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: 402018929
Receive Date: 04/23/2019
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 INFORMATON

Name of Operator: IMPETRO RESOURCES LLC Operator No: 10690
Address: 2820 LOGAN DRIVE
City: LOVELAND State: CO Zip: 80538
Contact Person: Sam Bradley Email: sbradley.impetro@gmail.com

Phone Numbers
Phone: (970) 596-8626
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 13462 Initial Form 27 Document #: 402018929

PURPOSE INFORMATION

- [ ] 901.e. Sensitive Area Determination
- [ ] 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

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

Facility Type: SPILL OR RELEASE Facility ID: 460342 API #: County Name: WASHINGTON
Facility Name: Walters Pit Latitude: 40.133580 Longitude: -102.863580
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NENW Sec: 21 Twp: 2N Range: 49W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM
Most Sensitive Adjacent Land Use Crop Land
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

None

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [x] **E&P Waste**
  - [x] Produced Water
  - [ ] 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
Yes	SOILS	SAR above Table 910-1	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.

On 12/19/18 at 15:45 the local farmer called the Impetro Resources LLC 24 hour phone number posted on the sign at the Walters tank battery and informed that the produced water pit was over flowing on the East side due to large waves and was beginning to wash out. Sam called the lease operator to shut the flow to the pit off. The lease operator arrived on location and shut off flow to the pit at 16:30. Sam arrived on location with a construction crew at 18:00 and observed a 6" wide and 1' deep wash at the top of the East pit wall. At 18:00 freeboard was approximatly 1' with the wind blowing waves against the East wall. A water flow 6" wide and 1" deep was flowing across the pit wall and down into the bar ditch and across WCR 39. Concrete sacks and sand bags were used to stop the flow and secure the pit wall for the night. On 12/20/2018 a water truck was used to suck up 180 bbl of water from under ice along the bar ditch and the pit wall was repaired with a back-hoe.

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):

Soil samples were taken and submitted with Form 19S document #401975222

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

- [x] Additional alternative investigative actions described in attached Site Investigation Plan (summary):

Monitor the spill area as a remediation project going forward. Once the crops in the spill area have demonstrated viability, the remediation project can be closed.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 5

Number of soil samples exceeeding 910-1: 1

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

Approximate areal extent (square feet): 12500

NA / ND

NA — Highest concentration of TPH (mg/kg):

-- — Highest concentration of SAR: 21.28

BTEX > 910-1: No

Vertical Extent > 910-1 (in feet): 0

Groundwater

Number of groundwater samples collected: 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet): 229`

Number of groundwater monitoring wells installed: 0

Number of groundwater samples exceeding 910-1: 0

NA — Highest concentration of Benzene (µg/l):

NA — Highest concentration of Toluene (µg/l):

NA — Highest concentration of Ethylbenzene (µg/l):

NA — Highest concentration of Xylene (µg/l):

NA — Highest concentration of Methane (mg/l):

Surface Water

0 Number of surface water samples collected

0 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?

Soil samples across the spill area which extended across the county road into adjacent crop land as shown on the attached map.

☒ Were background samples collected as part of this site investigation?

Soil sample collected as background sample in the crop land as shown on the attached map.

☐ 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?

Monitor the spill area as a remediation project going forward. Once the crops in the spill area have demonstrated viability, the remediation project can be closed.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Monitor the spill area as a remediation project going forward. Once the crops in the spill area have demonstrated viability, the remediation project can be closed.

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.

Monitor the spill area as a remediation project going forward. Once the crops in the spill area have demonstrated viability, the remediation project can be closed. This will occur over the next 12 months.

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

- No Bioremediation (or enhanced bioremediation)
- No Chemical oxidation
- No Air sparge / Soil vapor extraction
- Yes 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.

N/A

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other as per inspections from Rob Young

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

☐ Other

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:

Produced water picked up out of the bar ditch using a vac truck.

Volume of E&P Waste (solid) in cubic yards 0

E&P waste (solid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

Volume of E&P Waste (liquid) in barrels 180

E&P waste (liquid) description Produced Water

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Placed back in produced water pit

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.

Monitor the spill area as a remediation project going forward. Once the crops in the spill area have demonstrated viability, the remediation project can be closed.

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. 12/20/2018

Actual Spill or Release date, if known. 12/19/2018

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 12/20/2018

Date of commencement of Site Investigation. 12/20/2018

Date of completion of Site Investigation.

REMEDIAL ACTION DATES

Date of commencement of Remediation. 12/20/2018

Date of completion of Remediation.

SITE RECLAMATION DATES

Date of commencement of Reclamation. 12/20/2018

Date of completion of Reclamation.

OPERATOR COMMENT

Plan is to monitor the spill area as a remediation project going forward. Once the crops in the spill area have demonstrated viability, the remediation project can be closed. Please see the related form 19 and attached analytical results.

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

Signed:` Sam Bradley

Title: Managing Member

Submit Date:` 04/23/2019

Email: sbradley.impetro@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: 05/01/2019

Remediation Project Number: 13462

COA Type	Description
	SAR concentration at sample SS-02 exceeds Table 910-1 allowable concentration as previously discussed with operator.

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
402018929	FORM 27-INITIAL-SUBMITTED
402018930	ANALYTICAL RESULTS

Total Attach: 2 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)