FORM 27 Rev 5/22

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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Receive Date:
Report taken by:

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 INFORMATON

Name of Operator: PDC ENERGY INC Operator No: 69175
Address: 1099 18TH STREET SUITE 1500
City: DENVER State: CO Zip: 80202
Contact Person: Lauren Hoff

Phone Numbers
Phone: (832) 349-0757
Mobile: ( )
Email: lauren.hoff@chevron.com

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 32449 Initial Form 27 Document #: 403581014

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.
- [X] 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: WELL Facility ID: API #: 123-21330 County Name: WELD
Facility Name: MDM 33-14 Latitude: 40.137160 Longitude: -104.968523
** correct Lat/Long if needed: Latitude: 40.137138 Longitude: -104.968517
QtrQtr: NWSE Sec: 14 Twp: 2N Range: 68W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC
Most Sensitive Adjacent Land Use Agricultural
Is domestic water well within 1/4 mile? Yes
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: Monitoring / Sampling - 1,221' N; Surface Water: Unnamed Creek - 230' ENE; Occupied Building: 916' NW; Livestock: 881' S; FWS Wetlands: 234' E Freshwater Emergent Wetland (PEM1A); Wellhead & Flowline Within 100-Year Floodplain.

Flowline Conflict: Wellhead & Flowline Within 100-Year Floodplain.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [X] Oil
  - [X] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	GROUNDWATER	NA	Lab Analysis and 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.

Pursuant to ECMC Rule 911 a site investigation was conducted pertaining to the MDM 33-14 wellhead cut and cap and flowline abandonment. Approximately 1,115' of flowline was removed. The wellhead was cut and capped per ECMC rules. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead. Soil samples were taken along the flowline at any points of material change and/or hammer unions, directional changes, as well as at the bell holes on either side of a waterway, as applicable.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

On 09/23/2024, a grab soil sample was collected at the base of the excavation or the area showing the highest degree of impact during field screening activities at the wellhead excavation (WH01@6', FL0R01@4'). Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead (WH01-W@4', WH01-N@4', WH01-S@4'). On 10/17/2024, soil samples were taken along the flowline at any points of directional change, as applicable (FL01-02@4', FL01-04@4', FL01-05@5', FL01-06@5', FL01-07@3', FL01-08@3', FL01R-W@4', FL01R-S@4'). 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

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

Groundwater was encountered at two locations during the 10/17/2024 site investigation (GW01@5', GW02@4') and grab groundwater samples were 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 of the wellhead area occurred during abandonment activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. A detailed summary of flowline decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, is attached to this Form 27.

A detailed summary of wellhead decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, is attached to previously submtited Form 27 Document #403979508.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 23

Number of soil samples exceeeding 915-1: 3

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

Approximate areal extent (square feet): 300

NA / ND

ND — Highest concentration of TPH (mg/kg)

-- — Highest concentration of SAR: 8.32

BTEX > 915-1: No

Vertical Extent > 915-1 (in feet): 6

Groundwater

Number of groundwater samples collected: 2

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet): 4

Number of groundwater monitoring wells installed: 0

Number of groundwater samples exceeding 915-1: 1

ND — Highest concentration of Benzene (µg/l)

ND — Highest concentration of Toluene (µg/l)

ND — Highest concentration of Ethylbenzene (µg/l)

ND — 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 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?

[X] Were background samples collected as part of this site investigation?

On 10/17/2024, five background soil samples were collected from one discrete location (BKG01) adjact to the flowline and wellhead. On 04/03/2025, 15 background samples were collected from 5 discrete locations adjacent to the wellhead. All background samples were analyzed for metals in soil per ECMC Table 915-1, pH, EC, SAR, and boron. Background soil samples were collected form depth ranging between 0.5 to 8 feet below ground surface (ft bgs). The maximum background concentrations for pH and SAR were observed to be 8.55 and 9.77 respectively. The maximum background concentrations with a 1.25x multiplier applied for arsenic, barium, cadmium, lead, and selenium were calculated to be 8.98 mg/kg, 3306 mg/kg, 0.463 mg/kg, 16.8 mg/kg, and 0.334 mg/kg, respectively. All SAR concentrations observed during decommissioning were below background levels. All arsenic, barium, and selenium concentrations observed during decommissioning were below 1.25x the maximum background level.

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

Volume of solid waste (cubic yards):

Volume of liquid waste (barrels):

[X] Is further site investigation required?

Based on the analytical results collected during October 2024 decommissioning activities and April 2025 supplemental site investigation (SSI), additional site investigation activities will be completed to further vertically and/or horizontally delineate the pH exceedances (no metals) observed at sample locations BH02@3-4', and BH02@5-6' during the April 2024 SSI. A proposed SSI map is attached to this Form 27. During the SSI, soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Concurrently with the SSI, additional background samples will be collected to determine if pH, lead, and cadmium are attributed to native soil conditions at the site. 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.

Additionally, samples that were analyzed out of hold time (BH01-BH05) during the April 2025 SSI will be resampled for ECMC Full Table 915-1.

The exceedance observed at the former separator end of the flowline in soil sample FLR01-S@4' will be vertically and horizontally delineated during the SSI proposed for the MDM 34-14 site (Rem # 32447) in Form 27 Document # 404020490. The map showing the proposed SSI for MDM 34-14 is attached to this Form 27 for reference. Results from the MDM 34-14 (Rem # 32447) SSI will also be reported to the ECMC on a subsequent Form 27 for this site, MDM 33-14 (Rem #32449).

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.

No impacted material caused by oil and gas operations was identified at this time.

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.

On 04/03/2025, a SSI was conducted to delineate the pH and lead exceedances observed at sample locations WH01@6', FLR01@4', and FL01R-W@4' during decommissioning. Five soil borings were advanced to depths ranging from 3 to 8 ft. bgs. BH01 was advanced at the same location as soil samples FLR01@4', and FL01R-W@4' to vertically delineate impacts at that location. BH02-BH05 were advanced surrounding BH01 to vertically and laterally delineate impacts. Soil samples were collected and analyzed for full ECMC Table 915-1 constituents. Groundwater was not encountered during this assessment. Soil boring sample BH01@3-4' was collected from the same locations as waste characterization samples FLR01@4', and FL01R-W@4'. Analytical results indicated that pH was in exceedance at soil sample locations BH02@3-4', and BH02@5-6'.

A SSI will be completed to confirm and further vertically and horizontally delineate thepH exceedances observed at sample locations BH02@3-4', and BH02@5-6', during the April 2025 SSI, in accordance with the attached proposed site investigation map, and proposed sampling plan outlined in the Site Investigation Report section of this Form 27.

Additionally, samples that were analyzed out of hold time (BH01-BH05) during the April 2025 SSI will be resampled for ECMC Full Table 915-1.

The exceedance observed at the former separator end of the flowline in soil sample FLR01-S@4' will be vertically and horizontally delineated during the SSI proposed for the MDM 34-14 site (Rem # 32447) in Form 27 Document # 404020490. The map showing the proposed SSI for MDM 34-14 is attached to this Form 27 for reference. Results from the MDM 34-14 (Rem # 32447) SSI will also be reported to the ECMC on a subsequent Form 27 for this site, MDM 33-14 (Rem #32449).

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 encountered in the FL01-05 excavation at a depth of approximately 5 ft. bgs, and in the FL01-03 excavation at a depth of approximately 4 ft. bgs during site investigation activities on 10/17/2024. Two groundwater samples (GW01@5'-GW02@4') were collected along the former flowline location and were submitted for laboratory analysis of (BTEX, TMBs, chloride, etc.). Analytical results indicated organic compounds were not detected above laboratory reporting limits. An investigation of background inorganics in groundwater will be completed.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

[X] 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

[X] Other Decommissioning Sample Summary, SSI Report & SSI 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
- Groundwater 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: $ 15000

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? No

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards? No

Is additional groundwater monitoring to be conducted? Yes

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?

[X] 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. 10/17/2024

Proposed date of completion of Reclamation. 12/23/2026

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. 09/16/2023

Actual Spill or Release date, or date of discovery.

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/23/2024

Proposed site investigation commencement. 06/23/2025

Proposed completion of site investigation. 12/23/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 12/23/2025

Proposed date of completion of Remediation. 06/23/2026

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.

[X] 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 completion of the April 2025 SSI at the MDM 33-14 wellhead and flowline and necessity for additional supplemental site investigation activities adjacent to the wellhead and flowline. The proposed site investigation will be completed following the approval of this form.

OPERATOR COMMENT

This Form 27 is being submitted to include decommissioning and supplemental site investigation (SSI) results at the former MDM 33-14 Flowline.

Based on currently available data, this project is not affected by data integrity irregularities and is not associated with Operator's data integrity review process and its Rule 525.e. Voluntary Disclosure. As part of its data integrity review process, Operator requested the lab protect the laboratory analytical report from subsequent unauthorized modification by anyone outside the lab, which resulted in the lab reissuing the original report with additional protections (Reissued Report). The Reissued Report was received directly from the lab on 4/1/2025, which includes the application of a Digital ID/Verified Certification (lock) to support reissuance. The metadata associated with this Reissued Report also includes the lab representative's name, the date and time the laboratory reissued the report, and an explanation for the report reissuance. The Reissued Report is attached to this submission.

In the event additional responsive information is received or discovered that would suggest this project should be incorporated into the ongoing data integrity review process associated with Operator's Rule 525.e. Voluntary Disclosure, Operator will update and/or amend the statements in this submission and provide any new or revised data or other information.

Operator was informed by the laboratory that the sample holding times were exceeded for various Table 915-1 constituents. Because not all analytes would be outside of holding times, the lab ran the samples for the full Table 915-1 suite. The full laboratory report (Report) is being transmitted to ECMC for transparency. The Report's case narrative identifies which constituents were run outside of the required holding times. The Report's note column also identifies the impacted constituents. Operator will not be relying on any results associated with a constituent that was outside of the required holding time. Operator will be collecting replacement samples and will be submitting them for analysis. Operator will submit the replacement sample laboratory report in a future supplemental Form 27. The 8260B GBTEXN were analyzed outside of allotted hold times due to delays at Summit Scientific for the soil samples collected during the SSI on 04/03/2025

Wellhead decommissioning occurred at the above reference location on 09/23/2024 and results were included on Form 27 Document #403979508. Flowline decommissioning occurred at the above referenced location on 10/17/2024. Discrete soil samples were collected from beneath former facility infrastructure as described in the approved Form 27-Initial (Document #403581014). Wellhead and flowline decommissioning results indicated that organic compound concentrations were in compliance with the applicable ECMC regulatory standards in all soil sample locations.

A detailed discussion of background sampling results is included in the Site Investigation Report section of this Form 27

A detailed discussion of groundwater sampling results is included in the Remedial Action Plan section of this Form 27.

On 04/03/2025, a SSI was conducted to delineate the pH and lead exceedances observed during decommissioning. A detailed discussion is included in the Remedial Action plan section of this Form 27.

A SSI will be completed to confirm and further vertically and horizontally delineate the pH exceedances observed at sample locations BH02@3-4', and BH02@5-6', during the April 2025 SSI, and to resample soil borings BH01-BH05 for full Table 915-1, in accordance with the attached proposed site investigation map, and proposed sampling plan outlined in the Site Investigation Report section of this Form 27.

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

Signed: Andy Sagen Title: Environmental Consultant

Submit Date: Email: asagen@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: Date:

Remediation Project Number: 32449

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
404251167	LABORATORY ANALYTICAL REPORT
404251360	SITE INVESTIGATION REPORT
404280146	LABORATORY ANALYTICAL REPORT
404280149	SITE INVESTIGATION REPORT
404280152	SITE INVESTIGATION PLAN
404280191	SITE INVESTIGATION PLAN

Total Attach: 6 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)