

State of Colorado
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



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Report taken by:
Chris Sanchez

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: <u>P O & G OPERATING LLC</u>	Operator No: <u>10634</u>	Phone Numbers Phone: <u>(346) 220-8355</u> Mobile: <u>(720) 641-8661</u>
Address: <u>5847 SAN FELIPE SUITE 3200</u>		
City: <u>HOUSTON</u>	State: <u>TX</u>	Zip: <u>77057</u>
Contact Person: <u>Rick Eggleston</u>	Email: <u>rick_eggleston@pogresources.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 33261 Initial Form 27 Document #: 403586753

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

Yes Multiple Facilities

Facility Type: <u>WELL</u>	Facility ID: _____	API #: <u>017-07503</u>	County Name: <u>CHEYENNE</u>
Facility Name: <u>HOFFMAN 8</u>	Latitude: <u>38.792830</u>	Longitude: <u>-102.385190</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNW</u>	Sec: <u>31</u>	Twp: <u>14S</u>	Range: <u>44W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>LOCATION</u>	Facility ID: <u>321928</u>	API #: _____	County Name: <u>CHEYENNE</u>
Facility Name: <u>HOFFMAN-614S44W 31SWNW</u>	Latitude: <u>38.792816</u>	Longitude: <u>-102.385205</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNW</u>	Sec: <u>31</u>	Twp: <u>14S</u>	Range: <u>44W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications CL

Most Sensitive Adjacent Land Use Cropland

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? No

Other Potential Receptors within 1/4 mile

Rule 309.e.1 Other Consultation Habitats (2022 Proposed)
Lesser Prairie Chicken Estimated Occupied Range

National Wetlands Inventory
Fresh Water Emergent

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 checked="" 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
UNDETERMINED	GROUNDWATER	N/A	Lab analysis if encountered
UNDETERMINED	SOILS	N/A	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 form has been prepared to provide prior notice of the plugging and abandonment of the HOFFMAN 8 wellhead and associated off-location flowline. Form 44 Document #403590640 has been filed for the off-location flowline; the system is not being abandon just the associated segment. In accordance with ECMC Rule 911.a., soil and groundwater (if present) samples will be collected and submitted for laboratory analysis to determine if concentrations and values are in compliance with COGCC Table 915-1. Visual inspection and field screening of soils around the separator and tank battery will be conducted during sampling activities. The Topographic Site Location Map showing the geographic setting of the site is provided as Figure 1.

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):

Following wellhead plug and abandonment, discrete soil sample will be collected from wellhead area, soil samples will be submitted to an accredited laboratory for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and total petroleum hydrocarbons (TPH) - gasoline range organics (GRO: C6-C10) by United States Environmental Protection Agency (USEPA) Method 8260D, TPH - diesel range organics (DRO: C10-C28) and oil range organics (ORO: C28-C40) by USEPA Method 8015D, pH, specific conductance (EC) and sodium adsorption ratio (SAR) by saturated paste method, and boron by hot water soluble soil extract method. Proposed soil screening and sample locations are provided on the attached map.

Proposed Groundwater Sampling

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

If groundwater is encountered during facility decommissioning activities, a minimum of one grab sample will be collected as soon as practical. Groundwater samples will be submitted to an accredited laboratory for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene, using standard methods appropriate for detecting the target analytes in ECMCC Table 915-1.

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):

Visual inspection of the wellhead and off-location flowline will occur during abandonment activities. Field personnel will field screen all disturbed areas using a photoionization detector to determine if laboratory confirmation soil sampling is required. Flowlines will be abandoned in place; if impacts are identified then samples will be taken along the flowline in the impacted areas. The ECMC Flowline Closure Checklists will be utilized and filled out during the abandonment process. A photolog will be submitted in the subsequent Form 27.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 7

Number of soil samples exceeding 915-1 1

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

Approximate areal extent (square feet) 25

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

NA / ND

 Highest concentration of TPH (mg/kg)

 Highest concentration of SAR

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)

Surface Water

0 Number of surface water samples collected

0 Number of surface water samples exceeding 915-1

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?

Two background samples were pulled at 2 and 4 feet. The background samples were taken approximately 122 feet SE of the wellhead

Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 5

Volume of liquid waste (barrels) 0

Is further site investigation required?

The initial soil sample under the well head flowline was over the Table 915 -1 TPH limit of 500 mg/kg (567 mg/kg TPH). After receiving the results we excavated another 2 feet of soil out from under the flowline and resampled. The second sample came back at 61 mg/kg for TPH.

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.

If a suspected release is identified and confirmed through soil screening and/or laboratory analysis, soils will be removed and transported to a licensed disposal facility. Disposal records will be kept on file and available upon request.

REMEDICATION 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.

Potential impacts that meet the criteria in Rule 912.b. will be reported to the Director in accordance with that Rule and a site-specific soil and/or groundwater remediation plan will be developed and submitted to the ECOM via a supplemental Form 27 in accordance with Rule 913. If reportable impacts are not encountered, a supplemental Form 27 requesting closure will be submitted within 90 days following completion of sampling activities. Field screening and applicable laboratory analytical results will be reported in all submittals. E&P waste records of material transported off-site are kept on file and available upon request.

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) _____ 5
Name of Licensed Disposal Facility or ECMC Facility ID # _____ 13031501
_____ 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

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

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:

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

E&P waste (solid) description

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

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? Yes

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.

The site will be reclaimed in accordance with ECMC 1000 Series Reclamation Rules or per surface owner direction.

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. 09/25/2023

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/30/2023

Proposed site investigation commencement. 12/07/2023

Proposed completion of site investigation. 12/29/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/06/2024

Proposed date of completion of Remediation. 05/31/2024

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

PO&G is requesting closure for the remediation portion of the Hoffman 8 location. The location has met the all of the Table 915-1 contaminants of concern cleanup concentrations. One sample that was directly under the 90 at the well head flowline (Sample ID: WHFL90-3.5) initially exceeded the cleanup concentration. An additional two feet of soil was remediated from under the well head flowline 90 and the soil was resampled (Sample ID WHFL-5.5). The analysis from the resampling came back at 61 mg/kg for TPH which is under required cleanup concentration. The flowline will be abandoned in place. The flowline post abandonment document number is 403734587.

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

Signed: Rick Eggleston

Title: EHS&R Project Coordinator

Submit Date: 04/04/2024

Email: rick_eggleston@pogresources.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: Chris Sanchez

Date: 05/01/2024

Remediation Project Number: 33261

COA Type**Description**

	Operator shall provide all Sample Data in a table format for review in the next supplemental Form 27 ECMC noted pH and SAR exceedances in attached Lab Data
	Arsenic concentrations in confirmation soil sample WH-4 exceed the Table 915-1 Residential Soil Screening Level Concentrations and are greater than 1.25 times the arsenic concentration in the background sample. Only site specific background determinations are reviewed to determine if Arsenic concentrations are naturally occurring.
	Operator shall provide a map identifying sample locations in the next Supplemental Form 27.
	Per COA in Form 27 Document # 403586753; Operators will collect and submit for laboratory analysis a soil sample collected from the areas most likely to have been impacted during the operational life of the flowline. These areas include, but are not limited to: where Flowlines connect to the wellhead, surface equipment, risers, valves, or manifolds; where Flowlines bend or were repaired in the past and at joints and hammer unions; where Flowlines connect to Flowlines or equipment of different material; and where Flowlines crossed drainages or surface water or are in contact with shallow groundwater. Operator shall conduct an environmental investigation to confirm the presence or absence of impacts adjacent to the flowline at a minimum of every 250' Operator shall provide additional Data for Flowline Investigation
	ECMC removed the Final Closure Request; Operator checked the box for Rule 913.c. (3): Remediation of Spill and Releases pursuant to Rule 912. However, Operator did not submit a Form 19 per Rule 911.b. Operator shall submit a Form 19 for the historical spill/release identified during Decommissioning Activities.
	Operator will continue quarterly reporting until the site investigation is complete and Table 915-1 standards are met within the remediation area
6 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**

403742265

INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)

403742358	ANALYTICAL RESULTS
403742360	ANALYTICAL RESULTS
403742364	ANALYTICAL RESULTS
403742366	ANALYTICAL RESULTS
403742373	OTHER
403742374	PHOTO DOCUMENTATION
403742377	MONITORING REPORT
403742380	MONITORING REPORT
403742384	ANALYTICAL RESULTS
403775772	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 11 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)