

State of Colorado Oil and Gas Conservation Commission

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402216172

Receive Date:

10/21/2019

Report taken by:

BOB CHESSON

Site Investigation and Remediation Workplan (Supplemental Form)

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. However, this shall not preclude the Operator from taking immediate action to protect public health or safety, the environment, wildlife, or livestock.

This Form 27 describes site conditions as currently understood by the Operator; approval of this Form 27 by COGCC is based on the site conditions accurately described herein; any changes in site conditions identified during or subsequent to the performance of the approved workplan may necessitate additional investigation or remediation which shall be described on a supplemental Form 27. This Form 27 is intended to provide basic information regarding the proposed site investigation and remediation actions, but the workplan may be more fully described in attached documentation.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

OPERATOR INFORMATION

Name of Operator: NOBLE ENERGY INC	Operator No: 100322	Phone Numbers
Address: 1001 NOBLE ENERGY WAY		Phone: (970) 3045329
City: HOUSTON State: TX Zip: 77070		Mobile: ()
Contact Person: Jacob Evans	Email: jacob.evans@nblenergy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 9870 Initial Form 27 Document #: 200440418

PURPOSE INFORMATION

- | | |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water |
| <input type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure | <input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation | <input checked="" type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste | <input type="checkbox"/> Rule 906.c.: Director request |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input type="checkbox"/> Other |

SITE INFORMATION

N Multiple Facilities (in accordance with Rule 909.c.)

Facility Type: SPILL OR RELEASE	Facility ID: 447161	API #:	County Name: WELD
Facility Name: SPILL/RELEASE POINT	Latitude: 40.295914	Longitude: -104.570827	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NWSE	Sec: 20	Twp: 4N	Range: 64W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW

Most Sensitive Adjacent Land Use NON CROP LAND

Is domestic water well within 1/4 mile? Yes

Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

Residence 0.2 miles NE

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | |
| <input checked="" type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input checked="" type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> Other (as described by EPA) | |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	GROUNDWATER	See Site Monitoring Data Report	Lab sample analysis
Yes	SOILS	See Site Monitoring Data Report	Lab sample analysis

INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

The well was shut in, the flowline was repaired, and site assessment activities were conducted to determine the nature and extent of impacted material. Site assessment activities conducted on July 29, 2016 included soil and groundwater sampling in the area of the suspected flowline release. Site assessment activities conducted on August 11, 2016 included soil sampling from soil borings and subsequent groundwater sampling from temporary monitoring wells. Refer to Spill/Release Report Document # 401088741 (Initial) and # 401092025 (Supplemental). COGCC issued spill tracking # 447161 for this release.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

☒ Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

Thirty six (36) soil samples were collected during site investigation and excavation activities and submitted under proper chain of custody to a certified laboratory for analysis of TPH-DRO, TPH-GRO, BTEX, and Naphthalene and analyzed by EPA Methods 8015 and 8260b.

Proposed Groundwater Sampling

☒ Will groundwater samples be collected as part of this investigation? (Number, analyses, and locations of samples):

Seventeen (17) groundwater samples were collected as part of site investigation and excavation activities and submitted to a certified laboratory under proper chain of custody and analyzed by EPA Method 8260b.

Proposed Surface Water Sampling

☐ Will surface water samples be collected as part of this investigation? (Number, analyses, and locations of samples):

Additional Investigative Actions

☐ Additional alternative investigative actions described in attached Site Investigation Plan (summary):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 36

Number of soil samples exceeding 910-1 13

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 5500

NA / ND

-- Highest concentration of TPH (mg/kg) 8200

NA Highest concentration of SAR

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 7

Groundwater

Number of groundwater samples collected 17

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 7'

Number of groundwater monitoring wells installed 16

Number of groundwater samples exceeding 910-1 7

-- Highest concentration of Benzene (µg/l) 3500

-- Highest concentration of Toluene (µg/l) 1800

-- Highest concentration of Ethylbenzene (µg/l) 380

-- Highest concentration of Xylene (µg/l) 4400

NA Highest concentration of Methane (mg/l)

Surface Water

0 Number of surface water samples collected

0 Number of surface water samples exceeding 910-1

If surface water is impacted, other agency notification may be required.

OTHER INVESTIGATION INFORMATION

☐ Were impacts to adjacent property or offsite impacts identified?

☐ Were background samples collected as part of this site investigation?

☐ Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards)

Volume of liquid waste (barrels)

☐ Is further site investigation required?

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? No _____

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Soil samples collected from borings BH01 through BH07 (Figure 3) indicated TPH concentrations are present in the vadose zone above COGCC Table 910-1 soil standards. Soil borings BH08 through BH16 indicate that soil impacts extend approximately 20 to 30 feet from the release location in all directions. Excavation of impacted soil above COGCC standards has been completed.

REMEDIATION SUMMARY

Describe how remediation of existing impacts to soil and groundwater is to be accomplished (i.e. summarize remedial action plan). Provide a brief narrative description including: technical justification, schedule for implementation, estimated time to attain NFA status, plus plans and specifications for the selected remedial action technology.

No further remediation is necessary

Soil Remediation Summary

☐ In Situ

_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

☒ Ex Situ

Yes _____ Excavate and offsite disposal
If Yes: Estimated Volume (Cubic Yards) _____ 1160
Name of Licensed Disposal Facility or COGCC Facility ID # _____
No _____ Excavate and onsite remediation
_____ Land Treatment
_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Other _____

Groundwater Remediation Summary

☐ Bioremediation (or enhanced bioremediation)
☐ Chemical oxidation
☐ Air sparge / Soil vapor extraction
☐ Natural Attenuation
☐ Other _____

GROUNDWATER MONITORING

If groundwater has been impacted, describe proposed monitoring plan, including # of wells or sample points, monitoring schedule, analytical methods, points of compliance. Attach a groundwater monitoring location diagram.

Thirteen post excavation groundwater monitoring wells were installed and will be sampled for BTEX by EPA method 8260b on a quarterly basis. BH02R, BH03R, BH05R, BH07R, BH08R, BH09R, BH10R, BH11, BH12, BH13R, BH14, BH15, and BH16 are currently on the monitoring program and may be reduced contingent on lab analytical.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other _____

Report Type: ☒ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other No further action request _____

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? Yes _____

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

No beneficial reuse

Volume of E&P Waste (solid) in cubic yards 1160

E&P waste (solid) description Impacted soil above COGCC Table 910-1 standards.

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Buffalo Ridge Landfill

Volume of E&P Waste (liquid) in barrels 110

E&P waste (liquid) description Impacted groundwater above COGCC standards

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Republic Services Disposal Facility

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes _____

Do all soils meet Table 910-1 standards? Yes _____

Does the previous reply indicate consideration of background concentrations? No _____

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? _____

Does Groundwater meet Table 910-1 standards? Yes _____

Is additional groundwater monitoring to be conducted? No _____

RECLAMATION PLAN

RECLAMATION PLANNING

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.

After remediation and monitoring activities are completed, reclamation will be completed in compliance with COGCC Rule 1004. Monitoring wells will be properly plugged and abandoned once a NFA determination is achieved for the project.

Is the described reclamation complete? Yes _____

Does the reclamation described herein constitute interim or final reclamation of the Oil and Gas Location?

☐ Interim? ☒ Final?

Did the Surface Owner approve the seed mix? _____

If NO, does the seed mix comply with local soil conservation district recommendations? _____

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. _____

Actual Spill or Release date, if known. 08/02/2016

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). _____

Date of commencement of Site Investigation. 07/29/2016

Date of completion of Site Investigation. 08/11/2016

REMEDIAL ACTION DATES

Date of commencement of Remediation. 01/24/2017

Date of completion of Remediation. 06/27/2019

SITE RECLAMATION DATES

Date of commencement of Reclamation. 01/30/2017

Date of completion of Reclamation. 06/27/2019

OPERATOR COMMENT

Balboa C20-03 NFAR

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

Signed: Jacob Evans

Title: Environmental Coordinator

Submit Date: 10/21/2019

Email: jacob.evans@nblenergy.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: BOB CHESSON

Date: 10/21/2019

Remediation Project Number: 9870

COA Type**Description**

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Attachment Check List

Upon approval, the approved Form 27 and all listed attachments will be indexed to the Remediation Project file. Only the approved Form 27 will also be indexed to the related Facilities.

Att Doc Num**Name**

402216172	FORM 27-SUPPLEMENTAL-SUBMITTED
402216183	MONITORING REPORT
402216193	MONITORING REPORT

Total Attach: 3 Files

General Comments**User Group****Comment****Comment Date**

Environmental	<p>Based on the information presented no further action is necessary at this time and the COGCC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required. In addition, the surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules.</p> <p>For locations with active ongoing oil and gas operations, comply with Rule 1003 interim reclamation requirements and for locations that will no longer have active oil and gas operations, comply with Rule 1004 Final Reclamation requirements.</p>	10/21/2019
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Total: 1 comment(s)