

State of Colorado
Energy & Carbon Management Commission

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403747626
Receive Date:
04/10/2024

Report taken by:
Alexander Ahmadian

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 ECOM 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>DCP OPERATING COMPANY LP</u>	Operator No: <u>4680</u>	Phone Numbers
Address: <u>2331 CITYWEST BLVD., S812-02</u>		
City: <u>HOUSTON</u>	State: <u>TX</u>	Zip: <u>77042</u>
Contact Person: <u>Steve Weathers</u>	Email: <u>stephen.weathers@p66.com</u>	Phone: <u>(303) 619-3042</u>
		Mobile: <u>(303) 619-3042</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 14898 Initial Form 27 Document #: 402282471

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: 1Q24 Groundwater Monitoring Summary

SITE INFORMATION

No Multiple Facilities

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>469293</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>SPILL/RELEASE POINT</u>	Latitude: <u>40.267356</u>	Longitude: <u>-104.735617</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESE</u>	Sec: <u>35</u>	Twp: <u>4N</u>	Range: <u>66W</u>
	Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>	

SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use Agriculture farmland and an irrigation ditch to the north of the Site.

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

The Colorado Division of Water Resources Water Well Database was consulted for depth to groundwater around the Site. The nearest registered water well (Permit #141254) has a noted static water level of 107 feet below ground surface. However, another registered water well (Permit #34070-MH), located approximately 1,650 feet southwest of the spill area has a noted static water level of 21 feet below ground surface. A water supply canal named the Platte Valley Canal owned by the Farmer's Reservoir & Irrigation Company (FRICO) is located to the north of the Gas Plant.

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	See Attached Figures	Monitoring Wells and Lab Analysis
Yes	SOILS	175' x 200'	Soil sample analysis

INITIAL ACTION SUMMARY

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

The release was discovered on November 17, 2019, when Operations noticed a drain valve on a condensate stabilizer re-boiler was leaking by the produced water sump and overflowing the sump with a mixture of condensate and produced water. Operations immediately actuated the valve stopping the release. A vac truck was quickly deployed to remove the liquids within the sump and on the ground. Due to consistent freezing temperatures after the release, further Site investigation and remediation activities were delayed due to a thick frost layer and an initial site investigation was completed in May 2020 to assist in defining the extent of the impacted soils area. Initial actions and completed remedial measures were submitted and approved by the Energy and Carbon Management Commission (ECMC) in the Form 19 Initial (#402242020) and Form 19 Supplemental (#402283236). The Initial Form 27 Site Investigation and Remediation Work Plan (#402282471), approved by the ECMC issued Spill tracking facility ID #469293 and Remediation Project #14898 for the Site.

Information on the upcoming remedial activities planned at the Site, ongoing Site Investigations, and remedial activities completed onsite has been previously provided to the ECMC in Form 27 Supplemental reports, most recently with approved reports #403435573 (included the Remedial System Design work plan), #403558807 (3Q23) and #403667882 (4Q23). This Form 27-S is being submitted in accordance with the approved Form 27-S Documents and the Site-Specific Sampling and Analysis Plan (SAP) for groundwater and soil. The details of the groundwater monitoring activities completed in the first quarter 2024 (1Q24) are provided herein and the Air Sparge (AS) & Soil Vapor Extraction (SVE) Pilot Test Summary and Remediation Design Plan have been included as separate attachments to this Form 27 document.

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):

A total of 20 soil borings have been advanced and completed as groundwater monitoring wells at the Site, and details of those investigations have been presented in previously submitted Form 27 reports. In addition, and in accordance with the work plan provided to the ECMC in the approved F27-S #403435573, pilot test remediation wells and observation points were installed in on September 27, 2023, on the north of the facility around current monitoring wells MW-4 and MW-7. More details are provided in the AS/SVE Pilot Test Summary and Final Remediation Design Plan included as appendices. DCP plans to implement the system installation activities in the second half of 2024 and anticipates finalization and start up in late 2024.

Proposed Groundwater Sampling

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

During 1Q24, all 20 monitoring wells were gauged and sampled over March 5 and 6, 2024. The 1Q24 groundwater samples were submitted for laboratory analysis of the analytes listed in the approved SAP (Table 4). The groundwater elevation data and contours are presented on Table 1 and Figure 3, respectively. The analytical data is presented on Table 2 and illustrated in Figure 4. DCP will continue quarterly groundwater monitoring at the existing well locations.

Proposed Surface Water Sampling

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

The FRICO owned Platte Valley Canal is approximately 80 feet north of the northeast corner of the Mewbourn Gas Plant facility boundary. Surface water within the canal is intermittent and is only present when FRICO is running water through the canal to fill a downstream reservoir. A surface water sample (SW-01) was collected from the canal on March 19th, 2021. The sample was collected from flowing water in the bottom of the canal, but FRICO was not running water at full volume at that time. DCP collected the surface water sample to determine if surrounding groundwater was infiltrating and impacting the bottom of the canal. Based on the surface water data and the January and March 2021 meetings with FRICO personnel, the canal likely acts as a losing stream when water is flowing through it and is not impacted by groundwater. The canal was dry during the 1Q24 groundwater monitoring event. DCP does not anticipate sampling the surface water within the canal at this time.

Additional Investigative Actions

Additional alternative investigative actions described in attached Site Investigation Plan (summary):

The AS/SVE remediation system pilot test work plan was provided as an attachment in the approved F27-S (#403435573) document and the initial AS/SVE pilot testing activities were completed in 3Q and 4Q 2023 by a third-party environmental consultant. A summary and details of the pilot test results and the final remedial system design are included as Appendix B and C, respectively. DCP plans to implement the system installation activities in the second half of 2024 and anticipates finalization and start up in late 2024 based on acquiring the needed permits and additional remediation system data will be included in subsequent quarterly Form 27 Supplemental reports to the ECMC. DCP will also continue to track a timeline of FRICO notifications and provide this information annually to the ECMC during the first quarter of the year in Appendix D.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 0
Number of soil samples exceeding 915-1 0
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 95000

NA / ND

NA Highest concentration of TPH (mg/kg) _____
NA Highest concentration of SAR _____
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 24

Groundwater

Number of groundwater samples collected 20
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 15
Number of groundwater monitoring wells installed 20
Number of groundwater samples exceeding 915-1 10

-- Highest concentration of Benzene (µg/l) 19000
-- Highest concentration of Toluene (µg/l) 2.69
-- Highest concentration of Ethylbenzene (µg/l) 710
-- Highest concentration of Xylene (µg/l) 9960
NA Highest concentration of Methane (mg/l) _____

Surface Water

0 Number of surface water samples collected
0 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?

Soil samples were collected for pH, EC, SAR, and boron at eight of the monitoring well locations during the 1Q21 event to establish the vertical and lateral concentrations across the Site for background consideration. Based on the results being within the ECMC standards at multiple locations across the Site, ECMC approved DCP's proposal to remove those parameters from the Site-Specific Soil SAP in future sampling and investigative events.

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?

During the 1Q22, the produced water sumps that were the source of the original release at the site, were removed in accordance with the approved Form 27-S work plan (#402886141), and details of that effort were provided and approved by ECMC in Form 19 reports associated with spill/release ID #481427. That spill ID was closed with approved Form 19-S #402960891, and future site activities will continue under remediation #14898.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

During the excavation activities in December 2020, approximately 2,000 cubic yards (yd³) of material were removed for disposal. Soil samples from the southeast, southwest, and northwest sidewalls of the excavation indicate that impacted shallow soil above 16 feet below ground surface (ft bgs) has been removed. Based on the samples collected from the southeast wall, additional impacted material remains below 16 ft bgs. However, due to the proximity to facility infrastructure, any remaining source material at that location will likely require in-situ remediation. Once a point to the south was reached that further excavation could no longer be performed safely, the southern portion was backfilled, and excavation efforts were focused to the north on DCP property. Excavation activities were suspended due to proximity to facility infrastructure and the FRICO canal. Due to the facility and surrounding infrastructure, remaining impacts to soil and groundwater will likely require in-situ remediation. During 1Q22, the produced water sumps that were the source of the original release at the site were removed in accordance with the approved Form 27-S work plan (#402886141). During removal, impacts to soil were discovered based on visual observation, field screening, and laboratory confirmation samples, and Form 19 reports (#402927836, #402934259, and #402960891) were submitted and approved. Form 19-S #402960891 was approved by ECMC for closure of spill/release ID #481427 to continue investigation and remediation under the current remediation number (#14898) for this Site.

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.

The release was discovered on 11/17/19, when Operations noticed a drain valve on a condensate stabilizer re-boiler was leaking by to the produced water sump and overflowing the sump with a mixture of condensate and produced water. Operations immediately closed the valve, stopping the release. A vacuum truck was deployed to remove the liquids within the sump and on the ground. Due to consistent freezing temperatures, further Site investigation and remediation activities were delayed due to a thick frost layer. A Site Investigation was completed on 5/13/20, to assist in defining the extents of the impacted soils vertically and horizontally. Impacted soils encountered during the December 2020 excavation were removed via mechanical methods, hydro vacuum and hand shoveling near facility infrastructure. Based on the soil and groundwater analytical results at the Site, additional Site characterization is warranted prior to implementing further remedial actions. After the 1Q22 produced water sump removal, the void space left by the tanks and excavated soil was backfilled with pea gravel, and two 375-gallon reinforced plastic tanks with 1/4" holes were buried in the excavation for delivery of Micro-blaze® amendment to the subsurface. With an EPA approved UIC permit and ECMC approval (#403014187), injection of 50 gallons of Micro-blaze® diluted with 600 gallons of potable water occurred on 11/15/22 split evenly between the two tanks illustrated on Figure 2. On 12/1/22, about 900 gallons of potable water was added to increase the distribution of the Micro-blaze® in the subsurface. In June 2023, another 50 gallons of Micro-blaze® diluted with 600 gallons of water were added to the totes. Further, DCP plans to implement the AS/SVE system based on the work plan and subsequent information provided to ECMC. Details of pilot test observations and remediation system design are provided as attachments in Appendix B and C, respectively.

Soil Remediation Summary

<input type="checkbox"/> In Situ _____ Bioremediation (or enhanced bioremediation) _____ Chemical oxidation _____ Air sparge / Soil vapor extraction _____ Natural Attenuation _____ Other _____	<input checked="" type="checkbox"/> Ex Situ Yes _____ Excavate and offsite disposal If Yes: Estimated Volume (Cubic Yards) _____ 2000 Name of Licensed Disposal Facility or ECMC Facility ID # _____ _____ Excavate and onsite remediation _____ Land Treatment _____ Bioremediation (or enhanced bioremediation) _____ Chemical oxidation _____ Other _____
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Groundwater Remediation Summary

No _____ Bioremediation (or enhanced bioremediation)
 No _____ Chemical oxidation
 No _____ Air sparge / Soil vapor extraction
 No _____ Natural Attenuation
 No _____ 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.

A total of 20 monitoring wells are present at the Site, and groundwater monitoring activities were conducted on March 5 and 6, 2024 at the well locations illustrated on Figure 2. Water levels were measured to evaluate the hydraulic characteristics and fluctuations at the Site. The depth to groundwater measurements and calculated elevations are presented on Table 1, a groundwater elevation contour map is provided as Figure 3, and the groundwater analytical data is presented on Table 2 and Figure 4. The laboratory report for the 1Q24 groundwater event is provided in Appendix A. Groundwater samples were submitted to Pace Analytical Laboratory for analysis of the parameters listed in the approved SAP (Table 4), using USEPA Methods. Analytical results for groundwater were reported below applicable ECMC Table 915-1 standards and/or laboratory detection limits at 10 of the 20 well locations that were sampled. Groundwater monitoring will continue on a quarterly basis.

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 _____

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.

DCP has sufficient insurance to fully address the anticipated costs of Remediation, including the remaining estimated costs for this project. DCP currently has \$5,000,000 in general liability insurance. The cost provided below for remediation is a preliminary estimate only, costs may change upwards or downward based on site-specific information. DCP makes no representation or guarantees as to the accuracy of the preliminary estimate.

Operator anticipates the remaining cost for this project to be: \$ 500000 _____

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:

Approximately 2,000 cubic yards of soil was transported to the Waste Management Buffalo Ridge Landfill in Keenesburg, CO for disposal.

Volume of E&P Waste (solid) in cubic yards _____ 2000

E&P waste (solid) description _____ Petroleum Hydrocarbon Impacted Soil

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: _____ Waste Management Buffalo Ridge Landfill

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.

The excavated area at the northern boundary of the facility has been backfilled with clean structural fill, and the facility perimeter wall and fence that were removed to allow for excavation have been reconstructed. Following implementation of remedial actions at the Site, landscaping and grading on the outside of the facility will be completed to match pre-remediation conditions.

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. _____

Proposed date of completion of Reclamation. _____

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. 11/17/2019

Actual Spill or Release date, or date of discovery. 11/17/2019

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/18/2019

Proposed site investigation commencement. 05/13/2020

Proposed completion of site investigation. 12/31/2027

REMEDIAL ACTION DATES

Proposed start date of Remediation. 12/01/2020

Proposed date of completion of Remediation. 12/31/2027

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:

OPERATOR COMMENT

This Form 27-S is being submitted to present the groundwater monitoring activities conducted during the 1Q24 and to update ECMC that the initial AS/SVE pilot test remediation work activities for this Site were completed in September, October, and December 2023. Further details of the remedial activities and pilot tests are provided in Appendix B, remediation system design is included as Appendix C. DCP plans to implement the system installation activities in the second half of 2024 and anticipates finalization and start up in late 2024 based on acquiring the needed permits. Following evaluation of the initial system startup activities and results, the AS/SVE remediation system data will be included in subsequent quarterly Form 27 Supplemental reports. Ongoing groundwater monitoring will continue on a quarterly basis with the current network until a period of four consecutive quarterly monitoring events have demonstrated that groundwater impacts are below ECMC Table 915-1 standards. At that time, a no further action (NFA) determination for the Site will be requested from the ECMC. The results of the quarterly groundwater monitoring events will be presented to the ECMC via quarterly Form 27-S reports.

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

Signed: Steve Weathers

Title: Program Manager

Submit Date: 04/10/2024

Email: ECMCNotification@p66.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: Alexander Ahmadian

Date: 06/03/2024

Remediation Project Number: 14898

COA Type**Description**

	In accordance with Rule 914, if impacts are observed during monitoring well installation a step out monitoring well(s) shall be installed to define the horizontal extent of impacts to soil and groundwater and the monitoring wells shall be installed within 45 days of observations.
	In accordance with Rule 914 additional monitoring wells are required to define the horizontal extent of impacts to groundwater. More than one well may be required to obtain a point of compliance. The monitoring well(s) shall be installed within 45 days.
2 COAs	

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**

403747626	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403748529	OTHER
403810948	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 3 Files

General Comments**User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)