

# State of Colorado Oil and Gas Conservation Commission

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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 INFORMATION

Name of Operator: DCP OPERATING COMPANY LP	Operator No: 4680	<b>Phone Numbers</b>
Address: 370 17TH STREET - SUITE 2500		Phone: (970) 3786373
City: DENVER	State: CO	Zip: 80202
Contact Person: Chandler Cole	Email: CECole@dcpmidstream.com	Mobile: (970) 9390329

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 14902

Initial Form 27 Document #: 402283396

#### 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 checked="" 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 Site investigation and progress summary                          |

#### SITE INFORMATION

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

Facility Type: SPILL OR RELEASE	Facility ID: 469067	API #:	County Name: WELD
Facility Name: O'Connor CND Pump Release		Latitude: 40.353450	Longitude: -104.586763
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NESE	Sec: 31	Twp: 5N	Range: 64W
Meridian: 6		Sensitive Area? No	

#### SITE CONDITIONS

General soil type - USCS Classifications GW

Most Sensitive Adjacent Land Use farming crop land

Is domestic water well within 1/4 mile? No

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

### 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	SOILS	17' x 17'	soil sampling

## **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 have been previously submitted to the COGCC in various forms including the Form 19I (#402231261), Form 19S (#402238395, Form 19S (#402288114), Form 27I (#402283396) and Form 27S (#402324804 and #402353521). COGCC previously issued Spill Tracking Facility ID #469067 and Remediation Project #14902 for the Site. On November 6, 2019 DCP Operations initially removed standing liquid condensate and impacted soils, and on December 11, 12 and 20th, 2019 additional impacted soils were removed. Between February 5 and March 19, 2020, additional site investigation activities were conducted by advancing multiple soils borings to further delineate impacted soils at the site. Boring locations are illustrated on Figure 2. The February investigation indicated 2 locations that exhibited soils with benzene concentrations above COGCC standards, therefore additional soil investigation and soil removal activities were conducted in March and additional impacted soils were identified in the area to the west of the condensate tank. The extent of impacted soils was successfully delineated, however, due to the conflicts with densely constructed gas plant piping and instrumentation as well as critical concrete support structures in the area west of the condensate tank, further excavation of impacted soils was temporarily postponed to evaluate best practice options and discuss a future remediation plan with the COGCC.

## **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 ):

The February remedial investigation indicated that impacted soils remained in place, and additional soil removal and delineation activities were conducted in March 2020, which delineated the horizontal extent of the soil impacts and the results were presented to COGCC in F27S (#402353521). Due to the conflicts with densely constructed gas plant piping, instrumentation, and critical concrete support structures around the condensate tank, further excavation of impacted soils was suspended to evaluate best options and discuss a future remediation plan with the COGCC. An additional investigation was completed on June 18, 2020 to determine the vertical extent of soil impacts at BH06. The results are presented in Table 1, on Figure 3, and within the attached laboratory report. DCP plans to collect soil samples before and after implementing an approved remedial alternative and the results will be presented to COGCC in a subsequent F27S report.

### **Proposed Groundwater Sampling**

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

Groundwater has not been encountered during the subsurface investigation activities completed in March or June 2020 at the site. At BH06A, a low-moisture, stiff clay was encountered at 11-feet bgs, beyond which point, soils immediately transitioned to a more competent material incapable of sample collection with hand augers, indicating a likely confining layer to the downward migration of soil impacts. Additionally, as detailed in the Groundwater Monitoring section in the approved F27S (#402353521) and discussed with COGCC during an April 2020 meeting, based on review of regional groundwater level records from groundwater level measuring points and from area permitted water wells within 1-mile of the site, groundwater at the Site is anticipated to be more than 25-feet below the extent of observed soil impacts at the site, therefore groundwater monitoring is not recommended at this time.

### **Proposed Surface Water Sampling**

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

Surface water has not been impacted.

## **Additional Investigative Actions**

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

Analytical results from the soil investigations successfully delineated the horizontal extent of impacts at the site, however, some impacted soils that were identified within the area of the condensate tank as remained in place as presented in the approved F27S (#402353521). Soil impacts were identified around 5 locations (BH01, BH06, BH06A, BH11 and BH18B) and a stiff 'hard-pan' low-moisture clay was identified around 11 feet bgs. Due to the conflicts with densely constructed gas plant piping, instrumentation, and critical concrete support structures on the west end of the condensate tank, further excavation of impacted soils will not be completed, and remedial alternatives are being evaluated. Further delineation was completed on June 18, 2020 and two soil samples were collected from BH06B (adjacent to BH06) at 6 and 7 feet bgs to determine vertical impacts and the results are presented in Table 1.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 2

Number of soil samples exceeding 910-1 1

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 435

### NA / ND

-- Highest concentration of TPH (mg/kg) 183

NA Highest concentration of SAR

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 7

### 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?

☐ 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)

Volume of liquid waste (barrels)

☐ 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.

As described in the previous Form 19 and Form 27 submittals, source remediation efforts were conducted November 6, 2019, where DCP Operations initially removed standing liquid condensate and impacted soils, and on December 11, 12 and 20th, 2019 additional impacted soils were removed. On February 5 and 18, March 17 and 18, and again on June 18, 2020, additional site investigation activities were conducted to further delineate and remove impacted soils at the site. Based on investigation results, the majority of the release occurred around the major western concrete support column (support column) of the Condensate Storage Tank. The extent of impacts has been delineated in all directions extending out from the support column. Areas south and east of the support column have been effectively remediated via hydrovac excavation methods to depths ranging from 1 to 3-feet bgs, to within COGCC soil standards. Areas of identified soil impacts north and west of the support column have been delineated, however, due to the conflicts with densely constructed gas plant piping and instrumentation, critical concrete support structures in the area west of the support column, further excavation of impacted soils was suspended to evaluate remedial alternatives. Following discussion with COGCC in April 2020 and recent soil investigations, DCP proposes to use in-situ chemical oxidation (ISCO) as the remedial option to treat the remaining impacted areas around the condensate tank. Soil analytical results from the June investigation are summarized on the attached Table 1, on Figure 3, and within the laboratory analytical report attached.

## 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.

As described in the previous Form 19 and Form 27 submittals, source remediation efforts were conducted November 6, 2019, where DCP Operations initially removed standing liquid condensate and impacted soils, and on December 11, 12 and 20th, 2019 additional impacted soils were removed. On February 5 and 18, 2020, March 17 and 18, and June 18, 2020, additional site investigation activities were conducted to further delineate and remove impacted soils at the site. To date, approximately 25 cubic yards of impacted soils have been removed from the release location. Based on investigation results, the majority of the release occurred around the major western concrete support column (support column) of the Condensate Storage Tank. The extent of impacts has been delineated in all directions extending out from the support column. Areas south and east of the support column have been effectively remediated via hydrovac excavation methods to depths ranging from 1 to 3-feet bgs, to within COGCC soil standards. Areas of identified soils impacts north and west of the support column have been delineated, however due to the conflicts with densely constructed gas plant piping and instrumentation, critical concrete support structures in the area west of the support column, and restrictive gas plant protocols for the use of heavy excavation equipment, further excavation of impacted soils has not been completed. As a remedial alternative to excavation, DCP proposes to use ISCO to treat the remaining impacts and complete confirmation soil sampling following remediation activities to ensure impacts have been mitigated. DCP intends to present the remedial progress and results to COGCC in subsequent Form 27S reports.

## 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) \_\_\_\_\_ 25  
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.

Groundwater has not been encountered during any of the subsurface investigation activities completed at the site. As described in F27S (#402353521), shallow moisture observed within the sample borings was assumed to be associated with precipitation events and at BH06A, a low-moisture, stiff clay material was encountered at 11-feet bgs, and beyond 11-feet bgs soils immediately transitioned to a more competent material incapable of advancement or sampling with hand-auger methods, indicating a potential confining layer to the downward migration of soil impacts. Based on review of regional groundwater level records from groundwater level measuring points and from area permitted water wells within 1-mile of the site, it is anticipated that groundwater at the site is likely greater than 40-feet bgs, further supporting that current soil impacts at the site are not in proximity to area groundwater. Based on the above evaluation, groundwater at the Site is anticipated to be greater than 25-feet below the extent of observed soil impacts at the site, therefore groundwater monitoring is not recommended at this time.

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

**Frequency:** ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Soil Investigation and Remediation Summary

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

☒ Other Soil impact investigation summary and remedial alternative proposal

### 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:

Soils were transported for off-site disposal

Volume of E&P Waste (solid) in cubic yards 25

E&P waste (solid) description TPH impacted soils

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

Non-COGCC Disposal Facility: Pawnee Waste Facility: USR15-0048

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? No

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? No

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.

Spill location is an active gas processing plant. Grading will be returned to that prior to excavation and remediation activities and gravel will be added as required.

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. 11/04/2019

Actual Spill or Release date, if known. 11/04/2019

### **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 11/06/2019

Date of commencement of Site Investigation. \_\_\_\_\_

Date of completion of Site Investigation. \_\_\_\_\_

### **REMEDIAL ACTION DATES**

Date of commencement of Remediation. 11/06/2019

Date of completion of Remediation. \_\_\_\_\_

### **SITE RECLAMATION DATES**

Date of commencement of Reclamation. \_\_\_\_\_

Date of completion of Reclamation. \_\_\_\_\_

### **OPERATOR COMMENT**

DCP acknowledges that soil impacts were temporarily left in place in isolated area due to conflicts with various gas plant process components within the affected area and to review remedial alternatives other than excavation. Based on the soil investigation results and discussions with the gas plant engineers, DCP proposes to use ISCO as the remedial alternative to treat the remaining impacts to subsurface soils. Once this remedial alternative is approved by COGCC and following the implementation of these activities, confirmation soil samples will be collected from the treated areas to determine the effectiveness of the ISCO amendment and whether additional remediation is needed. DCP plans to prepare the material, equipment and schedule remedial activities to be completed within 90 days and the results of the injection activities and a workplan to complete confirmation soil sampling will be presented to the COGCC in a subsequent Form 27S report. If confirmation soil results are below the COGCC standards for soil, a no further action determination will be requested for approval from COGCC. DCP will continue to submit updates report to COGCC via eform 27.

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: 14902

### **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**

402442137	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)