

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

402257924

Receive Date:

Report taken by:

## Site Investigation and Remediation Workplan (Initial 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>	<b>Phone Numbers</b>
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>Ryan Warner</u>	Email: <u>magpieoil@yahoo.com</u>	Mobile: <u>(720) 233-0875</u>

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: \_\_\_\_\_ 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
UNDETERMINED	SOILS	TBD	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 ):

If groundwater is encountered during assessment activities, groundwater samples will be collected and analyzed for BTEX following EPA Method 8260.

### 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 \_\_\_\_\_ 0  
Number of soil samples exceeding 910-1 \_\_\_\_\_  
Was the areal and vertical extent of soil contamination delineated? \_\_\_\_\_  
Approximate areal extent (square feet) \_\_\_\_\_

### NA / ND

\_\_\_\_\_ Highest concentration of TPH (mg/kg) \_\_\_\_\_  
\_\_\_\_\_ Highest concentration of SAR \_\_\_\_\_  
\_\_\_\_\_ BTEX > 910-1 \_\_\_\_\_  
\_\_\_\_\_ Vertical Extent > 910-1 (in feet) \_\_\_\_\_

### 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 \_\_\_\_\_

\_\_\_\_\_ 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 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

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

No E&P waste currently generated.

## 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.

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.

Three (3) produced water pits (Facility IDs 101099, 101100, and 101101) onsite will be assessment for potential impacts subsequent to a produced water pit closure - in accordance with COGCC Rule 905b. Two (2) soil samples will be collected via stainless-steel hand auger from each of the pits, 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.

If groundwater is encountered during assessment activities, groundwater samples will be collected and analyzed for BTEX following EPA Method 8260.

All samples collected will be compared to COGCC Table 910-1 standards. If any impacts above COGCC Table 910-1 are identified, a supplemental 27 will be submitted to remediate any/all impacts.

## 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.

# REMEDATION PROGRESS UPDATE

## PERIODIC REPORTING

**Frequency:** ☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other \_\_\_\_\_

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

☒ Other Site Assessment Report and/or Production Pit Closure \_\_\_\_\_

## WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? \_\_\_\_\_

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: \_\_\_\_\_

## 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

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). 01/06/2020

Date of commencement of Site Investigation. \_\_\_\_\_

Date of completion of Site Investigation. \_\_\_\_\_

### 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**

A new Form 27 is being submitted to close previous Remediation #3683 and begin the process of closing the Rediess #1 & #2 location based on the proposed assessment plan detailed above. The proposed assessment work is scheduled for the week of January 6, 2020. However, assessment activities may be rescheduled due to weather and/or other unforeseen circumstances. A supplemental 27 will be submitted within 90 days.

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

Signed: Ryan Warner

Title: Vice President

Submit Date:

Email: magpieoil@yahoo.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:

Date:

Remediation Project Number:

**COA Type****Description**

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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**

402258051	SITE INVESTIGATION PLAN
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Total Attach: 1 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)