FORM 27 Rev 5/22

State of Colorado
Energy & Carbon Management Commission

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Receive Date: 04/30/2025
Report taken by: Collin Metz

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: Jason Davidson Email: jason.davidson@chevron.com

Phone Numbers
Phone: (970) 313-5582
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 33383 Initial Form 27 Document #: 403603783

PURPOSE INFORMATION

- [ ] Rule 913.c.(1): Pit or Cuttings Trench closure.
- [X] 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

Yes Multiple Facilities

Facility Type: WELL Facility ID: API #: 001-08351 County Name: ADAMS
Facility Name: BOX ELDER FARMS 1 Latitude: 39.954876 Longitude: -104.653739
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NENW Sec: 22 Twp: 1S Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION Facility ID: 320186 API #: County Name: ADAMS
Facility Name: GREAT WESTERN BOX ELDER FARMS 1 Latitude: 39.954850 Longitude: -104.653744
** correct Lat/Long if needed: Latitude: 39.954888 Longitude: -104.654138
QtrQtr: NENW Sec: 22 Twp: 1S Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 486073 API #: County Name: ADAMS

Facility Name: Box Elder Farms #1 Wellhead Latitude: 39.954874 Longitude: -104.653755

** correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: NENW Sec: 22 Twp: 1S Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 489954 API #: County Name: ADAMS

Facility Name: Box Elder Farms 1 Tank Battery Latitude: 39.954896 Longitude: -104.654095

** correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: NENW Sec: 22 Twp: 1S Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Residential

Is domestic water well within 1/4 mile? Yes

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

Closest Domestic Well within quarter mile – 1,265' NW
Additional Domestic Wells – 1,250' S
Nearest Surface Water – None
Nearest Occupied Building – 570' NNE
Additional Occupied Buildings – 915' NW, 1,110' SSE, 1,110' SSW

No other potential receptors are located within ¼ mile of the Site.
Above distances are approximations.

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
No	GROUNDWATER	Not impacted	Not encountered
Yes	SOILS	75' square x 4' deep	Confirmation Soil Sampling

INITIAL ACTION SUMMARY

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

In accordance with ECMC Rule 911, this form serves as notification for the decommissioning and abandonment of the Box Elder 1 production facility, Box Elder 1 wellhead, and removal of the associated flowline. The ground and sub-surfaces will be visually inspected for hydrocarbon impacts during equipment decommissioning. In addition, on-site dump lines located between the separator and tank battery will be removed by pulling from either end during decommissioning activities. Field observations and photo documentation will be recorded in a field inspection form for submittal to the ECMC.

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):

Soil samples will be collected from the surface in cardinal directions of the wellhead and grab soil samples will be collected below and/or adjacent to applicable facility equipment, as defined in the Rule 911.a.(4) guidance document (9/20/21), for field screening purposes. Discrete soil samples will be collected for laboratory analysis either in any area of observed hydrocarbon impacts, or in the sample locations designated by the ECMC. Soil samples will be collected at the tank battery, and adjacent to the wellhead from native material and will be submitted for laboratory analysis of the full Table 915-1 analytical suite by ECMC approved methods. See the attached Figure 1 for an illustration of the facility layout and proposed soil sample locations.

Proposed Groundwater Sampling

[X] 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 grab 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 (TMB), and 1,3,5-TMB 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):

If a produced water vessel is present, discrete soil samples will be 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 and submitted for laboratory analysis of the full Table 915-1 analytical suite. Assessments will be conducted during the removal of the on-location flowline (˜150 feet in length) and soil samples will be collected below the flowline risers. The flowline and adjacent sub-surface will be inspected for visual and olfactory indicators of potential failure and hydrocarbon impacts. Soils will be field screened below the flowline and if suspected impacts are observed, a soil sample will be collected and submitted for analysis of the full Table 915-1 analytical suite.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 15

Number of soil samples exceeeding 915-1: 6

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

Approximate areal extent (square feet): 75

NA / ND

ND — Highest concentration of TPH (mg/kg)

-- — Highest concentration of SAR: 0.66

BTEX > 915-1: No

Vertical Extent > 915-1 (in feet): 4

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

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 January 11, 2024, twelve background samples were collected from approximately 4 ft., 6 ft., and 8 ft-bgs from 4 soil borings (BKG01-BKG04) in areas away from oil and gas infrastructure and were submitted for analysis of pH, arsenic, and barium by ECMC approved methods.

On April 3, 2025, six additional background samples were collected from approximately 3 ft-bgs. and 6 ft-bgs from three soil boring locations and were submitted for analysis of Table 915-1 inorganics by ECMC approved methods.

☐ 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?

PDC will excavate the benz(a)anthracene exceedances reported in samples EX03@3.5 and 2EX04@1.5, during 3Q2025.

PDC is in the process of evaluating the pH exceedances reported in facility closure confirmation samples WDL01@4 and PWV01@5, collected on January 11, 2024, and the arsenic, barium, hexavalent chromium, lead, and selenium exceedances reported in five samples that were re-collected on April 3, 2025. A path forward to address these exceedances will be determined and summarized in the next quarterly Form 27 submittal.

Please refer to the Operator Comments Section of this Form 27 for additional discussion.

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.

One facility closure confirmation soil sample (FLR01@4) collected from adjacent to the wellhead flowline riser reported benzo(a)anthracene slightly above the Table 915-1 GWSSL. Two facility closure confirmation soil samples (SEP01-DL@4 and AST01@1) collected from adjacent to the separator dump line and beneath the access hatch of the AST reported pH levels below the Table 915-1 standard. Three facility closure confirmation soil samples (WH01@8, WDL01@4, and PWV01@5) collected from adjacent to the wellhead, adjacent to the water dump line, and adjacent to the produced water vessel reported pH levels above the Table 915-1 standard. The historic release was reported in Form 19 Doc. #403669853.

On April 19, 2024, approximately 16 cubic yards of material were excavated from adjacent to the former wellhead flowline riser, adjacent to the former separator dump line, and from beneath the access hatch of the former AST. The material was removed and transported offsite under PDC manifest to Waste Management's North Weld Landfill in Ault, Colorado in accordance with Rules 905 and 906. Copies of the waste manifests are available upon request.

Following excavation, fifteen confirmation soil samples were collected from the walls and base of the excavations and submitted to Summit Scientific (Summit) in Golden, Colorado for analysis of the reduced list of analytes approved in Form 27 Doc. #403687194. Please refer to the Operator Comments section of this Form 27 for additional discussion.

Please refer to the Operator Comments Section of this Form 27 for additional discussion.

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 January 11, 2024, one facility closure confirmation soil sample FLR01@4, reported benzo(a)anthracene above the Table 915-1 GWSSL. In addition, two facility closure confirmation soil samples SEP01-DL@4 and AST01@1, reported pH levels below the Table 915-1 range and two samples WDL01@4 and PWV01@5, reported pH levels above the Table 915-1 range and above the highest background pH level of 8.52 reported for background soil sample BKG04@8. Nine of the 12 background soil samples collected on January 11, 2024, reported pH levels above the standard of 8.30.

Based on initial facility closure and background soil sample results, PDC requested a reduced analyte list for additional soil sampling activities at the facility. The reduced analyte list was approved on March 28, 2024, in Form 27 Doc. #403687194.

Excavation at facility closure confirmation soil sample locations FLR01@4, SEP01-DL@4, and AST01@1, was conducted on April 17, 2024. Five excavation confirmation soil samples were collected from the floor and sidewalls of each excavation and submitted for analysis of analytes included in the approved reduced analyte list. However, the analytical reports for these samples were marked as outside the temperature range on the sample receipt form. Therefore, these results are invalid and are not included in this submittal.

Please refer to the closure request submitted in Form 27 Doc. #403876701 for figures, tables, and laboratory analytical reports associated with initial facility closure and excavation activities.

Excavation confirmation soil samples EX01-EX05, 2EX01-2EX05, and 3EX01-3EX05, were re-collected on April 3 and April 8, 2025, and submitted for analysis of the full suite of Table 915-1 analytes by ECMC approved methods.

Please refer to the Operator Comments Section of this Form 27 for additional discussion.

Soil Remediation Summary

☐ **In Situ**

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

☒ **Ex Situ**

- Yes Excavate and offsite disposal
  - If Yes: Estimated Volume (Cubic Yards) 16
  - 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 nor during excavation activities.

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 2Q 2025 Update

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.

- Source mass removal is ongoing at the Site.
- Excavation confirmation soil samples were re-collected on April 3 and April 8, 2025, and submitted for laboratory analysis of the full site of Table 915-1 analytes.
- PDC will excavate the benz(a)anthracene exceedances reported in EX03@3.5 and 2EX04@1.5, during 3Q25. Confirmation soil samples will be collected from the walls and base of the excavations and submitted for laboratory analysis of the full suite of Table 915-1 analytes.
- PDC is in the process of evaluating the pH exceedances reported in facility closure confirmation soil samples collected on January 11, 2024, and the metals exceedances reported in five soil samples re-collected on April 3, 2025. A path forward to address these exceedances will be determined and summarized in the next quarterly Form 27 submittal.

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: $ 25000

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:

No beneficial use

Volume of E&P Waste (solid) in cubic yards 16

E&P waste (solid) description Hydrocarbon impacted soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Waste Management's North Weld Landfill in Ault, CO

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? _____

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.

Following facility closure activities, the location was backfilled, compacted, and re-contoured to match pre-existing conditions. Reclamation will be conducted in accordance with ECMC 1004 Series Rules.

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. 04/19/2024

Proposed date of completion of Reclamation. 04/19/2027

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. 11/08/2023

Actual Spill or Release date, or date of discovery. 01/29/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/11/2024

Proposed site investigation commencement. 01/11/2024

Proposed completion of site investigation. 12/31/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/19/2024

Proposed date of completion of Remediation. 12/31/2025

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:

Updated Proposed Completion of Site Investigation and Proposed date of Completion of Remediation based on soil analytical results received on April 23, 2025. Additional site investigation and excavation activities are required at the Site

OPERATOR COMMENT

This submittal has been prepared as a 2Q2025 quarterly update, and to accompany Form 19 Doc. #404177104, which documents the exceedance of benz(a)-anthracene reported for soil sample 2EX04@1.5. The Form 19 was approved by the ECMC on April 24, 2025.

Excavation confirmation soil samples EX01-EX05, 2EX01-2EX05, and 3EX01-3EX05, were re-collected on April 3 and April 8, 2025, and submitted for analysis of the full suite of Table 915-1 analytes by ECMC approved methods. Additionally, six new background samples were collected from three locations (BKG05, BKG06, and BKG07) at 3 ft-bgs and 6 ft-bgs and were submitted for analysis of Table 915-1 inorganics by ECMC approved methods.

Analytical results for the samples that were re-collected on April 3, 2025, reported benz(a)anthracene concentrations above its GWSSL in samples EX03@3.5 (0.0149 mg/kg) and 2EX04@1.5 (0.0146 mg/kg). Arsenic, barium, chromium, lead, and selenium concentrations were also reported above their respective GWSSLs in five of the samples that were re-collected.

PDC will excavate the benz(a)anthracene exceedances reported in samples EX03@3.5 and 2EX04@1.5, during 3Q2025. Confirmation soil samples will be collected from the walls and base of the excavations and submitted for laboratory analysis of the full suite of Table 915-1 analytes by ECMC approved methods.

PDC is in the process of evaluating the pH exceedances reported in facility closure confirmation samples WDL01@4 and PWV01@5, collected on January 11, 2024, and the arsenic, barium, hexavalent chromium, lead, and selenium exceedances reported in five samples that were re-collected on April 3, 2025. A path forward to address these exceedances will be determined and summarized in the next quarterly Form 27 submittal.

Revised tables, a revised Figure 2, and the secured laboratory analytical reports are included with this submittal.

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

Signed: Jason Davidson Title: Remediation Advisor

Submit Date: 04/30/2025 Email: pdcfr@entradainc.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: Collin Metz Date: 07/11/2025

Remediation Project Number: 33383

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
404176814	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
404182665	SOIL SAMPLE LOCATION MAP
404184157	ANALYTICAL DATA SUMMARY TABLE(S)
404185528	ANALYTICAL RESULTS
404185529	ANALYTICAL RESULTS
404277090	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 6 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)