

State of Colorado
Oil and Gas Conservation Commission



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.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

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

FOR OGCC USE ONLY

Date received
7/25/2014
REM #8583
Doc #1733798

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No: 2147945

OGCC Operator Number: 96155

Name of Operator: Whiting Oil and Gas Corporation

Address: 1700 Broadway, Suite 2300

City: Denver State: CO Zip: 80290

Contact Name and Telephone:

Jeanette Liang; Jeanette.liang@whiting.com

No: 303-802-8290

Fax: 303-357-4006

API Number: 05-103-11021

County: Rio Blanco - #103

Facility Name: _____

Facility Number: 335628

Well Name: Boies

Well Number: C-27A-H3

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NE/4 NE/4 Sec. 27-T2S-R98W, 6th Latitude: 39.851620 Longitude: -108.373124

TECHNICAL CONDITIONS

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

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.): Rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Barcus Channery loamy sand

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Surface water 270 feet, livestock, Wetlands

Description of Impact (if previously provided, refer to that form or document): Form 19

Impacted Media (check):



Soils

Extent of Impact:

Estimated 100' x 50' x 4-8' bgl

How Determined:

soil sampling



Vegetation



Groundwater



Surface Water

REMEDATION WORKPLAN

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

The release was investigated, soil samples were collected and the pit was closed. (refer to previously provided Form 19)

Describe how source is to be removed:

Impacted material will be treated for hydrocarbon removal on site and the pit will be permanently closed.

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.:

A Screen Machine 621T (Shredder) with an internal spray system delivering hydrogen peroxide for the purpose of chemical oxidation will be used to accomplish soil remediation of hydrocarbons on



REMEDIAL WORKPLAN (Cont.)

Tracking Number:	
Name of Operator:	Whiting Oil and Gas Corporation
OGCC Operator No:	96155
Received Date:	
Well Name & No:	Boies C-27A-H3
Facility Name & No:	335628

OGCC Employee: Stan Spencer

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

Groundwater has not been impacted.

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.

Treated soils will be reused and backfilled to grade. Any further revegetation activities will be performed by Whiting Oil and Gas Corporation.

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:

Three background samples will be collected per site. One composite soil sample will be collected from the clean and treated stockpiles for every 1,000 cubic yards of material. One sample will be taken from each side wall of the pit. Two samples will be taken from the floor of each pit. Samples will be analyzed for TPHGRO/DRO/ORO (TX1005), BTEX (SW846-8021), RCRA 8 metals (6010B/200.7, 7471A/245.1), PH (9040B, 9045B, 4500B), SAR (calculation), EC (direct reading).

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

Material will be treated and reused on site.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 11-2013	Date Site Investigation Completed: 11-2013	Date Remediation Plan Submitted: 7-2014
Remediation Start Date: 8-9/2014	Anticipated Completion Date: est. 8-9/2014	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: Jeanette Liang

Signed:

Title: Environmental Professional

Date: 07/23/2014

OGCC Approved: _____

Title: _____

EPS Northwest

Date: _____

7/25/14

Provide 72 hour notice to COGCC prior to remediation operations



Whiting Petroleum Corporation

**Boies C-27A-H3
Pad 27A & H Form 19 Map
Sec 27, T2S R98W**

March 10, 2014

Explanation:



Whiting Well Location



Sample Location



1:2,000



InterTech E&E, LLC
Bergeson & Associates, LLP
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