

State of Colorado  
Energy & Carbon Management Commission

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404087667  
Receive Date:  
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Report taken by:  
RICK ALLISON

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 INFORMATION

Name of Operator: NOBLE ENERGY INC	Operator No: 100322	Phone Numbers Phone: (970) 730-7281 Mobile: ( )
Address: 1099 18TH STREET SUITE 1500		
City: DENVER	State: CO	Zip: 80202
Contact Person: Dan Peterson	Email: danpeterson@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 35676 Initial Form 27 Document #: 403791885

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: 310216	API #: _____	County Name: WELD
Facility Name: DILLARD - USX AB-67N64W 3SWSW	Latitude: 40.596226	Longitude: -104.542404	
** correct Lat/Long if needed: Latitude: 40.595248		Longitude: -104.544223	
QtrQtr: SWSW	Sec: 3	Twp: 7N	Range: 64W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 489305	API #: _____	County Name: WELD
Facility Name: Dillard USX AB-67N64W 3SWSW	Latitude: 40.595245	Longitude: -104.544505	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 3	Twp: 7N	Range: 64W Meridian: 6 Sensitive Area? Yes

## SITE CONDITIONS

General soil type - USCS Classifications SW

Most Sensitive Adjacent Land Use Grassland

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**

Within Pronghorn Winter Concentration Area HPH  
Freshwater Emergent Wetland 0.12mi NE, 0.17mi NW, 0.22mi W

# 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
UNDETERMINED	GROUNDWATER	NA	Lab Analysis and Field Screening, if encountered
Yes	SOILS	Refer to Tables and Figures	Lab Analysis and Field Screening

## INITIAL ACTION SUMMARY

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

Pursuant to ECMC Rule 911, a site investigation was conducted pertaining to the Dillard - USX AB-67N64W 3SWSW Facility and Tank Battery location. On 12/11/2024, the tank battery was decommissioned in accordance with ECMC rules. Laboratory soil samples were collected from the partially-buried produced water vessel excavation base (PVW01-B@4' and PVW02-B@4') and sidewalls (PVW01-N@2.5' and PVW02-S@2.5'), from beneath the above ground storage tanks (AST01@0-6" and AST02@0-6"), and from beneath the separator risers for the dumpline (SEP01-DL@2.5') and flowline (SEP01-FL@2.5'). Samples were collected and field screened from sidewalls of the PVW excavation (PVW01-W@2.5', PVW01-S@2.5', PVW02-N@2.5', and PVW02-E@2.5'), at the emission control device (FLARE01@0-6"), and from the vicinity of infrastructure removed prior to decommissioning (GS01@0-6").

Laboratory analytical results indicated that benzo(a)anthracene was detected in exceedance of ECMC Table 915-1 regulation in sample location AST02@0-6"; this detection was reported as a historic release (Form 19 Document # 404088158).

## 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 ):

Soil samples were collected as described in the Initial Action Summary of this Form 27. Soil samples were analyzed by a certified laboratory, using approved ECMC laboratory analysis methods, for the full extent of Table 915-1, including but not limited to: TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons) organic compounds in soil per ECMC Table 915-1, EC, SAR, pH, metals, and boron. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

Sampling deviations from the approved sampling plan included an additional sample collected at the separator dumpline (SEP01-DL@2.5'), and field screening and laboratory samples collected from the produced water vault excavation sidewalls.

### Proposed Groundwater Sampling

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

If groundwater is encountered during the remedial excavation, a grab groundwater sample will be collected and analyzed for all organic and inorganic compounds per ECMC Table 915-1. This sample analysis includes, but is not limited to: BTEX, naphthalene, 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB by EPA Method 8260; chloride and sulfate anions by EPA Method 300.0; and total dissolved solids (TDS) by Method SM 2540C.

### 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 ):

During abandonment activities, field personnel field screened disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. Confirmation soil samples submitted for laboratory analysis were analyzed for full ECMC Table 915-1 constituents. A detailed summary of the tank battery decommissioning activities, including field notes, site photos, figures, and laboratory analytical results, is attached to this Form 27.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 8

Number of soil samples exceeding 915-1 8

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 100

### NA / ND

ND Highest concentration of TPH (mg/kg) \_\_\_\_\_

-- Highest concentration of SAR 0.132

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 4

### Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) \_\_\_\_\_

Number of groundwater monitoring wells installed \_\_\_\_\_

Number of groundwater samples exceeding 915-1 \_\_\_\_\_

\_\_\_\_\_ Highest concentration of Benzene (µg/l) \_\_\_\_\_

\_\_\_\_\_ Highest concentration of Toluene (µg/l) \_\_\_\_\_

\_\_\_\_\_ Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_

\_\_\_\_\_ Highest concentration of Xylene (µg/l) \_\_\_\_\_

\_\_\_\_\_ 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?

Six background soil samples were collected from two discrete locations (BKG01 - BKG02) near the tank battery and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background soil samples were collected from depths ranging between 0 to 4 feet below ground surface (ft bgs) and the lithology was noted to be similar to that observed in site samples. The maximum background concentration for pH was observed to be 9.10 and all pH concentrations observed during decommissioning were below background levels. The maximum background concentrations with a 1.25x multiplier applied for arsenic, barium, and cadmium were calculated to be 23.5, 511, and 0.956 mg/kg, respectively. All pH, arsenic, barium, and cadmium concentrations observed during decommissioning were below background levels.

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?

Concurrently with the remedial excavation proposed in the Remedial Action Plan sections of this Form 27, additional background soil samples (BKG03-BKG07) will be also be collected and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. The remedial excavation and background sampling will be completed in accordance with the proposed implementation schedule, and the results will be submitted on a subsequent Form 27. Proposed soil boring locations are shown on the attached proposed boring location map.

## 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 organic compound exceedances observed at decommissioning sample locations AST02@0-6", will be removed through a remedial excavation. Remedial excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 constituents.

### REMEDATION 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.

The benzo(a)anthracene detected in exceedance of ECMC Table 915-1 regulation during decommissioning (AST02@0-6"), will be removed through remedial excavation. Remedial excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Remedial excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. The results of the remedial excavation will be submitted on a subsequent Form 27.

### **Soil Remediation Summary**

**In Situ**

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

**Ex Situ**

- \_\_\_\_\_ Excavate and offsite disposal
- \_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_
- \_\_\_\_\_ Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_
- \_\_\_\_\_ 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.

Groundwater was not encountered during the initial site decommissioning activities.

# 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 Decommissioning Sampling Summary, Supplemental Source Mass Removal and Background Sampling 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? No

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

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

E&P waste (solid) description \_\_\_\_\_

ECMC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-ECMC Disposal Facility: \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_

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? \_\_\_\_\_

Does the previous reply indicate consideration of background concentrations? \_\_\_\_\_

Does Groundwater meet Table 915-1 standards? \_\_\_\_\_

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?

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. 12/11/2024

Proposed date of completion of Reclamation. 05/28/2027

## 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. 05/09/2024

Actual Spill or Release date, or date of discovery. 02/10/2025

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 12/11/2024

Proposed site investigation commencement. 02/28/2025

Proposed completion of site investigation. 11/28/2026

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 11/28/2025

Proposed date of completion of Remediation. 11/28/2026

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:

The implementation schedule has been changed due to the decommissioning of the Dillard USX T7N-R64W-S3 L01 tank battery and necessity for remedial excavation activities and additional background sampling. The proposed remedial excavation will be completed pending the approval of this form.

## OPERATOR COMMENT

This Form 27 is being submitted to include the decommissioning results and historic reportable release discovered at the former Dillard - USX AB-67N64W 3SWSW tank battery location. A proposal to excavate the benzo(a)anthracene detected in exceedance of ECMC Table 915-1 regulation during decommissioning (soil sample AST02@0-6"), is presented in the Remedial Action Plan section of this Form 27.

Pursuant to ECMC Rule 911, a site investigation was conducted pertaining to the Dillard - USX AB-67N64W 3SWSW Facility and Tank Battery location. On 12/11/2024, the tank battery was decommissioned in accordance with ECMC rules. Laboratory analyzed soil samples were collected from the partially-buried produced water vessel excavation base (PVW01-B@4' and PVW02-B@4') and sidewalls (PVW01-N@2.5' and PVW02-S@2.5'), from beneath the above ground storage tanks (AST01@0-6" and AST02@0-6"), beneath the separator risers for the dumpline (SEP01-DL@2.5') and flowline (SEP01-FL@2.5'). Samples were collected and field screened from sidewalls of the PVW excavation (PVW01-W@2.5', PVW01-S@2.5', PVW02-N@2.5', and PVW02-E@2.5'), at the emission control device (FLARE01@0-6"), and from the vicinity of infrastructure removed prior to decommissioning (GS01@0-6"). Laboratory analytical results indicated that organic constituents benzo(a)anthracene were detected in exceedance of ECMC Table 915-1 regulation in sample location AST02@0-6"; this detection was reported as a historic release (Form 19 Document # 404088158).

Six background soil samples were collected from two discrete locations (BKG01 - BKG02) near the tank battery and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. Background soil samples were collected from depths ranging between 0 to 4 feet below ground surface (ft bgs) and the lithology was noted to be similar to that observed in site samples. The maximum background concentration for pH was observed to be 9.10 and all pH concentrations observed during decommissioning were below background levels. The maximum background concentrations with a 1.25x multiplier applied for arsenic, barium, and cadmium were calculated to be 23.5, 511, and 0.956 mg/kg, respectively. All pH, arsenic, barium, and cadmium concentrations observed during decommissioning were below background levels.

The benzo(a)anthracene detected in exceedance of ECMC Table 915-1 regulation during decommissioning (AST02@0-6"), will be removed through remedial excavation. Remedial excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Remedial excavation confirmation soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Concurrently with the remedial excavation proposed in the Remedial Action Plan sections of this Form 27, additional background soil samples (BKG03-BKG07) will be also be collected and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. A Proposed Soil Boring Location Map is attached to this Form 27.

Quarterly reporting will be conducted until closure criteria are achieved for the remediation project. The remedial excavation and background sampling will be completed in accordance with the proposed implementation schedule, and the results will be submitted on a subsequent Form 27.

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

Signed: Brock Nelson

Title: Environmental Consultant

Submit Date: 03/03/2025

Email: Tas-chevron-5@tasman-geo.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: RICK ALLISON

Date: 09/15/2025

Remediation Project Number: 35676

## COA Type

## Description

COA Type	Description
1 COA	Results for volatile organic compounds in soil samples analyzed by EPA Method 8260 appear to have been analyzed beyond the recommended holding time per SW-846. Results for pH in soil samples appear to have been analyzed 6 days after sample preparation. Operator shall verify all VOC results results and pH results at all sample locations as part of ongoing Remediation Project 35676.

## 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

Att Doc Num	Name
404087667	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404109479	SITE INVESTIGATION REPORT
404109492	ANALYTICAL RESULTS
404109493	ANALYTICAL RESULTS
404109498	SITE INVESTIGATION PLAN
404354168	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 6 Files

## General Comments

**User Group**

**Comment**

**Comment Date**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
		Stamp Upon Approval

Total: 0 comment(s)