

# State of Colorado Oil and Gas Conservation Commission

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



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Report taken by:

Candice (Nikki) Graber

## 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) 378-6373  |
| City: DENVER                               | State: CO                      | Zip: 80202             |
| Contact Person: Chandler Cole              | Email: cecole@dcpmidstream.com | Mobile: (970) 939-0329 |

### 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:

- ☒ **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       | 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). 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. On February 5 and 18, 2020, additional site investigation activities were conducted by advancing 8 soils borings to further delineate impacted soils at the site. Boring locations are illustrated on Figure 2. Results of the investigation indicated 2 locations (BH01 and BH06) that exhibited soils with benzene concentrations above COGCC standards, therefore additional soil investigation and soil removal activities were conducted during March 17 to 19, 2020. During the recent investigation, 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 ):

Results of remediation activities conducted February 5, 2020, indicated impacted soils remained in place, therefore additional soil removal and delineation activities were conducted March 17 and 18, 2020. The investigation was performed utilizing a hand auger, where soil borings were field screened at one-foot intervals using a PID. Representative sample locations were submitted for analysis of BTEX and TPH-GRO/DRO. The March 2020 investigation fully delineated the horizontal extent of soil impacts. However, additional impacted soils were identified in the area to the west and north of the condensate tank inside the delineated area as shown on Figure 3. 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 was temporarily postponed to evaluate best practice options and discuss a future remediation plan with the COGCC.

### Proposed Groundwater Sampling

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

Groundwater was not encountered during the subsurface investigation activities completed on March 17 and 18, 2020 at the site. Shallow moisture observed within the sample borings is assumed to be associated with recent precipitation events of collected snowfall and snow melt. 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 further detailed in the Groundwater Monitoring section below, 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 greater than 65-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, additional impacted soils were identified within the area west of the condensate tank as shown on Figure 3. An area of soil impacts extending to 5 to 7-feet bgs have been identified in the area of BH01 and BH06, and at BH06B, a soil boring was advanced to 11-feet bgs at which point a stiff 'hard-pan' low-moisture clay was identified and further advancement of the hand auger was not possible. The dry crumbed clay material at 11-feet bgs was sampled and reported with benzene and TPH concentrations above COGCC standards indicating an isolated area of impacts beneath the site. 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 was not completed until remedial alternatives can be evaluated.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 16

Number of soil samples exceeding 910-1 5

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) 551

NA Highest concentration of SAR

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 11

### 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, 2020, and again on March 17 and 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 have 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, and restrictive gas plant protocols for the use of heavy excavation equipment, further excavation of impacted soils has not yet been completed until remedial alternatives can be evaluated. DCP intends to discuss remedial options with COGCC to determine an approved remedial strategy and workplan for the site. Soil analytical results are summarized on the attached Table 1 as well as on Figure 3, and the laboratory analytical data and boring logs are 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, and again on March 17 and 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 have 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 yet been completed until remedial alternatives can be evaluated. DCP intends to discuss remedial options with COGCC to determine an approved remedial strategy and workplan for 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) \_\_\_\_\_ 25

\_\_\_\_\_ 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.

None. No evidence of groundwater was encountered during the soil boring investigations. Groundwater was not encountered during the subsurface investigation activities completed on March 17 and 18, 2020 at the site. Shallow moisture observed within the sample borings is assumed to be associated with recent precipitation events of collected snowfall and subsequent snow melt. 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. Additionally, 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 is present at depths ranging from 70 to 90-feet bgs at their respective well locations. The surface elevation of the site area is also located on a regional hill-top with ground surfaces at an estimated additional 20 to 45-feet higher in elevation compared to ground surfaces at the permitted well locations. Therefore, it can be assumed that groundwater at the site is likely greater than 80-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 65-feet below the extent of observed soil impacts at the site, therefore groundwater monitoring is not recommended at this time.

## REMEDATION 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

### 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: \_\_\_\_\_

## REMEDATION COMPLETION REPORT

### REMEDATION 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 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 remain in place in isolated areas in proximity to the release location. Impacts were temporarily left in place due to conflicts with various gas plant process components within the affected area. The use of heavy equipment to provide further excavation was considered, however not implemented at this time due to the following concerns: a) Limited access for heavy equipment due to low overhead clearance of the condensate storage tank as well as limited horizontal clearance between active process piping and support structures; b) critical support structures of the condensate storage tank and process piping allow for a maximum 1-3-foot depth of excavation before structural integrity is potentially compromised; c) due to the depth of impacts, a determination will need to be made what impacted soils are reasonably accessible for removal versus those that are deemed inaccessible based on the above mentioned rationale; d) due to the observed confining clay layer identified at 11-feet bgs and evaluation of regional groundwater being present greater than 60-feet bgs, impacts associated with this release are anticipated to be isolated to shallow soils, stable, and at low risk to further downward migration. DCP requests further collaboration with the COGCC to determine an acceptable path forward for further remediation or monitoring of soil impacts associated with this site.

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: ` 04/03/2020

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: Candice (Nikki) Graber

Date: 04/13/2020

Remediation Project Number: 14902

**COA Type****Description**

|  |   |
|--|---|
|  | Operator shall clarify depth to groundwater on subsequent Form 27 submittals.   |
|  | In accordance with Rule 910.b(4) additional investigation is required to define the horizontal and vertical extent of impacts to soil. Additional site investigation shall commence within 90 days. |
|  | If schedule is not feasible due to COVID-19 restrictions operator may request an extension via a supplemental Form 27.  |

**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**

|           |                                |
|-----------|--------------------------------|
| 402353521 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 402361546 | OTHER                          |

Total Attach: 2 Files

**General Comments****User Group****Comment****Comment Date**

|  |  |                     |
|--|--|---------------------|
|  |  | Stamp Upon Approval |
|--|--|---------------------|

Total: 0 comment(s)