

State of Colorado
Oil and Gas Conservation Commission



FOR OGCC USE ONLY

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

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): _____

OGCC Operator Number: <u>69175</u>	Contact Name and Telephone: <u>Randall Ferguson</u>
Name of Operator: <u>Petroleum Development Corporation</u>	No: <u>303-860-5800</u>
Address: <u>1775 Sherman St, Suite 3000</u>	Fax: <u>303-860-5838</u>
City: <u>Denver</u> State: <u>CO</u> Zip: <u>80203</u>	
API Number: <u>05-123-13273</u> County: <u>Weld</u>	
Facility Name: <u>Hoshiko 2-2</u> Facility Number: <u>245478</u>	
Well Name: <u>Hoshiko 2-2</u> Well Number: _____	
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>NWNE Sec. 2 T4N R64W 6 PM</u> Latitude: <u>40.346856</u> Longitude: <u>-104.515303</u>	

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.

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

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Clayey Sand; Olney fine sandy loam, 3-5% slope

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Upgradient wetlands, Box Elder Creek (and associated tributaries/ditch's)

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	<u>~83' N-S x ~43' E-W x ~6' bgs</u>	<u>PID Screening/Lab Analysis</u>
<input type="checkbox"/> Vegetation	_____	_____
<input checked="" type="checkbox"/> Groundwater	<u>Within bounds of excavation, See previous GW Rpts</u>	<u>Lab Analysis</u>
<input type="checkbox"/> Surface Water	_____	_____

REMEDIATION WORKPLAN

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

Soil impacted with petroleum hydrocarbons from historic activities were encountered while upgrading the dump lines. The wells were shut in and petroleum hydrocarbon impacted soil and groundwater was excavated/removed.

Describe how source is to be removed:

Approx. 1000 CY of impacted soil were excavated. Approx. 6" of free product was observed beneath the partially buried 100 bbl produced water tank. Groundwater was reached at approximately 6' bgs throughout the excavation. A vacuum truck was onsite to remove the free product and other accumulated groundwater from the excavation. Laboratory results indicated that BTEX and TPH concentrations in soils were below the listed Table 910-1 Standard, with the exception of soil left in place around an active sales gas pipe (SS-9). To maintain structural integrity, impacted materials were left in place at this location.

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.:

Approx. 1000 CY of impacted soil was excavated and loaded into 10 CY end dump trucks for disposal offsite at the Waste Management North Weld Landfill in Ault, Colorado. A vacuum truck was onsite to remove the free product and other accumulated groundwater from the excavation. Additionally, 10 bags of granulated activated carbon was applied to the groundwater and exposed smear zone soils in the excavation.



Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

REMEDIATION WORKPLAN (Cont.)

OGCC Employee: _____

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

Continue monitoring existing wells and replace any wells damaged during excavation activities. The installation of additional wells may be required to define the extent of groundwater impacts and establish groundwater flow direction. Wells will be monitored on a quarterly schedule for BTEX by EPA 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 site was restored to its pre-release grade. The PDC 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:

Continued groundwater monitoring program.

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

Approx. 1000 CY of impacted soil was excavated and transported to the Waste Management North Weld Landfill in Ault, Colorado for disposal.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 2/15/2010 Date Site Investigation Completed: 2/26/2010 Date Remediation Plan Submitted: 6/9/2010
Remediation Start Date: 2/16/2010 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: Randall Ferguson Signed: *Randall Ferguson*
Title: Environmental Supervisor Date: 6/9/2010

OGCC Approved: _____ Title: _____ Date: _____