



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 1/6/2015
Remediation # 9445

OGCC Employee:

Spill Complaint
 Inspection NOAV

Tracking No: *2615172*

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): Possible natural gas in aquifer

OGCC Operator Number: <u>100322</u>	Contact Name and Telephone: <u>Curtis Rueter</u>
Name of Operator: <u>Noble Energy, Inc.</u>	No: <u>303 228 4048</u>
Address: <u>1625 Broadway, Suite 2200</u>	Fax: _____
City: <u>Denver</u> State: <u>CO</u> Zip: <u>80202</u>	

API Number: <u>N/A</u>	County: <u>Weld</u>
Facility Name: <u>N/A</u>	Facility Number: <u>754506</u>
Well Name: <u>Sand Creek Monitoring Well</u>	Well Number: <u>DWR Permit #297327</u>
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>SESE Sec 23 T6N R65W</u>	Latitude: <u>40.46455</u> Longitude: <u>-104.62404 (ORA)</u>

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:
<input type="checkbox"/> Soils	_____	_____
<input type="checkbox"/> Vegetation	_____	_____
<input checked="" type="checkbox"/> Groundwater	<u>To be determined</u>	<u>Originally identified through monitoring well water sampling</u>
<input type="checkbox"/> Surface Water	_____	_____

REMEDIATION 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: _____

Page 2
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: [Signature]
Title: LNG/CNG Development Manager Date: 1/8/2016

OGCC Approved: [Signature] Title: Northeast EPS Date: 1/8/2016

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