

State of Colorado Oil and Gas Conservation Commission

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Report taken by:

Taylor Robinson

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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATION

| | | |
|-------------------------------------|-----------------------------|-----------------------|
| Name of Operator: NOBLE ENERGY INC | Operator No: 100322 | Phone Numbers |
| Address: 2001 16TH STREET SUITE 900 | | Phone: (715) 562-0251 |
| City: DENVER State: CO Zip: 80202 | | Mobile: () |
| Contact Person: Dan Peterson | Email: rbueuf27@chevron.com | |

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 12471 Initial Form 27 Document #: 401935594

PURPOSE INFORMATION

- ☐ Rule 913.c.(1): Pit or Cuttings Trench closure.
- ☐ Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- ☐ Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- ☐ Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- ☐ Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- ☒ Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- ☐ Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- ☐ Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- ☐ Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- ☐ Rule 913.g: Changes of Operator.
- ☐ Rule 915.b: Request to leave elevated inorganics in situ.
- ☐ Other: _____

SITE INFORMATION

Yes Multiple Facilities

| | | | |
|--|---------------------|------------------------|--|
| Facility Type: LOCATION | Facility ID: 328125 | API #: _____ | County Name: WELD |
| Facility Name: AGRICULTURAL PROD INC-64N66W 32SWNE | Latitude: 40.269520 | Longitude: -104.799510 | |
| ** correct Lat/Long if needed: Latitude: _____ | | Longitude: _____ | |
| QtrQtr: SWNE | Sec: 32 | Twp: 4N | Range: 66W Meridian: 6 Sensitive Area? Yes |
| Facility Type: SPILL OR RELEASE | Facility ID: 462437 | API #: _____ | County Name: WELD |
| Facility Name: Agricultural Products Federal 32-17 | Latitude: 40.269576 | Longitude: -104.797120 | |
| ** correct Lat/Long if needed: Latitude: _____ | | Longitude: _____ | |
| QtrQtr: SWNE | Sec: 32 | Twp: 4N | Range: 66W Meridian: 6 Sensitive Area? Yes |

SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use 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

Occupied Building 425'

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- ☒ E&P Waste ☐ Other E&P Waste ☐ Non-E&P Waste
- ☒ Produced Water ☐ Workover Fluids _____
- ☒ Oil ☐ Tank Bottoms _____
- ☒ Condensate ☐ Pigging Waste _____
- ☐ Drilling Fluids ☐ Rig Wash _____
- ☐ Drill Cuttings ☐ Spent Filters _____
- ☐ Pit Bottoms _____
- ☐ Other (as described by EPA) _____

DESCRIPTION OF IMPACT

| Impacted? | Impacted Media | Extent of Impact | How Determined |
|-----------|----------------|---------------------|-----------------------|
| Yes | GROUNDWATER | 75' X 75' | Laboratory Analytical |
| Yes | SOILS | 30' X 30' X 13' bgs | Laboratory Analytical |

INITIAL ACTION SUMMARY

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

During tank battery dismantlement impacted media was discovered between the tanks and separators. Confirmation sidewall excavation samples were collected above the phreatic zone and submitted under proper chain of custody procedures to Origins Laboratory for analysis of TPH-DRO, TPH-GRO, BTEX, and Naphthalene by EPA Methods 8015 and 8260c. A base groundwater sample was also collected and analyzed for BTEX.

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):

Twelve grab soil samples were collected by Eagle Environmental during site investigation activities for analysis of TPH-DRO, TPH-GRO, BTEX, and Naphthalene by EPA Methods 8015 and 8260c. Additionally, SS-02@3' was also analyzed for SAR by 20B Saturated Paste, EC by specific conductance by Modified 9050A, and pH by EPA 9045D.

Proposed Groundwater Sampling

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

Seven groundwater samples were collected by Eagle Environmental during site investigation activities and were submitted to Origins Laboratory for analysis of BTEX by EPA Method 8260c.

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 37

Number of soil samples exceeding 915-1 2

NA / ND

-- Highest concentration of TPH (mg/kg) 628

-- Highest concentration of SAR 9.55

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

BTEX > 915-1 Yes

Approximate areal extent (square feet) 900

Vertical Extent > 915-1 (in feet) 12

Groundwater

Number of groundwater samples collected 132

-- Highest concentration of Benzene (µg/l) 8250

Was extent of groundwater contaminated delineated? Yes

ND Highest concentration of Toluene (µg/l)

Depth to groundwater (below ground surface, in feet) 8

-- Highest concentration of Ethylbenzene (µg/l) 898

Number of groundwater monitoring wells installed 14

-- Highest concentration of Xylene (µg/l) 8890

Number of groundwater samples exceeding 915-1 28

NA Highest concentration of Methane (mg/l)

Surface Water

0 Number of surface water samples collected

Number of surface water samples exceeding 915-1

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.

The source was removed on June 24, 2019 through excavation of impacted soil above COGCC Table 910-1 standards. Eagle Environmental collected confirmation grab soil samples above the phreatic zone to determine the lateral and vertical extent of the excavation.

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.

Fourteen monitoring wells were installed to delineate dissolved phase impacts. Mobile AS/SVE remediation was implemented through April 2022, and has been discontinued. Static evaluation began during the May 2022 monitoring event. Four quarters of post-remediation monitoring in compliance with COGCC Table 915-1 regulatory has been observed. No further assessment or remediation appears warranted.

Soil Remediation Summary

☐ In Situ

☒ Ex Situ

Bioremediation (or enhanced bioremediation)

Yes Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) 330

Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or COGCC Facility ID #

Natural Attenuation

No Excavate and onsite remediation

Other

Land Treatment

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Other _____

Groundwater Remediation Summary

 No Bioremediation (or enhanced bioremediation)

 No Chemical oxidation

 Yes Air sparge / Soil vapor extraction

 Yes Natural Attenuation

 Yes Other A groundwater amendment was
applied to the base of the
excavation.

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.

Noble proposes the amended monitoring plan to include MW01R through MW06R and MW09 through MW-13. These monitoring wells will be sampled on a quarterly basis and submitted to a certified laboratory for analysis of BTEX, naphthalene 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene. As of 1Q23, four quarters of post-remediation monitoring in compliance with COGCC Table 915-1 regulatory has been observed. No further assessment or remediation appears warranted.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

☒ Quarterly☐ Semi-Annually☐ Annually☐ Other

☐ Request Alternative Reporting Schedule:

☐ Semi-Annually☐ Annually☐ Other

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

Report Type:

☒ Groundwater Monitoring☐ Land Treatment Progress Report☐ O&M Report☒ Other Monitoring summary & NFAR

Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Noble intends to directly address the costs of remediation at the locations as part of our asset retirement obligation process and operations. Noble has general liability insurance (policy MWZZ 316714) and financial assurance in compliance with COGCC rules. Records are available on the COGCC's website.

Operator anticipates the remaining cost for this project to be: \$ 0

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 use

Volume of E&P Waste (solid) in cubic yards 330

E&P waste (solid) description E&P solid waste derived from excavation of source impacts

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Waste Management Landfill/Buffalo Ridge

Volume of E&P Waste (liquid) in barrels 0

E&P waste (liquid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No

If YES:

☐ Compliant with Rule 913.h.(1).

☐ Compliant with Rule 913.h.(2).

☐ Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards? No

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards? Yes

Is additional groundwater monitoring to be conducted? _____

Operator shall comply with the COGCC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

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.

Reclamation will be in accordance with COGCC 1004 Rule.

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 provide the seed mix? _____

If YES, does the seed mix comply with local soil conservation district recommendations? _____

Did the local soil conservation district provide the seed mix? _____

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 02/11/2019

Proposed date of completion of Reclamation. _____

IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

PRIOR DATES

Date of Surface Owner notification/consultation, if required. 12/21/2020

Actual Spill or Release date, or date of discovery. 02/22/2019

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/11/2019

Proposed site investigation commencement. 02/11/2019

Proposed completion of site investigation. 02/21/2020

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/24/2019

Proposed date of completion of Remediation. 02/10/2023

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

☐ Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

OPERATOR COMMENT

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

Signed: Andrew Newberry

Title: Environmental Consultant

Submit Date: 02/17/2023

Email: anewberry@eagle-enviro.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: Taylor Robinson

Date: 04/20/2023

Remediation Project Number: 12471

COA Type**Description**

| | |
|--------|---|
| | If Operator proposes background soil sampling, Operator shall obtain background samples from a minimum of five (5) separate locations as an initial characterization. Background sampling locations should be sufficiently away from the impacted area to reflect conditions not impacted by oil and gas activity, and should be obtained from similar depths and soil horizons or lithologic materials for comparison to confirmation soil samples. |
| | COGCC has removed Operator's request for closure. Operator shall collect confirmation soil samples as described in the Rule 915.e.(2) at sample location PH-02 @ 12' and MW-04 @ 5-7.5'. Operator will analyze soil samples for full Table 915-1 suite including Organic Compounds in Soil, Table 915-1 metals, and Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)). |
| 2 COAs | |

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**

| | |
|-----------|--------------------------------|
| 403324286 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 403324291 | MONITORING REPORT |

Total Attach: 2 Files

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

| | | |
|--|--|---------------------|
| | | Stamp Upon Approval |
|--|--|---------------------|

Total: 0 comment(s)