

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

402658278

Receive Date:

04/14/2021

Report taken by:

ROB YOUNG

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.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

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) 669.6308</u>
City: <u>LOVELAND</u>	State: <u>CO</u>	Zip: <u>80537</u>
Contact Person: <u>Ross Warner</u>	Email: <u>maggpieoil@yahoo.com</u>	Mobile: <u>()</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 14786 Initial Form 27 Document #: 402257924

PURPOSE INFORMATION

- | | |
|--|--|
| <input checked="" type="checkbox"/> 901.e. Sensitive Area Determination | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water |
| <input checked="" type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure | <input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation | <input type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste | <input type="checkbox"/> Rule 906.c.: Director request |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input type="checkbox"/> Other _____ |

SITE INFORMATION

Y Multiple Facilities (in accordance with Rule 909.c.)

Facility Type: <u>PIT</u>	Facility ID: <u>101099</u>	API #: _____	County Name: <u>MORGAN</u>
Facility Name: <u>REDIESS</u>	Latitude: <u>40.048775</u>	Longitude: <u>-103.691090</u>	
** correct Lat/Long if needed: Latitude: <u>40.049034</u>		Longitude: <u>-103.691272</u>	
QtrQtr: <u>NESW</u>	Sec: <u>18</u>	Twp: <u>1N</u>	Range: <u>56W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>PIT</u>	Facility ID: <u>101100</u>	API #: _____	County Name: <u>MORGAN</u>
Facility Name: <u>REDIESS</u>	Latitude: <u>40.049393</u>	Longitude: <u>-103.691139</u>	
** correct Lat/Long if needed: Latitude: <u>40.049543</u>		Longitude: <u>-103.691340</u>	
QtrQtr: <u>NESW</u>	Sec: <u>18</u>	Twp: <u>1N</u>	Range: <u>56W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>PIT</u>	Facility ID: <u>101101</u>	API #: _____	County Name: <u>MORGAN</u>
Facility Name: <u>REDIESS</u>	Latitude: <u>40.049508</u>	Longitude: <u>-103.691508</u>	
** correct Lat/Long if needed: Latitude: <u>40.049627</u>		Longitude: <u>-103.691671</u>	
QtrQtr: <u>NESW</u>	Sec: <u>18</u>	Twp: <u>1N</u>	Range: <u>56W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: PIT	Facility ID: 119191	API #:	County Name: MORGAN
Facility Name: REDEISS	Latitude: 40.049827	Longitude: -103.691349	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NESW	Sec: 18	Twp: 1N	Range: 56W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SP Most Sensitive Adjacent Land Use Pasture

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

Stock well - Permit #30920 - 1780' ESE

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	340 x 140 x 6	Laboratory 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.

Prior to decommissioning the entire facility, site assessment activities must be completed. Soil samples will be collected from a previous skim pit (Facility ID 119191) and within three produced water pits onsite (Facility IDs 101099, 101100, and 101101). Produced water pit/vessel sampling will be completed per COGCC Rule 905b.

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):

One (1) soil boring will be completed via stainless-steel hand auger adjacent to the previous skim pit (Facility ID 119191). The boring will be advanced to approx. 5 feet bgs. The soil sample will be analyzed for Full TPH following EPA Methods 8260 and 8015. In addition, the soil sample will be analyzed for EC, SAR, and pH following Modified 9050A, 20B saturated paste, and EPA Method 9045D, respectively.

Two (2) soil samples will be collected via stainless-steel hand auger from each of the produced water pits (Facility IDs 101099, 101100, and 101101) onsite, 6 total samples. The soil samples will be analyzed for Full TPH following EPA Methods 8260 and 8015. In addition, the samples will be analyzed for EC, SAR, and pH following Modified 9050A, 20B saturated paste, and EPA Method 9045D, respectively.

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 14

Number of soil samples exceeding 910-1 9

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 47600

NA / ND

-- Highest concentration of TPH (mg/kg) 754

-- Highest concentration of SAR 164.3
8

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 6

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 910-1

ND Highest concentration of Benzene (µg/l)

ND Highest concentration of Toluene (µg/l)

ND Highest concentration of Ethylbenzene (µg/l)

ND Highest concentration of Xylene (µg/l)

NA Highest concentration of Methane (mg/l)

Surface Water

0 Number of surface water samples collected

Number of surface water samples exceeding 910-1

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?

☐ 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?

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 excavation activities were completed adjacent to the former skim pit. Confirmation samples from the floor and sidewalls indicate petroleum hydrocarbon impacted soil has been removed.

Soil above Table 910 for inorganics were backfilled in the produced water pits and capped with approximately 3 feet of soil. Confirmation soil samples were collected from 0.5 and 2 feet bgs to ensure inorganic concentrations are below 910 for final reclamation.

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 excavation activities were completed adjacent to the former skim pit. Confirmation samples from the floor and sidewalls indicate petroleum hydrocarbon impacted soil has been removed. Samples were below COGCC Table 910-1 for BTEX, and Full TPH.

Soil above Table 910 for inorganics were backfilled in the produced water pits and capped with approximately 3 feet of soil. Confirmation soil samples were collected from 0.5 and 2 feet bgs to ensure inorganic concentrations are below 910 for final reclamation. This decreased the inorganic concentrations significantly, however levels are still above COGCC Table 910-1. Additional soil remediation (gypsum application, topsoil application, soil mixing and regrade) will be completed to address residual soils with elevated inorganic readings. Confirmation samples will be collected after each round of soil amendment to monitor progress. Soils will be submitted for EC, SAR, and pH per COGCC Table 910

Soil Remediation Summary

☒ In Situ

Yes Bioremediation (or enhanced bioremediation)

Chemical oxidation

Air sparge / Soil vapor extraction

Yes Natural Attenuation

Other _____

☒ Ex Situ

Yes Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) 115

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

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other _____

Report Type: ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other Excavation and confirmation soil sampling update _____

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:

no beneficial use

Volume of E&P Waste (solid) in cubic yards 115

E&P waste (solid) description impacted soil above COGCC Table 910-1 standards

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Buffalo Ridge 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 _____

Do all soils meet Table 910-1 standards? _____

Does the previous reply indicate consideration of background concentrations? _____

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? _____

Does Groundwater meet Table 910-1 standards? Yes _____

Is additional groundwater monitoring to be conducted? No _____

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
Confirmation samples will be collected following each round of soil amendment to monitor progress. Soils will be submitted for EC, SAR, and pH per COGCC Table 910

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 approve the seed mix? _____

If NO, does the seed mix comply with local soil conservation district recommendations? _____

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. _____

Actual Spill or Release date, if known. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/14/2020

Date of commencement of Site Investigation. 01/14/2020

Date of completion of Site Investigation. 01/14/2020

REMEDIAL ACTION DATES

Date of commencement of Remediation. _____

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

Per the previously approved 27 (Doc. #402518266), inorganic soil remediation at the site will be in compliance with Table 910-1 until such time that remediation is completed, or until January 15, 2022, whichever comes first.

Soil remediation activities have not commenced at the site due to site conditions and accessibility. Remediation and additional assessment activities are scheduled to begin at the end of April/beginning of May, 2021. At that time, soil remediation (gypsum application, topsoil application, soil mixing and regrade) will be completed to address residual soils with elevated inorganic readings. Confirmation samples will be collected following each round of soil amending to monitor progress. A supplemental 27 will be submitted within 90 days and/or following the first round of remediation activities/confirmation sampling.

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

Signed: ` Ross Warner

Title: Compliance

Submit Date: ` 04/14/2021

Email: ross.magpieoil@gmail.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: ROB YOUNG

Date: 05/20/2021

Remediation Project Number: 14786

Condition of Approval**COA Type****Description**

	Contact NE EPS to arrange onsite meeting (48 hours prior notice) to observe confirmation soil sampling of the upper 3 feet of pit cover material.
	Provide the clean soil import manifests that document importation of 3 feet of cover for the material backfilled into the pits that was above Table 910-1 inorganics in soil allowable levels.
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**

402658278	FORM 27-SUPPLEMENTAL-SUBMITTED
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Total Attach: 1 Files

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

Environmental	Source excavation activities were completed adjacent to the former skim pit. Confirmation samples from the floor and sidewalls indicate petroleum hydrocarbon impacted soil has been removed. Samples were below COGCC Table 910-1 for BTEX, and Full TPH. Soil above Table 910 for inorganics were backfilled in the produced water pits and capped with approximately 3 feet of soil. Confirmation soil samples were collected from 0.5 and 2 feet bgs to ensure inorganic concentrations are below 910 for final reclamation. This decreased the inorganic concentrations significantly, however levels are still above COGCC Table 910-1. Additional soil remediation (gypsum application, topsoil application, soil mixing and regrade) will be completed to address residual soils with elevated inorganic readings. The above is a quote from Doc No 402518266 (3/31/2021) - Remediation Summary	05/20/2021
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Total: 1 comment(s)