FORM 27 Rev 3/16

State of Colorado
Oil and Gas Conservation Commission

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

Document Number: 402595482
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 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.
Refer to Rules 340, 905, 906, 907, 908, 909, and 910

OPERATOR INFORMATON

Name of Operator: DCP OPERATING COMPANY LP Operator No: 4680
Address: 370 17TH STREET - SUITE 2500
City: DENVER State: CO Zip: 80202
Contact Person: Chandler Cole

Phone Numbers
Phone: (970) 3786393
Mobile: (970) 9390329
Email: cecole@dcpmidstream.com

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

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

PURPOSE INFORMATION

- [ ] 901.e. Sensitive Area Determination
- [ ] 909.c.(1), Rule 905: Pit or PW vessel closure
- [x] 909.c.(2), Rule 906: Spill/Release Remediation
- [ ] 909.c.(3), Rule 907.e.: Land treatment of oily waste
- [ ] 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure
- [ ] 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water
- [ ] Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b.
- [ ] Rule 909.e.(2)B.: Closure of remediation project
- [ ] Rule 906.c.: Director request
- [ ] Other

SITE INFORMATION

N Multiple Facilites (in accordance with Rule 909.c.)

Facility Type: SPILL OR RELEASE 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: 66W 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 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
UNDETERMINED	GROUNDWATER	Undetermined	Visual observation
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 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 subsequent to 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 extent of the impacted soils area. Soil borings were advanced at locations illustrated on Figure 2 and the results were provided in the approved Form 27 (Document# 402500881). In December 2020, remediation and excavation activities were performed at the Site and summarized in approved Form 27 Document #402564545. In January 2021, DCP met with the Farmers Reservoir & Irrigation Company (FRICO) personnel regarding the Platte Valley Canal (Canal) irrigation ditch located to the north of the gas plant facility boundary. Based on that meeting, test pit investigation activities within the FRICO ditch right-of-way (ROW) were approved. The FRICO ROW for the Canal extends 70 feet south and 60 feet north of the center line of the Canal. On January 21, 2021, test pit investigation was performed at the locations illustrated on Figure 2 (includes locations from December 2020 for reference) and the results of that investigation and a proposed investigation/remediation workplan is 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):

During the test pit investigations within the FRICO ROW, soil samples were collected at approximate 2-foot intervals to determine the extents of impacts near the irrigation ditch. FRICO approved test pits to be performed no closer than 20-feet from the edge of the Canal line. Three soil samples from each location were submitted for analysis of BTEX and TPH. The sample interval with the highest concentrations (TP05@12') was submitted for analysis of the COGCC Table 915-1 constituents. Because this was an investigation event for remediation and not reclamation, SAR and boron were not analyzed. The January 2021 test pit locations and results are illustrated on Figure 2 and summarized on Tables 1, 2, and 3. The laboratory analytical reports are attached with this Form 27. Based on the test pit results and due to the proximity near the FRICO ditch, further soil delineation activities are proposed to be conducted using drilling with continuous core sampling methods.

Proposed Groundwater Sampling

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

During the December 2020 excavation activities, groundwater seepage was observed in the bottom of the excavation area at approximately 20 feet below ground surface. Due to the soil type and the depth of the occurrence, a representative groundwater sample was not collected. During the January 2021 test pit activities, groundwater seepage was observed within each test pit location, but groundwater samples were not collected. Groundwater samples will be collected after the drilling and monitoring well installation activities as described herein. During the initial sampling event, groundwater samples will be submitted for the full Table 915-1 list of analytes. Based on the results, a reduced Site-Specific sampling analysis plan may be warranted.

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 located approximately 80 feet north of the northeast corner of the Mewbourn Gas Plant facility boundary. During the December 2020 remediation activities, surface water was not observed within the canal and during the January 2021 test pit investigations, water was observed within the Canal. During the meeting with FRICO personnel, it was discussed that the Canal likely acts as a losing stream. Due to the depth of groundwater seepage observed at approximately 20 feet below ground surface (bgs) and the depth of soil impacts within the FRICO ROW, impacts to soil do not appear to pose a threat to the surface water within the canal.

Additional Investigative Actions

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

On January 15, 2021, the COGCC implemented new Series 900 rules including a revised list of COCs and Cleanup Concentrations. In accordance with the new Series 900 Rules, the soil sample with the highest BTEX and TPH concentrations (TP05@12') collected during the January 2021 investigation was submitted for laboratory analysis of the Table 915-1 list of COCs. However, there was not enough sample volume to also include pH and specific conductivity using the new analysis Methods. Therefore, the sample with the second highest BTEX and TPH concentrations (TP06@20') was analyzed for pH and specific conductivity. Samples for SAR and boron analysis were not collected during the January 2021 test pit investigation activities because this was an investigation event for remediation.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 6

Number of soil samples exceeeding 910-1: 6

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

Approximate areal extent (square feet): 35000

NA / ND

-- Highest concentration of TPH (mg/kg): 8190

NA Highest concentration of SAR:

BTEX > 910-1: Yes

Vertical Extent > 910-1 (in feet): 20

Groundwater

Number of groundwater samples collected: 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet): `

Number of groundwater monitoring wells installed:

Number of groundwater samples exceeding 910-1:

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 910-1

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

OTHER INVESTIGATION INFORMATION

☒ Were impacts to adjacent property or offsite impacts identified?

Based on the concentrations of BTEX and TPH summarized on Table 1 and comparing them to the soil sample analytical results from previous events, DCP considers the Test Pit locations TP05 and TP06 representative of the source area. Due to a limited volume of soil that was collected during the January 2021 test pit investigation, only the sample interval with the highest BTEX and TPH concentrations (TP05@12') was submitted for the Table 915-1 list of COCs. However, there was not enough sample volume from that sample to also include pH and specific conductivity using the new analysis Methods. Therefore, the sample with the second highest BTEX and TPH concentrations (TP06@20') was analyzed for pH and specific conductivity.

☐ Were background samples collected as part of this site investigation?

☒ 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?

With the results from the investigation and remediation activities that have been performed at the Site, additional delineation of soil and groundwater impacts is warranted. DCP proposes to perform impacted soil and groundwater investigation and delineation activities using a combination approach of direct push drilling with continuous core sampling methods and hollow stem augur drilling for groundwater monitoring well installation. A total of up to 12 soil borings will be installed at the site for soil delineation purposes. Soil samples will be collected from each borehole location at the interval with the highest PID reading, at the groundwater interface, and from the terminal depth of the boring. Soil samples will be submitted for the list of Table 915-1 analytes. After direct push soil boring installation and based on the soil lithology and impacts to soil observed during field screening activities, a total of up to eight groundwater monitoring wells will be installed using hollow stem augur drilling methods. The proposed soil boring and monitoring well locations are illustrated on Figure 3. However, these may change based on subsurface conditions observed during the drilling investigation. Monitoring wells will be 2-inch diameter and installed with 2-inch PVC slot screens set within the groundwater bearing zone. Well development and sampling will then be performed at each location and groundwater samples will be submitted for analysis. The soil sample and groundwater monitoring results will be evaluated and used to provide the COGCC with a remediation workplan for addressing residual impacts to soil and groundwater. Several remediation methods will be evaluated, and the best alternative will be chosen based on the distribution and concentration of soil and groundwater impacts, soil type, above and below grade infrastructure, and accessibility.

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, the 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. Excavation was postponed once the northern extents reached the facility boundary due to proximity to the FRICO right of way (ROW). DCP met with FRICO personnel to receive approval for test pit investigation activities within the ROW for the Platte Valley Canal which extends 70 feet south and 60 feet north of the center line of the Canal. Based on the soil sample analytical results from the test pits and as provided in this Form 27, additional source area delineation activities are warranted. Once the Site has been characterized for soil and groundwater impacts, several remediation methods including a potential supplemental excavation area as illustrated on Figure 3 will be evaluated. The best remediation alternative for the Site will be presented to the COGCC for approval.

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 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 hydrovacuum excavation, and hand shoveling near facility infrastructure. Based on the soil sample analytical results from the December 2020 and January 2021 remediation and investigation activities as provided in this Form 27, additional Site characterization and delineation activities are warranted. Once the Site has been characterized for soil and groundwater impacts, the best remediation alternative including a potential supplemental excavation area as illustrated on Figure 3 will be presented to the COGCC for approval.

Soil Remediation Summary

In Situ

- Bioremediation (or enhanced bioremediation)
- Chemical oxidation
- Air sparge / Soil vapor extraction
- Natural Attenuation
- Other

Ex Situ

- Yes — Excavate and offsite disposal
  - If Yes: Estimated Volume (Cubic Yards) 2000
  - Name of Licensed Disposal Facility or COGCC Facility ID #
- Excavate and onsite remediation
  - 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.

During test pitting and excavation in December 2020, groundwater seepage was observed at approximately 20 feet below ground surface. In addition, moist soil was encountered immediately above the depth of observed groundwater seepage, which may indicate a capillary fringe and seasonal fluctuations in groundwater levels beneath the Site. Due to institutional, infrastructure and engineering controls, further excavation and sampling activities have been postponed and further site characterization is warranted. Subsequent to the drilling and monitoring well installation and well development and sampling as proposed in this Form 27S submittal, a groundwater monitoring program will be presented to the COGCC for approval. During the initial groundwater monitoring event, groundwater samples will be submitted for analysis of the full Table 915-1 constituents of concern. Based on the results, a reduced Site-Specific sampling analysis plan may be warranted. Groundwater monitoring will be conducted on a quarterly basis and groundwater samples will be submitted for the Site-Specific Table 915-1 analytes approved by the COGCC.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: [X] Quarterly [ ] Semi-Annually [ ] Annually [ ] Other

Report Type: [ ] Groundwater Monitoring [ ] Land Treatment Progress Report [ ] O&M Report [X] Other Form 27 Supplemental Site Characterization Remediation Workplan

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 Buffaldo 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

Do all soils meet Table 910-1 standards?

Does the previous reply indicate consideration of background concentrations?

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface?

Does Groundwater meet Table 910-1 standards?

Is additional groundwater monitoring to be conducted?

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 subsequent to remediation activities will likely consist of backfilling any excavation areas with clean structural fill material on the surface. In addition, following reclamation of land on the outside of the Gas Plant, landscaping and grading will be completed to match pre-excavation 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 approve the seed mix?

If NO, does the seed mix comply with local soil conservation district recommendations?

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. 11/17/2019

Actual Spill or Release date, if known. 11/17/2019

SITE INVESTIGATION DATES

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

Date of commencement of Site Investigation. 05/13/2020

Date of completion of Site Investigation.

REMEDIAL ACTION DATES

Date of commencement of Remediation. 12/01/2020

Date of completion of Remediation.

SITE RECLAMATION DATES

Date of commencement of Reclamation.

Date of completion of Reclamation.

OPERATOR COMMENT

DCP is providing this F27S update report to provide the results of the January 2021 test pit investigation within the FRICO ROW for the Platte Valley Canal. Any operational activities within the ROW for the Canal must be reviewed and approved by FRICO prior to implementing work activities. Based on the test pit results as provided in this Document, additional Site characterization activities are warranted and will be conducted with COGCC and FRICO approval. Based on discussion with COGCC on March 4th, 2021, the additional soil and groundwater investigation is scheduled to begin on March 9th and the soil sampling and analysis plan (Table 4) with a revised list for this phase of site investigation and characterization will include the Table 915-1 constituents for soil. Based on the analytical data, DCP may need to collect site-specific background soil samples for some of the Table 915-1 constituents to evaluate whether these constituents are naturally occurring around the Site and the concentrations of those compounds. Once the Site has been fully characterized including the horizontal and vertical extents of soil and groundwater impacts, a reduced Site-Specific sampling analysis plan may be warranted. As discussed with the COGCC, the Table 915-1 list of inorganic parameters (TDS, chloride and sulfate) will be sampled and analyzed for at least four consecutive monitoring quarters unless background soil and groundwater data suggest those constituents are naturally occurring at the Site. Those data will then be used to develop a Site-Specific groundwater sampling plan for COGCC approval. Once the Site has been characterized for soil and groundwater impacts, the best remediation alternative will be presented to the COGCC for approval.

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

Signed:` Chandler Cole Title: Compliance Coordinator

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

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
402595514	SITE INVESTIGATION REPORT
402629378	SITE INVESTIGATION PLAN

Total Attach: 2 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)