

State of Colorado Oil and Gas Conservation Commission

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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 INFORMATION

Name of Operator: DCP OPERATING COMPANY LP	Operator No: 4680	Phone Numbers
Address: 370 17TH STREET - SUITE 2500		Phone: (303) 6051718
City: DENVER	State: CO	Zip: 80202
Contact Person: Stephen Weathers	Email: swweathers@dcpmidstream.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 13272 Initial Form 27 Document #: 402004215

PURPOSE INFORMATION

- | | |
|--|---|
| <input type="checkbox"/> 901.e. Sensitive Area Determination | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water |
| <input type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure | <input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation | <input type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste | <input type="checkbox"/> Rule 906.c.: Director request |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input checked="" type="checkbox"/> Other Soil sampling, drilling, and groundwater monitoring well installation summary report. |

SITE INFORMATION

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

Facility Type: SPILL OR RELEASE	Facility ID: 463819	API #:	County Name: WELD
Facility Name: CR42 and CR13	Latitude: 40.292285	Longitude: -104.941832	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SESE	Sec: 24	Twp: 4N	Range: 68W
Meridian: 6	Sensitive Area? Yes		

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Private residence located at 20008 Colorado Blvd (CR13), Johnstown, CO

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? Yes

Other Potential Receptors within 1/4 mile

Livestock approximately 260 feet east. Agricultural land adjacent to the west and south of the leak location.

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	85000 sq ft	Hydrocarbon condensate material observed at ~12' bgs - 3 MW's & 1 piezometer (destroyed)
Yes	SOILS	94000 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 and completed remedial measures were submitted to the COGCC in the Form 19 Initial (#401997249) dated April 6, 2019 and Form 19 Supplemental (#402004043 and #4020498919) approved on April 26 and May 29, 2019, respectively. The Initial Form 27 Site Investigation and Remediation Work Plan (#402004215) approved April 18, 2019 in which, COGCC issued Spill and tracking facility ID# 463819 and remediation project #13272 for the Site. A Form 27S (#402051228) approved on June 13, 2019 described the soil vapor intrusion and ambient air investigation. A Form 27S (#402033546) Interim Summary Report and Workplan was approved on July 24, 2019, detailed the Site Investigation and delineation activities from previous remediation efforts completed between April 4 and May 28, 2019 including excavation of impacted soils and installation of 15 monitoring wells. Between June and September 2019, soil borings were advanced at the locations shown on Figure 2 using the direct push and hollow stem auger (HSA) drilling methods. Soil boring and monitoring well completion logs are provided in the attached Appendix A. Soil samples were collected from each location to delineate lateral and vertical extents of hydrocarbon impacts. Soil analytical data is summarized on Table 1 and laboratory reports are provided in Appendix B. Based on collected samples, the extent of hydrocarbon impacts in soil have been delineated laterally and vertically with the exception for soil borings near the release point and/or borings that reached refusal during previous drilling activities. A defined saturated zone within the subsurface was not encountered during drilling activities, however, moist soil was observed at varying depths and monitoring wells were set within the HSA soil borings. Seventeen groundwater monitoring wells (MW16-MW32) were installed at the locations illustrated on Figure 2. Details of Site Investigation and delineation activities since June 2019 are provided with this Form 27.

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):

Soil samples were collected from the soil borings / monitoring well locations illustrated on Figure 2. Soil sample analytical data are summarized on Table 1 and the laboratory analytical data are provided in the attached Appendix B. Subsequent to finalized negotiations with landowners for access agreements to private land adjacent to the pipeline release and evaluation of remediation activities, the remediation alternative best suited for the Site, will be presented to the COGCC for review in a Supplemental Form 27 Workplan and will include the proposed soil sampling.

Proposed Groundwater Sampling

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

On June 28, 2019, groundwater monitoring was performed at monitoring wells (MW16–MW20) and at the request of the landowner, samples were submitted for full suite VOC's by Method 8260B. Groundwater monitoring was performed at wells (MW21–MW26) on July 26, at MW01-MW26, on August 8, and at MW27-MW32 on September 13. Groundwater samples from these events were submitted for BTEX by Method 8260B. Based on the recent analytical data, the lateral extent of groundwater impacts have been defined and additional wells are not required at this time. Subsequent to finalizing negotiations for access agreements to private land adjacent to the pipeline release, methods best suited for remediation of the Site will be evaluated and presented to the COGCC for review in a Supplemental Form 27 within 45 days (by November 5, 2019) of this submittal. The proposed activities will also include a workplan for post-remediation monitoring.

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):

Following approval of the previous Form 27 Interim Summary Report and Workplan (#402033546), DCP completed additional site investigation activities and monitoring well installation activities on the west side of CR13, during which, completed field activities successfully delineated the extents of impacts to soils and groundwater. Additional investigation activities are not proposed. Contingent on finalized negotiations with landowners for access agreements to private land adjacent to the pipeline release, multiple remediation alternatives will be evaluated. The remediation alternative best suited for the Site, contingent on access agreements, will be presented to the COGCC for review in a subsequent Form 27 Remediation Workplan Report within 45 days (by November 5, 2019) of this submittal.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 47

Number of soil samples exceeding 910-1 9

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

Approximate areal extent (square feet) 22000

NA / ND

-- Highest concentration of TPH (mg/kg) 2628

NA Highest concentration of SAR

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 18

Groundwater

Number of groundwater samples collected 40

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 12'

Number of groundwater monitoring wells installed 17

Number of groundwater samples exceeding 910-1 14

-- Highest concentration of Benzene (µg/l) 11600

-- Highest concentration of Toluene (µg/l) 4730

-- Highest concentration of Ethylbenzene (µg/l) 209

-- Highest concentration of Xylene (µg/l) 1360

NA Highest concentration of Methane (mg/l)

Surface Water

0 Number of surface water samples collected

0 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?

Impacted soils were delineated to approximately 120 feet east, approximately 75 feet west and approximately 120 feet north of the DCP pipeline release locations and at 14 feet below ground surface. Impacted groundwater has been delineated north, east, and west of the release location. To date, LNAPL has been observed within three groundwater monitoring wells and one temporary piezometer (destroyed by landowner). Additional details are presented in the attachments with this Form 27.

☐ 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) 510

Volume of liquid waste (barrels) 0

☐ Is further site investigation required?

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.

Following notification of the suspected pipeline release, the pipeline and source of contamination was isolated, blown down and placed out of service until further repairs can be made. Initial efforts were conducted to remove visibly impacted surface soils, delineate subsurface impacts, and to locate the point of pipeline release. To date, approximately 510 cubic yards (CY) of petroleum impacted soils were removed from the site and disposed at the approved Waste Management (WM) North Weld County Landfill location. Subsequent to investigation activities, methods best suited for the remediation of impacted soils at the site are currently being evaluated and will be presented to the COGCC in a subsequent Form 27 remediation work plan, for review. Removal of the remaining affected pipeline materials will be addressed at that time.

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.

Investigation and delineation activities at the Site have been completed. Contingent on finalized negotiations with landowners for access agreements to private land adjacent to the pipeline release, multiple remediation alternatives will be evaluated. The remediation alternative best suited for the Site, contingent on access agreements, will be presented to the COGCC for review in a subsequent Form 27 Remediation Workplan Report within 45 days (by November 5, 2019) of this submittal.

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) _____ 510

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.

A total of 32 monitoring wells have been installed at the Site (Figure 2). Groundwater gauging and monitoring activities were conducted on June 28, 2019 at five new monitoring wells (MW16–MW20); on July 26 at six new monitoring wells (MW21–MW26) located on the west side of CR13; and on August 8 at all 26 sitewide monitoring well locations (MW01–MW26). Following installation of six additional wells (MW27–MW32), a sitewide groundwater gauging event was completed on September 12 at all 32 monitoring well locations (MW01–MW32) and on September 13, groundwater samples were collected from new well locations MW27–MW32. Groundwater levels were measured to evaluate hydraulic characteristics and seasonal fluctuations at the Site. Groundwater levels and converted elevations from the August and September events are provided on Table 2 and illustrated on Figures 3 and 4, respectively. Groundwater samples were collected using hand-bailing sampling methods and submitted to Origins Laboratory Inc. for analysis using USEPA Method 8260B. Analytical results indicated BTEX concentrations were reported below applicable COGCC Table 910-1 standards and/or laboratory detection limits at the majority of the well locations (including all the perimeter wells). Benzene concentrations exceeded the Table 910-1 standard of 5 µg/L at six of the sampled monitoring wells during the recent monitoring events. Laboratory data is summarized in Table 3 and presented on Figure 5. Laboratory reports are included with Appendix C. The recent groundwater analytical results indicate the lateral extent of impacted groundwater has been defined. Subsequent to finalizing negotiations for access agreements to private land adjacent to the pipeline release, methods best suited for remediation of the Site will be evaluated and presented to the COGCC for review in a Supplemental Form 27 within 45 days (November 4, 2019) of this submittal. The proposed activities will include a workplan for post-remediation monitoring.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Reporting requirements will be determined following completion of Site investigations

Report Type: ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other Form 27 Interim Summary 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:

Impacted soils have been disposed of at the Waste Management North Weld County Landfill.

Volume of E&P Waste (solid) in cubic yards 510

E&P waste (solid) description Petroleum hydrocarbon impacted soils

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Waste Managment North Weld County 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.

Investigation and delineation of impacted soils are on-going at the Site. Subsequent to implementation of a Site remediation work plan, a reclamation plan will be issued to the COGCC.

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. 04/02/2019

Actual Spill or Release date, if known. 04/02/2019

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/02/2019

Date of commencement of Site Investigation. 04/04/2019

Date of completion of Site Investigation. _____

REMEDIAL ACTION DATES

Date of commencement of Remediation. 04/04/2019

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

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

Signed: Stephen Weathers

Title: Environmental Specialist

Submit Date: _____

Email: swweathers@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: 13272

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

402183750	OTHER
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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)