

State of Colorado  
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
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Receive Date:

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Report taken by:

Krystal Heibel

## 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 ECMC 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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

## OPERATOR INFORMATION

Name of Operator: IMPETRO RESOURCES LLC	Operator No: 10690	Phone Numbers
Address: 558 CASTLE PINES PKWY UNIT B-4		Phone: (361) 935-5633
City: CASTLE PINES	State: CO	Zip: 80108
Contact Person: Brent Bongers	Email: bbongers@impetroresources.com	Mobile: ( )

## PROJECT, PURPOSE &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: 16586 Initial Form 27 Document #: 402300869

## PURPOSE INFORMATION

- ☐ Rule 913.c.(1): Pit or Cuttings Trench closure.
- ☐ Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- ☒ Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- ☐ Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- ☐ Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- ☐ Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- ☐ Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- ☐ Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- ☐ Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- ☐ Rule 913.g: Changes of Operator.
- ☐ Rule 915.b: Request to leave elevated inorganics in situ.
- ☐ Other: \_\_\_\_\_

## SITE INFORMATION

No Multiple Facilities

Facility Type: SPILL OR RELEASE	Facility ID: 459536	API #: _____	County Name: WASHINGTON
Facility Name: bLOMENKAMP 4	Latitude: 39.785663	Longitude: -103.670775	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESE	Sec: 17	Twp: 3S	Range: 56W Meridian: 6 Sensitive Area? Yes

## SITE CONDITIONS

General soil type - USCS Classifications OH Most Sensitive Adjacent Land Use pasture

Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

## Other Potential Receptors within 1/4 mile

The nearest domestic groundwater well indicated a static groundwater level of 14 feet bgs on September 23, 1968 (Permit #35232). Beaver Creek, a registered Riverine habitat, is located approximately 1300 feet east of the Location. Multiple registered High Priority Habitats are located approximately 850 feet east of the Location.

## 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	small area of tph	Lab analysis

### INITIAL ACTION SUMMARY

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

This location was previously operated by Alfred Ward & Son company (Operator #94300) during the initial Spill which occurred on 12/03/2018 (Spill No. 459536). Impetro Resources, LLC (Operator No. 10690) acquired the assets in July 2023. The main point of contact and responsible party for Alfred Ward & Son became deceased in 2023, subsequent to Impetro's purchase of the asset. This Form 27-S is being submitted to propose the collection of confirmation soil samples as described in the Rule 915.e.(2) Guidance Document.

### 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 ):

Proposed soil sample locations are provided as an attachment to this report. Soil samples will be submitted to a NELAP-accredited laboratory for the full Table 915-1 analysis and compared to the protection of groundwater soil screening level concentrations. In addition to the proposed confirmation soil samples, three background samples will be collected and submitted for Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)) and Metal analysis.

#### Proposed Groundwater Sampling

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

Groundwater was not encountered during spill response or remediation activities completed by the previous operator.

#### 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 22

Number of soil samples exceeding 915-1 2

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

Approximate areal extent (square feet) 250

### **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 915-1

### **Surface Water**

0 Number of surface water samples collected

Number of surface water samples exceeding 915-1

If surface water is impacted, other agency notification may be required.

### **NA / ND**

-- Highest concentration of TPH (mg/kg) 1190

-- Highest concentration of SAR 3.44

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 4

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)

## **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) 20

Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Proposed soil sample locations are provided as an attachment to this report. Soil samples will be submitted to a NELAP-accredited laboratory for the full Table 915-1 analysis and compared to the protection of groundwater soil screening level concentrations. In addition to the proposed confirmation soil samples, three background samples will be collected and submitted for Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)) and Metal analyses.

## **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.

The previous operator for this location performed excavation, transport, and disposal of a minimum of 20 cubic yards of impacted soil to a Waste Management disposal facility in 2019. Any additional hydrocarbon-impacted material will be transported off-site to a licensed disposal facility in accordance with Rules 905 and 906

## **REMEDATION 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.

The previous operator for this location performed excavation, transport, and disposal of a minimum of 20 cubic yards of impacted soil to a Waste Management disposal facility in 2019.

## **Soil Remediation Summary**

☐ In Situ

☒ Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )  
\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

Yes \_\_\_\_\_ Excavate and offsite disposal  
\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 20  
\_\_\_\_\_ Name of Licensed Disposal Facility or ECMC 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

#### Approved Reporting Schedule:

☒ Quarterly☐ Semi-Annually☐ Annually☐ Other

#### ☐ Request Alternative Reporting Schedule:

☐ Semi-Annually☐ Annually☐ Other

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

#### Report Type:

☐ Groundwater Monitoring☐ Land Treatment Progress Report☐ O&M Report☒ Other Quarterly Reporting

### Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Operator carries general liability insurance of \$1,000,000.00 per occurrence and \$4,000,000.00 in excess. Operator carries \$25,000.00 blanket surface surety bond.

Operator anticipates the remaining cost for this project to be: \$ 2500

### 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:

Approximately 20 cubic yards of impacted soil was excavated, transported, and disposed of at a Waste Management disposal facility.

Volume of E&P Waste (solid) in cubic yards 20

E&P waste (solid) description E&P Waste impacted soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Waste Management

Volume of E&P Waste (liquid) in barrels 0

E&P waste (liquid) description

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

## REMEDIATION COMPLETION REPORT

### REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No

If YES:

☐ Compliant with Rule 913.h.(1).

☐ Compliant with Rule 913.h.(2).

☐ Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards? No

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards?

Is additional groundwater monitoring to be conducted? \_\_\_\_\_

Operator shall comply with the ECMC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

## 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.

Impetro Resources acquired the asset in July 2023 and continues to operate the facility. No deficiencies in facility operations have been observed. Reclamation and/or interim reclamation activities will be evaluated and presented to the CECMC for approval subsequent to additional investigation activities or successful remediation

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 provide the seed mix? \_\_\_\_\_

If YES, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

Did the local soil conservation district provide the seed mix? \_\_\_\_\_

### SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. \_\_\_\_\_

Proposed date of completion of Reclamation. \_\_\_\_\_

## IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

### PRIOR DATES

Date of Surface Owner notification/consultation, if required. 03/08/2024

Actual Spill or Release date, or date of discovery. 12/04/2018

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/05/2019

Proposed site investigation commencement. 12/30/2020

Proposed completion of site investigation. 08/31/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/31/2024

Proposed date of completion of Remediation. 12/31/2024

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

☐ Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

**OPERATOR COMMENT**

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

Signed: Drezden Kinnaird

Title: Consultant

Submit Date: 06/20/2024

Email: dkinnaird@cgrs.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with ECMC Rules and applicable orders and is hereby approved.

ECMC Approved: Krystal Heibel

Date: 08/30/2024

Remediation Project Number: 16586

**COA Type****Description**

	As stated in Doc# 403643020, Operator shall provide all analytical results from this site's spill/release in table-format, within the next submittal. Within the table, Operator shall compare the analytical results to Table 915-1 Protection of Groundwater Soil Screening Level Concentrations and indicate any/all exceedances.
	As stated in Doc# 403643020, If any of the analytes from the analytical results show exceedances, operator should perform sampling and analysis to fully delineate the lateral and vertical extent of those impacts.
	As stated in Doc# 403643020, Operator shall either provide a document number where a reduced analyte suite was approved, or Operator shall collect confirmation soil samples as described in the Rule 915.e.(2) Guidance Document. Operator will analyze soil samples for TPH (C6-C36), Table 915-1 Organic Compounds in Soil, Table 915-1 metals, and Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)).
3 COAs	

**ATTACHMENT 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**

403804656	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
403804711	SOIL SAMPLE LOCATION MAP
403804715	SITE MAP
403906577	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 4 Files

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

Environmental	Due to shallow groundwater (~14' bgs) reported - Operator shall comply with Table 915-1 Protection of Groundwater Soil Screening Level Concentrations.	08/30/2024
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Total: 1 comment(s)