

State of Colorado
Oil and Gas Conservation Commission



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

OGCC Operator Number: <u>69175</u>	Contact Name and Telephone: <u>Adell K. Heneghan</u>
Name of Operator: <u>Petroleum Development Cooperation</u>	No: <u>303-831-3973</u>
Address: <u>1775 Sherman Street, Suite 3000</u>	Fax: <u>970-285-9619</u>
City: <u>Denver</u> State: <u>CO</u> Zip: <u>80203</u>	

<u>05-045-07638</u>	<u>Garfield</u>
Facility Name: <u>Unocal 3</u>	Facility Number: _____
Well Name: <u>Unocal 23-9D</u>	Well Number: <u>23-9D</u>
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>SWNW, S9, T6S, R96W, 6PM</u> Latitude: <u>39.540947</u> Longitude: <u>-108.117917</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.): Open Range to the west. Mountainous to the east.

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Torriothents Complex, clayey sand

Potential receptors (water wells within 1/4 mi, surface waters, etc.): No water wells within 1/4 mile, Parachute Creek ~1050' to the west. Granlee Ditch ~ 660' to the north.

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>area is approximately 40-ft diameter</u>	<u>Soil Borings, visual inspection, field screening</u>
<input type="checkbox"/> Vegetation	_____	_____
<input type="checkbox"/> Groundwater	_____	_____
<input type="checkbox"/> Surface Water	_____	_____

REMEDIATION WORKPLAN

Describe initial action taken

Initial investigation was conducted on December 28, 2010 and January 4 to January 7, 2011 by HRL Compliance Solutions, Inc. (Spill #2523636). See Attached work plan.

Describe how source is to be removed:

Source will be treated by in-situ bioremediation by injecting Cool-Ox™ solution. See Attached work plan.

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.:

Soil will be treated in-situ. See Attached work plan.



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

Page 2
REMIATION WORKPLAN (Cont.)

OGCC Employee: _____

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

No groundwater has been impacted.

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including lo

The remediation technology that will be used at the site uses a direct push rig with minimal soil disturbance. Some minor disturbance is expected for confirmation of the subsurface soil remediation by soil borings using a drill rig. Any disturbed soil will be recontoured and reseeded if necessary. See Attached work plan.

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:

Soil borings will be used for field screening and analytical testing. See Attached work plan.

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

Drill cuttings from soil borings will be properly disposed of if necessary. See Attached work plan.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 12-28-2010 Date Site Investigation Completed: 1-7-2011 Date Remediation Plan Submitted: 3-10-2011
Remediation Start Date: 3-30-2011 Anticipated Completion Date: 7-1-2011 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: Adell K. Heneghan Signed: _____

Title: Director Environmental Date: _____

OGCC Approved: _____ Title: _____ Date: _____



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

Page 2 REMEDIATION WORKPLAN (Cont.)

OGCC Employee: _____

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IMPLEMENTATION SCHEDULE

Table with 3 columns: Date Site Investigation Began, Date Site Investigation Completed, Date 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: Adell K. Heneghan Signed: Adell K Heneghan Title: Director Environmental Date: _____

Digitally signed by Adell K Heneghan DN: cn=Adell K Heneghan, o=PDC, ou=email=aheneghan@petd.com, c=US Date: 2011.03.18 11:19:05 -0600

OGCC Approved: Nancy Prince for Chris Conzalez EPS Date: 4/4/2011