

State of Colorado
Oil and Gas Conservation Commission

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Document Number:
402742310

Receive Date:

Report taken by:

Site Investigation and Remediation Workplan (Initial 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 INFORMATION

Name of Operator: DCP OPERATING COMPANY LP	Operator No: 4680	Phone Numbers
Address: 370 17TH STREET - SUITE 2500		Phone: (970) 378-6373
City: DENVER State: CO Zip: 80202		Mobile: (970) 939-0329
Contact Person: Chandler Cole	Email: cecole@dcpmidstream.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: _____ Initial Form 27 Document #: 402742310

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: Groundwater workplan and progress update

SITE INFORMATION

No Multiple Facilities

Facility Type: GAS GATHERING PIPELINE SYSTEM	Facility ID: 480204	API #: _____	County Name: WELD
Facility Name: Parmlee #1	Latitude: 40.254977	Longitude: -104.266078	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENE	Sec: 1	Twp: 3N	Range: 62W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications SP Most Sensitive Adjacent Land Use Rangeland

Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? No

SITE INVESTIGATION PLAN

TYPE OF WASTE:

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

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	GROUNDWATER	2 monitoring well locations	Laboratory Analysis
Yes	SOILS	800 sq ft	Laboratory 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.

Initial actions have previously been submitted to the COGCC in the Form 19 Initial (Document #402726017) dated June 24, 2021. The COGCC issued a spill tracking facility ID # 480204 for the Site. During routine inspections, DCP personnel observed distressed vegetation at the project location and on June 9, 2021, DCP initiated site investigation activities with a third-party environmental consultant using direct push drilling equipment with continuous core sampling methods. During the initial investigation, five soil borings and groundwater monitoring wells were installed and based on laboratory results, both soil and groundwater samples collected had impacts above the COGCC standards. Following the initial investigation, further delineation of the soils and groundwater both horizontally and vertically may be warranted, however, as detailed within this submittal, DCP proposes to complete groundwater monitoring on a quarterly basis at the Site. Details of the June 2021 initial investigation and well installation activities are presented in this Initial Form 27 remediation work plan and the results from each subsequent groundwater monitoring and investigative event will be provided to the COGCC within Supplemental Form 27 report submittals.

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):

Based on the extent of the distressed vegetation, five boreholes were advanced, and one-inch groundwater monitoring wells were installed at each location. One borehole was placed in the center of the distressed vegetation, and the remaining boreholes were placed in cardinal directions at the approximate extent of the distressed vegetation radius. During monitoring well installation, soil borings were logged to evaluate geological conditions and identify any impacts to soil and groundwater at those locations and soil samples were collected from zones representative of the highest PID detections including the total depth of boring and submitted to Summit Scientific for laboratory analysis. The locations of the boreholes are presented on Figure 2, locations and VOC results are presented on Figure 3, laboratory results are presented on Tables 1-3, laboratory reports are presented in Appendix A, and well construction logs are presented in Appendix B.

Proposed Groundwater Sampling

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

Based on the extent of the distressed vegetation, 5 boreholes were advanced, and 1-inch monitoring wells were installed at each location. One borehole was placed in the center of the distressed vegetation, and the remaining boreholes were placed in cardinal directions at the extent of the distressed vegetation radius. Groundwater samples from these new wells were collected following well development activities on 6/22/21 and submitted to Origins Laboratory for Table 915-1 analysis. Three of the wells were sampled for Table 915 inorganics. Well locations are presented on Figure 2, locations and VOC results are presented on Figure 4, the potentiometric surface is presented on Figure 5, and laboratory reports are presented in Appendix A. DCP proposes to continue groundwater monitoring on a quarterly basis until analytical results are below the COGCC standards for four consecutive quarterly monitoring events, at which time an NFA determination for the Site will be requested from the COGCC.

Proposed Surface Water Sampling

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

Additional Investigative Actions

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

Soil samples were observed exceeding Table 915-1 standards for 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene; naphthalene; total petroleum hydrocarbons; 1-methylnaphthalene; 2-methylnaphthalene; pH, arsenic; barium; cadmium; nickel; lead; and selenium. However, the soil suitability and inorganic results at the borehole locations unimpacted by organic constituents are within the naturally occurring background range for this region and are not considered related to hydrocarbon impacts. Parm1-BH02, BH03, and BH04 were not observed to be significantly impacted by organic constituents and were observed to have relatively low PID detections. Therefore, these three locations can be used as representative background samples for this site. Groundwater was observed to be impacted at concentrations greater than Table 915-1 standards at Parm1-BH01 and BH05 by multiple organic constituents. Groundwater remediation will be addressed in a future work plan.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil	NA / ND
Number of soil samples collected <u>12</u>	-- Highest concentration of TPH (mg/kg) <u>2422</u>
Number of soil samples exceeding 915-1 <u>12</u>	-- Highest concentration of SAR <u>3.42</u>
Was the areal and vertical extent of soil contamination delineated? <u>No</u>	BTEX > 915-1 <u>No</u>
Approximate areal extent (square feet) <u>800</u>	Vertical Extent > 915-1 (in feet) <u>33</u>
Groundwater	
Number of groundwater samples collected <u>5</u>	-- Highest concentration of Benzene (µg/l) <u>3600</u>
Was extent of groundwater contaminated delineated? <u>No</u>	-- Highest concentration of Toluene (µg/l) <u>4690</u>
Depth to groundwater (below ground surface, in feet) <u>30'</u>	-- Highest concentration of Ethylbenzene (µg/l) <u>978</u>
Number of groundwater monitoring wells installed <u>5</u>	-- Highest concentration of Xylene (µg/l) <u>8300</u>
Number of groundwater samples exceeding 915-1 <u>2</u>	NA Highest concentration of Methane (mg/l) <u></u>
Surface Water	
<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 and groundwater background samples were collected from boring and well location BH02 for organic and inorganic Table 915 analysis.

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?

DCP will continue quarterly groundwater monitoring activities at the five existing monitoring well locations. Based on current observations, DCP is evaluating the site characteristics and does not propose further site investigation activities at this time. If warranted and with COGCC approval, additional groundwater monitoring wells may be needed to determine the horizontal extents and will be presented in a subsequent Form 27 Supplemental workplan.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Based on the initial investigation and inspections, DCP was unaware of a potential release on the gathering line that had been previously shut-in and inspected the area due to distressed vegetation. Based on the initial investigation results, the extents of impacts cover an approximate 800 square foot area and source removal and remediation activities may be necessary, and a work plan will be submitted in future F27S reports. If warranted, DCP would consider evaluating further investigation and alternative remediation approaches applicable to the Site with landowner and COGCC approval, which may include, but not limited to the potential use of additional chemox or other treatment methods such as dig and haul to mitigate the impacted area beneath the surface.

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.

Based on the original inspection, DCP was not aware of a gathering line release and performed investigative activities based on a distressed vegetation area. If necessary, a soil and groundwater remediation alternative will be addressed in a subsequent F27 work plan for COGCC approval. During the initial investigation activities performed in June 2021, DCP installed five monitoring wells and impacts were observed in the soils and groundwater at two of the five locations. Groundwater monitoring will be performed at the Site until a period of four consecutive monitoring events have demonstrated that groundwater impacts are below COGCC Table 915-1 standards. At that time, a no further action (NFA) determination for the Site will be requested from the COGCC. Based on the ongoing investigation results, a reduced list of Table 915-1 analytes may be proposed for future monitoring events. If warranted, DCP would consider evaluating further investigation and alternative remediation approaches applicable to the Site with landowner and COGCC approval, which may include, but not limited to the potential use of additional chemox or other treatment methods such as dig and haul to mitigate the impacted area beneath the surface.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____

_____ Air sparge / Soil vapor extraction

_____ Name of Licensed Disposal Facility or COGCC Facility ID # _____

_____ Natural Attenuation

_____ Excavate and onsite remediation

_____ Other _____

_____ Land Treatment

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Other _____

Groundwater Remediation Summary

Bioremediation (or enhanced bioremediation)

Chemical oxidation

Air sparge / Soil vapor extraction

Natural Attenuation

Other _____

GROUNDWATER MONITORING

If groundwater has been impacted, describe proposed monitoring plan, including # of wells or sample points, monitoring schedule, analytical methods, points of compliance. Attach a groundwater monitoring location diagram.

Ongoing quarterly groundwater monitoring is scheduled to be performed at the Site at the five monitoring well locations illustrated on the attached Figure 2. Groundwater monitoring activities will include Site-wide groundwater gauging and sampling. Groundwater levels will be measured to evaluate hydraulic characteristics and provide information regarding seasonal fluctuations at the Site. Groundwater samples will be collected from the five well locations using standard hand-bailing sampling methods and be submitted to a certified laboratory for Table 915-1 organics analysis and will be presented to COGCC in quarterly Form 27 Supplemental forms. Table 915-1 inorganic impacts to the groundwater were not observed at this site, and with approval of this Form 27-1, DCP proposes to remove these constituents from the site sampling plan for future groundwater sampling events. Three wells located upgradient (BH02), within the release area (BH01) and downgradient (BH05) were sampled for the Table 915-1 inorganic parameters total dissolved solids (TDS), chloride and sulfate, with concentrations ranging from 684 to 850 mg/L for TDS, 31.2 to 38.7 mg/L for chloride and 36.0 mg/L to 40.7 mg/L for sulfate and the reported concentrations for these parameters should be considered representative of the local groundwater conditions. 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 COGCC Table 915-1 standards. At that time, a no further action (NFA) determination for the Site will be requested from the COGCC.

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. 07/22/2021

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/09/2021

Proposed site investigation commencement. _____

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. _____

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

As described above, three groundwater samples were collected from a downgradient, source and upgradient well location for comparison of the Table 915-1 constituents of total dissolved solids (TDS), chloride, and sulfate and appear to be representative of the natural groundwater conditions beneath the site and/or are not considered indicative of petroleum hydrocarbon impacts associated with midstream processes or the release. With COGCC approval, DCP proposes that the groundwater monitoring activities will continue sampling for the organic parameters listed in Table 915-1 on a quarterly basis. However, based on the initial results for the inorganic constituents during the June 2021 investigation, DCP does not believe the inorganic parameters listed in Table 915 should be considered as constituents of concern for this Site and proposes to discontinue sampling of these analytes for all future quarterly monitoring events. DCP will comply with this interim Site-Specific Groundwater Sampling and Analysis Plan during each quarterly event with COGCC approval. DCP will continue to perform quarterly groundwater monitoring and submit updates and quarterly reports to COGCC via eform 27. Further, based on the site-specific organic concentrations in soils, DCP proposes to limit the future soil analytical constituents to the Table 915 organic parameters in addition to 1-methylnaphthalene and 2-methylnaphthalene which were above the COGCC standards during the initial investigation.

In addition to an alternative remedial approach, DCP plans to evaluate, on a bench scale, the feasibility of chemical oxidation remediation in relation to the breakdown of site-specific Table 915 constituents at various amounts to determine if this approach is a viable solution for onsite remediation. Following approval of initial form 27 and a remediation number is provided, Tasman, on the behalf of DCP, will submit form eForm 19S with remediation box checked and include the assigned remediation number. Source removal and remediation of groundwater and soil will be addressed in a future work plan in an eForm 27S. With COGCC approval, monitoring wells will be sampled on a quarterly basis for Table 915-1 organic constituents, and DCP will continue to update COGCC in eform submittals.

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: _____

COA Type

Description

<u>COA Type</u>	<u>Description</u>

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**

402743495	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)