

State of Colorado
Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY

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Remediation Project No. 9251
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SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☒ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☐ Other (describe): _____

OGCC Employee:

☒ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No: 400836478

GENERAL INFORMATION

OGCC Operator Number: 4680		Contact Name and Telephone	
Name of Operator: DCP Midstream LP		Name: Steve Weathers	
Address: 370 17th Street, Suite 2500		No: (303) 595-3331	
City: Denver State: CO Zip: 80202		Fax: _____	
API/Facility No: _____		County: Weld	
Facility Name: _____		Facility Number: 441725	
Well Name: _____		Well Number: _____	
Location (Qtr, Sec, Twp, Rng, Meridian): NESE S31 T7N R65W		Latitude: 40.528161 Longitude: -104.696969	

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.):		Condensate	
Site Conditions: Is location within a sensitive area (according to Rule 901e)?		<input checked="" type="checkbox"/> Y <input type="checkbox"/> N If yes, attach evaluation.	
Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.):		Residential/Cultivated	
Soil type, if not previously identified on Form 2A or Federal Surface Use Plan:		Aquolls and Aquents, flooded	
Potential receptors (water wells within 1/4 mi, surface waters, etc.):		Surface water is located approximately 7,900' southeast of the release point.	
residential buildings are approximately 65' west, and a permitted domestic well is located approximately 1,000' southwest.			
Description of Impact (if previously provided, refer to that form or document):			
Impacted Media (check):	Extent of Impact:	How Determined:	
<input checked="" type="checkbox"/> Soils	Refer to the attached Figure 2 and Table 1	Soil sampling	
<input type="checkbox"/> Vegetation			
<input checked="" type="checkbox"/> Groundwater	Refer to the attached Figures 4 & 5 and Table 2	Groundwater sampling	
<input type="checkbox"/> Surface water			

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):
A Form 19 was previously submitted and the COGCC has issued a spill tracking facility ID of 441725 for the site. A topographic map of the site is included as Figure 1.
Describe how source is to be removed:
Impacted soil excavation activities were conducted to remove surface and subsurface soil impacts. Approximately 1,140 cubic yards of impacted soil within the source area was excavated, transported, and disposed of at the Waste Management Facility in Ault, CO. Additionally, approximately 375 barrels of groundwater was removed from the excavation with a vacuum truck prior to backfilling activities. Impacted soil remains in place in the upgradient area to the east of the release point (Figure 2). Remaining soil and groundwater impacts will be addressed as described in the Section below.
Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:
Based on soil and groundwater samples that were collected between May 28 and June 15, 2015 (Figure 2), impacted soils within the source and downgradient areas towards potential receptors have been removed. Soil sample analytical results are summarized in Table 1 and the laboratory analytical reports are included as Attachment A. Impacted soil remains on-site upgradient and east of the release point in the vicinity of underground and overhead utilities (Figure 2). During excavation activities, groundwater infiltrated into the excavation and groundwater removal activities were conducted as described in the Section above. A groundwater sample (GW01) was collected on June 3, 2015 from within the excavation and the analytical result indicated that benzene was above the Colorado Oil and Gas Conservation Commission (COGCC) standard with a detected concentration of 1,600 micrograms per liter (µg/L). Groundwater laboratory analytical results are summarized in Table 2 and laboratory reports are provided in Attachment A. Prior to backfilling the excavation, DCP installed two (2) horizontal perforated remediation wells within the water bearing zone of the excavation near the release point as illustrated on Figure 3. Additionally, DCP installed 2 vertical vacuum enhanced fluid recovery (EFR) and 2 air sparge (AS) remediation wells within the excavation area as illustrated on Figure 3. The EFR and AS remediation wells and conveyance lines were installed below grade and daylighted near the access road to the east of the private residences located at 940 E. 3rd St. and 301 Hickory St. in Eaton, CO (Residences). The EFR/AS remediation wells were installed with this configuration in order to facilitate access to the source area for groundwater remediation while limiting the disturbance to the Residences back yards. DCP also installed five (5) groundwater monitoring wells at the Site as illustrated on Figure 3. Based on groundwater gauging activities that were conducted on June 11, 2015, groundwater flow is toward the northwest as illustrated on Figure 4. A Site wide groundwater sampling event was conducted on June 11, 2015, however, due to slow recharge of groundwater into monitoring well BH03, the well was sampled on June 15, 2015 after a sufficient volume of groundwater was present within the well. Laboratory analytical results indicate that benzene is above the Colorado Oil and Gas Conservation Commission (COGCC) standard at monitoring well BH03 with a detected concentration of 2,600 µg/L. The analytical results for the remaining wells were below COGCC standards as illustrated on Figure 5. The groundwater analytical results are summarized on Table 2 and the laboratory analytical reports are included in Attachment A. Between June 4 and July 2, 2015, a petroleum hydrocarbon vapor intrusion investigation (VI) was conducted at the Residences. Based on the results of the indoor air sampling events, it appears that petroleum hydrocarbon vapor intrusion from impacted groundwater is not occurring and that the BTEX levels observed in the basement and main floor vapor samples are due to infiltration of air from the garages. The laboratory analytical reports for the indoor and background air samples are included in Attachment B. Moving forward, DCP will continue Site assessment, investigation, and remediation activities which include the following; 1) point of compliance groundwater monitoring well installation as illustrated on Figure 6; 2) Impacted soil excavation activities in the upgradient area to the east of the utility area as illustrated on Figure 6; 3) install up to six (6) upgradient groundwater monitoring/remediation wells subsequent to and contingent on the results of the upgradient soil excavation and investigation activities; 4) initiate weekly mobile EFR/AS remediation activities utilizing the horizontal remediation wells and the vertical EFR/AS wells that have been installed at the Site; 5) Conduct quarterly groundwater monitoring activities at the Site monitoring wells, and; 6) Contingent on approval from the Residences, perform sub-slab vapor sampling investigation activities to compare sub-slab vapor to the indoor air results that were observed.

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Well Name & No:	
Facility Name & No.:	441725

REMEDIATION WORKPLAN (CONT.)

OGCC Employee:

R. Allison

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):
DCP Midstream LP will gauge and sample the existing and proposed monitoring/remediation wells on a quarterly basis to assess the dissolved phase petroleum hydrocarbon impacts in groundwater. Groundwater samples will be submitted for laboratory analysis of BTEX constituents using USEPA Method 8260.

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. Use additional sheet for description if required.
The area where the excavation was located has been backfilled and compacted with clean material and landscaping activities were conducted between July 8 and August 4, 2015 and have been completed to the homeowner's satisfaction to match pre-existing conditions. The small portion of the county road right-of-way has also been backfilled and compacted to match pre-existing conditions.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.
Is further site investigation required? ☒ Y ☐ N If yes, describe:
The excavation extent and the soil and groundwater (GW01) sample locations are illustrated on Figure 2. The location of the existing monitoring and remediation wells are illustrated on Figure 3. A groundwater elevation contour map is included as Figure 4 and the groundwater analytical results from the sampled monitoring wells are illustrated on Figure 5. The proposed point of compliance monitoring wells and anticipated upgradient soil excavation area are illustrated on Figure 6. The soil analytical results are summarized on Table 1 and the groundwater analytical results are summarized on Table 2. Laboratory analytical reports are included in Attachment A. Indoor air sampling analytical results are included in Attachment B.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):
E&P waste that was generated from excavation activities was transported and disposed of at the Waste Management Facility in Ault, Colorado.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began:	5/5/2015	Date Site Investigation Completed:		Remediation Plan Submitted:	
Remediation Start Date:		Anticipated Completion Date:		Actual Completion Date:	

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

Print Name: Stephen Weathers

Signed: Title: Principal Env Specialist Date: 9/2/15

OGCC Approved: _____ Title: Northeast EPS Date: 9/15/2015

Conditions of Approval:

1. Install a ground water monitoring well as near as practicable to the southeast corner of the residence at 301 Hickory Street.
2. Install a ground water monitoring well as near to the source of the release as possible or collect ground water samples from one of the EFR wells.
3. Air sparge events must be conducted in a manner that allows for recovery of vapor phase hydrocarbons from the subsurface and prevents the potential for impact to nearby residences and utility corridors.
4. Measure the pressure/vacuum at monitoring wells near the residences during EFR/AS events.
5. Commence additional remediation activity within 90 days of the Form 27 Approval. Submit a Remediation Implementation Report summarizing additional excavation activity, monitoring well installation, and EFR/AS events within 60 days of completion of the additional remediation.