



02615172

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

Received 1/8/2015
Remediation # 9445

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: 2615172

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☒ Other (describe): Possible natural gas in aquifer

OGCC Operator Number: 100322

Name of Operator: Noble Energy, Inc.

Address: 1625 Broadway, Suite 2200

City: Denver

State: CO Zip: 80202

Contact Name and Telephone:

Curtis Rueter

No: 303 228 4048

Fax:

API Number: N/A

County: Weld

Facility Name: N/A

Facility Number: 754506

Well Name: Sand Creek Monitoring Well

Well Number: DWR Permit #297327

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SESE Sec 23 T6N R65W

Latitude: 40.46455 Longitude: -104.62404 (ARA)

TECHNICAL CONDITIONS

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

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.): Irrigated cropland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: N/A

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Most likely 3 water wells within 1/4 mile based on water well permit data;

roughly 6 wells within 1/2 mile radius; status of water wells to be investigated further

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

Impacted Media (check):

Extent of Impact:

How Determined:

☐

Soils

☐

Vegetation

☒

Groundwater

☐

Surface Water

To be determined

Originally identified through monitoring well water sampling

REMEDIAL WORKPLAN

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

Initial work to date has been first sampling and confirmation sampling of water well conducted by Colorado Water Watch and COGCC.

Describe how source is to be removed:

In accordance with Dec. 22 letter from COGCC, Noble will evaluate surrounding oil & gas wells (producing and P&A'd) within 3/4 miles of the monitoring well as potential sources of gas. Noble will review well files and records for adequate surface casing coverage, pressure/production anomalies, and casing integrity issues. Noble will also review any bradenhead pressure data and natural gas analyses. Noble will meet with COGCC by 1/31/2016 to review findings and identify wells for possible further field investigation efforts, which may include natural gas sampling, bradenhead testing, pressure testing, or additional investigative/remedial approaches needed to evaluate the condition of the wellbore and casing.

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.:

In accordance with the Dec. 22 letter from COGCC, Noble will:

1. Prepare geologic structure maps in the area of the Sand Creek well to aid in evaluating possible methane migration routes. Complete by 1/31/2016.
2. Investigate Sand Creek monitoring well with a downhole camera to determine if free gas is entering the wellbore and from what zone the gas might be entering. Complete by 1/31/2016.
3. Evaluate surrounding water wells (based on initial list developed by COGCC and reviewed/agreed upon by COGCC and Noble) for possible natural gas impacts. Sampling using 318A protocols will be completed by 1/31/2016.
4. Establish and implement an appropriate remediation plan to be informed by the findings of steps 1, 2, and 3.



Tracking Number: 2615172
Name of Operator: Noble Energy Inc.
OGCC Operator No: 100322
Received Date: 1/8/2016
Well Name & No: Sand Creek MW
Facility Name & No:

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REMEDIATION WORKPLAN (Cont.)

OGCC Employee: R. Allison

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):
To be determined based on results of investigative work described on previous page.

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.
N/A

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:
To be determined

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

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: SEE NOTE 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: Curtis Rueter

Signed: *Curtis Rueter*

Title: LNG/CNG Development Manager

Date: 1/8/2016

OGCC Approved: *Richard Allison*

Title: Northeast EPS

Date: 1/8/2016

*NOTE: Operator Dates of work are included in the body of the Form 27.