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FORM  
27  
Rev 6/99State of Colorado  
Oil and Gas Conservation Commission

FOR OGCC USE ONLY

RECEIVED  
11/4/2013

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): \_\_\_\_\_

OGCC Employee:

☒ Spill ☐ Complaint  
☐ Inspection ☐ NOAV  
 Tracking No: 2145717

OGCC Operator Number: 100322

Name of Operator: Noble Energy Inc.

Address: 1625 Broadway, Suite 2000

City: Denver State: 11/4/2013 Zip: 80202

Contact Name and Telephone:

Jacob Evans

No: 303-228-4000

Fax: 303-228-4459

API Number: 05-123-12068

County: 11/4/2013

Facility Name: Prebish #2

Facility Number: Prebish 4N64W20SWNW, #322794

Well Name: Prebish #2

Well Number: 05-013-12068

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SENW, Sec 20 T4S, R64W Latitude: 40.298 Longitude: -104.581

## 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 space, sparse vegetation

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Topsoil underlain by clay

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Water well ~2010' southwest

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

Impacted Media (check):

- ☒
- Soils
- 
- ☐
- Vegetation
- 
- ☒
- Groundwater
- 
- ☐
- Surface Water

Extent of Impact:

50' x 90'

How Determined:

Excavation

Installed 13 MWs prior to excavation

## REMEDATION WORKPLAN

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

The water vault was taken out of service. A total of 13 monitoring wells were installed to delineate soil and ground water impacts, per COGCC Table 910-1 standards. Approximately 1,780 cubic yards of impacted soil were removed from within the tank berm and to the east and southeast. For additional details, refer to Excavation Report dated October 15, 2013.

Describe how source is to be removed:

Excavation was completed between August 20 and August 26, 2013. Photoionization detector (PID) was used for field screening of sidewall samples with confirmation soil analyses conducted by eAnalytics Lab of Loveland, CO. Approximately 1,780 cubic yards of impacted soil were removed.

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.:

Excavation was conducted to remove impacted soils which were then transported offsite to Waste Management's Buffalo Ridge landfill in Keeneseburg, CO landfill as non-hazardous waste. Monitoring wells will be sampled quarterly to confirm that petroleum impacts have been mitigated.

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**REMEDIAL WORKPLAN (Cont.)**

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

OGCC Employee: \_\_\_\_\_

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

Laboratory results indicate ground water exceeded the COGCC Table 910-1 limits for benzene during the Site Investigation which has been documented in a report dated August 25, 2013. Prior to the excavation of this site, 13 monitoring wells were installed to delineate the magnitude and extent of petroleum impacts; however, wells MW-1, MW-2, MW-3, MW-4, MW-7, MW-11 and MW-12 were destroyed during the excavation work. Monitoring wells MW-4, MW-7, MW-11 and MW-12 will need to be replaced to provide POC monitoring. The monitoring wells will be sampled on a quarterly basis until four consecutive quarters are in compliance with COGCC Table 910-1. All samples will be analyzed 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 tank and water vault were re-installed at this facility. The surface was recontoured to match the existing grade.

**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:

See Site Investigation Report dated August 25, 2013 for additional description and laboratory analyses. Monitoring wells MW-4, MW-7, MW-11 and MW-12, which were destroyed during the excavation, will need to be replaced to provide POC monitoring. Quarterly sampling and analyses will be conducted to ensure compliance with COGCC Table 910-1 limits.

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

All petroleum impacted soil was transported and disposed at Waste Management's Buffalo Ridge landfill in Keenesburg, CO.

**IMPLEMENTATION SCHEDULE**

Date Site Investigation Began: 8/6/13 Date Site Investigation Completed: 8/25/13 Date Remediation Plan Submitted: 11/4/2013  
Remediation Start Date: 9/20/13 Anticipated Completion Date: 9/26/13 Actual Completion Date: 9/26/13

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Jacob Evans

Signed: \_\_\_\_\_

Jacob  
Evans

Digitally signed by Jacob Evans  
DN: cn = Jacob Evans C = US o = Noble Energy Inc  
/Date: 2013.11.04 12:38:43 -0500

Title: 05-123-12068

Date: 11/4/2013

OGCC Approved: \_\_\_\_\_

Title: EPS

Date: 11/4/13