

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404380886

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: <u>PDC ENERGY INC</u>	Operator No: <u>69175</u>	Phone Numbers
Address: <u>1099 18TH STREET SUITE 1500</u>		Phone: <u>(970) 304-5000</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>()</u>
Contact Person: <u>Lauren Hoff</u>	Email: <u>RBUEUF27@chevron.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 34886 Initial Form 27 Document #: 403745811

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: <u>WELL</u>	Facility ID: _____	API #: <u>123-30688</u>	County Name: <u>WELD</u>
Facility Name: <u>GEMINI G FEDERAL 06-33</u>	Latitude: <u>40.337380</u>	Longitude: <u>-104.716300</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESE</u>	Sec: <u>1</u>	Twp: <u>4N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>487070</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Gemini G Federal 06-33</u>	Latitude: <u>40.337305</u>	Longitude: <u>-104.715633</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESE</u>	Sec: <u>1</u>	Twp: <u>4N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: SPILL OR RELEASE Facility ID: 487071 API #: _____ County Name: WELD
Facility Name: Gemini G Federal 06-33 Latitude: 40.337314 Longitude: -104.716021
** correct Lat/Long if needed: Latitude: _____ Longitude: _____
QtrQtr: SESE Sec: 1 Twp: 4N Range: 66W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW Most Sensitive Adjacent Land Use Cropland
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? No

Other Potential Receptors within 1/4 mile

Freshwater Pond 0.23mi S
Residential 0.1/0.2mi S, 0.22mi E
Farm Structure 0.07/0.08/0.13mi SW, 0.08/0.09/0.12/0.15mi S, 0.19/0.2mi SE, 0.06mi E, 0.09/0.11/0.14mi NE

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | _____ |
| <input checked="" type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input checked="" type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> Other (as described by EPA) | _____ |

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 & 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 Gemini G Federal 06-33 wellhead cut and cap and flowline removal. On 6/24/2024 the wellhead was cut and capped per ECMC rules. A laboratory soil sample was collected at the base of the excavation (WH01). Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead (WH01-N through WH01-W). Field-screened surface soil samples were collected from 0-6" below ground surface outside the wellhead excavation area on the N-E-S-W sides (WHS01-N through WHS01-W).

On 5/14/2024 the entirety of the flowline, approximately 1169', was removed, per Form 44 # 403878773. Laboratory soil samples were collected along the flowline at direction changes (FL01-01, FL01-02, FL01-07, & FL01-08).

Laboratory results indicated that benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, pyrene, and 1-methylnaphthalene were detected in exceedance of ECMC Table 915-1 regulation in samples FL01-07 and FL01-08. These detections were reported as historic releases (FL01-07: Form 19 # 403824819, Spill ID 487070; FL01-08: Form 19 # 403824824, Spill ID 487071). Groundwater was not encountered during decommissioning.

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):

All sampling was conducted in accordance with the Initial Action Summary of this Form 27. Sampling deviated from the initial proposed sampling plan in the Initial Form 27 # 403745811. A laboratory soil sample was not collected from the proposed sample location directly east of the wellhead.

Soil samples will be 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.

Proposed Groundwater Sampling

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 areas occurred during abandonment activities. Field personnel screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling is required. A detailed summary of flowline decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, was attached to Form 27 # 403825785. A detailed summary of wellhead decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, was attached to Form 27 # 403860613.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 6

Number of soil samples exceeding 915-1 5

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

Approximate areal extent (square feet) 400

NA / ND

-- Highest concentration of TPH (mg/kg) 188

-- Highest concentration of SAR 0.803

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 5

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet)

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 915-1

Highest concentration of Benzene (µg/l)

Highest concentration of Toluene (µg/l)

Highest concentration of Ethylbenzene (µg/l)

Highest concentration of Xylene (µg/l)

Highest concentration of Methane (mg/l)

Surface Water

0 Number of surface water samples collected

 Number of surface water samples exceeding 915-1

If surface water is impacted, other agency notification may be required.

OTHER INVESTIGATION INFORMATION

Were impacts to adjacent property or offsite impacts identified?

Were background samples collected as part of this site investigation?

On 5/14/2024, two background soil samples were collected from one discrete location (BKG01) near the wellhead, and five background soil samples were collected from one discrete location (BKG01) near the adjacent Gemini K 1-9, 10 Tank Battery (Rem # 35296, Fac ID 450484) and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, and EC. Background samples were collected from a depth of 0 to 5 feet below ground surface, and the native lithology was noted to be similar to that observed on site. The maximum background pH was observed to be 9.098. The maximum background concentration with a 1.25x multiplier applied for arsenic, barium, cadmium, and lead were observed to be 5.18 mg/kg, 104 mg/kg, 0.478 mg/kg, and 19.1 mg/kg. Background selenium concentrations were all non-detect. All pH, arsenic, and cadmium concentrations observed during decommissioning were below background levels.

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 vertically and horizontally delineate the barium and lead exceedances observed at sample locations WH01 and FLR01-W (BH01-BH07). Additionally, a soil sample will be collected from proposed sample location FL01-09. This proposed flowline sample location east of the wellhead was selected based on the approved sampling map attached to Initial Form 27 # 403745811. The proposed soil sampling locations are shown on the proposed site investigation map attached to Form 27 # 404152123. During the SSI, soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Concurrently with the SSI, additional background samples (BKG02-BKG06) will be collected to determine if barium, lead, and selenium concentrations are attributed to native soil conditions at the site. Background samples will be analyzed for Table 915-1 metals, pH, EC, SAR, and boron. The SSI will be completed in accordance with the proposed implementation schedule, and the results of the SSI will be submitted on a subsequent Form 27.

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? No

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

The benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, pyrene, and 1-methylnaphthalene exceedances observed at FL01-07, and the benzo(a)anthracene exceedance observed at FL01-08, will be removed through remedial excavations.

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.

Remedial excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. The results of the remedial excavation will be submitted on a subsequent Form 27.

Additionally, a supplemental site investigation (SSI) will be conducted to delineate the metals exceedances observed at sample locations WH01 and FLR01-W. A soil sample will also be collected from proposed sample location FL01-09. Soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. The results of the SSI will be submitted on a subsequent Form 27.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____

_____ 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.

Groundwater was not encountered during the decommissioning.

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 Timeline 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.

- Further soil investigation/delineation is required
- Source removal activities are 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: \$ 50000

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?

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. 05/13/2024

Proposed date of completion of Reclamation. 02/01/2027

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. 02/07/2024

Actual Spill or Release date, or date of discovery. 06/13/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/13/2024

Proposed site investigation commencement. 03/23/2026

Proposed completion of site investigation. 03/23/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/23/2026

Proposed date of completion of Remediation. 09/23/2026

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.

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

Basis for change in implementation schedule:

The implementation schedule was updated for the proposed supplemental site investigation (SSI) and remedial excavations at the Gemini G Federal 06-33 Wellhead and Flowline to reflect a change in start work dates. The tentative start date for the proposed SSI has been updated to 03/23/26. A start date for the proposed remedial excavations has not been scheduled as of submission of this Form 27, but is tentatively scheduled for 2Q26. The ECMC will be notified of any updates to the implementation schedule in a subsequent Form 27.

OPERATOR COMMENT

This Form 27 is being submitted as a 4Q25 timeline update for the proposed site investigation and remedial excavations at the Gemini G Federal 06-33 Wellhead and Flowline.

The implementation schedule was updated for the proposed supplemental site investigation (SSI) and remedial excavations at the Gemini G Federal 06-33 Wellhead and Flowline to reflect a change in start work dates. The tentative start date for the proposed SSI has been updated to 03/23/26. A start date for the proposed remedial excavations has not been scheduled as of submission of this Form 27, but is tentatively scheduled for 2Q26. The ECMC will be notified of any updates to the implementation schedule in a subsequent Form 27.

The results of the proposed SSI will be submitted on a subsequent Form 27. Per ECMC Rule 913.e., quarterly reporting will be conducted until closure criteria are achieved for the remediation project.

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

Signed: Eric Vonde

Title: Environmental Consultant

Submit Date:

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:

Date:

Remediation Project Number: 34886

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

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Total Attach: 0 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)