

State of Colorado  
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:  
404140237

Receive Date:

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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 INFORMATION

Name of Operator: NOBLE ENERGY INC	Operator No: 100322	<b>Phone Numbers</b>
Address: 1099 18TH STREET SUITE 1500		Phone: (970) 313-5582
City: DENVER State: CO Zip: 80202		Mobile: ( )
Contact Person: Jason Davidson	Email: Jason.Davidson@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 38925 Initial Form 27 Document #: 403971580

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: WELL	Facility ID: _____	API #: 123-32282	County Name: WELD
Facility Name: BASHOR PC AA17-21	Latitude: 40.486212	Longitude: -104.460700	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSE	Sec: 17	Twp: 6N	Range: 63W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 489671	API #: _____	County Name: WELD
Facility Name: Bashor PC AA17-21	Latitude: 40.486217	Longitude: -104.460687	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSE	Sec: 17	Twp: 6N	Range: 63W Meridian: 6 Sensitive Area? Yes

## **SITE CONDITIONS**

General soil type - USCS Classifications SW \_\_\_\_\_

Most Sensitive Adjacent Land Use Cropland \_\_\_\_\_

Is domestic water well within 1/4 mile? No \_\_\_\_\_

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  
Within Mule Deer Severe Winter Range HPH  
Mule Deer Winter Concentration Area HPH 0.08mi S  
Aquatic Native Species Conservation Waters HPH 0.12mi SW  
Riverine 0.22mi SW  
Freshwater Emergent Wetland 0.17mi 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 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	TBD	Lab analysis if encountered
Yes	SOILS	TBD	Confirmation Soil Sampling

## 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 Bashor PC AA17-21 wellhead cut and cap. The wellhead was cut and capped per ECMC rules. Laboratory analytical results indicated a historical release occurred at the decommissioned wellhead. Please refer to the operator comments for additional information regarding the historical release and remedial efforts to be conducted at the wellhead.

The flowline was previously abandoned on 12/5/2018, and the ECMC was notified on Form 44 Document number 403689007.

## 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 ):

A grab soil sample was collected from the area showing the highest degree of impact during field screening activities at the wellhead excavation. Additionally, soil samples were field screened at the N-E-S-W sides of the wellhead. Following source mass removal of hydrocarbon impacted soil, confirmation soil samples will be collected from the final extents of the excavation. Soil samples will be analyzed by a certified laboratory 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, and EC, SAR, pH, metals, and boron. All samples collected will be analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

### 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 site investigation a grab groundwater 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 ):

Visual inspection of the wellhead area occurred during decommissioning activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. The ECMC Wellhead Closure Checklist was utilized and filled out during the abandonment process. A photolog is attached.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

**Soil**

Number of soil samples collected 2  
Number of soil samples exceeding 915-1 2  
Was the areal and vertical extent of soil contamination delineated? No  
Approximate areal extent (square feet) 200

**NA / ND**

-- Highest concentration of TPH (mg/kg) 11  
-- Highest concentration of SAR 0.555  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 6

**Groundwater**

Number of groundwater samples collected 0  
Was extent of groundwater contaminated delineated? No  
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 site specific background soil samples were collected from approximately 4 ft. and 6 ft.-bgs from three soil borings (BKG01 through BKG03) in areas away from oil and gas infrastructure from similar depths and soil horizons as confirmation soil samples and were submitted for analysis of pH, EC, SAR, and total metals (Table 915-1 List) by ECMC approved methods. Refer to the operator comments for additional information.

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?

Source mass removal of hydrocarbon impacted soil is to be conducted.

**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.

Refer to the Remediation Summary section below. Any hydrocarbon impacted material will be transported off-site to a licensed disposal facility in accordance with Rules 905 and 906.

**REMEDICATION 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.

Wellhead decommissioning activities and confirmation soil sampling at the Bashor PC AA17-21 wellhead occurred on March 25, 2025. Laboratory analytical results indicated a historical release occurred at the Bashor PC AA17-21 decommissioned wellhead and was reported as a historic release in Form 19 document number 404141336. Hydrocarbon impacted material at the wellhead will be removed and hauled to a permitted disposal facility. Final analytical results will be summarized in a subsequent Supplemental Form 27 submittal and will be reported along with ongoing Remediation Project Number 38925.

**Soil Remediation Summary**

In Situ  Ex Situ  
\_\_\_\_\_ Bioremediation ( or enhanced bioremediation ) \_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

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 excavation of the wellhead for cut and cap 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 Historical Release Remediation Plan

## 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 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? No

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? No \_\_\_\_\_

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? No \_\_\_\_\_

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

Did the local soil conservation district provide the seed mix? No \_\_\_\_\_

### SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 03/25/2025

Proposed date of completion of Reclamation. 03/25/2027

## 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. 03/25/2025

Actual Spill or Release date, or date of discovery. 03/25/2025

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/25/2025

Proposed site investigation commencement. 03/25/2025

Proposed completion of site investigation. 09/25/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/25/2025

Proposed date of completion of Remediation. 03/25/2026

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:

Based on the discovery of historic hydrocarbon impacts at the wellhead, source mass removal activities will be initiated as soon as possible. The implementation schedule has been updated to reflect these changes.

**OPERATOR COMMENT**

This Supplemental Form 27 was prepared for the historic release that was discovered at the Bashor PC AA17-21 wellhead and in connection with the initial Form 19 submitted under Document 404141336.

Discrete soil samples were collected from beneath the wellhead, WH01@6, and from the sidewall with this highest screening, WH01-N@4. All analytical results for soil samples submitted for analysis are compliant with their respective Table 915-1 Protection of Groundwater Soil Screening Levels, below the highest background concentrations for pH (8.76), or below 1.25x the highest background concentrations for arsenic (1.51 mg/kg), except for 1,2,4-trimethylbenzene in WH01-N (0.086 mg/kg), 1,3,5-trimethylbenzene in WH01 (0.014 mg/kg) and WH01-N (0.081 mg/kg), and pH in WH01-N (9.13). Groundwater was not encountered during excavation of the wellhead for decommissioning activities.

Supplemental source mass removal activities will be initiated via mechanical excavation as soon as possible.

The flowline was previously abandoned on 12/5/2018, and the ECMC was notified on Form 44 Document number 403689007.

The data were reviewed for compliance with the analytical method and the associated quality assurance/quality control (QA/QC) procedures. Chain of custody forms were properly executed, and data were reported using the correct methods and reporting units. The results of the QA/QC assessment indicate that data precision and accuracy are acceptable.

Pursuant to Rule 913.e, quarterly reporting will continue for the location until data indicates no further action is warranted.

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

Signed: Lindsey Blankenship

Title: Associate Geologist

Submit Date: \_\_\_\_\_

Email: chevronfr@entradainc.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: 38925

**COA Type**

**Description**

0 COA	
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**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.

<b>Att Doc Num</b>	<b>Name</b>
404189570	PHOTO DOCUMENTATION
404189571	OTHER
404189572	SITE MAP
404189574	SOIL SAMPLE LOCATION MAP
404189575	ANALYTICAL RESULTS
404189577	ANALYTICAL DATA SUMMARY TABLE(S)

Total Attach: 6 Files

**General Comments**

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

Total: 0 comment(s)