

State of Colorado Oil and Gas Conservation Commission

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05/17/2023

Report taken by:

Kyle Waggoner

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>
Contact Person: <u>Ross Warner</u>	Email: <u>ross.magpieoil@gmail.com</u>	Mobile: <u>()</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 11196 Initial Form 27 Document #: 401585806

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

No ☐ Multiple Facilities ☐

Facility Type: <u>LOCATION</u>	Facility ID: <u>451505</u>	API #: _____	County Name: <u>WASHINGTON</u>
Facility Name: <u>Little Beaver Unit Injection Plant</u>	Latitude: <u>39.911967</u>	Longitude: <u>-103.686176</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNW</u>	Sec: <u>5</u>	Twp: <u>2S</u>	Range: <u>56W</u>
Meridian: <u>6</u>	Sensitive Area? <u>Yes</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? No

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

Unidentified aqueduct located ~630' east of produced water tank battery reports to Badger Creek.

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	GROUNDWATER	80'x70'	Lab Analytical Results
Yes	SOILS	47'x140'x10'	Lab Analytical Results

INITIAL ACTION SUMMARY

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

The previously proposed excavation in the field south of the tank battery started in March 2022. Confirmation soil samples collected on 3/24/22 showed organic impacts remained at EX-SS-05 @ 5'. More material in that area was removed just as Winter arrived. Due to the continuous onslaught of brutal winter storms hitting eastern Colorado, the site was inaccessible all winter. Multiple attempts were made to reach the site and were unsuccessful. The excavation remained open filled with snow and then snowmelt into late March. On 4/12/23, the location was successfully accessed for continued groundwater monitoring sampling and confirmation soil sampling (EX-SS-11 @5') of the excavation. Lab Results from that confirmation soil sample showed that impacts still remain in that sidewall of the excavation. More material will be removed and confirmation soil sample(s) will be collected. Please see attached summary report for all tables, figures, 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):

Further organics impacted soil excavation and confirmation soil sample(s) are needed in the area around EX-SS-11 @5' of the excavation. Magpie would like to request approval for future excavation confirmation soil samples to be analyzed for TPH-DRO/GRO/RRO, 1-Methylnaphthalene, Benzo (a)anthracene, Boron, EC, pH, SAR, Arsenic, Boron, Lead, and Selenium only.

Proposed Groundwater Sampling

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

Quarterly groundwater monitoring. Magpie would like to request approval to remove MW-20R, MW-21R, MW-24, and MW-29 from the groundwater monitoring plan.

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 14

Number of soil samples exceeding 915-1 14

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

Approximate areal extent (square feet) 1200

NA / ND

-- Highest concentration of TPH (mg/kg) 3639

-- Highest concentration of SAR 33.1

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 0

Groundwater

Number of groundwater samples collected 9

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 15

Number of groundwater monitoring wells installed 31

Number of groundwater samples exceeding 915-1 1

-- Highest concentration of Benzene (µg/l) 14.8

-- Highest concentration of Toluene (µg/l) 6.38

ND Highest concentration of Ethylbenzene (µg/l)

-- Highest concentration of Xylene (µg/l) 5.89

NA 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?

Background-01 @5', Background-02 @5', Background-03 @5', and Background-04 @5' were collected on 4/12/23.

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

Volume of solid waste (cubic yards) 5

Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Continued impacted soil removal and confirmation sampling at the excavation. MW-22 was destroyed during excavation activities. Once the impacted soil removal is confirmed completed, MW-22 will be re-installed as MW-22R.

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.

Free fluid was vacuumed and placed into onsite produced water tanks. Initial spill response impacted soil was dug out and placed on plastic and bermed. Soil was removed 12/2/14 for disposal at Buffalo Ridge Landfill. During source excavation activities from Septemebr 25, 2018 through October 4, 2018, approximately 4300 cubic yards of soil were removed and treated ex-situ with a soil shredder and hydrogen peroxide.

Additional source removal activities will be completed adjacent to soil impacts observed during point of compliance monitoring well installation activities. Any monitoring wells destroyed during excavation activities will be replaced.

REMEDATION 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.

Additional source removal activities will be completed to remove any residual organic impacts. Any monitoring wells destroyed during excavation activities will be replaced. Source excavation activities and groundwater monitoring will continue. Groundwater will be monitored for natural attenuation until no further action can be recommended.

Soil Remediation Summary

☐ In Situ

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

☒ Ex Situ

Yes _____ Excavate and offsite disposal
_____ If Yes: Estimated Volume (Cubic Yards) _____ 22
Name of Licensed Disposal Facility or COGCC Facility ID # _____
Yes _____ Excavate and onsite remediation
No _____ Land Treatment
No _____ Bioremediation (or enhanced bioremediation)
Yes _____ Chemical oxidation
No _____ Other _____

Groundwater Remediation Summary

_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
Yes _____ 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.

Quarterly groundwater monitoring will continue at MW-1R, 2R, 5 through 13R, 15R through 21R, 23 through 31. Groundwater samples will be submitted for Table 915-1 organic compounds. Magpie would like to request approval to remove MW-20R, MW-21R, MW-24, and MW-29 from the groundwater monitoring plan.

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.

Magpie 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 22

E&P waste (solid) description impacted soil

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Waste Management Buffalo Ridge

Volume of E&P Waste (liquid) in barrels 3

E&P waste (liquid) description Produced water

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Magpie produced water tank

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? No

Is additional groundwater monitoring to be conducted? Yes

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.

The site is currently an active facility. Reclamation is not needed at this time where the facility is. Magpie plans to work with the landowner regarding reclamation of the southern excavation once soil impacts are confirmed 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. _____

Proposed date of completion of Reclamation. _____

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. 10/26/2014

Actual Spill or Release date, or date of discovery. 10/26/2014

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/26/2014

Proposed site investigation commencement. 04/05/2018

Proposed completion of site investigation. 12/31/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/26/2014

Proposed date of completion of Remediation. 12/31/2024

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

Remediation project numbers 5051 and 9733 were previously administratively closed and moved under this project number.

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

Magpie would like to request approval to remove MW-20R, MW-21R, MW-24, and MW-29 from the groundwater monitoring plan.

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: 05/17/2023

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: Kyle Waggoner

Date: 06/22/2023

Remediation Project Number: 11196

COA Type**Description**

	Per Doc# 403083918, "Per previous Form 27 additional excavation was to be completed 1Q2021 through 3Q2021. This work has not been reported to date. Operator shall conduct remedial action within 45 days of approval of this Form 27 or provide a detailed, stand alone, implementation schedule to the COGCC detailing remedial plan and path to closure."
1 COA	

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**

403359599	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403406133	SITE INVESTIGATION REPORT
403441938	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 3 Files

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

Environmental	COGCC acknowledges and denies the request for the reduced analyte sampling plan. The analytical results from previous sampling events show other analyte exceedances (total xylenes, benzene, ethylbenzene, etc.) from the spill so full Table 915-1 will continue to be analyzed.	06/20/2023
Environmental	COGCC acknowledges and denies the request to remove MW-20R, MW-21R, MW-24, and MW-29 from the groundwater monitoring plan. MW-20R and MW-21R may contain water after the recent wet season, and MW-24 and MW-29 assist in delineating the groundwater impacts.	06/20/2023

Total: 2 comment(s)