

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 INFORMATON

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

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input 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	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

Ex Situ

Yes _____ Bioremediation (or enhanced bioremediation)

_____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____

_____ Air sparge / Soil vapor extraction

_____ Name of Licensed Disposal Facility or COGCC Facility ID # _____

_____ Natural Attenuation

_____ Excavate and onsite remediation

Yes _____ Other _____ Enhanced biodegradation by tilling.

_____ 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 Initial Work Completed _____

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? _____

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.

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

Please see the attached pictures showing the initial work completed. All stained soil has been moved to the biodegradation area and erosion BMP's were used for control.

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: 01/26/2019

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: 01/28/2019

Remediation Project Number: 12289

COA Type

Description

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

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

401919189	FORM 27-SUPPLEMENTAL-SUBMITTED
401919190	PHOTOS

Total Attach: 2 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)