

State of Colorado  
Energy & Carbon Management Commission

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Receive Date:  
09/01/2023

Report taken by:  
Candice (Nikki) Graber

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 Phone: <u>(970) 669-6308</u> 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 #: 17428 Initial Form 27 Document #: 402634406

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>LOCATION</u>	Facility ID: <u>307137</u>	API #: _____	County Name: <u>LARIMER</u>
Facility Name: <u>MEHAFFEY-65N68W 30NWNW</u>	Latitude: <u>40.376693</u>	Longitude: <u>-105.056970</u>	
** correct Lat/Long if needed: Latitude: <u>40.376715</u>		Longitude: <u>-105.059982</u>	
QtrQtr: <u>NWNW</u>	Sec: <u>30</u>	Twp: <u>5N</u>	Range: <u>68W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>480098</u>	API #: _____	County Name: <u>LARIMER</u>
Facility Name: <u>Mehaffey #1</u>	Latitude: <u>40.376778</u>	Longitude: <u>-105.059905</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNW</u>	Sec: <u>30</u>	Twp: <u>5N</u>	Range: <u>68W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

## SITE CONDITIONS

General soil type - USCS Classifications CL

Most Sensitive Adjacent Land Use crop land

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? Yes

### Other Potential Receptors within 1/4 mile

High priority habitat 200' north, paved road 520' north, wetland 280' southeast, residence 950' northwest, surface water 625' north

## 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	25'x20'	Laboratory 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.

Further excavation took place after the 4/11/23 confirmation samples confirmed impacts remained. On 8/15/23, 2 new sidewall confirmation samples (TB-N04@2', TB-E04@2'), and a new floor sample (TB-B03@5') were collected after further excavation towards the NNE, ESE, and a foot deeper in the floor. See attached summary report with all figures, tables, photo log, and laboratory analytical report.

### 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 ):

Further sidewall excavation and confirmation soil sampling is needed at TB-E04@2'. Confirmation soil samples will be sent to Origins Laboratory in Denver, Colorado for analysis. Magpie would like to request approval for future confirmation soil samples to be analyzed for TPH-DRO, TPH-RRO, Boron, EC, 1-Methylnaphthalene, Benzo(a)anthracene, Naphthalene, Arsenic, Barium, and Selenium only.

#### Proposed Groundwater Sampling

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

The floor of the excavation is confirmed clean. Groundwater was not encountered.

#### 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 3

Number of soil samples exceeding 915-1 2

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 420

### NA / ND

-- Highest concentration of TPH (mg/kg) 982

-- Highest concentration of SAR 4.42

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 4

### 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?

Three background samples were collected on 4/11/23. See attached summary report for all figures, tables, photo log, and lab report.

Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 30

Volume of liquid waste (barrels) 0

Is further site investigation required?

Further sidewall excavation and confirmation soil sampling is needed at TB-E04@2'. Confirmation soil samples will be sent to Origins Laboratory in Denver, Colorado for analysis. Magpie would like to request approval for future confirmation soil samples to be analyzed for TPH-DRO, TPH-RRO, Boron, EC, 1-Methylnaphthalene, Benzo(a)anthracene, Naphthalene, Arsenic, Barium, and Selenium only.

## 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.

Source removal excavation activities are ongoing.

### 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.

Source removal remediation is ongoing. More impacted material needs removal and confirmation soil samples collected.

### Soil Remediation Summary

In Situ

Ex Situ

- \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )
- \_\_\_\_\_ Chemical oxidation
- \_\_\_\_\_ Air sparge / Soil vapor extraction
- \_\_\_\_\_ Natural Attenuation
- \_\_\_\_\_ Other \_\_\_\_\_

- Yes \_\_\_\_\_ Excavate and offsite disposal
- \_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 30
- \_\_\_\_\_ 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  

## 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.

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

## 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:

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?  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 or per landowner direction.

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. 11/30/2023

Proposed date of completion of Reclamation. 11/30/2025

## 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. 05/22/2021

Actual Spill or Release date, or date of discovery. 05/22/2021

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/22/2021

Proposed site investigation commencement. 05/19/2021

Proposed completion of site investigation. 11/30/2023

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/19/2021

Proposed date of completion of Remediation. 11/30/2023

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**

Magpie would like to request approval for future confirmation soil samples to be analyzed for TPH-DRO, TPH-RRO, Boron, EC, 1-Methylnaphthalene, Benzo(a)anthracene, Naphthalene, Arsenic, Barium, and Selenium only.

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: 09/01/2023

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: Candice (Nikki) Graber

Date: 10/20/2023

Remediation Project Number: 17428

**COA Type****Description**

	Operator shall provide all waste manifests that have not previously been submitted as required by Rule 905.b.(3) for oily waste (soil and groundwater) hauled off site for disposal.
	Operator has populated both 30 cubic yards for excavation derived waste and Volume of E&P Waste. Operator shall clarify on the next Supplemental Form 27 (Due 90 days from submit date of this form).
	This Form 27 Supplemental is being approved as submitted. However, the next Form Supplemental must be populated with the Adequacy of Operator's General Liability Insurance and Financial Assurance data field under the Remediation Progress Update tab as required by Rules 703.b. and 705.b. Note: Based on the scope of work proposed ECMC does not believe Operator anticipated the remaining cost for this project is adequate.
	In accordance with Rule 913.e.(3), Operator will adopt a quarterly reporting schedule. Note: the last submitted Form 27 for this project 4/25/2023, this form was submitted 39 days late.
	Operator will analyze (at a minimum) soil samples for TPH (C6-C36), BTEX, 1-Methylnaphthalene, 2-Methylnaphthalene, Benzo(a)-anthracene, Benzo(a)-pyrene, Benzo(b)-fluoranthene, Benzo(k)-fluoranthene, Chrysene, Fluoranthene, Fluorene, Ideno(1,2,3-cd)-pyrene, Naphthalene, Pyrene, arsenic, barium, selenium, Electrical conductivity, and Sodium adsorption ratio.
5 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**

403515469	FORM 27-SUPPLEMENTAL-SUBMITTED
403519092	SITE INVESTIGATION REPORT

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)