

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

402352381

Receive Date:

Report taken by:

## 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>IMPETRO RESOURCES LLC</u>	Operator No: <u>10690</u>	<b>Phone Numbers</b>
Address: <u>2820 LOGAN DRIVE</u>		Phone: <u>(970) 593-8626</u>
City: <u>LOVELAND</u>	State: <u>CO</u>	Zip: <u>80538</u>
Contact Person: <u>Sam Bradley</u>	Email: <u>sbradley.impetro@gmail.com</u>	Mobile: <u>( )</u>

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 12289 Initial Form 27 Document #: 401894410

#### 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 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 checked="" 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 checked="" type="checkbox"/> Other <u>Inspection Document #688000227</u>                            |

#### SITE INFORMATION

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

Facility Type: <u>PIT</u>	Facility ID: <u>101103</u>	API #: _____	County Name: <u>MORGAN</u>
Facility Name: <u>BOSLEY 1</u>		Latitude: <u>40.015573</u>	Longitude: <u>-103.636357</u>
		** correct Lat/Long if needed: Latitude: <u>40.015535</u>	Longitude: <u>-103.636678</u>
QtrQtr: <u>S2NW</u>	Sec: <u>34</u>	Twp: <u>1N</u>	Range: <u>56W</u>
		Meridian: <u>6</u>	Sensitive Area? <u>No</u>

#### 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? No

#### Other Potential Receptors within 1/4 mile

N/A. Surrounded by crop land on South and Pasture on North

# 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
Yes	SOILS	15'x10' pit berm, 10'x10' wellhead	COGCC Inspection

## INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

At pit = onsite inspection shows no emergency response required. Dry stained soil present.  
At wellhead = Tighten stuffing box rubbers. Dry stained soil present.  
No free oil is present... dry stained soil is present

## 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 ):

Propose adequate soil samples taken from the pit berm after one year of biodegradation has occurred. Adequate samples would be taken to define successful or unsuccessful biodegradation by CGRS out of Fort Collins, CO.

### Proposed Groundwater Sampling

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

Dry stained soil only present

### Proposed Surface Water Sampling

☐ Will surface water samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

No surface water present

## Additional Investigative Actions

☒ Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):

Propose to remove stained soil around the wellhead/exterior pit berm and confirm stained soil has been adequately removed via visual and olfactory investigation.

# 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? Yes

Approximate areal extent (square feet) 250

### 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? Yes

Depth to groundwater (below ground surface, in feet)

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 910-1

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

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?

No impact to adjacent property or offsite

☐ 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?

Propose adequate soil samples taken from the pit berm after one year of biodegradation has occurred. Adequate samples would be taken to define successful or unsuccessful biodegradation by CGRS out of Fort Collins, CO.

# 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.

Requesting permission to treat onsite per rule 907e.(2). Proposed plan would be to remove the stained soil from around the wellhead and place on the berms of the pit. Additional stained soil on the outside of the pit berm would be placed on the pit berm. The pit berm soil biodegradation would be enhanced by tilling. After one year of biodegradation occurs soil samples would be taken to evaluate the process.

## 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.

Requesting permission to treat onsite. Move stained soil to be on the pit berm and enhance biodegradation by tilling. This plan is the most cost effective remediation plan. This initial clean up work would be completed in January of 2019 (weather permitting). In January of 2020 soil samples would be taken by CGRS out of Fort Collins. Based off the soil samples a plan to remove or continue the process would be evaluated.

## Soil Remediation Summary

☒ In Situ

Yes Bioremediation ( or enhanced bioremediation ) \_\_\_\_\_

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ Air sparge / Soil vapor extraction

\_\_\_\_\_ Natural Attenuation

Yes Other Enhanced biodegradation by tilling. \_\_\_\_\_

☐ 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.

N/A

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

**Frequency:** ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Q1-2020 Update

**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? 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? Yes

Does the previous reply indicate consideration of background concentrations? Yes

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.

Requesting permission to treat onsite. Move stained soil to be on the pit berm and enhance biodegradation by tilling. This plan is the most cost effective remediation plan. This initial clean up work would be completed in January of 2019 (weather permitting). In January of 2020 soil samples would be taken by CGRS out of Fort Collins. Based off the soil samples a plan to remove or continue the process would be evaluated. Please see attached map.

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). 01/01/2019

Date of commencement of Site Investigation. 01/01/2019

Date of completion of Site Investigation. 01/01/2019

### **REMEDIAL ACTION DATES**

Date of commencement of Remediation. 01/15/2019

Date of completion of Remediation. \_\_\_\_\_

### **SITE RECLAMATION DATES**

Date of commencement of Reclamation. \_\_\_\_\_

Date of completion of Reclamation. \_\_\_\_\_

### **OPERATOR COMMENT**

The purpose of this update is to submit analytical results. The land treatment area was cleaned up and soil samples were taken to analyze TPH and BTEX (background sample and land treatment area sample).

Soil has been stockpiled at the battery on plastic with a berm around it. When this soil is hauled off the manifests will be submitted and final closure will be requested.

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: \_\_\_\_\_

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: \_\_\_\_\_

Date: \_\_\_\_\_

Remediation Project Number: 12289

### **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**

402352384	ANALYTICAL RESULTS
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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)