

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:
404245562
Receive Date:
09/16/2025
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>	Phone Numbers Phone: <u>(832) 349-0757</u> Mobile: <u>()</u>
Address: <u>1099 18TH STREET SUITE 1500</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80202</u>
Contact Person: <u>Lauren Hoff</u>	Email: <u>lauren.hoff@chevron.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 32723 Initial Form 27 Document #: 403582818

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: <u>LOCATION</u>	Facility ID: <u>331245</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>NATIONAL HOG FARM-65N63W 21SWNE</u>		Latitude: <u>40.386750</u>	Longitude: <u>-104.438030</u>
		** correct Lat/Long if needed: Latitude: <u>40.386965</u>	Longitude: <u>-104.438453</u>
QtrQtr: <u>SWNE</u>	Sec: <u>21</u>	Twp: <u>5N</u>	Range: <u>63W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

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

Nearest Well: Domestic - 3,345' SE; Surface Water: Freshwater Pond - 570' W; Livestock: 0' (Within Ranch Land); FWS Wetlands: 256' WSW Freshwater Emergent Wetland (PEM1A).

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
UNDETERMINED	GROUNDWATER	NA	Lab analysis or field screening, if encountered
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 inspection was conducted during decommissioning activities that were completed at the National Hog Farm 31, 33, 42-21 production facility on 6/17/25 through 6/19/25.

Confirmation soil samples were collected from the flowline and dumpline risers of the former separators (SEP-FL, SEP-DL), at a directional change observed along the length of the dump line (SEP01-DL01), beneath the above ground storage tank (AST), and from the base (PWV-B) and side walls (PWV-N, E, S,W) of the partially-buried produced water vessel excavation. Field screening samples were collected at the meter houses (MH), water dump line (WDL), and emission control devices (FLARE). The on-site dump lines located between the separator and tank battery were removed by pulling from either end.

The confirmation soil samples were analyzed by a certified laboratory using ECMC approved analysis methods for the full extent of Table 915-1. Laboratory results indicated 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, naphthalene, total petroleum hydrocarbons (TPH), benzo(a)anthracene, 1-Methylnaphthalene (1-M), and 2-Methylnaphthalene (2-M) were detected in exceedance of ECMC Table 915-1 regulation within samples AST01@0-6", PWV01-B@4", PWV01-B@4.5", and PWV01-N@2.5". As such, historic reportable release reports (Form 19 Document # 404245837, 404246626) were submitted to the ECMC on 06/19/25. These documents are "In-Process" as of the time of the submittal of this Form 27, and the Spill IDs are not available to include in the site information section of the form. In addition, pH exceeded ECMC Table 915-1 standards within soil sample SEP01-DL01@4".

The remaining ECMC Table 915-1 constituent concentrations in the soil samples collected during facility decommissioning activities were in compliance with ECMC Table 915-1 standards and/or within the range of site-specific background levels (1.25x for metals).

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):

Sampling was conducted as described in the Initial Action Summary of this Form 27, per the approved sampling plan in Initial Form 27 # 403582818. Sampling deviated from the approved proposed sampling plan as the infrastructure identified on the proposed sample location map as 3rd party meter houses (MH02 - MH05) were not present on site at the time of decommissioning. Field screening samples were collected at the approximate infrastructure locations based on historical imagery of the site. Additionally, field observations indicated that the eastern separator was historically removed prior to decommissioning activities, and that the related flowlines were connected to the western separator. As such, confirmation soil samples were only collected from the flowline and dumpline risers of the western separator during the site investigation.

Proposed Groundwater Sampling

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

If groundwater is encountered during decommissioning and/or abandonment activities, a groundwater sample will be collected as soon as practical. If contaminated soil is in contact with groundwater or if free product/hydrocarbon sheen are observed, the release will be reported in accordance with Rule 912.b. Groundwater samples will be submitted for laboratory analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene by EPA Method 8260, chloride and sulfate anions by EPA Method 300.0, and total dissolved solids (TDS) by Method SM 2540C.

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 tank battery area occurred during tank battery decommissioning activities. Personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. 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

Number of soil samples collected 11

Number of soil samples exceeding 915-1 5

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 500

NA / ND

-- Highest concentration of TPH (mg/kg) 8506

-- Highest concentration of SAR 3.96

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 5

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 915-1 _____

_____ 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

 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?

On 06/19/2025, 6 background soil samples were collected at depths ranging between 1 and 5 feet below ground surface (ft. bgs) from two discrete locations (BKG01, BKG02) adjacent to the tank battery and analyzed for metals in soil per ECMC Table 915-1, pH, EC, SAR, and boron. The maximum background concentration with a 1.25x multiplier applied for arsenic was 3.0 mg/kg. All arsenic exceedances observed during decommissioning were below 1.25x the background level.

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?

Based on the analytical results collected during decommissioning, a supplemental site investigation (SSI) will be completed to vertically and horizontally delineate the 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, naphthalene, total petroleum hydrocarbons (TPH), benzo(a)anthracene, 1-Methylnaphthalene (1-M), and 2-Methylnaphthalene (2-M) observed at sample locations AST01@0-6", PWV01-B@4', PWV01-B@4.5', and PWV01-N@2.5' during decommissioning. Additionally, a verification soil sample will be collected at the SEP01-DL01@4' soil sample location to confirm the initial pH results. During the SSI, soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Background samples (BKG03 - BKG07) will be collected to determine if pH detected in exceedance of ECMC Table 915-1 are attributed to native soil conditions at the site. Background soil samples will be collected and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Proposed soil boring locations are shown on the attached proposed site investigation map (Figure 3) attached to this Form 27. The SSI will be completed in accordance with the proposed implementation schedule, and the results of the SSI will be submitted on a subsequent Form 27.

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.

Refer to the Remediation Summary Section below.

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.

A supplemental site investigation (SSI) will be completed to vertically and horizontally delineate the 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, naphthalene, total petroleum hydrocarbons (TPH), benzo(a)anthracene, 1-Methylnaphthalene (1-M), and 2-Methylnaphthalene (2-M) exceedances observed during decommissioning at sample locations AST01@0-6", PWV01-B@4', PWV01-B@4.5', and PWV01-N@2.5'. Additionally, a verification soil sample will be collected at the SEP01-DL01@4' soil sample location to confirm the initial pH results. During the SSI, soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Additionally, background samples will be collected to determine if pH detected in exceedance of ECMC Table 915-1 are attributed to native soil conditions at the site. Background soil samples will be collected and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. A Proposed Site Investigation Map is attached to this Form 27. The SSI will be completed in accordance with the proposed implementation schedule, and the results of the SSI will be submitted on a subsequent Form 27.

Soil Remediation Summary

In Situ

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

Ex Situ

- _____ Excavate and offsite disposal
- _____ If Yes: Estimated Volume (Cubic Yards) _____
- _____ 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.

Groundwater was not encountered during initial decommissioning activities.

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

Quarterly Semi-Annually Annually Other Or if work commences, SF27 90 days post-decom activities unless a reportable release is discovered

Request Alternative Reporting Schedule:

Semi-Annually Annually Other Quarterly

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 Decommissioning Sample Summary and Supplemental 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.

- 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: \$ 65000 _____

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? _____

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: _____

REMEDATION COMPLETION REPORT

REMEDATION 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 conducted in accordance with ECMC 1004 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. 06/17/2025

Proposed date of completion of Reclamation. 10/11/2027

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. 09/28/2023

Actual Spill or Release date, or date of discovery. 06/17/2025

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/17/2025

Proposed site investigation commencement. 04/10/2026

Proposed completion of site investigation. 04/11/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/11/2026

Proposed date of completion of Remediation. 04/11/2027

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 National Hog Farm 31, 33, 42-21 Facility and necessity for supplemental site investigation activities adjacent to the facility. The proposed site investigation will be completed following the approval of this form and is tentatively scheduled for commencement in April, 2026. The ECMC will be notified regarding any updates to the implementation schedule in a subsequent Form 27.

OPERATOR COMMENT

This Form 27 is being submitted to include the decommissioning results and historic reportable release discovered at the former National Hog Farm 31, 33, 42-21 production facility (REM # 32723), to propose supplemental site investigation activities to delineate the organic compound exceedances detected at sample locations AST01@0-6", PWV01-B@4', PWV01-B@4.5', and PWV01-N@2.5', confirm the pH results observed at SEP01-DL01@4', and to conduct background sampling.

A site inspection was conducted during decommissioning activities that were completed at the National Hog Farm 31, 33, 42-21 production facility on 6/17/25 through 6/19/25 as described within the Initial Action Summary section of this Form 27. Laboratory results indicated 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, naphthalene, total petroleum hydrocarbons (TPH), benzo(a)anthracene, 1-Methylnaphthalene (1-M), and 2-Methylnaphthalene (2-M) was detected in exceedance of ECMC Table 915-1 regulation within samples AST01@0-6", PWV01-B@4', PWV01-B@4.5', and PWV01-N@2.5'. As such, historic reportable release reports (Form 19 Document # 404245837, 404246626) were submitted to the ECMC. These documents are "In-Process" as of the time of the submittal of this Form 27, and the Spill IDs are not available to include in the site information section of the form. In addition, pH exceeded ECMC Table 915-1 standards within soil sample SEP01-DL01@4'.

On 06/19/2025, 6 background soil samples were collected at depths ranging between 1 and 5 feet below ground surface (ft. bgs) from two discrete locations (BKG01, BKG02) adjacent to the tank battery and analyzed for metals in soil per ECMC Table 915-1, pH, EC, SAR, and boron. The maximum background concentration with a 1.25x multiplier applied for arsenic was 3.0 mg/kg. All arsenic exceedances observed during decommissioning were below 1.25x the background level.

Based on the analytical results collected during decommissioning, a supplemental site investigation (SSI) will be completed to vertically and horizontally delineate the 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, naphthalene, total petroleum hydrocarbons (TPH), benzo(a)anthracene, 1-Methylnaphthalene (1-M), and 2-Methylnaphthalene (2-M) observed at sample locations AST01@0-6", PWV01-B@4', PWV01-B@4.5', and PWV01-N@2.5' during decommissioning. Additionally, a verification soil sample will be collected at the SEP01-DL01@4' soil sample location to confirm the initial pH results. During the SSI, soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Background samples (BKG03 - BKG07) will be collected to determine if pH detected in exceedance of ECMC Table 915-1 are attributed to native soil conditions at the site. Background soil samples will be collected and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Proposed soil boring locations are shown on the attached proposed site investigation map (Figure 3) attached to this Form 27. The SSI will be completed in accordance with the proposed implementation schedule, and the results of the SSI will be submitted on a subsequent Form 27.

The operator is requesting that the approved reporting schedule be changed from annual to quarterly based on the initiation of site investigation activities at the National Hog Farm 31, 33, 42-21 facility. Pursuant to Rule 913.e., quarterly reporting will be conducted until closure criteria are achieved for the remediation project. The results of the SSI 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: Elyse Hossink

Title: Environmental Scientist

Submit Date: 09/16/2025

Email: ehossink@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: 12/12/2025

Remediation Project Number: 32723

COA Type

Description

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
404245562	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404348988	SITE INVESTIGATION REPORT
404348993	SITE INVESTIGATION PLAN
404349004	LABORATORY ANALYTICAL REPORT
404349005	LABORATORY ANALYTICAL REPORT
404349007	LABORATORY ANALYTICAL REPORT
404471034	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 7 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)