

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
CHRIS CANFIELD

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		Mobile: ()
Contact Person: Stephen Weathers	Email: swweathers@dcpmidstream.com	

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 Groundwater monitoring and remediation workplan 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 and 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. A Form 27S (#402125018) Interim Summary Report was also approved on October 2, 2019, that detailed the Site Investigation and delineation activities from remediation efforts completed between June and September 2019 including the installation of and sample collection from 17 additional soil borings with subsequent monitor well completions (Figure 2). 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 at locations that encountered refusal. A defined saturated zone within the subsurface was not observed within the recovered soil cores during drilling activities, however, intermittent layers of moist soil were noted and monitoring wells were constructed. Details of Site investigation activities, the remediation workplan, and the fourth quarter 2019 groundwater monitoring activities performed on December 2 and 3, 2019 are provided herein. Groundwater elevation and analytical data are summarized on Tables 1 and 2, respectively, and laboratory reports are provided as an attachment.

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 and the soil sample analytical data were provided in the approved Form 27 document (#402125018) dated October 2, 2019. On December 18, 2019, DCP finalized an access agreement with the private landowner located north west of the intersection of CR42 & CR13 at the Site. Per the approved access agreement, the preferred remedial method for impacted soil remediation on that section of private land will consist of dig and haul with subsequent off-Site disposal at an approved landfill and backfilling and compaction with clean fill material. During excavation activities sidewall and base soil samples will be collected from the excavation extents, beneath clean overburden soil intervals, and submitted for laboratory analysis of BTEX and TPH-GRO/DRO. Additional remediation workplan activities are discussed further in this document.

Proposed Groundwater Sampling

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

On 11/19/19, groundwater monitoring was performed at monitoring wells MW09, MW17, MW18, MW19, and MW31 to verify continued points of compliance (POC). On 12/2/19 & 12/3/19, DCP performed a Site-wide groundwater monitoring event at all 32 locations. Samples were submitted for analysis of BTEX by Method 8260B. Based on the analytical data collected, the extent of groundwater impacts downgradient and on the east side of CR13 have not been fully delineated. However, these locations exhibited non-detect results during the third quarter 2019 sampling event performed in August 2019. Monitoring well MW31, located on the west side of CR13, continued to be below COGCC standards. Based on this data, additional downgradient monitor wells on the east side of CR13 will be required. Subsequent to final access agreement negotiations between DCP and the landowners to the east of CR13, monitor well locations and the preferred groundwater remediation alternatives will be presented for COGCC approval.

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):

Due to the phased approach of this project and not having access to beneath the County Roads or the east side of CR13 at this time, it is anticipated that lateral soil samples will be collected from the north and east extents of this excavation for delineation purposes. Based on investigation activities, the extents near the County Roads and specifically, near the intersection of CR42 and CR13, impacted material will be left in place until DCP finalizes negotiations and approval from the Weld County Public Works Right-of-Way division to temporarily remove the County Roadways to access impacted material.

As described above, downgradient POC monitor wells on the east side of CR13 are required. While the extent of soil impacts appears to have been delineated through drilling, soil bore installation and sampling, supplemental soil samples will be collected from the subsurface excavations to confirm that lateral extents of petroleum hydrocarbon impacts have been delineated and remediated.

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 an average of 12 feet below ground surface. Based on data collected during the third quarter 2019 groundwater monitoring event, impacts to groundwater were delineated north, east, and west of the release location. However, based on the recent analytical data, groundwater impacts have migrated north beyond the former POC wells located on the east side of CR13. To date, LNAPL has been observed within five groundwater monitoring wells and one temporary piezometer with thicknesses between 3.08 feet at MW08 and 0.37 feet at MW02 during the fourth quarter groundwater monitoring event. 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?

Additional groundwater monitoring well installation and sampling. Subsequent to access agreements final negotiations between DCP and the private landowners to the east of CR13, proposed monitoring well locations will be presented to the COGCC for approval. Site investigation activities conducted through December 3, 2019 are presented within this Form 27S.

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.

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. On December 18, 2019, DCP finalized an access agreement with the private landowner located to the northwest of the intersection of CR42 and CR13 at the Site. Per the approved access agreement, the preferred remedial method for impacted soil remediation beneath that section of private land will consist of dig and haul methods with subsequent off-Site disposal at an approved landfill and backfilling and compaction with clean fill material. Site preparation activities including Site perimeter fencing, access and egress preparation for trucking activities, re-routing of a 6-inch potable water line owned by the Little Thompson Water District, and Stormwater Management Plan Best Management Practices preparation activities commenced on January 6, 2019. Excavation activities to the northwest of CR42 and CR13 are anticipated to begin in mid-January 2019. Currently, DCP does not have access approval to remediate soil and groundwater beneath CR42 and CR13 from the Weld County Public Works Right-of-Way division or the private landowners to the east of CR13. While negotiations are ongoing, DCP anticipates that the preferred remedial alternative for soil impacts will be dig and haul methods with subsequent disposal. Additionally, DCP is evaluating alternatives to prevent contaminate migration into excavated areas from up- and side-gradient using multiple methods including clay barrier wall installation and dewatering infrastructure, for example. Additional details regarding contaminant migration prevention, chosen remediation alternatives for the adjacent Rights-of-Way and private land, and groundwater treatment will be provided to the COGCC in Supplemental Form 27 documents.

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 above, the preferred remediation alternative for subsurface soil beneath the private land to the northwest of CR42 and CR13 is excavation and disposal. Site preparation activities were initiated on January 6, 2019 and excavation activities are planned to be initiated in mid to late January contingent on approval to re-route the Little Thompson Water Line located on the property and within the anticipated excavation extents. Excavation and disposal of impacted soils will likely be the preferred remedial alternative for the adjacent surrounding land beneath CR42, CR13 and private land to the east. However, negotiations and plans have not been finalized for those areas. Groundwater remediation will be evaluated subsequent to impacted soil remediation activities.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)	Yes	Excavate and offsite disposal
_____ Chemical oxidation	_____	If Yes: Estimated Volume (Cubic Yards) _____ 510
_____ 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.

A total of 32 monitoring wells have been installed at the Site (Figure 2). On November 19, 2019, groundwater monitoring was performed at wells MW09, MW17, MW18, MW19 and MW31. Groundwater gauging and monitoring activities were also conducted on December 2 and 3 at all 32 monitoring well locations (MW01 – MW32). Groundwater levels were measured to evaluate hydraulic characteristics and seasonal fluctuations at the Site. Groundwater levels and converted elevations from the November and December events are provided on Table 1 and on Figure 3. 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 13 of 32 well locations. Five locations were dry or had insufficient volume for sample collection, five locations had LNAPL and nine locations had benzene concentrations that exceeded the Table 910-1 standard of 5 µg/L during the recent monitoring event. Laboratory data is summarized in Table 2, presented on Figure 4 and laboratory reports are included. While the third quarter 2019 groundwater results indicated the dissolved phase hydrocarbon plume was delineated, the recent groundwater lab results indicate the lateral extent of impacted groundwater is not fully defined. Based on this data, additional wells are required north beyond the former POC wells located on the east side of CR13 to fully delineate the impacts to groundwater. In preparation for remediation activities and subsequent to final access agreements to private land adjacent to the pipeline release, methods best suited for groundwater remediation are being evaluated and will be presented to the COGCC for approval.

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 and groundwater 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

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: 01/09/2020

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: CHRIS CANFIELD

Date: 01/29/2020

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

402279826	FORM 27-SUPPLEMENTAL-SUBMITTED
402281743	MONITORING REPORT

Total Attach: 2 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)