FORM 27 Rev 5/22

# State of Colorado
# Energy & Carbon Management Commission

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Receive Date:
Report taken by:

## 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 ECMC 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 INFORMATON

Name of Operator: NOBLE ENERGY INC Operator No: 100322
Address: 1099 18TH STREET SUITE 1500
City: DENVER State: CO Zip: 80202
Contact Person: Dan Peterson Email: danpeterson@chevron.com

**Phone Numbers**
Phone: (970) 730-7281
Mobile: ( )

## PROJECT, PURPOSE & SITE INFORMATION

### PROJECT INFORMATION

Remediation Project #: 22490 Initial Form 27 Document #: 402982220

### PURPOSE INFORMATION

- [ ] Rule 913.c.(1): Pit or Cuttings Trench closure.
- [X] Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- [X] 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.
- [X] 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: 420814 API #: County Name: WELD
Facility Name: QC USX A32-19 Tank Latitude: 40.449490 Longitude: -104.581030
** correct Lat/Long if needed: Latitude: 40.449459 Longitude: -104.581104
QtrQtr: NWNW Sec: 32 Twp: 6N Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 482364 API #: County Name: WELD
Facility Name: QA C 32-19 Latitude: 40.449442 Longitude: -104.581212
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWNW Sec: 32 Twp: 6N Range: 64W Meridian: 6 Sensitive Area? Yes

## SITE CONDITIONS

General soil type - USCS Classifications SW

Most Sensitive Adjacent Land Use crop

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**

HPH: none, riverine ~0.11 mi W, buildings ~0.22 mi SW
No other potential receptors are located within ¼ mile of the Site.
Above distances are approximations.

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

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

## DESCRIPTION OF IMPACT

| Impacted? | Impacted Media | Extent of Impact | How Determined |
|---|---|---|---|
| UNDETERMINED | GROUNDWATER | NA | Laboratory analysis and field screening, if encountered |
| Yes | SOILS | TBD | Refer to Tables and Figures |

## INITIAL ACTION SUMMARY

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

A site investigation was conducted pursuant to ECMC Rule 911 at the RUBIX JOHNSON QC T6N-R64W-S32 L01 Tank Battery location.

## PROPOSED SAMPLING PLAN

### Proposed Soil Sampling

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

Grab confirmation soil samples were collected from the three (3) produced water vessels excavation, two (2) beneath the ground oil tanks, and at the two (2) separators. Soil samples were analyzed by a certified laboratory for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons), organic compounds in soil per ECMC Table 915-1, and EC, SAR, pH, and boron. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

### Proposed Groundwater Sampling

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

If groundwater is encountered during the site investigation a grab groundwater sample will be collected and analyzed for all organic compounds and inorganic parameters per ECMC Table 915-1.

### 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 ):

Visual inspection of the tank battery area occurred during abandonment activities. Field personnel field screened all disturbed areas using a PID, visual, and olfactory senses to determine if laboratory confirmation sampling was required. The ECMC Tank Battery and Produced Water Vessel Closure Checklists were utilized and filled out during the abandonment process. A photolog was attached.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

**Soil**

Number of soil samples collected 12

**NA / ND**

-- Highest concentration of TPH (mg/kg) 1601

Number of soil samples exceeeding 915-1: 2 | -- | Highest concentration of SAR: 1.63

Was the areal and vertical extent of soil contamination delineated? No | BTEX > 915-1: No

Approximate areal extent (square feet): 200 | Vertical Extent > 915-1 (in feet): 6

**Groundwater**

Number of groundwater samples collected: 0 | Highest concentration of Benzene (µg/l):

Was extent of groundwater contaminated delineated? Yes | Highest concentration of Toluene (µg/l):

Depth to groundwater (below ground surface, in feet): | Highest concentration of Ethylbenzene (µg/l):

Number of groundwater monitoring wells installed: | Highest concentration of Xylene (µg/l):

Number of groundwater samples exceeding 915-1: | 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?

One background (BKG) soil sample was collected on December 7, 2022, from an area unaffected by oil and gas development, at depths and lithologies similar to those of confirmation soil samples collected at the same location. The sample was analyzed for Table 915-1 metals and SSR constituents. The analytical results from the BKG sample showed elevated levels of arsenic (As).

In addition, ten BKG soil samples were collected on June 16, 2023, and 20 BKG samples were collected between 4/29/2025 and 4/30/2025 from an area not impacted by oil and gas development, again at similar depths (0.5', 3', 6', and 8') and lithologies as the confirmation soil samples. These samples were analyzed for The results from these background soil samples also indicated elevated levels of pH, arsenic, barium, and selenium.

BKG Soil Sample Analysis (mg/kg)
Arsenic Max*1.25 = 5.7875
Barium Max*1.25 = 205
Selenium Max*1.25 = 0.935
pH Max = 8.71

☐ 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? Yes

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Soil impacts observed at the PWV-E Floor 5ft sample location were removed through a remedial excavation on 12/7/2022. Remedial excavation confirmation soil samples were collected and analyzed for full ECMC Table 915-1 constituents. Residual impacted soil will be removed from the release area by excavation. The impacted soil will be disposed of at an approved landfill as non-hazardous waste in accordance with Rules 905 and 906. Copies of the waste manifests will be available upon request.

## 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.

Per the COAs issued in documents 403394254 and 403633596, and addressed/approved via document # 403744547, on 4/29/25 the operator collected re-samples from the N Wall 6ft, S Wall 6ft, E Wall 3ft, W Wall 3ft, and Floor 8ft excavation sample locations and analyzed samples for the full Table 915-1 analyte suite at these locations, at the same depths where the initial elevated pH and arsenic concentrations were observed. The reanalyzed samples comply with the Table 915-1 concentration standards for previously exceeding inorganics and metals. However, two of the excavation resample locations exceeded the Table 915-1 standards for organic soil constituents. The S Wall 6Ft (2) sample location exceeded the 915-1 standard for TPH (1,601 mg/kg) and the N Wall 6Ft (2) sample location exceeded the 915-1 standard for 1-methylnaphthalene (0.00706 mg/kg). Additional excavation is needed at these two resample location and is proposed on Figure 3 of the attached.

Additionally, elevated pH observed in multiple soil sample locations at the former QC USX A32-19 Tank Battery was re-sampled and analyzed for the full Table 915-1 analyte suite at the AST-Cen Surface, AST-E Surface, AST-W Surface, SEP-N Surface, SEP-S Surface, PWV-W N Wall 3ft and PWV-W Floor 5ft sample locations at the same depths where the initial elevated pH concentrations were observed on 4/28/25. Additional background samples were collected as well to further native soil characterizations. The reanalyzed samples comply with the Table 915-1 concentration standard with consideration of background samples used to justify elevated concentrations.

NFA status is estimated to be achieved follow removal of soil impacts S Wall 6Ft (2) and N Wall 6Ft (2) sample locations.

## 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) 62
  - Name of Licensed Disposal Facility or ECMC 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
- No — Air sparge / Soil vapor extraction
- No — 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.

If groundwater is encountered during additional site assessment activities, a grab groundwater sample will be collected and analyzed for all organic compounds and inorganic parameters per Table 915-1.

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

**Approved Reporting Schedule:**

[X] 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

[X] Other Tank Battery Decom. Resample and Excavation Proposal

## 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 (policies MWZZ316714 and MWZX316724) and financial assurance in compliance with ECMC rules. Records are available on the ECMC'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 62

E&P waste (solid) description hydrocarbon impacted soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: North Weld Landfill in Ault, CO

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

E&P waste (liquid) description

ECMC Disposal Facility ID #, if applicable:

Non-ECMC 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 ECMC 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 ECMC 1000 Series Rules.

Is the described reclamation complete? Yes

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

[X] 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. 04/11/2025

Proposed date of completion of Reclamation. 06/30/2027

## 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. 11/19/2021

Actual Spill or Release date, or date of discovery. 06/14/2022

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/24/2022

Proposed site investigation commencement. 04/11/2022

Proposed completion of site investigation. 12/31/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/23/2022

Proposed date of completion of Remediation. 12/07/2025

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.

[X] Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

The implementation schedule has been changed due to the need to excavate impacted soil sample locations S Wall 6Ft (2) and N Wall 6Ft (2) at the QC USX A32-19 tank battery. The proposed excavation will be completed following the approval of this form.

## OPERATOR COMMENT

This Form 27 is being submitted to include the Tank Battery decommissioning and excavation resample results and detail background characterization sampling conducted between 4/28/2025 and 4/29/2025 for the QC A 32-19, Tank Battery (Rem # 22490) location.

A data packet summarizing the resampling activities is attached to this Form 27. Pending ECMC approval, the Operator will schedule and complete the excavation of impacted soil sample locations S Wall 6Ft (2) and N Wall 6Ft (2) as outlined in this proposed Remedial Action workplan within the date range provided in the Remedial Action Dates section of the Implementation Schedule. Supplemental Form 27s will be prepared and submitted on a quarterly schedule to provide updates and progress of the remediation until closure criteria has been achieved.

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

Signed: Ethan Black Title: Consultant

Submit Date: Email: ethanb@fremontenv.com

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

ECMC Approved: Date:

Remediation Project Number: 22490

| COA Type | Description |
|---|---|
| | |
| 0 COA | |

### ATTACHMENT 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 |
|---|---|
| 404307818 | REMEDIATION PROGRESS REPORT |
| 404307822 | LABORATORY ANALYTICAL REPORT |
| 404307823 | LABORATORY ANALYTICAL REPORT |
| 404307833 | LABORATORY ANALYTICAL REPORT |

Total Attach: 4 Files

## General Comments

| User Group | Comment | Comment Date |
|---|---|---|
| | | Stamp Upon Approval |

Total: 0 comment(s)