

State of Colorado  
Energy & Carbon Management Commission

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403568061  
Receive Date:  
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Report taken by:  
Alexander Ahmadian

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.

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

OPERATOR INFORMATION

|   |  |   |
|---|--|---|
| Name of Operator: <u>MAGPIE OPERATING INC</u> | Operator No: <u>52530</u>              | Phone Numbers<br>Phone: <u>(970) 669-6038</u><br>Mobile: <u>( )</u> |
| Address: <u>2707 SOUTH COUNTY RD 11</u>       |  |   |
| City: <u>LOVELAND</u>                         | State: <u>CO</u>                       | Zip: <u>80537</u>   |
| Contact Person: <u>Ross Warner</u>            | Email: <u>ross.magpieoil@gmail.com</u> |   |

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 13484 Initial Form 27 Document #: 402026653

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>PIT</u>                                 | Facility ID: <u>111980</u> | API #: _____                  | County Name: <u>LOGAN</u>                                      |
| Facility Name: <u>WARNECKE LEASE</u>                      | Latitude: <u>40.624978</u> | Longitude: <u>-103.334998</u> |  |
| ** correct Lat/Long if needed: Latitude: <u>40.625044</u> |                            | Longitude: <u>-103.335102</u> |  |
| QtrQtr: <u>SESE</u>                                       | Sec: <u>30</u>             | Twp: <u>8N</u>                | Range: <u>53W</u> Meridian: <u>6</u> Sensitive Area? <u>No</u> |

|   |                            |                               |  |
|---|----------------------------|-------------------------------|--|
| Facility Type: <u>LOCATION</u>                            | Facility ID: <u>312143</u> | API #: _____                  | County Name: <u>LOGAN</u>                                      |
| Facility Name: <u>WARNECKE-68N53W 30SESE</u>              | Latitude: <u>40.625638</u> | Longitude: <u>-103.337188</u> |  |
| ** correct Lat/Long if needed: Latitude: <u>40.625285</u> |                            | Longitude: <u>-103.335214</u> |  |
| QtrQtr: <u>SESE</u>                                       | Sec: <u>30</u>             | Twp: <u>8N</u>                | Range: <u>53W</u> Meridian: <u>6</u> Sensitive Area? <u>No</u> |

## **SITE CONDITIONS**

General soil type - USCS Classifications CL

Most Sensitive Adjacent Land Use Non-crop land

Is domestic water well within 1/4 mile? Yes

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**

Domestic Well - Permit #36326 - 1300' SSW

# 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          | 180' x 200'      | Inorganics Only - Lab |

## INITIAL ACTION SUMMARY

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

On 8/30/23 Jody Kost of Magpie met with the landowner to discuss next steps of surface excavation and sampling to address inorganic soils that still remain. On 9/13/23 Sunstate Equipment delivered an excavator to the location. On 9/14/23 a track was thrown from the excavator and Sunstate sent out maintenance to repair. On 9/15/23 Washington County Landfill was closed half day, work ceased at noon. On 9/18/23 Jody Kost had a phone conversation with Krystal Heibel of ECMC to discuss remediation report and status of ongoing remedial activities. On 9/19/23 a front loader was delivered to location to assist with loading trucks to haul the removed top 3' of inorganic impacted soil from the area of the former pit to Washington County Landfill. Approximately 2,800 cubic yards of material was removed. From 10/4/23 to 10/6/23, further horizontal and vertical delineation took place using a hand auger. Results show further horizontal and vertical delineation of Table 915-1 Soil Suitability for Reclamation impacts is needed in certain areas. See below proposed sampling plan and attached Figure 2 for proposed additional delineation. See attached report for all figures, tables, photo log, and laboratory analytical reports.

## 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 ):

Using a track mounted Geoprobe 7822DT direct push rig, Magpie proposes to go back to SB-01 through SB-04, SB-07 through SB-10, SB-12 through SB-14, SB-16, and SB-17 to collect confirmation soil samples from 15' and 20' bgs for additional vertical delineation. For additional horizontal delineation, Magpie proposes 6 new soil boring locations as presented on Figure 2 and collecting confirmation soil samples from 4' and 7' bgs. All soil samples will be submitted to Origins Laboratory for Boron, EC, pH, and SAR analysis only. Where previous soil borings are re-visited for deeper confirmation samples, the previously logged column will not be logged. However, the boring columns below what was previously logged will be logged and submitted to ECMC. The new horizontal delineation soil borings will be fully logged and submitted to ECMC.

### 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 31  
Number of soil samples exceeding 915-1 17  
Was the areal and vertical extent of soil contamination delineated? No  
Approximate areal extent (square feet) 28000

**NA / ND**

ND Highest concentration of TPH (mg/kg) \_\_\_\_\_  
-- Highest concentration of SAR 215  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 11

**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  
\_\_\_\_\_ 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?

Previously submitted.

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?

See proposed soil sampling plan.

**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.

Production equipment has been removed.

**REMEDIAL 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.

In September 2023, the top 3' of the former pit area was excavated and hauled to Washington County Landfill.

**Soil Remediation Summary**

In Situ

Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation ) Yes Excavate and offsite disposal  
\_\_\_\_\_ Chemical oxidation If Yes: Estimated Volume (Cubic Yards) 2800

\_\_\_\_\_ Air sparge / Soil vapor extraction

\_\_\_\_\_ Natural Attenuation

\_\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_\_ 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

### 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 Confirmation Sample Report

## 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.

Maggie has complied with General Liability Insurance requirements per Rule 705 and is fully bonded per Rule 702 to fully address the anticipated costs of remediation.

Operator anticipates the remaining cost for this project to be: \$ 25000

## WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? Yes

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

none

Volume of E&P Waste (solid) in cubic yards 2800

E&P waste (solid) description Inorganic impacted soil

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: Washington County Landfill

Volume of E&P Waste (liquid) in barrels 0

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

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? \_\_\_\_\_

Does the previous reply indicate consideration of background concentrations? \_\_\_\_\_

Does Groundwater meet Table 915-1 standards? \_\_\_\_\_

Is additional groundwater monitoring to be conducted? \_\_\_\_\_

Operator shall comply with the COGCC 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.

Reclamation will be in accordance with COGCC 1000 series rules and in coordination with the Surface Owner land use plans.

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? \_\_\_\_\_

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

Did the local soil conservation district provide the seed mix? \_\_\_\_\_

### SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 01/31/2024

Proposed date of completion of Reclamation. 01/31/2026

## 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. 04/08/2019

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/13/2019

Proposed site investigation commencement. 06/13/2019

Proposed completion of site investigation. 08/31/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/03/2020

Proposed date of completion of Remediation. 08/31/2024

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**

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

Signed: David Castro

Title: Senior Project Scientist

Submit Date: 10/24/2023

Email: dcastro@eagle-enviro.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: Alexander Ahmadian

Date: 12/21/2023

Remediation Project Number: 13484

**COA Type****Description**

|        |  |
|--------|--|
|        | In addition to the proposed soil borings, Operator shall collect soil borings and delineate at and beyond SB-21 and SB-22 for the full Table 915 analyte list. Additionally, depending on the results of the current site investigation plan, Operator may be required to install additional soil borings to fully delineate soil impacts.   |
|        | Per CA on Doc #s 696105548, 403227439 & 403400235: "Operator shall comply with 900 Series Rules. Determine vertical and horizontal extent of spill to establish points of compliance and conduct soil analysis with discrete sampling and photo documentation to provide in future Supplemental Form 27s and FIRR."  |
|        | <p>ECMC denies the reduced analyte list of Boron, EC, pH, and SAR analysis only.</p> <p>As stated in Doc #403227439, Operator is required to comply with the current Rule 911 for facility closure and with Table 915-1 for concentration standards. Operator shall conduct additional investigation for tank battery and pit closure and collect confirmation soil samples as described in the Rule 915.e.(2) Guidance Document. Operator will analyze soil samples for TPH (C6 - C36), Table 915-1 Organic Compounds in Soil, Table 915-1 metals, and Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)).</p> <p>It appears that samples were collected and analyzed for only Table 915-1 Soil Suitability for Reclamation analytes. Operator shall collect and analyze samples for full Table 915-1 going forward.</p> <p>It appears a soil confirmation sample was not collected beneath the tank located to the north west of the eastern pit. Operator shall collect and analyze a sample for Full Table 915-1 analytes at this location and submit it within the next Form 27 submittal.</p> <p>Operator shall update the Form 27 and submit this data no later than March 20, 2024, which is 90 days from the approval of this Form 27 Supplemental.</p> |
|        | As stated in Doc #403227439, Operator shall fully populate the implementation schedule in accordance with Rule 913.d on the next Form 27. The "Actual Spill or Release date or date of discovery" information is missing.  |
| 4 COAs |  |

**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**

|           |                                |
|-----------|--------------------------------|
| 403568061 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 403568171 | SITE INVESTIGATION REPORT      |

Total Attach: 2 Files

## General Comments

| <u>User Group</u> | <u>Comment</u>  | <u>Comment Date</u> |
|-------------------|---|---------------------|
| Environmental     | Pit Facility ID 111980, Location ID 312143; Active<br>Pit Facility ID 111979; Closed 2014; Rem Project #7677 (Circular, skim pit)<br>Pit Facility ID 111981; Active | 12/21/2023          |

Total: 1 comment(s)