

State of Colorado
Oil and Gas Conservation Commission

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION
Remediation Project #: 13484 Initial Form 27 Document #: 402026653

PURPOSE INFORMATION

<input 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 checked="" 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>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:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | _____ |
| <input checked="" type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> Other (as described by EPA) | _____ |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	250' x 175' 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.

Prior to decommissioning the entire facility, site assessment activities must be completed. Soil samples will be collected from beneath a produced water vessel AST and within a produced water pit onsite (Facility ID 111980). Produced water vessel sampling will be completed per COGCC Rule 905b. Additionally, during a field inspection (Doc. # 688000311), oil stained soil was identified adjacent to the separator onsite, and will need to be removed/soil sampled to confirm below COGCC table 910-1.

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):

6 soil samples were collected and analyzed for BTEX, TPH-GRO, and TPH-DRO following EPA Methods 8260 and 8015. 14 soil samples were collected and analyzed for EC, SAR, and pH following Modified 9050A, 20B Saturated Paste, and EPA Method 9045D, respectively. See attachments for sample locations.

Additional soil samples will be collected following excavation of top 3' of inorganic impacted soil and backfilling with topsoil and organic matter to confirm inorganic concentrations meet Table 910-1. Soil samples will be submitted for analysis of 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 12

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

Approximate areal extent (square feet) 32000

NA / ND

-- Highest concentration of TPH (mg/kg) 82.4

-- Highest concentration of SAR 58.59

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 0

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?

4 soil samples (SS-08 through SS-11) were collected outside of the berm footprint to determine if soil at final grade would comply with Table 910-1.

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 confirmation samples for inorganic analysis are 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.

Soils with elevated inorganic readings were removed and disposed of at Pawnee Waste Landfill located in Grover. In addition, the concrete separator foundation and imported roadbase/tank battery berm material (outside of areas desired to remain in place by the landowner) were removed. Following excavation activities, the excavation area (former pit) was backfilled with topsoil and landowner provided "organic material" to grade. This remediation decreased the inorganic concentrations, 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.

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.

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 August 2020, concentrations have decreased significantly, but still remain above COGCC Table 910-1. Additional soil remediation (gypsum application, topsoil application, soil mixing, and regrading) will be completed and additional confirmation samples will be collected for inorganic analysis. Samples will be submitted for EC, SAR, and pH per COGCC Table 910-1. Samples will be collected following each round of soil remediation until the site is in compliance.

Soil Remediation Summary

In Situ

- Yes Bioremediation (or enhanced bioremediation)
No Chemical oxidation
No Air sparge / Soil vapor extraction
No Natural Attenuation
No Other _____

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
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 Source Removal and Confirmation Sample Report _____

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 _____ 165

E&P waste (solid) description _____ Inorganic impacted soil

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Pawnee Waste Landfill - Grover,
Colorado

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? _____

Is additional groundwater monitoring to be conducted? _____

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. Soil remediation (gypsum application, topsoil application, soil mixing and regrade) will be completed to address residual soils with elevated inorganic readings. Additionally, the site will be cropped by the landowner in an attempt to further remediate elevated inorganic readings at the site. Confirmation samples will be collected following soil amending, and after harvest in 2021, to monitor progress.

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). 06/13/2019

Date of commencement of Site Investigation. 06/13/2019

Date of completion of Site Investigation. 11/19/2019

REMEDIAL ACTION DATES

Date of commencement of Remediation. 03/03/2020

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

Soil remediation activities have not commenced at the site due to site conditions, accessibility, and landowner approval. 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. Per conversations with the landowner, he plans to crop/harvest in that area regardless of concentrations at the site to aid in the remediation of elevated inorganic concentrations at the site. Confirmation samples will be collected following the initial round of soil remediation and after harvest to monitor progress. If no progress is made by the fall of 2021, additional remediation plans will be made to be in compliance with COGCC Table 915-1. 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: 05/13/2021 _____

Remediation Project Number: 13484 _____

Condition of Approval

COA Type

Description

<u>COA Type</u>	<u>Description</u>
0 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

402658309	FORM 27-SUPPLEMENTAL-SUBMITTED
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Total Attach: 1 Files

General Comments

User Group

Comment

Comment Date

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)