

State of Colorado  
Energy & Carbon Management Commission

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



Document Number:  
404402875  
Receive Date:  
12/18/2025

Report taken by:  
Abdul Elnajdi

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>PDC ENERGY INC</u>	Operator No: <u>69175</u>	<b>Phone Numbers</b>
Address: <u>1099 18TH STREET SUITE 1500</u>		Phone: <u>(970) 304-5000</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>( )</u>
Contact Person: <u>Dan Peterson</u>	Email: <u>rbueuf27@chevron.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 40661 Initial Form 27 Document #: 404212768

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>LOCATION</u>	Facility ID: <u>432014</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>New Cache FH NWSW/NWSE Tank Battery 8-12D</u>	Latitude: <u>40.499236</u>	Longitude: <u>-104.461819</u>	
** correct Lat/Long if needed: Latitude: <u>40.499278</u>		Longitude: <u>-104.461910</u>	
QtrQtr: <u>NESW</u>	Sec: <u>8</u>	Twp: <u>6N</u>	Range: <u>63W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>492214</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Cache 8-13, 24, 34, Cornish 8-53</u>	Latitude: <u>40.499361</u>	Longitude: <u>-104.462022</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESW</u>	Sec: <u>8</u>	Twp: <u>6N</u>	Range: <u>63W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: SPILL OR RELEASE      Facility ID: 492215      API #: \_\_\_\_\_      County Name: WELD  
 Facility Name: New Cache FH NWSW/NWSE      Latitude: 40.499163      Longitude: -104.461775  
 \*\* correct Lat/Long if needed: Latitude: \_\_\_\_\_      Longitude: \_\_\_\_\_  
 QtrQtr: NESW      Sec: 8      Twp: 6N      Range: 63W      Meridian: 6      Sensitive Area? Yes

**SITE CONDITIONS**

General soil type - USCS Classifications SW      Most Sensitive Adjacent Land Use Grassland  
 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**

- Within Mule Deer Severe Winter Range HPH
- Bald Eagle Active Nest Site - Half Mile Buffer HPH 0.01mi W
- Freshwater Emergent Wetland 0.06/0.21mi W, 0.14/0.15/0.19mi SW
- Riverine 0.12mi SW
- Forested/Shrub Riparian 0.02mi SW
- Lake 0.1mi E, 0.15mi S
- Freshwater Pond 0.03mi SW

# 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 checked="" 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
No	GROUNDWATER	Refer to Tables and Figures	Lab analysis and Field Screening
Yes	SOILS	Refer to Tables and Figures	Lab analysis and Field Screening

## INITIAL ACTION SUMMARY

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

A site investigation was conducted pursuant to ECMC Rule 911 at the Cache 8-13, 24, 34; Cornish 8-53 Facility and Tank Battery location.

## 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 ):

Grab confirmation soil samples were collected from the produced water vessel(s) excavation, beneath the ground oil tank(s), at the risers for the flowline (s) and dumpline(s) of any separator(s). In addition, the on-site dump lines located between the separator and tank battery were removed by pulling from either end. Soil samples were analyzed by a certified laboratory for the full extent of Table 915-1, including but not limited to: TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons) organic compounds in soil per ECMC Table 915-1, and EC, SAR, pH, metals, and boron. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

### Proposed Groundwater Sampling

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

Groundwater was encountered during on 9/18/2025 in the produced water vessel excavation at approximately 4 feet below ground surface, and a grab groundwater sample (GW01) was collected and analyzed for all organic and inorganic compounds per ECMC 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 at the tank battery area occurred during abandonment activities. Field personnel field screened all disturbed areas using visual and olfactory senses. Additionally, discrete soil samples were collected from the base of the excavation and excavation sidewall in areas most likely to be impacted and exhibiting the highest field screened VOC concentration. A detailed summary of tank battery decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, is attached to this Form 27

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected     16

--     Highest concentration of TPH (mg/kg)     43420

Number of soil samples exceeding 915-1 16 -- Highest concentration of SAR 7.07  
 Was the areal and vertical extent of soil contamination delineated? No BTEX > 915-1 Yes  
 Approximate areal extent (square feet) 1600 Vertical Extent > 915-1 (in feet) 4

**Groundwater**

Number of groundwater samples collected 1 ND Highest concentration of Benzene (µg/l) \_\_\_\_\_  
 Was extent of groundwater contaminated delineated? Yes ND Highest concentration of Toluene (µg/l) \_\_\_\_\_  
 Depth to groundwater (below ground surface, in feet) 4 ND Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_  
 Number of groundwater monitoring wells installed 0 ND Highest concentration of Xylene (µg/l) \_\_\_\_\_  
 Number of groundwater samples exceeding 915-1 0 NA Highest concentration of Methane (mg/l) \_\_\_\_\_

**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.

**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) \_\_\_\_\_ Volume of liquid waste (barrels) \_\_\_\_\_
- Is further site investigation required?  
 Concurrently with the remedial excavation that is proposed in the Remedial Action Plan section of this Form 27, background soil samples will be collected to determine if pH, SAR, arsenic, and chromium are attributed to native soil conditions at the site, and to determine a baseline for concentrations of inorganic compounds and metals in native soil. Proposed background soil sample locations are shown on the attached proposed site investigation plan

**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 organic compound exceedances observed at soil sample locations AST01@0-6", AST02@0-6", AST03@0-6", AST04@0-6", PWV01-N@2', PWV01-W@2', and SEP04-DL@4' will be removed through remedial excavations.

**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.

Remedial excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. The results of the remedial excavation will be submitted on a subsequent Form 27.

**Soil Remediation Summary**

- |   |  |
|---|--|
| <input type="checkbox"/> <b>In Situ</b>             | <input type="checkbox"/> <b>Ex Situ</b>                              |
| _____ 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 ECMC Facility ID # _____ |
| _____ Natural Attenuation                           | _____ Excavate and onsite remediation                                |

Other \_\_\_\_\_

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.

Groundwater was encountered during on 9/18/2025 in the produced water vessel excavation at approximately 4 feet below ground surface, and a grab groundwater sample (GW01) was collected and analyzed for all organic and inorganic compounds per ECMC Table 915-1. Analytical results indicated that organic and inorganic compounds were in compliance with the applicable regulatory standards. Additional groundwater samples will be collected during source mass removal activities. If groundwater impacts are discovered during remedial excavation, a proposed monitoring well network will be proposed and quarterly groundwater monitoring will be conducted until closure criteria are met.

# 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 Confirmation Sample Summary, Supp. Source Mass Removal Proposal, Supp. Site Investigation Proposal

## 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 does not have site-specific financial assurance for this project; however, Operator has inactive well, blanket, and surface bonding including Surety IDs 106077122, 106473808, and 106473820, as well as commercial general liability and/or umbrella/excess insurance meeting the requirements of Rule 705.b. Operator does not anticipate making an insurance claim for this project.

- Hydrocarbon impacts in soil will be removed via remedial excavation.
- Further soil investigation/delineation is required.

Costs included herein are estimates only and may change over time based on numerous factors. Accordingly, Operator makes no guarantees as to the accuracy of such cost estimates, thus providing an estimate for the next year below.

Operator anticipates the remaining cost for this project to be: \$ 50000

## 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

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? \_\_\_\_\_

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.

Reclamation will be in accordance with ECMC 1000 Series Rules.

Is the described reclamation complete? Yes \_\_\_\_\_

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. 09/18/2025

Proposed date of completion of Reclamation. 12/31/2027

## 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. 03/25/2025

Actual Spill or Release date, or date of discovery. 09/18/2025

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/18/2025

Proposed site investigation commencement. 12/15/2025

Proposed completion of site investigation. 05/15/2026

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 12/15/2025

Proposed date of completion of Remediation. 12/15/2026

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:

The implementation schedule has been changed due to the decommissioning of the CACHE 8-13, 24, 34; CORNISH 8-53 tank battery and necessity for remedial excavation activities adjacent to the tank battery. The proposed remedial excavation will be completed following the approval of this form.

**OPERATOR COMMENT**

This Form 27 is being submitted to include the decommissioning results and historic reportable release discovered at the former Cache 8-13, 24, 34, Cornish 8-53 Tank Battery location.

Tank battery decommissioning activities occurred at the above referenced location on 9/18/2025 and 9/22/2025. Discrete soil samples were collected from beneath the former facility infrastructure as described in the approved Form 27-Initial (Document number 404212768). Analytical results indicated that soil samples AST01@0-6", AST02@0-6", AST03@0-6", AST04@0-6", PWV01-N@2', PWV01-W@2', and SEP04-DL@4' exhibited organic compound concentrations in exceedance of the regulatory standards.

Groundwater was encountered during on 9/18/2025 in the produced water vessel excavation at approximately 4 feet below ground surface, and a grab groundwater sample (GW01) was collected and analyzed for all organic and inorganic compounds per ECMC Table 915-1. Analytical results indicated that organic and inorganic compounds were in compliance with the applicable regulatory standards. Additional groundwater samples will be collected during source mass removal activities. If groundwater impacts are discovered during remedial excavation, a proposed monitoring well network will be proposed and quarterly groundwater monitoring will be conducted until closure criteria are met.

Based on decommissioning analytical results, remedial excavations will be conducted to remove the sources identified at soil sample locations AST01@0-6", AST02@0-6", AST03@0-6", AST04@0-6", PWV01-N@2', PWV01-W@2', and SEP04-DL@4'. Soil samples will be collected from the base and sidewalls of the final excavation extent and submitted for laboratory analysis of the full ECMC Table 915-1 suite. Concurrently with the remedial excavations, background soil samples will be collected to determine if pH, SAR, arsenic, and chromium are attributed to native soil conditions at the site.

The Form 19 for the historical release discovered at PWV01-N@' and PWV01-W@2' (Doc #404451618) remains 'In Process' at the time of submittal. The associated Spill ID will be included on a subsequent Form 27 submittal.

Pursuant to Rule 913.e., quarterly reporting will be conducted until closure criteria are achieved for the remediation project. The results of the supplemental site investigation will be submitted on a subsequent Form 27.

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

Signed: Ben Wagner

Title: Environmental Consultant

Submit Date: 12/18/2025

Email: tas-chevron-4@tasman-geo.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: Abdul Elnajdi

Date: 01/29/2026

Remediation Project Number: 40661

**COA Type**

**Description**

0 COA	
-------	--

**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
404402875	FORM 27-SUPPLEMENTAL-SUBMITTED
404473951	SITE INVESTIGATION REPORT
404473954	ANALYTICAL RESULTS
404478804	ANALYTICAL RESULTS
404478806	ANALYTICAL RESULTS

Total Attach: 5 Files

**General Comments**

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)