

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

403713018

Receive Date:

03/13/2024

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: MAGPIE OPERATING INC	Operator No: 52530	Phone Numbers
Address: 2707 SOUTH COUNTY RD 11		Phone: (970) 669-6038
City: LOVELAND	State: CO	Zip: 80537
Contact Person: Jody Kost	Email: magpieoil2@yahoo.com	Mobile: ( )

## PROJECT, PURPOSE &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: 6103 Initial Form 27 Document #: 1761290

## 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: LOCATION	Facility ID: 388323	API #: _____	County Name: LOGAN
Facility Name: STATE-69N55W 36NENE	Latitude: 40.714817	Longitude: -103.462633	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENE	Sec: 36	Twp: 9N	Range: 55W Meridian: 6 Sensitive Area? Yes

## SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use rangeland

Is domestic water well within 1/4 mile? No 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

County Road 40 is located approximately 840 feet northeast of the Site. There are no groundwater wells within 1/2-mile of the Site. No potential receptors are located within 1/4-mile of the Site.

## 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	420' x 220'	Lab analytical

### INITIAL ACTION SUMMARY

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

An inspection was performed on January 03, 2024 (Document 709100202). The findings of the inspection included the observation that sparse vegetation was growing (potential salt kill) in the location of the former tank battery and pit. The associated Corrective Action is includes assessment of the historic release by collecting soil samples and analyzing for Table 915-1.

An initial round of soil samples were collected on 2/11/22 in the area of the former pit for boron, EC, SAR, and pH analysis. All source zone samples collected from the surface and 3 feet below ground surface (ft bgs) exceeded some or all soil suitability parameters when compared to Table 915-1 cleanup levels.

### 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 ):

Additional delineation samples as well as additional background samples are proposed in the vicinity of the former pit and wellhead. Three (3) source zone boring locations will be advanced using a DPT rig within the footprint of stressed vegetation and former pit locations with samples collected at 5 ft bgs, 10 ft bgs, and 20 ft bgs or refusal. An additional six delineation borings will be advanced outside of this footprint with samples collected at surface (0.5 ft bgs), 5 ft bgs, 10 ft bgs, and 20 ft bgs or refusal. Additionally, two (2) source zone boring locations will be advanced in the vicinity of the former wellhead. These samples will be analyzed for Full Table 915-1 analyses. Background samples will be collected at surface (0.5 ft bgs) and at 5 ft bgs, 10 ft bgs, and 20 ft bgs and analyzed for Table 915-1 Soil Suitability and Metals only.

Sample results will be compared to Table 915-1 criteria; the range of background (soil suitability); and/or 1.25x background for metals.

#### 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 ):

Additional delineation and background soil samples are proposed as outlined above to determine nature and extent of soil impacts. Field screening data (PID) and soil lithology descriptions will be collected for each analytical soil sample.

## SITE INVESTIGATION REPORT

### SAMPLE SUMMARY

#### Soil

Number of soil samples collected 12

Number of soil samples exceeding 915-1 12

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

Approximate areal extent (square feet) 10750  
0

#### NA / ND

NA Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 114

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 3

#### 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?

2 background samples were collected from 0.5' bgs and 2.5' bgs at 3 locations around the perimeter of the former facility, totaling 6 background samples collected on 2/11/22. The background samples were analyzed for Boron, EC, pH, and SAR at Origins. Additional background samples are proposed for this next round of assessment.

☐ 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?

Additional delineation and background soil samples are proposed as outlined above to determine nature and extent of soil impacts.

## 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.

No E&P waste generated to date.

### 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.

Inorganic soil impacts remain. Magpie is working with the landowner on a reclamation plan that will address remaining inorganic impacts. That reclamation plan will be submitted on a subsequent SF27 pending source zone delineation.

## 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.

Groundwater has not been encountered to date.

## 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 Inorganics in soil (former pit and potentially wellhead/tank battery area)

### 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: \$ 40000

### 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? 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? No

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 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.

Site assessment activities represent inorganic soil impacts remain. The Colorado State Land Board of Commissioners has been consulted regarding a potential reclamation plan under ECMC Rule 915..b Soil Suitability for Reclamation. Magpie intends to conduct additional delineation beginning in March 2024.

The Operator will adhere to the concentrations for soil in Table 915 1 for restoring soil to the agronomic properties for electrical conductivity ("EC"), sodium adsorption ratio ("SAR"), pH, and boron for soils. Subject to prior approval by ECMC staff, the Operator may leave materials with elevated concentrations of EC, SAR, or pH in situ. In this case, the Operator will provide a detailed Reclamation plan that includes, but is not limited to, soil analysis from adjacent undisturbed lands, revegetation techniques, site stabilization, and details of seeded species.

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. 09/30/2024

Proposed date of completion of Reclamation. 08/31/2025

## 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. \_\_\_\_\_

Actual Spill or Release date, or date of discovery. 01/03/2024

### 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. 06/21/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/05/2024

Proposed date of completion of Remediation. 09/30/2024

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**

Denied 03/25/2024 Drilling schedule available for March 25, 2024.

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

Signed: Patrick Lawler

Title: Agent

Submit Date: 03/13/2024

Email: plawler@quandaryconsultants.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:

Date:

Remediation Project Number: 6103

**COA Type****Description**

0 COA	
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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**

403713018	FORM 27 DENIED
403713291	SOIL SAMPLE LOCATION MAP
403730790	FORM 27-SUPPLEMENTAL-SUBMITTED
403730791	DENIED FORM 27 DENIED
403730792	DENIED FORM 27 DENIED

Total Attach: 5 Files

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

Environmental	As stated in Doc# 403414045, Operator shall field screen the four sidewalls and the 4 quadrants of the bottom hole. A soil sample will be taken at the location with the highest field screening/PID reading. Collect confirmation soil samples as described in the Rule 915.e.(2). 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))	03/25/2024
Environmental	The Remedial Action Plan indicates "No E&P waste generated to date." yet Soil Suitability for Reclamation analyte exceedances are documented within this submittal. Operator shall update this section of the form within the next submittal.	03/25/2024
Environmental	As stated in Doc# 403414045, Operator shall include photo documentation of the surface areas, wellhead excavation and sample locations on the subsequent Supplemental Form 27.	03/25/2024
Environmental	As stated in Doc# 403414045, Soil confirmation sample data indicate that pH and SAR at the site exceeds the Table 915-1 soil suitability levels for reclamation. If the Operator proposes to leave material with elevated levels of pH and SAR in situ, the Operator define the vertical and lateral extent of impacts and provide a detailed Reclamation plan that includes, but is not limited to, soil analysis from adjacent undisturbed lands, revegetation techniques, site stabilization, and details of seeded species. Operator will submit the Reclamation plan on a Form 27 Supplemental Report for Director review.	03/25/2024

Environmental	As stated in Doc# 403414045, Operator shall provide justification as to why full Table 915-1 was not sampled in the Supplemental Form 27 submittal; Or, Operator shall collect confirmation soil samples as described in the Rule 915.e.(2). 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)).	03/25/2024
Environmental	As stated in Doc# 403414045, Since the laboratory analytical reports indicate evidence of a release/spill, the Operator shall submit a Form 19 to document the impacts.	03/25/2024
Environmental	As stated in Doc# 403414045, Operator shall fully populate the implementation schedule in accordance with Rule 913.d on the next Form 27. The "Date of Surface Owner Notification" and other entries are not filled out.	03/25/2024
Environmental	It appears that the operator is not including the south-west portion of the salt kill in the delineation and site characterization plan. The operator shall extend the delineation efforts to include the salt kill area southeast of the intended delineation plan.	03/25/2024
Environmental	Operator shall explain the "Proposed Wellhead Locations" that are illustrated on the Soil Sample Location Map. Operator shall indicate if new wellheads are intended to be installed at this location.	03/25/2024
Environmental	As stated in Doc# 403414045, Operator shall conduct a closure investigation in accordance with Rule 911.c. Pit Closure Guidance Document.	03/25/2024
Environmental	Operator shall check the appropriate box for "Rule 913.c.(1): Pit or Cuttings Trench closure." within the next submittal.	03/25/2024

Total: 11 comment(s)