

State of Colorado
Oil and Gas Conservation Commission

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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	Phone Numbers
Address: 370 17TH STREET - SUITE 2500		
City: DENVER State: CO Zip: 80202		
Contact Person: Branden Hayes	Email: bshayes@dcpmidstream.com	
		Phone: (970) 379-6389
		Mobile: (970) 373-8905

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 type="checkbox"/> Other _____ |

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.

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	Delineated on-site	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 in their response dated February 27, 2019. As part of this Form 27 Supplemental, additional soil and groundwater delineation activities were performed between April 24 and 26, 2019, and are further detailed in the attached Form 27 Summary Letter - Soil Boring Investigation and Second Quarter 2019 Groundwater Monitoring Summary Report (Report).

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 this Form 27 Supplemental and attached Report, 10 additional soil borings were advanced at locations illustrated on attached Figure 2 to further delineate the extent of impacts to soils at the Site. Soil borings were advanced utilizing a combination of hydrovac, direct push, and hand augur drilling methods. Soil borings were field screened by PID and standard soil sampling techniques. Representative soil samples from each borehole were submitted for laboratory analysis of BTEX and TPH-GRO by 8260B and TPH-DRO by 8015. Additional soil sampling is not proposed at this time. Please refer to the attached Form 27 Supplemental Report for additional details.

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 (Document # 401940170) dated February 22, 2019. Form 27 remediation objectives were conditionally approved by the COGCC on February 27, 2019 with the request to install additional monitoring well locations to further delineate impacts to groundwater. Figure 2 illustrates new groundwater monitoring well locations (MW05 through MW08) installed on April 24, 2019 and sampled on April 25, 2019. Monitoring wells were surveyed and gauged to determine hydraulic gradient and flow direction. Groundwater samples were submitted for analysis of BTEX by 8260B. Additionally, as requested by COGCC, the MW01 sample was submitted for laboratory analysis of the full suite of VOC analytes by 8260B. Groundwater monitoring results are further described in that attached Form 27 Supplemental Report. Ongoing site-wide groundwater monitoring will be conducted on a quarterly basis to monitor groundwater conditions at the Site.

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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 26

Number of soil samples exceeding 910-1 2

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) 3728

NA Highest concentration of SAR

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 11

Groundwater

Number of groundwater samples collected 8

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 8'

Number of groundwater monitoring wells installed 8

Number of groundwater samples exceeding 910-1 4

-- Highest concentration of Benzene (µg/l) 2570

-- Highest concentration of Toluene (µg/l) 53.3

-- Highest concentration of Ethylbenzene (µg/l) 235

-- Highest concentration of Xylene (µg/l) 4190

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 monitor groundwater at the Site and identify any potential changes in Site conditions. Additional soil investigation is not recommended at this time due to the limited area of impacted soils being located in close proximity to active gas plant operations, resulting in an unreasonable risk to human health and safety and the environment. Ongoing monitoring recommendations are further detailed in the attached Form 27 Report.

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. Additional source removal is not recommended at this time due to the limited area of impacted soils being located in close proximity to active gas plant operations, resulting in an unreasonable risk to human health and safety and the environment. Ongoing monitoring recommendations are further detailed in the attached Form 27 Report.

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 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 in areas that are considered inaccessible to active remediation efforts at this time, due to existing gas plant operations and infrastructure resulting in an unreasonable risk to human health and safety and the environment. As further detailed in the attached Form 27 Report, Tasman, on behalf of DCP, is requesting to defer additional active remediation efforts for soil. 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.

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 On going quarterly Site-wide groundwater monitoring at eight monitoring well locations.

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 sampling activities will be conducted on a quarterly basis at the eight Site monitoring well locations MW01 through MW08. Groundwater samples will be submitted for laboratory analysis of BTEX using USEPA Method 8260B. Groundwater monitoring results will be issued to the COGCC via a Form 27 supplemental report. Monitoring locations are illustrated in the attached Figure 2.

REMEDATION 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: _____

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? 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

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

Signed: ` Branden Hayes

Title: Environmental Specialist

Submit Date: ` 07/11/2019

Email: bshayes@dcprmidstream.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: 07/18/2019

Remediation Project Number: 12644

COA Type**Description**

	Acetone was detected in MW04. During the next quarterly sampling event Operator shall analyzed MW04 for full-suite VOC's by USEPA Method 8260B to determine if acetone is present in the groundwater or if the analytical result was due to a laboratory or sampling error.
	In accordance with Rule 910.b(4) an additional monitoring well is required to the northwest of MW02 to establish the horizontal extent of impacts to groundwater. More than one well may be required to obtain point of compliance. The monitoring well(s) shall be installed within 45 days (September 1, 2019). Operator shall notify COGCC EPS personnel no less than 72 hours prior to soil boring installation.
	Due to the sensitive nature of the area and the presence of soil impacts in contact with groundwater, COGCC cannot approve the work plan monitored natural attenuation. Operator shall submit an additional Form 27 with a detailed work plan proposing an active remediation timeline for this release within 30 days (August 18, 2019).
	<p>Per the Rule 100 Series Definitions a Sensitive Area is an area vulnerable to potential significant adverse groundwater impacts, due to factors such as the presence of shallow groundwater or pathways for communication with deeper groundwater; proximity to surface water, including lakes, rivers, perennial or intermittent streams, creeks, irrigation canals, and wetlands. Additionally, areas classified for domestic use by the Water Quality Control Commission, local (water supply) wellhead protection areas, areas within 1/8 mile of a domestic water well, areas within 1/4 mile of a public water supply well, ground water basins designated by the Colorado Ground Water Commission, and surface water supply areas are sensitive areas.</p> <p>According to COGCC records the remediation approximately 225' from Evans Town Ditch, 500' from a floodplain, 575' from a public wastewater treatment facility, 913' from a Mapped National Wetland Inventory Freshwater Emergent Wetland, 1400' from a shallow irrigation water well (Permit 6012-R-R), 1500' from the South Platte River, and 2400' from Ashcroft Draw. Additionally, shallow groundwater has been impacted by this release.</p> <p>Operator is directed to update the Site Information on the next Subsequent Form 27.</p>

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**

402092441	FORM 27-SUPPLEMENTAL-SUBMITTED
402104898	SITE INVESTIGATION REPORT

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)