAMETERS PRIOR TO BACKFILLING.

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):

Please refer to attached approved Remedation Plan for details

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 20

Number of soil samples exceeding 910-1 1

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

Approximate areal extent (square feet) 9

NA / ND

-- Highest concentration of TPH (mg/kg) 890

-- Highest concentration of SAR 4.52

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 6

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 910-1

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

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?

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.

Please refer to attached approved Remediation Plan

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.

Please refer to attached approved Remediation Plan

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 # _____

Yes _____ Excavate and onsite remediation

Yes _____ Land Treatment

No _____ Bioremediation (or enhanced bioremediation)

No _____ Chemical oxidation

Yes _____ Other _____ Soil mixing _____

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.

NO GROUNDWATER IMPACT ANTICIPATED.

REMEDIATION 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? 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? Yes

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.

A Reclamation Plan was previously submitted and approved via Sundry Notice.

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? _____

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). 10/30/2014

Date of commencement of Site Investigation. 05/01/2014

Date of completion of Site Investigation. 05/12/2014

REMEDIAL ACTION DATES

Date of commencement of Remediation. 11/03/2016

Date of completion of Remediation. 11/03/2016

SITE RECLAMATION DATES

Date of commencement of Reclamation. 11/10/2016

Date of completion of Reclamation. 11/10/2016

OPERATOR COMMENT

This was previously emailed and reviewed by Kris Neidel. Final Reclamation is complete. However, there is snow on the ground.

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

Signed: Kristen Stocks

Title: Permit Agent

Submit Date: 01/18/2017

Email: kristen.stocks@savercreekenterprises.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: KRIS NEIDEL

Date: 01/23/2017

Remediation Project Number: 8432

COA Type

Description

	Surface reclamation must meet the COGCC 1000 series rules. Approval of this Form 27 does not imply approval of the reclamation plan submitted by the operator. The operator shall contact the COGCC regional reclamation specialist regarding compliance with 1000 series Rules.
	Based on review of information presented it appears that no further action is necessary at this time, and COGCC approves the closure request and remediation project number 8432. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if ground water is found to be significantly impacted, then further investigation and/or remediation activities may be required at the site.

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401185262	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
401185415	OTHER
401185417	ANALYTICAL RESULTS
401185426	PHOTOS
401185432	SOIL SAMPLE LOCATION MAP
401185434	OTHER
401187130	REMEDIAL ACTION PLAN
401191457	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 8 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Approval of this closure request does not grant approval for final reclamation.	01/19/2017
Environmental	Table 1 Field Screening Summary implies that if the Petroflag results are less than 500 mg/kg then Table 910-1 constituents concentrations have been met.	01/19/2017
Environmental	<p>The analytical results indicated that all samples were below the COGCC's Table 910-1 criteria for metal constituents with the exception of arsenic. Total arsenic was detected in soil sample SSB @ 85" at a concentration of 4.5 mg/kg. However, the Environmental Protection Agency (EPA) considers background levels in northwest Colorado to be high in arsenic. According to the Colorado Department of Public Health and Environment's (CDPHE's) Arsenic Concentration in Soil, Risk Management Guidance for Evaluating document, dated July, 2014, the Region 8 EPA lists the average background soil arsenic concentrations at 11 mg/kg for all land uses in Colorado. The total arsenic level detected in the bottom sample was well within the range that that EPA considers background levels.</p> <p>Entek previously collected background soil samples from other sites in northwest Colorado as part of their Battle Mountain and Focus Ranch remediation projects. Analytical results of these previous background samples indicated that background arsenic levels were detected in the soil ranging from 5.3 mg/kg to 9.4 mg/kg. See the attached analytical results for the previous background samples documenting background arsenic levels in the soil.</p> <p>COGCCs Table 910-1 Concentration Level for Arsenic is 0.39 mg/kg. The 2008 Rule making provided consideration for background concentration levels in native soils and ground water. See Frequently Asked Question No. 31 below:</p> <p>31. How will the COGCC apply footnote 1 to Table 910-1, which states that: "Consideration shall be given to background concentration levels in native soils and ground water."</p> <p>December 9, 2009: The COGCC will apply this footnote to mean that an operator need not meet a concentration level specified in Table 910-1 if the operator can demonstrate to the COGCC's satisfaction that the Table 910-1 level is exceeded by the background level in the native soils or ground water, as applicable. Upon satisfactory demonstration of such exceedence, the operator will be required to meet the background level that is present in the native soils or ground water and that has been approved by the COGCC. Such demonstration and approval may occur with respect to any of the Table 910-1 concentration levels. Operators who intend to rely on footnote 1 to meet a background concentration level instead of the applicable Table 910-1 concentration level are encouraged to discuss their intention in a timely manner with the COGCC environmental staff. Such a discussion will help to ensure that the operator's data collection, analysis, and documentation for the site will be appropriate and sufficient for this purpose. A request to meet one or more background concentration levels for a particular site under footnote 1 to Table 910-1 must be submitted electronically or in writing on a Site Investigation and Remediation Workplan, Form 27, or, if a Form 27 is not required, by a Sundry Notice, Form 4, with supporting analytical data. Such a request requires electronic or written approval by the COGCC Area Environmental Protection Specialist of either the Form 27 or the Form 4, as applicable. Because such requests involve the interpretation of existing rule language they shall not be processed as variance requests under Rule 502.b, and approval of such requests shall not be considered a variance from Table 910-1 or any related rule.</p>	01/19/2017

Total: 3 comment(s)