FORM 27 Rev 3/16

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: 402252911
Receive Date: 12/03/2019
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 INFORMATON

Name of Operator: MAGPIE OPERATING INC Operator No: 52530
Address: 2707 SOUTH COUNTY RD 11
City: LOVELAND State: CO Zip: 80537
Contact Person: Ryan Warner Email: magpieoil@yahoo.com

Phone Numbers
Phone: (970) 6696308
Mobile: (720) 2330875

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

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

PURPOSE INFORMATION

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

SITE INFORMATION

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

Facility Type: PIT Facility ID: 111980 API #: County Name: LOGAN
Facility Name: WARNECKE LEASE Latitude: 40.624978 Longitude: -103.334998
** correct Lat/Long if needed: Latitude: 40.625044 Longitude: -103.335102
QtrQtr: SESE Sec: 30 Twp: 8N Range: 53W Meridian: 6 Sensitive Area? No

Facility Type: LOCATION Facility ID: 312143 API #: County Name: LOGAN
Facility Name: WARNECKE-68N53W 30SESE Latitude: 40.625638 Longitude: -103.337188
** correct Lat/Long if needed: Latitude: 40.625285 Longitude: -103.335214
QtrQtr: SESE Sec: 30 Twp: 8N Range: 53W Meridian: 6 Sensitive Area? No

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:

- [x] **E&P Waste**
  - [x] Produced Water
  - [x] Oil
  - [ ] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
No	SOILS	NA	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 decomissioning 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

- [x] 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.

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 exceeeding 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?

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.

There was no E&P waste generated. Previously stained soil was sampled and submitted for laboratory analysis and the sample was below 910-1. Soils with elevated inorganic readings will be addressed in-situ utilizing gypsum soil amendment and soil mixing. Soil will also be harrowed/turned-over, and/or aggitated on a quarterly basis.

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.

On June 13, 2019, one location was investigated for potential impacts subsequent to a produced water vessel to be removed - in accordance with COGCC Rule 905 b. The soil sample was analyzed for BTEX, TPH-GRO, and TPH-DRO following EPA Methods 8260 and 8015. In addition, the soil sample was analyzed for EC, SAR, and pH following Modified 9050A, 20B Saturated Paste, and EPA Method 9045D, respectively. The sample exceeded 910-1 for SAR only.

Additionally, four locations were investigated for potential impacts subsequent to a produced water pit (Facility ID 111980) onsite prior to backfill. The soil samples were analyzed for BTEX, TPH-GRO, and TPH-DRO following EPA Methods 8260 and 8015. In addition, the soil samples were analyzed for EC, SAR, and pH following Modified 9050A, 20B Saturated Paste, and EPA Method 9045D, respectively. The samples were above 910-1 for ph and/or SAR only. 4 additional background samples were collected outside the footprint of the berm and analyzed for EC, SAR, and pH. These samples were above 910-1 for EC, SAR, and/or pH.

One confirmation soil sample was collected from oil stained soil adjacent to the separator, identified during inspections activities (COGCC Doc. # 688000311). The soil sample was analyzed for BTEX, TPH-GRO, and TPH-DRO following EPA Methods 8260c and 8015. The sample did not exceed 910-1.

Four additional soil samples were collected on November 19, 2019 following an inspection at the site (Doc. #688000338). Elevated pH and/or SAR readings were observed in the residual berm of the production pit.

Backfill activities are the site are ongoing and limited due to site accessiblity and surface conditions. Due to saturated soil conditions and poor drainage in the area, backfilling and in-situ remediation of elevated inorganic readings will be completed on a min. quarterly basis, or as capable. Confirmation samples will be collected for EC, SAR, and pH analysis to monitor remediation of residual inorganic readings at the site.

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.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

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

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

☒ Other Sampling Update

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No

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: _____

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? No

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? No

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.

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. 06/13/2019

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

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:` 12/03/2019

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: ROB YOUNG

Date: 12/04/2019

Remediation Project Number: 13484

COA Type	Description
	Remove and properly dispose soils shallower than 3' bgs that are impacted by inorganics concentrations above Table 910-1 allowable levels.
	COGCC does not approve in situ remediation of inorganics in soil. Previous COA to allow inorganics in soil above Table 910-1 greater than 3 feet below grade remains in effect.

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
402252911	FORM 27-SUPPLEMENTAL-SUBMITTED
402252984	ANALYTICAL RESULTS

Total Attach: 2 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)