

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

402443172

Receive Date:

07/14/2020

Report taken by:

John Heil

## 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: <u>EAGLE OPERATING INC</u>	Operator No: <u>26155</u>	<b>Phone Numbers</b>
Address: <u>2501 6TH ST SE STE B</u>		Phone: <u>(303) 7261511</u>
City: <u>MINOT</u>	State: <u>ND</u>	Zip: <u>58701</u>
Contact Person: <u>Tom Cavanaugh</u>	Email: <u>geocav@comcast.net</u>	Mobile: <u>( )</u>

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 15745Initial Form 27 Document #: 402443172

#### 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: <u>PIT</u>	Facility ID: <u>117203</u>	API #: _____	County Name: <u>RIO BLANCO</u>
Facility Name: <u>EMERALD "C" 125</u>	Latitude: <u>40.095731</u>	Longitude: <u>-108.908653</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESW</u>	Sec: <u>36</u>	Twp: <u>2N</u>	Range: <u>103W</u>
Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>		

#### SITE CONDITIONS

General soil type - USCS Classifications CLMost Sensitive Adjacent Land Use oil field operationsIs domestic water well within 1/4 mile? NoIs surface water within 1/4 mile? NoIs groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

# 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
No	SOILS	none observed	backhoe sample analyses

## INITIAL ACTION SUMMARY

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

Field Inspection Form by Reclamation Specialist Aaron Trujillo dated 2/13/2020 noted that this pit had been closed with not pit closure records filed by Eagle Operating Inc. Eagle had utilized existing and largely silted in pit for produced water evaporation until practice was prohibited. Pit was inadvertently covered by pumper sometime between 2013 and 2015. Per conversation with Environmental Protection Specialist John Heil, three potholes were dug through the bottom of the pit to sample sediments beneath the pit. A background sample was collected from undisturbed soil at a depth of 4 ft from a location about 200 ft NW of the oil operations. Note, this background sample exceeded 910-1 limits in both arsenic and EC, just as the samples collected beneath the pit (all in native Mancos Shale). Samples were independently collected by LT Environmental and analyzed by ALS Environmental as noted on the attached maps and laboratory results.

## 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 ):

yes. Soil samples were excavated beneath the pit bottom by backhoe, and sampled by LT Environmental on June 11, 2020, and subsequently analyzed by ALS Environmental. As shown on the attached maps and tables, sample numbers PH-01, PH-02, and PH-03 were from beneath the pit and sample number BG-01 (background) from northwest of the oil operations.

### 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 4

Number of soil samples exceeding 910-1 4

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

Approximate areal extent (square feet) 2000

### NA / ND

-- Highest concentration of TPH (mg/kg) 157.3

-- Highest concentration of SAR 5.2

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)   

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?

Yes, a background sample was collected by auger from a depth of 4 ft and at a location in undisturbed, sage brush area about 200 ft northwest of the pit. The entire area is in weathered Mancos Shale, which is also the formation from which Eagle's wells produced oil. Note that all samples, including the background had concentrations of arsenic and EC above the COGCC limits, indicative of Mancos Shale chemistry.

☐ 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

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

none required

## 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 backhoe dug sample pits were backfilled and the surface graded and reseeded in accordance with the reclamation 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 # \_\_\_\_\_
- \_\_\_\_\_ 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

**Frequency:** ☐ Quarterly ☐ Semi-Annually ☒ Annually ☐ Other \_\_\_\_\_

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

☒ Other reclamation inspections \_\_\_\_\_

### 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.

entire disturbed site has been remediated by Kevin Huff, dba Huff Steel Buildings, Rangely, CO. Site graded to natural contours, with approved seed mix (attached Reporting Form) applied at 22.3 # per acre, with chisel plow, then covered with certified straw and crimped into ground.

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). \_\_\_\_\_

Date of commencement of Site Investigation. 02/13/2020

Date of completion of Site Investigation. \_\_\_\_\_

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 06/12/2020

Date of completion of Remediation. \_\_\_\_\_

### SITE RECLAMATION DATES

Date of commencement of Reclamation. \_\_\_\_\_

Date of completion of Reclamation. 06/19/2020

**OPERATOR COMMENT**

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

Signed: Tom Cavanaugh

Title: consultant

Submit Date: 07/14/2020

Email: geocav@comcast.net

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: 07/15/2020

Remediation Project Number: 15745

**COA Type****Description**

	Operator shall submit an F27 Supplemental with request for closure.
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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**

402443172	FORM 27-INITIAL-SUBMITTED
402443281	ANALYTICAL RESULTS
402443285	RECLAMATION PLAN
402443295	ANALYTICAL RESULTS
402443298	SOIL SAMPLE LOCATION MAP
402443299	ANALYTICAL RESULTS
402443300	MAP

Total Attach: 7 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)