

# 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> Phone: (303) 605-1718 Mobile: (303) 619-3042
Address: 370 17TH STREET - SUITE 2500		
City: DENVER	State: CO Zip: 80202	
Contact Person: Steve Weathers	Email: swweathers@dcpmidstream.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 12644 Initial Form 27 Document #: 401940170

#### PURPOSE INFORMATION

- |  |  |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination                                       | <input checked="" 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 Quarterly groundwater monitoring                                 |

#### SITE INFORMATION

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

Facility Type: GAS PROCESSING PLANT	Facility ID: 255957	API #:	County Name: WELD
Facility Name: GREELEY GAS PLANT		Latitude: 40.363548	Longitude: -104.728707
		** correct Lat/Long if needed: Latitude: 40.363785	Longitude: -104.729330
QtrQtr: SWSW	Sec: 25	Twp: 5N	Range: 66W Meridian: 6 Sensitive Area? No

#### SITE CONDITIONS

General soil type - USCS Classifications SW

Most Sensitive Adjacent Land Use Agricultural land and water treatment plant to the south, residential development to the north

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

Residential development 0.25 miles to the north. Water ditch located east of the plant property.

# 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) Petroleum hydrocarbon impacted soil and groundwater

## DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	GROUNDWATER	Unknown	monitoring well installation and groundwater sampling
Yes	SOILS	800 sf	soil sample investigation

## INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

A detailed description of the initial response activities was previously provided in the Form 27 (Document # 401940170) dated February 22, 2019. The Form 27 was conditionally approved by the COGCC on February 27, 2019. A Form 27 Supplemental (Document # 402092441) was provided to COGCC and conditionally approved on July 18, 2019.

## 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 ):

Previously completed soil investigation activities were submitted in the Form 27 (#401940170) dated February 22, 2019. Remediation objectives were conditionally approved by the COGCC on February 27, 2019 with the request to further delineate the extent of impacts to soil and groundwater. As described in Form 27 Supplemental (#402092441), 10 additional soil borings were advanced to further delineate the extent of impacts to soils at the Site. As further discussed in this Form 27, DCP proposes installation of two additional monitoring wells to further delineate impacts to groundwater in the northern area of the Site. Drilling and well installation are scheduled for September 4, 2019. During monitoring well installation, soil borings will be logged to evaluate geological conditions and identify any potential impacts to soil and groundwater at those locations.

### Proposed Groundwater Sampling

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

Previous groundwater monitoring activities were described in Form 27's (Document #401940170, #402092441, and #402092441). Based on COGCC comment for the most recent Form 27, DCP proposes installation of two groundwater monitoring wells at locations illustrated on the attached Figure 5. Drilling and well installation are scheduled for September 4, 2019. Additionally, based on 3Q19 groundwater sampling activities conducted on July 29, 2019, re-sampling activities were performed on August 28, 2019. Additionally, during the re-sampling event and in accordance with COGCC COA, MW04 was submitted for Full Suite VOC analysis by 8260B. The laboratory analytical reports are included as an attachment. Based on the analytical results from 3Q19 sampling, additional delineation activities are warranted. DCP will submit a Form 27 Supplemental report detailing additional monitoring well installation activities within 45 days from this submittal.

### Proposed Surface Water Sampling

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

Surface water samples are proposed to be collected from the nearby drainage ditch located to the east of the Gas Plant Facility to ascertain the presence of BTEX constituents. Surface water samples will be submitted for laboratory analysis of BTEX by USEPA Method 8260B. The results of surface water sampling will be submitted via eForm 27 reporting within 45 days from this submittal.

## Additional Investigative Actions

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

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 34

Number of soil samples exceeding 910-1 3

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

Approximate areal extent (square feet) 800

### NA / ND

-- Highest concentration of TPH (mg/kg) 3278

NA Highest concentration of SAR

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 10

### Groundwater

Number of groundwater samples collected 32

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 9'

Number of groundwater monitoring wells installed 8

Number of groundwater samples exceeding 910-1 5

-- Highest concentration of Benzene (µg/l) 6290

-- Highest concentration of Toluene (µg/l) 1050

-- Highest concentration of Ethylbenzene (µg/l) 648

-- Highest concentration of Xylene (µg/l) 4800

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?

☐ 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?

Ongoing quarterly site-wide groundwater monitoring will continue to be performed to identify any potential changes in Site conditions. Drilling and monitoring well installation is scheduled for September 4, 2015. Based on 3rd Quarter groundwater results presented herein, additional delineation activities at the site are warranted. Available methods required to remediate remaining impacts to soil in the vicinity of the Sump are currently being evaluated and will be presented in a subsequent Form 27S within 45 days from this submittal.

# 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.

A description of initial source removal was provided in the previously submitted Form 27 (Document # 401940170) dated February 22, 2019. The Form 27 remediation objectives were conditionally approved by the COGCC on February 27, 2019. Following completion of the additional soil investigation activities, performed April 24 to 26, 2019, remaining soil impacts were delineated to within a small area in close proximity to the original sump replacement location. Form 27 Supplemental (#402092441), was conditionally approved by the COGCC on July 18, 2019 with the request to install additional monitoring well locations to establish the horizontal extent of impact to groundwater which is anticipated to be completed in September 2019. Third Quarter 2019 groundwater monitoring activities are further described in the following Groundwater Monitoring Section. Additionally, available methods required to remediate remaining TPH impacts to soil in the vicinity of the Sump are currently being evaluated and will be presented via eForm 27S report within 45 days from this submittal.

## REMEDICATION 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 COGCC conditional approval of the Form 27 (#401940170), additional soil and groundwater investigation and delineation activities were completed between April 24 and 26, 2019. Following completion of the soil delineation activities, it was determined that a limited volume of impacted soil remains in place. DCP is currently evaluating available methods required to remediate remaining TPH impacts to soil in the vicinity of the Sump, which will be presented in a subsequent eForm 27S report within 45 days from this submittal. Groundwater conditions at the Site will continue to be monitored on a quarterly basis to evaluate current Site conditions and identify any change in conditions over time that may warrant additional subsurface investigations at the Site. Once groundwater is fully delineated at the Site, appropriate groundwater remediation activities will be evaluated and presented for COGCC approval in a supplemental eForm 27. In the interim, vacuum enhanced fluid recovery remediation may be performed at existing monitoring wells with elevated BTEX concentrations.

## Soil Remediation Summary

### ☒ In Situ

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

### ☐ Ex Situ

\_\_\_\_\_ Excavate and offsite disposal  
\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_  
\_\_\_\_\_ 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

☐ Bioremediation ( or enhanced bioremediation )  
☐ Chemical oxidation  
☐ Air sparge / Soil vapor extraction  
☐ Natural Attenuation  
Yes \_\_\_\_\_ Other \_\_\_\_\_ Interim vacuum enhanced fluid recovery and additional monitoring well installation.

## 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.

Site-wide groundwater (GW) sampling is conducted on a quarterly basis at the eight Site monitoring well locations MW01 through MW08 illustrated on the attached Figure 2. During the 3rd quarter 2019, GW levels and samples were collected from the current eight Site well locations on July 29, 2019 using standard hand-bailing sampling methods, and were submitted to Origins Laboratory Inc. (Origins) for BTEX analysis using USEPA method 8260B. Additionally, a confirmation Site-wide sampling event was performed August 28, 2019, to verify results of the July 29, 2019 event, and to analyze MW04 for full suite VOCs per COGCC request. GW elevations and flow trends for the two events are presented in Table 1 and illustrated on Figures 3 and 4. Third Quarter 2019 laboratory analytical data for BTEX constituents are summarized on Table 2 and the laboratory analytical reports are also provided. Lab results indicated benzene concentrations above the COGCC standards at 5 of the 8 sample locations during the July 29 event, and at 3 locations during the August 28 event. Total xylenes were reported above standards at 2 locations during the July 29 and August 28 events. Generally, contradicting groundwater quality results were reported at multiple well locations when compared to previous monitoring results. Based on recent irregular BTEX concentrations and highly variable directional GW flow conditions, additional Site GW monitoring is needed to further evaluate trends in GW quality. Two new monitoring wells are proposed to be installed, per COGCC conditional approval of Form 27S (#402092441), to the north of MW02 to further delineate impacts to GW (Figure 5). Installation of new well locations is scheduled to be performed on Wednesday, September 4, 2019, with subsequent GW sample collection conducted within one week. GW samples will be submitted for BTEX analysis using USEPA method 8206B.

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

**Frequency:** ☒ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other \_\_\_\_\_

**Report Type:** ☒ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report  
☐ Other \_\_\_\_\_

### WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No \_\_\_\_\_

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

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

E&P waste (solid) description \_\_\_\_\_

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

Non-COGCC Disposal Facility: \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_

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? No \_\_\_\_\_

Is additional groundwater monitoring to be conducted? Yes \_\_\_\_\_

## 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.

The Site is currently located within an active DCP gas plant. No plans for reclamation are necessary at this time.

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. 11/03/2015

Actual Spill or Release date, if known. 11/03/2015

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/03/2015

Date of commencement of Site Investigation. 11/03/2015

Date of completion of Site Investigation.

### REMEDIAL ACTION DATES

Date of commencement of Remediation.

Date of completion of Remediation.

### SITE RECLAMATION DATES

Date of commencement of Reclamation.

Date of completion of Reclamation.

### OPERATOR COMMENT

In addition to this third quarter 2019 progress report, as requested by COGCC in an August 22, 2019 letter, supplemental information is provided with the attachments and include: Boring logs for BH01-BH11 and MW05-MW08. Note that BH01 - BH04 were completed as MW01-MW04.

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

Signed: Steve 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: 12644

### 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

402163061	LOGS
402163062	MAP
402163064	ANALYTICAL RESULTS
402163065	ANALYTICAL RESULTS
402163070	OTHER
402163071	OTHER

Total Attach: 6 Files

### General Comments

#### User Group

#### Comment

#### Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)