

State of Colorado Oil and Gas Conservation Commission

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401585806

Receive Date:

03/25/2018

Report taken by:

ROB YOUNG

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>	Phone Numbers
Address: <u>2707 SOUTH COUNTY RD 11</u>		Phone: <u>(970) 6696308</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) 2330875</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

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

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 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

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

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 SCMost Sensitive Adjacent Land Use non-crop landIs domestic water well within 1/4 mile? NoIs surface water within 1/4 mile? NoIs 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:

- | | | |
|--|--|--|
| <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
UNDETERMINED	GROUNDWATER	TBD	Lab Analytical Results
UNDETERMINED	SOILS	TBD	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.

Hub injection pump broke and pump failed. Produced water with some trace emulsion/bs&w overflowed from water tank and into berm. Field was immediately shut in. Free fluid was vacuumed and placed into tank. Impacted soil was dug out and placed on plastic and bermed. Pump will be repaired. Another tank may be placed on location to provide additional emergency capacity.

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):

Fourteen (14) soil samples will be collected via direct push as part of monitoring well installation activities. Six (6) grab soil samples will be collected via hand auger or shovel. All soil samples will be analyzed for BTEX, naphthalene, TPH-GRO, and TPH-DRO following EPA Methods 8260c and 8015. In addition, select soil samples may be analyzed for EC, SAR, and pH following UDSA Method 3, USDA Method 20B, and EPA Method 9045D, respectively.

Proposed Groundwater Sampling

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

Fourteen (14) groundwater samples (MW-01 through MW-14) will be collected following monitoring well installation activities. If groundwater above COGCC Table 910-1, additional groundwater samples will be collected quarterly from monitoring wells MW-01 through MW-14 to monitoring dissolved petroleum hydrocarbon impacts. All groundwater samples will be analyzed for BTEX following EPA Method 8260c.

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) 23

Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Soil borings and monitoring wells will be installed across the site to assess potential soil and groundwater impacts associated to Spill 439500. In addition, areas will be assessed that were noted in NOAV Doc No. 401541541, referring to previous Inspection Report findings. A site map with proposed assessment locations is attached.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Free fluid was vacuumed and placed into east injection storage tank. Impacted soil was dug out and placed on plastic and bermed. Soil hauled to Waste Management Buffalo Ridge Facility.

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.

"Six grab soil samples will be collected in areas of previously observed stained soil. Monitoring wells (MW-01 through MW-14) will be installed to assess potential soil and groundwater impacts associated with a pump failure and other identified surface impacts identified in Doc. No. 681700672. Based on results of soil and groundwater sampling activities, NFA status may be requested if all samples are below COGCC Table 910-1 regulatory limits.

If soil or groundwater impacts are observed above COGCC Table 910-1 regulatory limits, soil impacts will be delineated laterally and a remedial plan will be developed to address impacts. "

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) _____ 23

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.

Fourteen (14) monitoring wells (MW-01 through MW-14) will be installed around the entire facility. Groundwater samples will be collected from the monitoring wells following installation activities. Groundwater samples will be analyzed for BTEX following EPA Method 8260c. Additional monitoring wells will be installed to achieve point of compliance if groundwater is observed above COGCC Table 910-1.

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other TBD by Site Assessment

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

☒ Other Site Assessment 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 23

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

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

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.

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. 10/26/2014

SITE INVESTIGATION DATES

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

Date of commencement of Site Investigation. 04/05/2018

Date of completion of Site Investigation. _____

REMEDIAL ACTION DATES

Date of commencement of Remediation. 10/26/2014

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

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: 03/25/2018

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: Steven Arauza

Date: 04/12/2018

Remediation Project Number: 11196

COA Type**Description**

	In addition to proposed soil boring/monitor well locations, operator shall construct one upgradient monitor well to determine background water quality conditions, as required by NOAV #401541541. Upgradient well can be installed after initial wells are measured for static water level and surveyed to determine groundwater flow direction so it can be properly located.
	In addition to analyses listed under the Proposed Groundwater Sampling plan, operator shall analyze all groundwater samples for sulfate, chloride, and total dissolved solids, per Rule 910.b.(4).C.
	In addition to proposed surface soil grab samples, operator shall collect one surface grab sample from inside of the manifold building located north of the treater sheds and one sample from comparable, nearby non-impacted native soil to establish background conditions per Rule 910.b.(3).D. Operator shall analyze these soil samples for all proposed analyses described under Proposed Soil Sampling plan, including EC, SAR, and pH.

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**

401585806	FORM 27-INITIAL-SUBMITTED
401585815	SITE MAP
401585816	AERIAL IMAGE
401585817	SOIL SAMPLE LOCATION MAP

Total Attach: 4 Files

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

	Site Investigation and Remediation operations shall comply with Rules 909.e and 910.	04/12/2018
	Updated "Other Potential Receptors within ¼ mile" to include unidentified aqueduct reporting to Badger Creek located ~650' east of produced water tank battery. Updated Actual Spill or Release Date to correspond with date reported under Spill #439500, doc #400718966. Updated Date of commencement of Site Investigation, per correspondence with Operator's consultant.	04/12/2018

Total: 2 comment(s)