

State of Colorado Oil and Gas Conservation Commission

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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 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
Address: <u>2707 SOUTH COUNTY RD 11</u>		Phone: <u>(970) 669-6038</u>
City: <u>LOVELAND</u> State: <u>CO</u> Zip: <u>80537</u>		Mobile: <u>()</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	150' x 140' x 3'	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 1/12/23, 18 soil borings were advanced to define soil suitability impacts in the former pit area. Each boring was advanced to 10' bgs and soil samples were collected from 3' bgs, 6' bgs, and 10' bgs. Soil samples were submitted to Origins Laboratory in Denver, Colorado for analysis of Boron, EC, pH, and SAR per direction from Laurel Anderson onsite. 1 soil boring was advanced to 6' bgs at the former separator location and 1 soil boring was advanced to 6' bgs at the former AST location. Those samples were collected from 6' bgs from each boring and were submitted to Origins Laboratory for full Table 915-1 analysis per direction of Laurel Anderson onsite. 5 background soil borings were advanced to 10' bgs and soil samples were collected from 3' bgs, 6' bgs, and 10' bgs. Soil samples were submitted to Origins for analysis of Boron, EC, pH, SAR, and Table 915-1 Metals per direction from Laurel Anderson onsite. Please see attached site investigation 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):

Confirmation samples will be collected following reclamation completion. Confirmation sample plan will be proposed on a subsequent Form 27 along with the reclamation plan.

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 69

Number of soil samples exceeding 915-1 29

NA / ND

ND Highest concentration of TPH (mg/kg) _____

-- Highest concentration of SAR 194

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

BTEX > 915-1 No

Approximate areal extent (square feet) 28000

Vertical Extent > 915-1 (in feet) 10

Groundwater

Number of groundwater samples collected 0

Highest concentration of Benzene (µg/l)

Was extent of groundwater contaminated delineated? No

Highest concentration of Toluene (µg/l)

Depth to groundwater (below ground surface, in feet)

Highest concentration of Ethylbenzene (µg/l)

Number of groundwater monitoring wells installed

Highest concentration of Xylene (µg/l)

Number of groundwater samples exceeding 915-1

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?

5 background soil borings were advanced to 10' bgs and soil samples were collected from 3' bgs, 6' bgs, and 10' bgs. Soil samples were submitted to Origins for analysis of Boron, EC, pH, SAR, and Table 915-1 Metals per direction from Laurel Anderson onsite.

☐ 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?

Confirmation samples will be collected following reclamation completion. Confirmation sample plan will be proposed on a subsequent Form 27 along with the reclamation 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.

REMEDICATION 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.

Based on previous soil analytical data, soil with inorganic impacts (SAR, EC) within the root-zone was excavated and disposed of offsite. The excavation was backfilled with topsoil and "organic material" to allow for successful reclamation. Confirmation soil samples (SAR, EC, and pH analysis) were collected from the root-zone of the former pit areas following backfilling activities to confirm inorganic impacts had been removed. Based on confirmation samples collected in October 2022, concentrations have remained above COGCC Table 915-1. A reclamation plan will be developed under 915b following further discussions with the surface owner.

Soil Remediation Summary

☒ In Situ

Yes Bioremediation (or enhanced bioremediation)

No Chemical oxidation

No Air sparge / Soil vapor extraction

No Natural Attenuation

☒ Ex Situ

Yes Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) 165

Name of Licensed Disposal Facility or COGCC Facility ID #

Excavate and onsite remediation

No Other _____

_____ 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: \$ 5000

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 165

E&P waste (solid) description Inorganic impacted soil

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Pawnee Waste

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. A reclamation plan will be developed following further discussions with the surface owner and submitted with a subsequent Form 27. The surface owner plans to return the acreage to crop land for forage or wheat and wants the lease road and any remaining equipment that may still be there removed.

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. 08/31/2023

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. 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

Laurel Anderson, Taylor Robinson, and Dylan Edwardson of the COGCC were onsite 1/12/23 observing and directing fieldwork for the full day.

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: 05/11/2023

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: Krystal Heibel

Date: 05/25/2023

Remediation Project Number: 13484

COA Type**Description**

	Per CA on Doc #s 696105548 & 403227439: "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."
	Operator will continue quarterly reporting until the site investigation is complete and the implementation schedule can be updated.
2 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**

403400235	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
403400392	SITE INVESTIGATION REPORT
403413975	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 3 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)