

State of Colorado  
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



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403667882  
Receive Date:  
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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 COGCC 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>	<b>Phone Numbers</b>
Address: <u>2331 CITYWEST BLVD., S812-02</u>		Phone: <u>(303) 605-1718</u>
City: <u>HOUSTON</u> State: <u>TX</u> Zip: <u>77042</u>		Mobile: <u>(303) 619-3042</u>
Contact Person: <u>Steve Weathers</u>	Email: <u>stephen.weathers@p66.com</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: 4Q23 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 reports #403478655 (conditionally approved by the ECMC) and #403558807. 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 fourth quarter 2023 (4Q23) are provided herein.

**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. Following evaluation of the pilot test activities, more information and details will be provided in a subsequent F27-S report to the ECMC.

**Proposed Groundwater Sampling**

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

During 4Q23, all 20 monitoring wells were gauged and sampled on December 12, 2023. The 4Q23 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 4Q23 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 ):

DCP is planning to implement an Air Sparge / Soil Vapor Extraction System over the next year. The AS/SVE system pilot test work plan was provided as an attachment in the F27-S (#403435573) document. The initial AS/SVE pilot test wells were installed on 9/27/23 and pilot testing activities were completed on 10/10/23 by a third-party environmental consultant. Another pilot test well was installed and more testing was completed in December 2024 in area around MW-12. Details of the well installation and pilot test results will be presented to the ECMC in a subsequent F27-S report following data evaluation. 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.

## SITE INVESTIGATION REPORT

### SAMPLE SUMMARY

Soil	NA / ND
Number of soil samples collected <u>0</u>	NA Highest concentration of TPH (mg/kg) <u>        </u>
Number of soil samples exceeding 915-1 <u>0</u>	NA Highest concentration of SAR <u>        </u>
Was the areal and vertical extent of soil contamination delineated? <u>Yes</u>	BTEX > 915-1 <u>No</u>
Approximate areal extent (square feet) <u>95000</u>	Vertical Extent > 915-1 (in feet) <u>24</u>
<b>Groundwater</b>	
Number of groundwater samples collected <u>20</u>	-- Highest concentration of Benzene (µg/l) <u>8350</u>
Was extent of groundwater contaminated delineated? <u>No</u>	-- Highest concentration of Toluene (µg/l) <u>4.24</u>
Depth to groundwater (below ground surface, in feet) <u>15</u>	-- Highest concentration of Ethylbenzene (µg/l) <u>756</u>
Number of groundwater monitoring wells installed <u>20</u>	-- Highest concentration of Xylene (µg/l) <u>5450</u>
Number of groundwater samples exceeding 915-1 <u>8</u>	NA Highest concentration of Methane (mg/l) <u>        </u>
<b>Surface Water</b>	
<u>0</u> Number of surface water samples collected	
<u>0</u> 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 also 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 (yd<sup>3</sup>) 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.

**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.

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 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. 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 and 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 (gals) of Micro-blaze® diluted with 600 gals of potable water occurred on 11/15/22 split evenly between the two locations illustrated on Figure 2. On 12/1/22, about 900 gals of potable water was added to increase the distribution of the Micro-blaze® in the subsurface. In June 2023, another 50 gals of Micro-blaze® diluted with 600 gals of water was added to the totes. Further, DCP is working with a third-party to implement the AS/SVE system based on the work plan provided to ECMC. Pilot testing activities were completed in October - December 2024 and details of pilot test observations will be presented in a subsequent F27-S work plan.

**Soil Remediation Summary**

In Situ

Ex Situ

<input type="checkbox"/> Bioremediation ( or enhanced bioremediation )	Yes	Excavate and offsite disposal
<input type="checkbox"/> Chemical oxidation		If Yes: Estimated Volume (Cubic Yards) <u>2000</u>
<input type="checkbox"/> Air sparge / Soil vapor extraction		Name of Licensed Disposal Facility or COGCC Facility ID # _____
<input type="checkbox"/> Natural Attenuation		Excavate and onsite remediation
<input type="checkbox"/> 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.

A total of 20 monitoring wells are present at the Site, and groundwater monitoring activities were conducted on December 12, 2023 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 are presented on Table 2 and Figure 4. The laboratory report for the 4Q23 groundwater event is provided in Appendix A. Groundwater samples were submitted to Origins Laboratory Inc. for analysis of the parameters listed in ECMC Table 915 and per 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 12 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 \_\_\_\_\_

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: Waste Management Buffalo Ridge  
Landfill \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_ 0

E&P waste (liquid) description \_\_\_\_\_

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC 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 COGCC 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 4Q23 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 will be presented to the ECMC in a subsequent Form 27-S report. Following evaluation of the initial testing results, and supplemental activities, DCP anticipates finalization and start up in Summer 2024. Ongoing groundwater monitoring will continue on a quarterly basis 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: 02/01/2024

Email: ECMCNotification@p66.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: Alexander Ahmadian

Date: 02/27/2024

Remediation Project Number: 14898

**COA Type**

**Description**

	Operator will include all SVE/AS data in the next Form 27-Supplemental and all following Form 27-Supplementals until no longer in use.
1 COA	

**Attachment Check 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**

403667882	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403667906	MONITORING REPORT
403700896	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)