FORM 27 Rev 6/99

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

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

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):

GENERAL INFORMATION

OGCC Operator Number: 69175
Name of Operator: Petroleum Development Corporation
Address: 1775 Sherman Street, Suite 3000
City: Denver State: CO Zip: 80203

Contact Name and Telephone
Name: Randall Ferguson
No: 303-860-5800
Fax: 303-860-5838

API/Facility No: 05-123-25245
Facility Name: Wiedeman
Well Name: Wiedeman
Location (QtrQtr, Sec, Twp, Rng, Meridian): NWNW Sec 21 T5N R67W 6 PM

County: Weld
Facility Number: 11.12.21.22-21U
Well Number: 11-21U
Latitude: Longitude:

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Condensate and produced water

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.): Cultivated, irrigated farm land

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Weld loam, 1 to 3 percent slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): A water well is located 700 ft southeast of the site; surface water is located 30 ft south of the site (Loveland & Greeley Canal); depth to ground groundwater is between 11 ft and 17.5 ft below ground surface (bgs).

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):		Extent of Impact:	How Determined:
☒	Soils	35' E-W x 23' N-S x 14' bgs	Field screening and laboratory analysis of soil samples
☐	Vegetation		
☒	Groundwater	See attached data	Laboratory analysis of groundwater samples
☐	Surface water		

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

Form 19 submitted on June 24, 2008 (Spill# 1983103). An initial Form 27 submitted on September 9, 2008 (Remediation# 4321).

Describe how source is to be removed:

A production tank valve was left open causing condensate and produced water to overflow from the produced water tank into the steel secondary containment. Tank battery equipment was removed and impacted soil above the COGCC sensitive area standard was excavated during June 2008. Soil samples were collected from the base and sidewalls of the excavation and submitted for analysis of TPH by EPA Modified Method 8015. Lab results indicate TPH concentrations (C6-C36) along the excavation perimeter and collected from the final excavation base were in compliance with the COGCC sensitive area standard of 1,000 mg/kg (Table 910-1 prior to 4/1/09). A groundwater sample was collected from the open excavation and was submitted for analysis of BTEX by EPA Method 8260B. Lab results indicate benzene, toluene, and total xylenes concentrations exceeded the CDPHE WQCC 41 (Reg.41) standards. Before backfilling the excavation, a bio-remediation amendment was applied to the groundwater and exposed smear zone soils. A topographic site location map and site map are provided as Figures 1 and 2. Soil and groundwater analytical results are summarized in Tables 1 and 2.

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.:

Approximately 96 cubic yards of impacted soil above the COGCC sensitive area standard (Table 910-1 prior to 4/1/09) were transported to the Waste Management Landfill in Ault, Colorado for disposal.

Submit Page 2 with Page 1.

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Page 2

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Tracking Number:
Name of Operator: Petroleum Development Corporation
OGCC Operator No: 69175
Received Date:
Well Name & No: Wiedeman 11-21U
Facility Name & No.: Wiedeman 11,12,21,22-21U

REMEDIATION WORKPLAN (CONT.)

OGCC Employee:

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

Four monitoring wells (MW01 through MW04) were installed at the site on 6/24/08. Groundwater samples were collected from wells and submitted for laboratory analysis of BTEX by EPA Method 8260B on 7/30/08, 2/18/09, 5/8/09, and 8/28/09. Analytical results indicated non-detectable BTEX concentrations in groundwater at monitoring wells MW01 through MW04 for four consecutive sampling events.

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 [X] N If yes, describe:

Analytical results indicate BTEX concentrations in the groundwater samples collected from each of the wells have remained in compliance with Reg. 41 standards for four consecutive sampling events. Analytical results indicate the former groundwater impacts have been remediated. Based on the laboratory results, PDC is requesting a No Further Action status for the site.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

Approximately 96 cubic yards of impacted soil that exceeded the COGCC sensitive area standard for TPH (Table 910-1 prior to 4/1/09) were transported to the Waste Management Landfill in Ault, Colorado for disposal.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began:	6/19/08	Date Site Investigation Completed:	6/24/08	Remediation Plan Submitted:	3/29/10
Remediation Start Date:	6/19/08	Anticipated Completion Date:	6/24/09	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: Randall Ferguson Title: Environmental Supervisor Date: 4/2/10

OGCC Approved: Title: Date: