

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

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.

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☒ Other (describe): Supplemental Form 27 NFA

GENERAL INFORMATION

OGCC Operator Number: 69175 Name of Operator: Petroleum Development Corporation (PDC) Address: 1775 Sherman Street, Suite 3000 City: Denver State: CO Zip: 80203		Contact Name and Telephone Name: John Nussbaumer No: 303-860-5800 Fax: 303-860-5838	
API/Facility No: 05-123-20350 Facility Name: Hahn 23 & 24-27 Well Name: Hahn		County: Weld County Facility Number: Well Number: 24-27	
Location (QtrQtr, Sec, Twp, Rng, Merid) SESW Sec 27 T5N R67W 6th Principal Meridian Latitude: Longitude:			

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)? ☒ Y ☐ N If yes, attach evaluation. Groundwater < 20 feet bgs.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Agriculture

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Silty clay, loam and sand

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Surface water and a wetland area are located 30' south-southeast of the site, a building is located 500' west of the site, depth to groundwater is 1.5' below ground surface (bgs).

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	Within tank battery drainage area	Observations of surface spill and laboratory analysis
<input type="checkbox"/> Vegetation		
<input checked="" type="checkbox"/> Groundwater	See attached data	Collected groundwater samples for laboratory analysis
<input checked="" type="checkbox"/> Surface water	Wetlands	Visual inspection

REMEDIALATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):
Form 19 submitted on July 12, 2007(Spill # 2057616). Form 27 previously submitted on June 12, 2007 (Remediation # 3974).

Describe how source is to be removed:
Initial soil and groundwater remediation activities were provided in the Form 27 submitted on June 12, 2007. A topographic map of the Site Area and Site Map are provided as Figures 1 and 2, respectively. Groundwater analytical results are provided in Tables 1.

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.:
Impacted soil above the Colorado Oil and Gas Conservation Commission (COGCC) sensitive area standard (Table 910-1 prior to 4/1/09) was excavated prior to 4/1/09 and transported to the Waste Management Landfill in Ault, CO for disposal.

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REMEDIATION WORKPLAN (CONT.)

OGCC Employee: _____

Tracking Number: _____
Name of Operator: Petroleum Development Corporation
OGCC Operator No: 69175
Received Date: _____
Well Name & No: Hahn 24-27
Facility Name & No.: Hahn 23 & 24-27

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):
Five monitoring wells (MW01 through MW05) were installed at the site in August 2007. Each of the wells were developed and purged following installation. Groundwater samples were collected from each of the wells and were submitted for laboratory analysis of BTEX on August 26 and October 31, 2007, November 5, 2008, and February 26, 2009. From August 26, 2007 to February 26, 2009 BTEX concentrations have remained below the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission (WQCC) Regulation 41- Basic Standards for Groundwater. Groundwater analytical results are provided in Table 1 as an attachment.

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 site was restored to pre-release grade. PDC's production facility remains at the site.

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:
Analytical results indicated BTEX concentration in groundwater samples collected from each of the wells have remained below the Basic Standards of Groundwater from August 26, 2007 to February 26, 2009. Based on the laboratory results, PDC is requesting No Further Action status for this site.

Final disposition of E&P waste (land treated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):
Impacted soil above the COGCC sensitive area standard (Table 910-1 prior to 4/1/09) was excavated prior to 4/1/09 and transported to the Waste Management Landfill in Ault, CO for disposal.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: <u>7/27/07</u>	Date Site Investigation Completed: <u>9/29/08</u>	Remediation Plan Submitted: <u>4/14/09</u>
Remediation Start Date: <u>7/27/07</u>	Anticipated Completion Date: <u>9/29/08</u>	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: Randall Ferguson

Signed:  Title: Environmental Supervisor Date: 4/14/09

OGCC Approved: _____ Title: _____ Date: _____