

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:  
404275118

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

**PROJECT, PURPOSE & SITE INFORMATION**

**PROJECT INFORMATION**

Remediation Project #: 12355 Initial Form 27 Document #: 401909509

**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: <u>SPILL OR RELEASE</u>	Facility ID: <u>458290</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Gemini B31-11,12,13,14,25</u>	Latitude: <u>40.348611</u>	Longitude: <u>-104.597026</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESW</u>	Sec: <u>31</u>	Twps: <u>5N</u>	Range: <u>64W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

**SITE CONDITIONS**

General soil type - USCS Classifications OH Most Sensitive Adjacent Land Use Non 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**

Wetlands 352', Occupied Building 640'  
No other potential receptors are located within 1/4 mile of the Site.  
Above distances are approximations.

**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	See Tables 1 & 2 and Figure 4	Laboratory Analytical
Yes	SOILS	120' X 60' X 12.5 TD	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.

An unintentional release occurred along the produced water line running from the separator to the production tanks. An environmental assessment was conducted and impacted media above COGCC Table 910-1 standards is present at the location.

**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 ):

Nineteen grab soil samples were collected during site investigation activities and analyzed for TPH-DRO, TPH-GRO, BTEX, and Naphthalene by EPA Methods 8015 and 8260B.

**Proposed Groundwater Sampling**

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

Eight groundwater monitoring wells were installed and sampled during site investigation activities. The samples were 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 ):

[Empty text box for surface water sampling details]

**Additional Investigative Actions**

Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):

[Empty text box for additional investigative actions]

**SITE INVESTIGATION REPORT**

## **SAMPLE SUMMARY**

### **Soil**

Number of soil samples collected 28  
Number of soil samples exceeding 915-1 12  
Was the areal and vertical extent of soil contamination delineated? No  
Approximate areal extent (square feet) 7200

### **Groundwater**

Number of groundwater samples collected 6  
Was extent of groundwater contaminated delineated? No  
Depth to groundwater (below ground surface, in feet) 13  
Number of groundwater monitoring wells installed 6  
Number of groundwater samples exceeding 915-1 0

### **Surface Water**

0 Number of surface water samples collected  
0 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) 35000  
NA Highest concentration of SAR           
BTEX > 915-1 Yes  
Vertical Extent > 915-1 (in feet) 13  
ND Highest concentration of Benzene (µg/l)           
ND Highest concentration of Toluene (µg/l)           
ND Highest concentration of Ethylbenzene (µg/l)           
ND Highest concentration of Xylene (µg/l)           
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 area was removed through excavation of impacted soil. Initial inaccessible impacted soil above COGCC Table 910-1 standards were left in place. The impacts will be addressed by additional excavation. A groundwater amendment was applied to the base of the initial excavation to aid in source groundwater remediation. Grab confirmation soil samples were collected above the phreatic zone by Eagle Environmental and delivered to Origins Laboratory under proper chain of custody procedures for analysis of TPH-DRO, TPH-GRO, BTEX, and Naphthalene by EPA Methods 8015 and 8260C.

Additional remedial excavation occurred at the location between April 15, 2025, and July 7, 2025. Approximately 13,351 cubic yards of impacted soil were excavated and disposed of as non-hazardous waste.

### **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.

Based on data provided in Eagle Environmental's October 25, 2019 Site Investigation Report (Doc. #402224177) Fremont advanced four confirmation soil borings adjacent to previously impacted locations FS-06A, SS-01, SS-08 and SS-09 and sampled each boring at the depth of 11.5 feet bgs and/or depth with the highest field screened concentration prior to requesting an NFA designation. Soil collected from the borings was analyzed by a certified laboratory for benzene, toluene, ethylbenzene, xylenes, naphthalene, total petroleum hydrocarbons (GRO, DRO, and ORO), and PAH. Impacts were observed in all borings between eight and 11 feet below ground surface.

Additional remedial excavation occurred at the location between April 15, 2025, and July 7, 2025. Approximately 13,351 cubic yards of impacted soil were excavated and disposed of as non-hazardous waste.

The estimated time to attain NFA status is currently June 30, 2026, contingent on the results of continued groundwater monitoring at the location post-remedial excavation.

### **Soil Remediation Summary**

In Situ

Ex Situ

<input type="checkbox"/> Bioremediation ( or enhanced bioremediation )	Yes	Excavate and offsite disposal
<input type="checkbox"/> Chemical oxidation		If Yes: Estimated Volume (Cubic Yards) <input type="text" value="1050"/>
<input type="checkbox"/> Air sparge / Soil vapor extraction		Name of Licensed Disposal Facility or ECMC Facility ID # <input type="text"/>
Yes <input type="checkbox"/> Natural Attenuation	No	Excavate and onsite remediation
Yes <input type="checkbox"/> Other <input type="text" value="Phytoremediation"/>		<input type="checkbox"/> Land Treatment
		<input type="checkbox"/> Bioremediation (or enhanced bioremediation)
		<input type="checkbox"/> Chemical oxidation
		<input type="checkbox"/> Other <input type="text"/>

### **Groundwater Remediation Summary**

No  Bioremediation ( or enhanced bioremediation )

No  Chemical oxidation

Yes  Air sparge / Soil vapor extraction

Yes  Natural Attenuation

Yes  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.

Second quarter 2025 groundwater sampling was completed at the location on June 5, 2025. Six monitoring wells (MW-2R, MW-7, MW-8, MW13, MW-14, and MW-15) were sampled and submitted to Pace Analytical Laboratory for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB by EPA Method 8260B, semi volatile organic compounds by EPA Method 8270E-SIM, chloride ion & sulfate ion by EPA Method 9056A and Total Dissolved Solids (TDS) by EPA Method 2540 C-2011. Nine monitoring wells (MW-1, MW-3, MW-4, MW-5, MW-6, MW-9, MW-10, MW-11, and MW-12) were destroyed during additional remedial excavation between April and July 2025.

The laboratory analytical results indicate that Table 915-1 dissolved-phase organic constituents were compliant with their respective standards in all wells sampled. Further, the laboratory analytical results indicate that Table 915-1 inorganic constituents were compliant with their respective standards and/or calculated background concentrations in all wells sampled. The groundwater analytical data are summarized in Tables 1 and 2. The site location is illustrated on Figure 1, monitoring well locations are illustrated on Figure 2, groundwater elevations are illustrated on Figure 3, and groundwater chemistry is illustrated on Figure 4. A copy of the laboratory report, quality control data, and chain-of-custody documentation is included separately.

# 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 (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 \_\_\_\_\_ 1050

E&P waste (solid) description    E&P solid waste derived from  
excavation activities

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

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

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? No

Is additional groundwater monitoring to be conducted? Yes

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 Rule 1004.

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. 09/25/2019

Proposed date of completion of Reclamation. 03/01/2024

## 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. 04/01/2020

Actual Spill or Release date, or date of discovery. 10/17/2018

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/17/2018

Proposed site investigation commencement. 10/17/2018

Proposed completion of site investigation. 01/03/2019

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/25/2019

Proposed date of completion of Remediation. 06/30/2026

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:

\_\_\_\_\_

**OPERATOR COMMENT**

This form updates the ECMC with data collected during the Q2 2025 groundwater sampling on June 5, 2025. Additional details are provided in the Remedial Action Plan groundwater monitoring section.

Q1 2025 groundwater samples were scheduled to be sampled in March 2025; however, due to a clerical error, samples were not collected. To prevent this issue from recurring, updated recording procedures have been put into place. Additionally, there will be a dedicated review of ongoing groundwater projects in the third week of every month.

Additional remedial excavation occurred at the location between April 15, 2025, and July 7, 2025. Approximately 13,351 cubic yards of impacted soil were excavated and disposed of as non-hazardous waste.

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: 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: 12355

**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**

404275532	LABORATORY ANALYTICAL REPORT
404286693	MONITORING REPORT

Total Attach: 2 Files

**General Comments**

**User Group**

**Comment**

**Comment Date**

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

Total: 0 comment(s)