

State of Colorado Oil and Gas Conservation Commission

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Report taken by:

Alexander Ahmadian

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: danpeterson@chevron.com | |

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 11925 Initial Form 27 Document #: 401779563

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

No Multiple Facilities

| | | | |
|--|---------------------|------------------------|--|
| Facility Type: SPILL OR RELEASE | Facility ID: 455231 | API #: _____ | County Name: WELD |
| Facility Name: Beebe Draw RG 26-9, 23 | Latitude: 40.281430 | Longitude: -104.621410 | |
| ** correct Lat/Long if needed: Latitude: _____ | | Longitude: _____ | |
| QtrQtr: NESE | Sec: 26 | Twp: 4N | Range: 65W Meridian: 6 Sensitive Area? Yes |

SITE CONDITIONS

General soil type - USCS Classifications SC 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? No

Other Potential Receptors within 1/4 mile

Occupied Building 1330'

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 | 150' X 150' | Laboratory Analysis |
| Yes | SOILS | 148' X 78' X 20' bgs | Laboratory 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.

During dismantlement of the tank battery a historical release was discovered. Excavation of impacted material will be scheduled.

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):

Seventy eight grab soil samples were collected along the sidewalls and base of the excavation and analyzed for TPH-DRO, TPH-GRO, BTEX, and Naphthalene by EPA Methods 8015 and 8260b. SS01@3' was also analyzed for SAR, EC, and pH by EPA Method 6020/USDA60 (2, 3A), EPA 120.1, and EPA 9045D.

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

Eighteen groundwater monitoring wells were installed and sampled during groundwater investigation activities. These wells were sampled and analyzed for BTEX 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 78

Number of soil samples exceeding 915-1 8

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

Approximate areal extent (square feet) 11544

Groundwater

Number of groundwater samples collected 18

Was extent of groundwater contaminated delineated? Yes

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

Number of groundwater monitoring wells installed 18

Number of groundwater samples exceeding 915-1 5

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.

NA / ND

-- Highest concentration of TPH (mg/kg) 5500

-- Highest concentration of SAR 0.27

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 20

-- Highest concentration of Benzene (µg/l) 210

-- Highest concentration of Toluene (µg/l) 1.5

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

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

NA Highest concentration of Methane (mg/l)

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 from the location through excavation of impacted soil above COGCC Table 910-1 standards. A third party environmental consultant collected laboratory confirmation sampled to determine the final extent.

REMEDIAL ACTION 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.

Twenty-seven groundwater monitoring wells were installed to determine the extent of dissolved phase impacts. Tasman Geosciences will conduct mobile air sparge and soil vapor extraction events to remediate impacted media. Point of compliance has been achieved. An estimated date for a no further action request will be October 31, 2024 contingent on active remedial results and potential rebound during static evaluation.

Soil Remediation Summary☐ In Situ☒ Ex Situ

Bioremediation (or enhanced bioremediation)

Yes Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) 6312

_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

_____ 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

No _____ Bioremediation (or enhanced bioremediation)
No _____ Chemical oxidation
Yes _____ Air sparge / Soil vapor extraction
Yes _____ Natural Attenuation
No _____ 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.

Twenty-seven monitoring wells were sampled to assess dissolved phase impacts. These wells will be sampled on a quarterly basis by Tasman Geosciences and groundwater samples will be transported under proper chain of custody procedures to a certified laboratory for analysis of BTEX, Naphthalene, 1,2,4-Trimethylbenzene, and 1,3,5-Trimethylbenzene by EPA Method 8260. Inorganic parameters will be sampled from monitoring wells BH02, BH03, BH04, BH05, BH06R, BH07, BH09, BH11, BH12, BH13, BH14, BH16, BH17, BH20, BH24, BH25, and BH26.

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

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. The cost for remediation is an estimate only, costs may change upwards or downward based on site-specific information. Noble makes no representation or guarantees as to the accuracy of the estimate.

Operator anticipates the remaining cost for this project to be: \$ 50000

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 6312

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

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Waste Management/Ault, Colorado and Buffalo Ridge

Volume of E&P Waste (liquid) in barrels 2

E&P waste (liquid) description E&P liquid waste derived from enhanced fluid recovery events

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: NGL C6

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? Yes

OPERATOR COMMENT

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

Signed: Allan Engelhardt

Title: Environmental Consultant

Submit Date: 10/24/2022

Email: chevroneform@tasman-geo.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: Alexander Ahmadian

Date: 12/22/2022

Remediation Project Number: 11925

COA Type**Description**

| | |
|-------|--|
| | |
| 0 COA | |

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**

| | |
|-----------|--------------------------------|
| 403205806 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 403205815 | MONITORING REPORT |

Total Attach: 2 Files

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

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

Total: 0 comment(s)