FORM 27 Rev 5/22

# State of Colorado
# Energy & Carbon Management Commission

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Receive Date: 11/25/2024
Report taken by: John Heil

## 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: Karen Olson Email: karen.olson@chevron.com

**Phone Numbers**
Phone: (303) 860-5800
Mobile: ( )

## PROJECT, PURPOSE & SITE INFORMATION

### PROJECT INFORMATION

Remediation Project #: 36818 Initial Form 27 Document #: 403873678

### 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 #: 123-21347 County Name: WELD
Facility Name: D. L. PHILLIPS 24-31 Latitude: 40.383720 Longitude: -104.843140
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NESW Sec: 24 Twp: 5N Range: 67W 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**

Riverine 0.08mi E

# 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 | N/A | 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.

Pursuant to ECMC Rule 911 a site investigation was conducted pertaining to the D. L. Phillips 24-31 wellhead cut and cap and flowline abandonment. The wellhead was cut and capped per ECMC rules 09/04/34. A grab soil sample (WH01@6') was collected at the base of the excavation at the wellhead excavation. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead. A laboratory sample was also collected from beneath the flowline riser at the wellhead (FLR01@4') during the wellhead decommissioning.

Approximately 2412' of flowline was abandoned-in-place on 10/18/24. This flowline lies in a common trench with Phillips 24-3-23 (REM #36816) and D.L. Phillips 24-34 (REM #36886). So as to not disturb the other lines sharing the common trench, soil samples were collected from beneath the flowline risers at the wellhead (FL01R-W@3') and separator (FL01R-S@3'). The ECMC will be updated in a supplemental Form 27 if a portion of the flowline is able to be removed. The Form 44 abandonment notice will be provided on a subsequent Form 27.

The flowline is currently planned for future removal, at which time soil sampling and screening samples would be taken along the flowline at any points of material change and/or hammer unions, and directional changes. Because further site investigation is required, these samples will be collected from along the flowline during the supplemental site investigation (SSI) described in the Site Investigation Report of this Form 27.

## 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 were collected as described in the Initial Action Summary of this Form 27, in accordance with the approved sampling plan in the Initial Form 27 (ECMC Document # 403873678). 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, EC, SAR, pH, metals, and boron. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

The additional decommissioning samples collected during the SSI will be analyzed to the full extent of Table 915-1 as described above.

### 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 the site investigation a grab groundwater will be collected and analyzed for all organic and inorganic compounds per ECMC Table 915-1; this sample analysis includes, but is not limited to 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 ):

Visual inspection of the wellhead and flowline risers occurred during abandonment activities. Field personnel screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. Detailed summaries of the wellhead decommissioning and flowline abandonment activities, including field notes, site photos, figures, and laboratory analytical results, are attached to this Form 27.

A summary of the decommissioning samples along the flowline will be submitted in a subsequent Form 27.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

**Soil**

Number of soil samples collected: 4

Number of soil samples exceeeding 915-1: 4

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

Approximate areal extent (square feet): 100

**NA / ND**

Highest concentration of TPH (mg/kg): ND

Highest concentration of SAR: --

BTEX > 915-1: 0.944

Vertical Extent > 915-1 (in feet): No

6

**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?

One background soil sample (BKG01@3') was collected on 10/18/2024 during decommissioning activities at the adjacent Phillips 24-31 Flowline (API#: 05-123-21347, REM# 36818). The background sample was analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. The sample was collected at a depth of 3 feet below ground surface (ft bgs) and the lithology was observed to be similar to that observed in site samples. The maximum background concentrations for pH was observed to be 8.66. The maximum background concentrations with a 1.25x multiplier applied for arsenic and barium were calculated to be 5.80 mg/kg and 148 mg/kg respectively.

☐ 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?

A supplemental site investigation (SSI) will be completed to horizontally and vertically delineate the arsenic exceedance at sample location WH01@6'. Additional background samples (BKG02-BKG06) will be collected to determine if elevated pH, arsenic, barium, lead and selenium concentrations can be attributed to native soil conditions at the site. Concurrently with the SSI, additional decommissioning samples will be collected along the flowline. Laboratory confirmation samples will be collected along the flowline at directional changes (FL01-01 - FL01-04, FL01-08, FL01-09, & FL01-13 - FL01-15). Screening samples will be collected along the line at a minimum of every 250' (FL01-05 - FL01-07 & FL01-10 - FL013). Visual inspection of disturbed areas along the flowline will occur in order to determine if any additional sampling is required. 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? Yes

## 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.

A supplemental site investigation (SSI) will be completed to horizontally and vertically delineate the arsenic exceedance at sample location WH01@6'. Additional background samples (BKG02-BKG06) will be collected to determine if elevated pH, arsenic, barium, lead and selenium concentrations can be attributed to native soil conditions at the site. Concurrently with the SSI, additional decommissioning samples will be collected along the flowline. Laboratory confirmation samples will be collected along the flowline at directional changes (FL01-01 - FL01-04, FL01-08, FL01-09, & FL01-13 - FL01-15). Screening samples will be collected along the line at a minimum of every 250' (FL01-05 - FL01-07 & FL01-10 - FL013). Visual inspection of disturbed areas along the flowline will occur in order to determine if any additional sampling is required. The SSI will be completed in accordance with the attached proposed site investigation map and proposed sampling plan outlined in the Site Investigation Report section of this 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 the flowline abandonment 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 Decommissioning Sample Summary & 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: $ 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?

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?

[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. 09/04/2024

Proposed date of completion of Reclamation. 08/22/2026

# 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. 06/25/2024

Actual Spill or Release date, or date of discovery.

## SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/04/2024

Proposed site investigation commencement. 11/22/2024

Proposed completion of site investigation. 08/22/2025

## REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/22/2025

Proposed date of completion of Remediation. 02/22/2026

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 decommissioning activities at the former Phillips 24-31 wellhead and flowline, as well as the necessity for a supplemental site investigation (SSI) and decommissioning sampling adjacent to the wellhead and flowline. SSI & decommissioning sampling is tentatively scheduled for the spring of 2025.

## OPERATOR COMMENT

This Form 27 is being submitted to include the decommissioning results at the former Phillips 24-31 wellhead and flowline. A proposal to collect additional background samples and decommissioning samples is presented in the Site Investigation Report section of this Form 27.

The D. L. Phillips 24-31 wellhead was cut and capped per ECMC rules 09/04/34. A grab soil sample (WH01@6') was collected at the base of the excavation at the wellhead excavation. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead. A laboratory sample was collected from beneath the flowline riser at the wellhead (FLR01@4') during the wellhead decommissioning. Approximately 2412' of flowline was abandoned-in-place on 10/18/24. This flowline lies in a common trench with Phillips 24-3-23 (REM #36816) and D.L. Phillips 24-34 (REM #36886). So as to not disturb the other lines sharing the common trench, soil samples were collected from beneath the flowline risers at the wellhead (FL01R-W@3') and separator (FL01R-S@3'). Soil samples were submitted for laboratory analysis of the full Table 915-1 analytical suite by ECMC approved methods. All organic constituents were below Table 915-1 standards.

One background soil sample (BKG01@3') was collected on 10/18/2024 during decommissioning activities at the adjacent Phillips 24-31 Flowline (API#: 05-123-21347, REM# 36818). The background sample was analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. The sample was collected at a depth of 3 feet below ground surface (ft bgs) and the lithology was observed to be similar to that observed in site samples. The maximum background concentrations for pH was observed to be 8.66. The maximum background concentrations with a 1.25x multiplier applied for arsenic and barium were calculated to be 5.80 mg/kg and 148 mg/kg respectively.

A supplemental site investigation (SSI) will be completed to horizontally and vertically delineate the arsenic exceedance at sample location WH01@6'. Additional background samples (BKG02-BKG06) will be collected to determine if elevated pH, arsenic, barium, lead and selenium concentrations can be attributed to native soil conditions at the site. Concurrently with the SSI, additional decommissioning samples will be collected along the flowline. Laboratory confirmation samples will be collected along the flowline at directional changes (FL01-01 - FL01-04, FL01-08, FL01-09, & FL01-13 - FL01-15). Screening samples will be collected along the line at a minimum of every 250' (FL01-05 - FL01-07 & FL01-10 - FL013). Visual inspection of disturbed areas along the flowline will occur in order to determine if any additional sampling is required. 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.

Additional SSI activities will be proposed (as applicable) on a future Form 27 if further investigation is required. 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: Jake Whritenour  Title: Environmental Consultant

Submit Date: 11/25/2024  Email: tas-chevron-5@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: John Heil  Date: 02/04/2025

Remediation Project Number: 36818

| COA Type | Description |
|---|---|
| | Comply with all outstanding COAs. |
| 1 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 |
|---|---|
| 403986097 | INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL) |
| 403999277 | OTHER |
| 403999281 | ANALYTICAL RESULTS |
| 403999324 | OTHER |
| 403999325 | ANALYTICAL RESULTS |
| 404004807 | SITE INVESTIGATION PLAN |
| 404080171 | FORM 27-SUPPLEMENTAL-SUBMITTED |

Total Attach: 7 Files

## General Comments

| User Group | Comment | Comment Date |
|---|---|---|
| Environmental | ECMC approves the request to completed the horizontal and vertical delineation of the arsenic exceedance at sample location WH01@6'. | 02/04/2025 |
| Environmental | ECMC approves the proposal to collect additional background samples and decommissioning samples. | 02/04/2025 |

Total: 2 comment(s)