

State of Colorado Oil and Gas Conservation Commission

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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 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: DCP OPERATING COMPANY LP	Operator No: 4680	Phone Numbers Phone: (303) 605-1718 Mobile: (303) 619-3042
Address: 370 17TH STREET - SUITE 2500		
City: DENVER	State: CO Zip: 80202	
Contact Person: Steve Weathers	Email: swweathers@dcpmidstream.com	

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: 4Q21 Groundwater and Soil Analytical Result Summary

SITE INFORMATION

No Multiple Facilities

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

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 surface water within 1/4 mile?

Is domestic water well within 1/4 mile? Yes _____ 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 COGCC 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 COGCC issued Spill tracking facility ID #469293 and Remediation Project #14898 for the Site. Ongoing Site Investigations and remedial activities completed through September 2021 have been previously provided to the COGCC and approved in subsequent Form 27 Supplemental reports (most recently #402831616). Details of well installation completed on 12/7/2021, and groundwater monitoring activities completed on 12/8/2021 (4Q21) are provided herein. The groundwater analytical data are summarized on Tables 1 and 2 and displayed on Figure 5. 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.

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 14 soil borings have been completed to delineate the extent of impacts at the Site and results of the first 11 soil borings have been summarized in previous reports. Based on the COAs within the approved F27S (#402831616), three soil borings with monitoring wells (MW12, MW13, & MW14) were proposed in the approved F27S (402735099) and were advanced on 12/8/2021, to define the horizontal extents of hydrocarbon impacts. Soil samples were collected from up to two intervals within each soil boring including the terminal depth and either the highest PID reading or top of the saturated zone. Soil laboratory data collected during the 4Q21 are presented on Tables 1 and 2 and Figure 3, the laboratory report is included as Appendix A, and monitoring well construction logs are included as Appendix B. Based on 4Q21 soil and groundwater results, DCP proposes additional monitoring wells at the locations presented on Figure 6.

Proposed Groundwater Sampling

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

Through 4Q21, 14 monitoring wells have been installed for groundwater characterization. The 4Q21 groundwater samples were submitted for laboratory analysis of the COCs listed in the approved SAP (Table 6). Groundwater elevation data are presented on Table 3 and Figure 4 and analytical data is presented on Tables 4 and 5 and Figure 5. Based on the data collected and the FRICO Canal, DCP will continue to collect monthly water levels and quarterly groundwater monitoring at the existing and proposed well locations. With COGCC approval of F27S (#402735099), three monitoring wells (MW12, MW13, & MW14) were installed during the 4Q21 for the purpose of groundwater delineation downgradient from MW05 and MW08 and upgradient from MW04 and MW02. Based on 4Q21 soil and groundwater results, DCP proposes additional monitoring wells at the locations presented on Figure 6.

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 (Surface Water-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 through the canal 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. DCP does not anticipate sampling the surface water within the canal at this time or without written approval from FRICO.

Additional Investigative

Actions

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

Based on the COGCC approved F27S reports and the SAP, DCP collected groundwater samples from all 14 wells during the 4Q21 to determine the horizontal and vertical extents of impacted material. Seven groundwater monitoring wells (MW01, MW02, MW04, MW05, MW08, MW12, and MW13) exhibited COC concentrations above Table 915-1 standards. Additional wells (MW12– MW14) were installed during the 4Q21 to delineate the extent of groundwater impacts upgradient of MW02 and MW04, and downgradient of MW05 and MW08. Monitoring well installation logs are presented in Appendix B. Based on 4Q21 soil and groundwater sampling results, with COGCC and landowner approval, DCP proposes additional monitoring wells at the Site to further delineate the groundwater impacts. The boring will be logged for lithology and samples will be collected per the approved SAP.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 5
Number of soil samples exceeding 915-1 3
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 95000

NA / ND

 Highest concentration of TPH (mg/kg)
NA Highest concentration of SAR
 BTEX > 915-1 Yes
 Vertical Extent > 915-1 (in feet) 24

Groundwater

Number of groundwater samples collected 14
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 15'
Number of groundwater monitoring wells installed 14
Number of groundwater samples exceeding 915-1 7

 Highest concentration of Benzene (µg/l)
ND Highest concentration of Toluene (µg/l)
 Highest concentration of Ethylbenzene (µg/l)
 Highest concentration of Xylene (µg/l)
NA 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?

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 COGCC standards at multiple locations across the Site, COGCC approved DCP's proposal to remove those parameters from the Site-Specific Soil SAP (Table 6) in future sampling and investigative events. During the 1Q22, DCP removed the produced water vessels and collected samples for the full Table 915 parameters during these activities and the details have been provided in a separate approved F19-S (#402934259).

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

Volume of solid waste (cubic yards) 2000 Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

During the 1Q22, the produced water vessels (PWVs), 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 a Form 19-I (#402927836) and Form 19-S (#402934259) were submitted and approved. Pending final lab data, an additional Form 19-S will be submitted for closure of that release to continue investigation and remediation under the current remediation number (#14898) for this site. The void space left by the removal of the PWVs and surrounding impacted soil was backfilled with pea gravel, and two 375-gallon reinforced plastic tanks with 1/4" holes were buried in the excavation for future amendment delivery to the subsurface. DCP will obtain an UIC permit and present a work plan to COGCC for approval prior to commencement of remediation activities at the Site. DCP will notify COGCC, once the schedule and landowner approval for the additional monitoring well locations confirmed and prior to field activities.

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.

During the excavation activities in December 2020, approximately 2,000 cubic yards (yd3) of material was removed for disposal. Soil samples from the southeast, southwest, and northwest sidewalls of the excavation indicate that impacted shallow soil above 16 feet bgs has been removed. Based on the samples collected from the southeast wall, additional impacted material remains below 16 feet 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 the 1Q22, the produced water vessels (PWVs), 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 a Form 19-I (#402927836) and Form 19-S (#402934259) were submitted and approved. Pending final lab data, an additional Form 19-S will be submitted for closure of that release 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 November 17, 2019, when Operations noticed a drain valve on a condensate stabilizer re-boiler was leaking by to the produced water sump and overfilling 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 May 13, 2020, 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 excavation, and hand shoveling near facility infrastructure. Based on the soil and groundwater sample analytical results from the December 2020 through December 2021 remediation and investigation activities as provided in this Form 27, additional Site characterization is warranted prior to implementing further remedial actions. However, due to adjacent landowner constraints, DCP does not have approval for additional wells within the FRICO ROW and DCP proposes installation of additional groundwater monitoring wells up and downgradient existing impacted wells for horizontal delineation of soil and groundwater contamination.

Following 1Q22 PWV 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 future amendment(s) to the subsurface. DCP will obtain a UIC permit and develop a work plan for presentation to COGCC during the 1Q22 prior to active remediation at the site.

Soil Remediation Summary

☐ In Situ

☒ Ex Situ

_____ Bioremediation (or enhanced bioremediation)

Yes _____ Excavate and offsite disposal

_____ Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) _____ 2000

_____ Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or COGCC Facility ID # _____

_____ Natural Attenuation

_____ Excavate and onsite remediation

_____ Other _____

_____ Land Treatment

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Other _____

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 14 monitoring wells are currently installed at the Site, and groundwater monitoring activities were conducted on 12/8/2021 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 3, a groundwater elevation contour map is provided as Figure 4, and the groundwater analytical data are presented on Table 4 and Figure 5. The laboratory reports for the 4Q21 groundwater event are provided in Appendix A. Groundwater samples were submitted to Origins Laboratory Inc. for analysis of the parameters listed in COGCC Table 915 and per the approved SAP, using USEPA Methods. Analytical results for groundwater were reported below applicable COGCC Table 915-1 standards and/or laboratory detection limits at 7 of the 14 well locations that were sampled. Groundwater monitoring will continue on a quarterly basis, and DCP also proposes to collect groundwater elevations at the Site monitoring wells with landowner permission on a monthly basis through the 2Q22 for evaluation. Based on the COGCC conditions of approval and the 3Q21 results, DCP installed three additional monitoring wells (MW12, MW13, and MW14) to define the horizontal impacts to groundwater, which are illustrated on Figure 5. The newly installed wells were sampled with the regular quarterly groundwater event during the 4Q21. Based on 4Q21 results, DCP proposes additional monitoring wells at both upgradient, and downgradient locations presented on Figure 6.

REMEDATION 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 Form 27 Supplemental 4Q21 Groundwater and Soil Summary

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:

REMEDATION COMPLETION REPORT

REMEDATION 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. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. 12/01/2020

Proposed date of completion of Remediation. _____

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 27S is being submitted to present the well installation that took place on 12/7/2021, and the groundwater monitoring activities conducted on 12/8/2021, at the Site. Based on the information provided in this document, additional Site characterization and evaluation activities are warranted. DCP has proposed to install additional monitoring well(s) within 90 days of COGCC approval. DCP will continue quarterly groundwater monitoring at the Site until NFA is approved as a part of the groundwater monitoring program and will also perform groundwater elevation gauging on a monthly basis to evaluate the effect the FRICO canal has on the groundwater system around the Site through the end of 2Q22. The results of the quarterly groundwater monitoring data will be presented to the COGCC via quarterly Form 27S 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: Environmental Specialist

Submit Date:

Email: COGCCnotification@dcpmidstream.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:

Date:

Remediation Project Number: 14898

COA Type

Description

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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

402948777	MONITORING REPORT
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Total Attach: 1 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)