

State of Colorado
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109

Document Number:

404049441

Receive Date:

02/04/2025

Report taken by:

Krystal Heibel

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 27579 Initial Form 27 Document #: 403258640

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: LOCATION	Facility ID: 327025	API #: _____	County Name: WELD
Facility Name: LILLI UNIT-68N58W 6NWSW	Latitude: 40.688660	Longitude: -103.912120	
	** correct Lat/Long if needed: Latitude: 40.688861	Longitude: -103.912308	
QtrQtr: NWSW	Sec: 6	Twp: 8N	Range: 58W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications SW Most Sensitive Adjacent Land Use rangeland

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

HPH N
Freshwater Emergent Wetland 0.22mi NE
NA

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
UNDETERMINED	GROUNDWATER	NA	Lab Analysis if encountered
Yes	SOILS	Refer to Tables and Figure	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 Lilli Unit 6NWSW gas gathering line abandonment on May 5, 2024. The gas gathering line does not require registration per the latest ECMC flowline regulations, so we are associating this facility closure with the nearest location ID. Approximately 2700' of gas gathering line were abandoned-in-place. The risers samples, which we refer to as 4"Riser3A and 4"Riser3B were cut and capped per ECMC rules. There is no associated Flowline Pre-Abandonment Notice Document number since gathering lines are not registered. Noble proposed to collect soil samples along the gas gathering line at any observed points of material change, hammer unions, directional changes, or bell holes on either side of a waterway and the results will report in a future Supplemental Form 27.

Additionally, soil borings were advanced, and soil samples were collected to horizontally and vertically delineate pH around 4"Riser3B as well as adjacent to the ABIP gas gathering line, in accordance with the approved Proposed Soil Boring Map attached to ECMC Form 27 document #403931169.

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):

On 05/05/2024 samples were collected below the risers (as 4"Riser3A and 4"Riser3B). Additionally, soil samples will be collected at any points of material change and/or hammer unions, directional changes, as well as at the bell holes on either side of a waterway. 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, Table 915-1 Metals, as well as EC, SAR, pH, and boron. All samples collected were analyzed by a certified laboratory using approved ECMC laboratory analysis methods.

Additionally, on 11/19/2024, soil borings BH01-BH05 were advanced to horizontally and vertically the pH exceedances observed at the location 4"Riser3B@3' as part of the proposed Supplemental Site Investigation (SSI) and in accordance with the approved proposed Soil Boring Map attached to ECMC Form 27 document #403931169.

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, grab groundwater samples will be collected and analyzed for all organic and inorganic compounds 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 gas gathering lines occurred during abandonment activities. Field personnel field screened all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling was required. A photolog from the gas gathering line decommissioning was included as an attachment to a previous Form 27. A detailed summary of the gas gathering line SSI activities, including tables, figures, boring logs, and laboratory analytical results, is attached to this Form 27.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 6

Number of soil samples exceeding 915-1 0

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

Approximate areal extent (square feet) 0

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

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

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 1.15

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 3

NA Highest concentration of Benzene (µg/l)

NA Highest concentration of Toluene (µg/l)

NA Highest concentration of Ethylbenzene (µg/l)

NA 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?

Fourteen background soil samples were collected from seven discrete soil borings (BKG01-BKG07) adjacent to the gathering line and analyzed for metals in soil per ECMC Table 915-1, as well as pH, SAR, EC, and boron. The background soil samples were collected from depths of approximately 2 to 5 feet below ground surface (ft bgs) and the lithology between the site and background location was observed to be poorly graded to well graded sands. The maximum background concentration for pH was observed to be 8.92. The maximum background concentrations with a 1.25x multiplier applied for arsenic and barium were calculated to be 8.51 mg/kg and 678 mg/kg, respectively. All arsenic and barium values observed during decommissioning and SSI activities 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?

A supplemental site investigation (SSI) will be completed to collect samples along the gas gathering line every 250' as well as at points of material change and/or hammer unions, directional changes, as well as the bell holes on either side of a water way. During the SSI, soil samples will be collected and analyzed for full ECMC Table 915-1 constituents. Concurrently with the SSI, additional background samples will be collected along the ABIP gas gathering line to determine if pH is attributed to native soil conditions at the site. The SSI will be completed in accordance with the proposed implementation schedule, and the results of the SSI will be submitted on a subsequent Form 27. Based on ECMC approval of Form 27 document number 403946446, all further work for this gathering line will be reported under remediation number 27543.

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.

No impacted material caused by oil and gas operations was identified at this time.

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.

A Site Assessment was conducted on 11/19/2024 to delineate pH, during which five soil borings were advanced. BH01 was advanced at the same location as the waste characterization sample 4" Riser3B@3' to vertically delineate impacts at that location. BH02-BH05 were advanced surrounding BH01 to laterally delineate impacts identified at 4" Riser3B@3'. Soil samples were collected and analyzed for full ECMC Table 915-1 constituents. Analytical results indicated that all constituents observed in confirmation samples were in compliance with the ECMC Table 915-1 soil standards or background levels. Groundwater was not encountered during this assessment. Soil boring samples BH01@2-3' was collected from the same location as waste characterization sample 4" Riser3B@3'. The pH exceedance identified during decommissioning at 4" Riser3B@3' was not repeated by resample location BH01@2-3'.

An additional supplemental site investigation (SSI) to collect samples along the gas gathering line every 250' as well as at points of material change and/or hammer unions, directional changes, as well as the bell holes on either side of a water way will be completed under remediation number 27543, as stated on approved Form 27 document number 403946446.

Soil Remediation Summary

☐ In Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ Other _____

_____ 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 _____

☐ Ex Situ

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 decommissioning or site investigation activities.

Date Run: 5/23/2025 Doc [#404049441]

Page 5 of 9

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 First Quarter 2025 Timeline Update

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?

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. 05/22/2024

Proposed date of completion of Reclamation. 11/19/2025

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. _____

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/22/2024

Proposed site investigation commencement. 11/19/2024

Proposed completion of site investigation. 11/19/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 11/19/2024

Proposed date of completion of Remediation. 11/19/2024

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:

No additional investigation is required at this time. The proposed completion of remediation date has been adjusted to the supplemental site investigation completion date.

OPERATOR COMMENT

This Form 27 is being submitted to include a summary of supplemental site investigation activities and analytical results at the former Lilli Unit 6NWSW gas gathering line location.

A Site Assessment was conducted on 11/19/2024 to delineate pH, during which five soil borings were advanced. BH01 was advanced at the same location as the waste characterization sample 4" Riser3B@3' to vertically delineate impacts at that location. BH02-BH05 were advanced surrounding BH01 to laterally delineate impacts identified at 4" Riser3B@3'. Soil samples were collected and analyzed for full ECMC Table 915-1 constituents. Analytical results indicated that all constituents observed in confirmation samples were in compliance with the ECMC Table 915-1 soil standards or background levels. Groundwater was not encountered during this assessment. Soil boring samples BH01@2-3' was collected from the same location as waste characterization sample 4" Riser3B@3'. The pH exceedance identified during decommissioning at 4" Riser3B@3' was not repeated by resample location BH01@2-3. Due to lack of other indicators of a release, including elevated PID readings, organic detections, other inorganic exceedances, or ability to replicate results, pH exceedance is indicative of native conditions.

Fourteen background soil samples were collected from seven discrete soil borings (BKG01-BKG07) adjacent to the gathering line and analyzed for metals in soil per ECMC Table 915-1, as well as pH, SAR, EC, and boron. The background soil samples were collected from depths of approximately 2 to 5 feet below ground surface (ft bgs) and the lithology between the site and background location was observed to be poorly graded to well graded sands. The maximum background concentration for pH was observed to be 8.92. The maximum background concentrations with a 1.25x multiplier applied for arsenic and barium were calculated to be 8.51 mg/kg and 678 mg/kg, respectively. All arsenic and barium values observed during decommissioning and SSI activities were below background levels.

A supplemental site investigation will be conducted to sample along the gas gathering line (Soil samples collected every 250' and at direction turns). The proposed site investigation is summarized in the Site Investigation Report section of this Form 27. However, the site investigation is proposed with 11 associated projects and will be conducted under remediation number 27543 as detailed on previously approved supplemental Form 27 document number 403946446.

No additional site investigation activities appear warranted with this remediation project at this time. Chevron will request a no further action (NFA) determination for this remediation project on the forthcoming Supplemental Form 27 report.

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

Signed: Bryce Goldade

Title: Environmental Consultant

Submit Date: 02/04/2025

Email: tas-chevron-4@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: Krystal Heibel

Date: 05/23/2025

Remediation Project Number: 27579

COA Type

Description

	Operator shall fully populate the implementation schedule in accordance with Rule 913.d on the subsequent Supplemental Form 27. The "Date of Surface Owner Notification/consultation" info is missing.
1 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

404049441	FORM 27-SUPPLEMENTAL-SUBMITTED
404075053	ANALYTICAL RESULTS
404079733	MONITORING REPORT

Total Attach: 3 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	<p>"A Site Assessment was conducted on 11/19/2024 to delineate pH, during which five soil borings were advanced. BH01 was advanced at the same location as the waste characterization sample 4" Riser3B@3' to vertically delineate impacts at that location. BH02-BH05 were advanced surrounding BH01 to laterally delineate impacts identified at 4" Riser3B@3'. Soil samples were collected and analyzed for full ECMC Table 915-1 constituents. Analytical results indicated that all constituents observed in confirmation samples were in compliance with the ECMC Table 915-1 soil standards or background levels. Groundwater was not encountered during this assessment. Soil boring samples BH01@2-3' was collected from the same location as waste characterization sample 4" Riser3B@3'. The pH exceedance identified during decommissioning at 4" Riser3B@3' was not repeated by resample location BH01@2-3. Due to lack of other indicators of a release, including elevated PID readings, organic detections, other inorganic exceedances, or ability to replicate results, pH exceedance is indicative of native conditions.</p> <p>Fourteen background soil samples were collected from seven discrete soil borings (BKG01-BKG07) adjacent to the gathering line and analyzed for metals in soil per ECMC Table 915-1, as well as pH, SAR, EC, and boron. The background soil samples were collected from depths of approximately 2 to 5 feet below ground surface (ft bgs) and the lithology between the site and background location was observed to be poorly graded to well graded sands. The maximum background concentration for pH was observed to be 8.92. The maximum background concentrations with a 1.25x multiplier applied for arsenic and barium were calculated to be 8.51 mg/kg and 678 mg/kg, respectively. All arsenic and barium values observed during decommissioning and SSI activities were below background levels.</p> <p>A supplemental site investigation will be conducted to sample along the gas gathering line (Soil samples collected every 250' and at direction turns). The proposed site investigation is summarized in the Site Investigation Report section of this Form 27. However, the site investigation is proposed with 11 associated projects and will be conducted under remediation number 27543 as detailed on previously approved supplemental Form 27 document number 403946446."</p>	05/23/2025

Total: 1 comment(s)