

State of Colorado
Energy & Carbon Management Commission

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Document Number:
403927308

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 INFORMATION

Name of Operator: PDC ENERGY INC	Operator No: 69175	Phone Numbers
Address: 1099 18TH STREET SUITE 1500		Phone: (303) 860-5800
City: DENVER State: CO Zip: 80202		Mobile: ()
Contact Person: Karen Olson	Email: taspillremediationcontracor@pdce.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 33447 Initial Form 27 Document #: 403626812

PURPOSE INFORMATION

- Rule 913.c.(1): Pit or Cuttings Trench closure.
- Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- Rule 913.g: Changes of Operator.
- Rule 915.b: Request to leave elevated inorganics in situ.
- Other: _____

SITE INFORMATION

Yes Multiple Facilities

Facility Type: WELL	Facility ID: _____	API #: 123-37692	County Name: WELD
Facility Name: Merritt 6-66-9-0560CH	Latitude: 40.509320	Longitude: -104.781140	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL	Facility ID: _____	API #: 123-37694	County Name: WELD
Facility Name: Merritt 6-66-9-0758BH	Latitude: 40.509320	Longitude: -104.780700	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL	Facility ID: _____	API #: 123-37706	County Name: WELD
Facility Name: Merritt 6-66-9-0857CH	Latitude: 40.509330	Longitude: -104.780480	
** correct Lat/Long if needed: Latitude: 40.509328	Longitude: -104.780489		
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: WELL	Facility ID: _____	API #: 123-37710	County Name: WELD
Facility Name: Merritt 6-66-9-0659BH	Latitude: 40.509320	Longitude: -104.781030	
** correct Lat/Long if needed: Latitude: _____	Longitude: _____		
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: WELL	Facility ID: _____	API #: 123-37713	County Name: WELD
Facility Name: Merritt 6-66-9-0659CH	Latitude: 40.509320	Longitude: -104.780980	
** correct Lat/Long if needed: Latitude: _____	Longitude: _____		
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: WELL	Facility ID: _____	API #: 123-37722	County Name: WELD
Facility Name: Merritt 6-66-9-0560BH	Latitude: 40.509320	Longitude: -104.781200	
** correct Lat/Long if needed: Latitude: 40.509324	Longitude: -104.781206		
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: WELL	Facility ID: _____	API #: 123-37729	County Name: WELD
Facility Name: Merritt 6-66-9-0758CDH	Latitude: 40.509330	Longitude: -104.780580	
** correct Lat/Long if needed: Latitude: 40.509328	Longitude: -104.780595		
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: WELL	Facility ID: _____	API #: 123-37734	County Name: WELD
Facility Name: Merritt 6-66-9-0857BH	Latitude: 40.509330	Longitude: -104.780530	
** correct Lat/Long if needed: Latitude: 40.509327	Longitude: -104.780544		
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: WELL	Facility ID: _____	API #: 123-37740	County Name: WELD
Facility Name: Merritt 6-66-9-0758CH	Latitude: 40.509320	Longitude: -104.780640	
** correct Lat/Long if needed: Latitude: 40.509328	Longitude: -104.780646		
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 486171	API #: _____	County Name: WELD
Facility Name: Merritt 6-66-9-0659BH Wellhead	Latitude: 40.509316	Longitude: -104.781023	
** correct Lat/Long if needed: Latitude: _____	Longitude: _____		
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 486298	API #: _____	County Name: WELD
Facility Name: Merritt 6-66-9-0560CH Wellhead	Latitude: 40.509316	Longitude: -104.781133	
** correct Lat/Long if needed: Latitude: _____	Longitude: _____		
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 487057	API #: _____	County Name: WELD
Facility Name: Merritt 6-66-9-0659CH	Latitude: 40.509320	Longitude: -104.781140	
** correct Lat/Long if needed: Latitude: _____	Longitude: _____		
QtrQtr: NWNE	Sec: 9	Twp: 6N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 487274 API #: _____ County Name: WELD

Facility Name: Merritt Section 9 Wellhead Pad Latitude: 40.509166 Longitude: -104.780696

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

QtrQtr: NENW Sec: 9 Twp: 6N Range: 66W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM 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

Wellheads (0560BH, CH; 0659BH, CH; 0758BH, CDH, CH; 0857BH, CH): Nearest Well: Temporary Dewatering Well - Between 439' and 618' NW; Surface Water: Intermittent Creek - Between 457' and 600' NW; Occupied Building: Between 362' and 478' SW; Livestock: Between 293' and 297' N; FWS Wetlands: Between 440' and 568' NW Riverine (R5UBFx); 100-Year Floodplain Between 206' and 548' SW of Wellheads.

Flowline Conflict: Flowlines Cross into 100-Year Floodplain Between Approximately 406' and 587' SW of Wellheads and Traverses Approximately 761' SW Through Floodplain. Flowlines Cross Intermittent Stream Between Approximately 790' and 982' SW of Wellheads.

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
Yes	GROUNDWATER	Refer to attached figures & tables	Confirmation GW Sampling
Yes	SOILS	Refer to attached figures & tables	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.

Between February 26 and May 20, 2024 decommissioning and confirmation sampling activities were conducted at the former Merritt 6-66-9-0560BH wellhead, Merritt 6-66-9-0560CH wellhead, Merritt 6-66-9-0659BH wellhead, Merritt 6-66-9-0758BH wellhead, Merritt 6-66-9-0758CDH wellhead, Merritt 6-66-9-0758CH wellhead, Merritt 6-66-9-0857BH wellhead, Merritt 6-66-9-0857CH wellhead, Merritt 6-66-9-0659CH wellhead and removal of the associated flowlines.

Based on field observation and initial analytical results, on February 29, 2024, a historic release was discovered at the Merritt 6-66-9-0659BH Wellhead. Based on source material characterization soil sample analytical results (WH01-B, WC01), COCs for this release location include: BTEXN, TPH(C6-C36), pH, acenaphthene, benzo(a)anthracene, fluorene, pyrene, 1-methylnaphthalene (M), 2-M, arsenic, barium, cadmium, selenium, and zinc. Following the discovery of the release, approximately 24 cubic yards of impacted material were removed and transported to North Weld Waste Management in Ault, CO for disposal under PDC waste manifests. Between February 28 and March 1, 2024, 9 soil samples (SS01-SS05, WH01-[directional]) were collected from the base and sidewalls of the final excavation extent and were submitted for laboratory analysis of the full Table 915-1 analytical suite. Additionally, one soil sample (SS06) was collected from the root zone of the final excavation extent and submitted for laboratory analysis of pH, EC, SAR, and boron. Analytical results indicated organic compounds were below the applicable Table 915-1 Protection of Groundwater (POG) Soil Screening Levels (SSLs) from samples collected from the final excavation extent.

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):

On March 19, 2024, a second historic release was discovered following receipt of final analytical results from soil samples collected during decommissioning activities at the Merritt 6-66-9-0560CH Wellhead. Following the discovery of the release, approximately 9 cubic yards of impacted material were removed and transported to North Weld Waste Management in Ault, CO for disposal under a PDC waste manifest. On February 27, 2024, three soil samples (WH02, FLR02 & COMP01-FL02) were collected during the decommissioning of the wellhead. Soil samples were collected at depths ranging between approximately 4 feet and 6 feet below ground surface (bgs). The soil samples were submitted for laboratory analysis of the full ECMC Table 915-1 analytical suite. Final analytical results indicated that organic compounds were in exceedance of the applicable ECMC Table 915-1 POG SSLs in soil sample WH02, and release specific COCs include: BTEXN, TPH(C6-C36), pH, fluorene, 1-M, 2-M, and barium.

Proposed Groundwater Sampling

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

Groundwater was encountered during remedial excavation activities at the Merritt 6-66-9-0659BH Wellhead at 10 feet below ground surface and a grab sample was collected as soon as practical. Groundwater samples were 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):

On June 6, 2024, a third historic release was discovered following review of analytical results from a soil sample collected during decommissioning activities at the Merritt 6-66-9-0659CH Wellhead at the flowline riser at the soil sample FLR05 location. On March 13, 2024, one soil sample (FLR05) was collected below flowline riser at a depth of approx. 4 ft. below ground surface (bgs). One soil sample (COMP01-FL05) was collected below the compressor flowline riser at a depth of approximately 4 ft. bgs. The soil samples were submitted for laboratory analysis of the full Table 915-1 analytical suite. Final analytical results indicated that organic compounds were in exceedance of the applicable ECMC Table 915-1 POG SSLs in soil sample FLR05, and release specific COCs include: BTEXN, TPH(C6-C36), pH, 1-M, 2-M, arsenic, barium and selenium.
 On July 9, 2024, a fourth historic release was discovered on the wellhead pad during reclamation activities and is detailed in the operator comments.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 168
 Number of soil samples exceeding 915-1 167
 Was the areal and vertical extent of soil contamination delineated? No
 Approximate areal extent (square feet) 2000

NA / ND

-- Highest concentration of TPH (mg/kg) 2090
 -- Highest concentration of SAR 6
 BTEX > 915-1 Yes
 Vertical Extent > 915-1 (in feet) 10

Groundwater

Number of groundwater samples collected 1
 Was extent of groundwater contaminated delineated? No
 Depth to groundwater (below ground surface, in feet) 10
 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) _____
 ND 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?

Between March 1 and April 3, 2024, two soil borings (BKG01 & BKG02) were advanced in native material adjacent to the wellhead locations and soil samples were collected at depths ranging between 4 feet and 8 feet bgs. Samples were submitted for laboratory analysis of pH, EC, SAR, and the Table 915-1 metals. Analytical results indicated SAR, arsenic, and barium were observed in exceedance of the applicable Table 915-1 standards in native material soil samples.

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

Volume of solid waste (cubic yards) 915 Volume of liquid waste (barrels) 0

Is further site investigation required?

Additional source mass removal activities are required at the Merritt 6-66-0659BH wellhead release (spill #486171) following the discovery of benzantracene exceedances at soil sample locations SS07 @ 4' and SS08 @ 6' along the north wall of the excavation. Confirmation soil samples will be collected from the base and sidewalls of the final excavation extent and analyzed for the ECMC Director's approved COC list.

Following the review of decommissioning confirmation soil samples and infrastructure layout, PDC identified two locations along the flowline between the wellhead pad and Merritt Tank Battery which confirmation soil samples are warranted. Following landowner and crew availability, two additional soil borings will be advanced along the former flowline location to collect confirmation soil samples adjacent to a bend in the gas line and in the previously proposed soil sample location, near FL01-06. Proposed soil boring locations are detailed on Figure 5.

Concurrent or subsequent to the source mass removal activities and supplemental site investigation activities, additional soil samples will be collected in native material to further evaluate soil suitability for reclamation (SSR) and Table 915-1 metal concentrations in native material.

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.

On February 27, 2024, approximately 9 cubic yards of impacted material were removed adjacent to the former Merritt 6-66-9-0560CH Wellhead. Between February 28 and March 1, 2024, approximately 24 cubic yards of impacted material were removed adjacent to the former Merritt 6-66-9-0659BH Wellhead. On February 29, 2024, approximately 2 cubic yards of impacted material were removed adjacent to the former Merritt 6-66-9-0857BH Wellhead.

Between June 6 and 7, 2024, approximately 107.5 cubic yards of impacted material were removed adjacent to the former Merritt 6-66-9-0659BH Wellhead. On June 7, 2024, approximately 42.5 cubic yards of impacted material were removed adjacent to the former Merritt 6-66-9-0560CH Wellhead. Between July 9 and 18, 2024, approximately 730 cubic yards of impacted material were removed on the Merritt Wellhead Pad.

All impacted soils removed from site was transported to North Weld Waste Management in Ault, CO for disposal under PDC waste manifests.

REMEDICATION 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.

Prior to excavation activities at the Merritt 6-66-9-0659CH wellhead, the wellhead was cut and capped on May 20, 2024 in accordance with ECMC Rule 911. Due to the release at soil sample FLR05, confirmation soil samples around the wellhead were taken during remedial excavation activities.

On July 9, 2024, during reclamation activities on the wellhead pad, a 4th historic release was discovered. One soil sample (WC03) was collected from the most visually impacted material on the wellhead pad at a depth of approximately 1 ft. bgs and was submitted for laboratory analysis of the full Table 915-1 analytical suite. Final analytical results indicated that organic compounds were in exceedance of the applicable ECMC Table 915-1 POG SSLs, and release specific COCs include: Organic compounds in soil, TPH, pH, arsenic, barium and selenium. Between July 12 and 18, 2024, 50 soil samples (SS01-SS50) were collected from the release extent and analyzed for the aforementioned COC list. Analytical results indicated organic compounds were below applicable standards in samples collected from the final excavation extent.

Based on the analytical results for the confirmation soil samples collected during remedial excavation activities, additional source mass removal is required to address the benzantracene exceedances at soil sample locations SS07 @ 4' and SS08 @ 6' along the north wall of the Merritt 6-66-9-0659BH Wellhead excavation. Remaining impacted material will be removed via mechanical excavation and transported offsite for disposal. Following excavation activities, confirmation soil samples will be collected from the final excavation extents and submitted for laboratory analysis of the Table 915-1 Organic Compounds in Soil, TPH(C6-C36), pH, arsenic, barium, and selenium in accordance with the COAs and amended sampling plan approved under ECMC Form 27 document #403808631.

A summary of excavation activities and analytical results will be provided in a forthcoming Supplemental Form 27.

Soil Remediation Summary

In Situ

Ex Situ

 Bioremediation (or enhanced bioremediation)

 Yes Excavate and offsite disposal

 Chemical oxidation

 If Yes: Estimated Volume (Cubic Yards) 915

 Air sparge / Soil vapor extraction

 Name of Licensed Disposal Facility or ECMC Facility ID #

 Natural Attenuation

 Excavate and onsite remediation

 Other

 Land Treatment

 Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Other _____

Groundwater Remediation Summary

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ Other _____

GROUNDWATER MONITORING

If groundwater has been impacted, describe proposed monitoring plan, including # of wells or sample points, monitoring schedule, analytical methods, points of compliance. Attach a groundwater monitoring location diagram.

Following the completion of supplemental source mass removal activities, a groundwater monitoring well network will be proposed.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

Quarterly Semi-Annually Annually Other

Request Alternative Reporting Schedule:

Semi-Annually Annually Other

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

Report Type: Groundwater Monitoring Land Treatment Progress Report O&M Report

Other Confirmation Sample Summary, Site investigation & source mass removal 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.

- Decommissioning and confirmation soil sampling activities associated with the former Merritt 6-66-9-0560BH wellhead, Merritt 6-66-9-0560CH wellhead, Merritt 6-66-9-0659BH wellhead, Merritt 6-66-9-0758BH wellhead, Merritt 6-66-9-0758CDH wellhead, Merritt 6-66-9-0758CH wellhead, Merritt 6-66-9-0857BH wellhead, Merritt 6-66-9-0857CH wellhead, Merritt 6-66-9-0659CH, and removal of the associated flowlines have been completed
- Source mass removal activities and confirmation soil sampling activities are complete at the Merritt Wellhead Pad location (Spill #487274), and the Merritt 6-66-9-0560CH location (Spill #486298).
- Additional source mass removal activities adjacent to the Merritt 6-66-9-0659CH Wellhead and Merritt 6-66-9-0659BH Wellhead locations (Spill #4877507 & #486171) needs to be completed due to benzenanthracene exceedances along the north wall of the excavation extent.
- Additional site investigation activities are warranted to address SSR and metal conditions in native material.

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

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

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? 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 915

E&P waste (solid) description Hydrocarbon Impacted Material

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: North Weld Waste Management

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? _____

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. 02/28/2024

Proposed date of completion of Reclamation. 06/13/2029

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. 10/26/2023

Actual Spill or Release date, or date of discovery. 02/29/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/08/2024

Proposed site investigation commencement. 10/06/2024

Proposed completion of site investigation. 03/19/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/19/2025

Proposed date of completion of Remediation. 09/19/2025

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.

Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

The implementation schedule has been updated to reflect the necessity to conduct additional supplemental source mass removal activities adjacent to the Merritt 6-66-9-0659BH Wellhead, site investigations along the flowline, and additional native material evaluation. The proposed remedial excavation and site investigation will be completed following the approval of this form, landowner negotiations, and crew availability.

OPERATOR COMMENT

This Form 27 is being submitted to include the remedial excavation results for the former Merritt 6-66-9-0560CH, 6-66-9-0659BH, 6-66-9-0659CH, and wellhead pad location. A comprehensive data packet summarizing the excavation activities is attached to this Form 27, and a detailed summary of the excavation activities is presented in the Remedial Action Plan sections and below. A proposal to excavate the benzenanthracene exceedances identified during remediation activities at soil samples SS07 @ 4' and SS08 @ 6' is presented in the Remedial Action Plan section of this Form 27.

Between March 1 and April 3, 2024, two soil borings (BKG01 & BKG02) were advanced in native material adjacent to the wellhead locations and soil samples were collected at depths ranging between 4 feet and 8 feet bgs. Samples were submitted for laboratory analysis of pH, EC, SAR, and the Table 915-1 metals. Analytical results indicated SAR, arsenic, and barium were observed in exceedance of the applicable Table 915-1 standards in native material soil samples. A note included on the previously approved Supplemental Form 27 documents that BKG01 and BKG02 may have been advanced on the former well pad location. Following a review of historical aerial imagery, PDC could only identify aerial imagery identifying these locations having been advanced in the adjacent agricultural field. Regardless, additional native material soil sampling activities are proposed, and the future applicability of BKG01 and BKG02 can be determined at a later date, pending necessity.

In accordance with the COA on document #403808631, all soil samples were analyzed for Table 915-1 Organic Compounds in Soil, Soil TPH (C6-C36), arsenic, barium, selenium and pH. Based on waste characterization results from the wellhead pad spill identified on July 9, 2024, PDC is requesting the same reduced analyte list for confirmation soil samples collected under this release, as well.

Concurrent or subsequent to the source mass removal activities, additional soil samples will be collected in native material to further evaluate soil suitability for reclamation (SSR) or Table 915-1 metal concentrations in native material. Two additional soil borings will be advanced along the former flowline location to collect confirmation soil samples adjacent to a bend in the gas line and in the previously proposed soil sample location, near FL01-06.

Quarterly reporting will be conducted until closure criteria are achieved for the remediation project. The results of the excavation and 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: Karen Olson

Title: Remediation Advisor

Submit Date: _____

Email: taspillremediationcontracor@pdce.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: 33447

COA Type

Description

<u>COA Type</u>	<u>Description</u>
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

403927561	PHOTO DOCUMENTATION
403927564	SOIL SAMPLE LOCATION MAP
403927565	SOIL SAMPLE LOCATION MAP
403927570	SOIL SAMPLE LOCATION MAP
403927574	SOIL SAMPLE LOCATION MAP
403927577	SITE INVESTIGATION PLAN
403927579	SOIL SAMPLE LOCATION MAP
403927581	SOIL SAMPLE LOCATION MAP

403940511	ANALYTICAL RESULTS
403940512	ANALYTICAL RESULTS

Total Attach: 10 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)