

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404176952

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 INFORMATION

Name of Operator: NOBLE ENERGY INC	Operator No: 100322	Phone Numbers
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 #: 17229 Initial Form 27 Document #: 402616629

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 #: 123-23386	County Name: WELD
Facility Name: KASTNER 41-3	Latitude: 40.521710	Longitude: -104.642590	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENE	Sec: 3	Twp: 6N	Range: 65W Meridian: 6 Sensitive Area? Yes
Facility Type: FLOWLINE SYSTEM	Facility ID: 469881	API #: _____	County Name: _____
Facility Name: _____	Latitude: _____	Longitude: _____	
** correct Lat/Long if needed: Latitude: 40.521710		Longitude: -104.642590	
QtrQtr: _____	Sec: _____	Twp: _____	Range: _____ Meridian: _____ Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 479965 API #: _____ County Name: WELD
Facility Name: Kastner 41-03 Latitude: 40.521874 Longitude: -104.649121
** correct Lat/Long if needed: Latitude: _____ Longitude: _____
QtrQtr: NWNE Sec: 3 Twp: 6N Range: 65W 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? No
Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

Multiple Occupied buildings within 1/4 mile radius

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	Laboratory analysis and field screening, if encountered
Yes	SOILS	40' X 20' X 4' bgs	Laboratory 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 KASTNER 41-03 wellhead cut and cap and flowline abandonment. The wellhead was cut and capped per ECMC rules. The flowline was abandoned in place due to field constraints (Form 44 #402698687).

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):

Three grab soil samples were collected during decommissioning activities (FS01@5', FL01-A@4', and FL01-B@4'), and eighteen borehole soil samples were collected from nine borings (BH01-BH08 and BH04R) during supplemental site assessment activities. The soil samples were submitted for analysis 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 pH. Additionally BH01-BH05, FS01, FL01-A, and FL01-B were analyzed for EC, SAR and boron, and sample BH01@4' was analyzed for metals in soil per ECMC Table 915-1.

Proposed Groundwater Sampling

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

If groundwater is encountered during site investigation activities, a grab groundwater will be collected and analyzed for all organic compounds in groundwater 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):

A supplemental site assessment (SSI) was conducted to vertically and laterally delineate naphthalene at borehole BH04, which was identified during an initial site assessment. A total of four supplemental soil borings were advanced in the area of impacts. Soil samples were collected and analyzed for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons), organic compounds in soil per ECMC Table 915-1, and pH. Groundwater was not encountered during site assessment activities, and no moisture was observed within 14 feet of the ground surface in all borings.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 8 ND Highest concentration of TPH (mg/kg) _____
 Number of soil samples exceeding 915-1 7 NA Highest concentration of SAR _____
 Was the areal and vertical extent of soil contamination delineated? No BTEX > 915-1 No
 Approximate areal extent (square feet) 700 Vertical Extent > 915-1 (in feet) 14

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?
 A total of eleven (11) background soil samples were collected from six discrete locations (BG01 - BG06) near the former flowline and analyzed for pH, arsenic, and selenium. On 08/12/2021, one background sample (BG01 @4') was collected and analyzed for ECMC Table 915-1 metals. On 09/13/2022, a total of eleven background soil samples were collected from six discrete locations (BG01 - BG06) near the former flowline and analyzed for pH, arsenic, and selenium. Background soil samples were collected from depths ranging between 4 to 8 feet below ground surface (ft bgs). The maximum background concentration for pH was observed to be 8.17. The maximum background concentrations with a 1.25x multiplier applied for arsenic and selenium were calculated to be 5.86 mg/kg and 1.06 mg/kg, respectively. All arsenic and selenium concentrations observed during decommissioning and subsequent site investigations 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 conducted to advance four soil borings (BH09-BH12) to further laterally delineate pH exceedances observed at the tank battery. Soil samples will be collected to analyze for the full ECMC Table 915-1 suite at locations sampled during the April 2021 initial decommissioning (FS01, FL01-A, and FL01-B) and August and December 2021 SSIs (BH01-BH08 and BH04R). These soil borings will be utilized to confirm and further vertically delineate the elevated pH observed at the tank battery, and root-zone soil samples will be collected from a depth of two ft. bgs at the locations previously exhibiting elevated pH above the ECMC Table 915-1 soil suitability parameters (BH04R, BH05, BH06, BH07, and BH08). Soil samples will be collected at flowline directional changes during the SSI. Soil samples collected during the SSI will be analyzed for the full ECMC Table 915-1 suite. Concurrently with the SSI, additional background samples will be collected and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. 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.

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 was delineated through environmental site assessment activities completed between August 21, 2021 and September 19, 2022. During the site assessment, a total of nine soil borings (BH01 - BH08, and BH04R) were advanced to terminal depths ranging from 12-14 ft bgs. Boring BH01 was advanced at the same location as the waste characterization sample (FL01-B@4') to vertically delineate impacts at that location. The location of BH01 was determined by utilizing a Trimble Geo7X with sub-meter accuracy to ensure the soil boring would be advanced directly over waste characterization sample FL01-B@4'. Borings BH02 - BH05 were advanced surrounding BH01 to vertically and laterally delineate impacts identified at FL01-B@4'. Boring BH04R was advanced at the same location as BH04 to determine if the naphthalene exceedance identified at sample location BH04@12' was a legitimate detection, and to provide further vertical delineation. Borings BH06 - BH08 were advanced surrounding BH04 and BH04R to laterally delineate the potential naphthalene exceedance identified at sample location BH04@12'. Soil samples were collected and analyzed for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons), organic compounds in soil per ECMC Table 915-1, and pH.

REMIEDIATION 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 the results of the site assessment, organic compounds in soil detected above ECMC Table 915-1 GSSLs identified during decommissioning and/or site assessment activities, were not repeated by soil boring and verification soil sampling activities, and have therefore been fully delineated. Groundwater was not encountered within 14 ft of the ground surface during the site assessment soil boring activities. As such, Noble proposes to utilize the ECMC Table 915-1 RSSLs when evaluating soil sample analytical results at this site. The use of ECMC Table 915-1 RSSLs eliminates the 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, and selenium concentrations identified at the Site as contaminants of concern.

An SSI will be conducted to advance four soil borings (BH09-BH12) to further laterally delineate pH exceedances observed at the tank battery. Soil samples will be collected to analyze for the full ECMC Table 915-1 suite at locations sampled during the April 2021 initial decommissioning (FS01, FL01-A, and FL01-B) and August and December 2021 SSIs (BH01-BH08 and BH04R). These soil borings will be utilized to confirm and further vertically delineate the elevated pH observed at the tank battery, and root-zone soil samples will be collected from depths of two feet below ground surface (ft. bgs) at the locations exhibiting elevated pH above the ECMC Table 915-1 soil suitability parameters (BH04R, BH05, BH06, BH07, and BH08). Soil samples will be collected at flowline directional changes during the SSI. Soil samples collected during the SSI will be analyzed for the full ECMC Table 915-1 suite.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____

_____ Air sparge / Soil vapor extraction

_____ Name of Licensed Disposal Facility or ECMC Facility ID # _____

_____ Natural Attenuation

_____ Excavate and onsite remediation

_____ Other _____

_____ 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 April 2021 initial decommissioning or subsequent August and December 2021 SSIs.

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. 04/28/2021

Proposed date of completion of Reclamation. 05/16/2026

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. 01/07/2021

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/03/2021

Proposed site investigation commencement. 05/16/2025

Proposed completion of site investigation. 05/16/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/16/2025

Proposed date of completion of Remediation. 11/16/2025

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.

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 necessity for additional SSI activities adjacent to the Kastner 41-03 flowline. The SSI is scheduled for 05/16/2025.

OPERATOR COMMENT

This form is being submitted to maintain quarterly reporting compliance during the Second Quarter 2025 and for completion of the supplemental site assessment (SSI) at the Kastner 41-3 flowline (REM # 17229) location.

A supplemental site investigation (SSI) will be conducted to advance four soil borings (BH09-BH12) to further laterally delineate pH exceedances observed at the tank battery. Soil samples will be collected to analyze for the full ECMC Table 915-1 suite at locations sampled during the April 2021 initial decommissioning (FS01, FL01-A, and FL01-B) and August and December 2021 SSIs (BH01-BH08 and BH04R). These soil borings will be utilized to confirm and further vertically delineate the elevated pH observed at the tank battery, and root-zone soil samples will be collected from depths of two ft. bgs at the locations exhibiting elevated pH above the ECMC Table 915-1 soil suitability parameters (BH04R, BH05, BH06, BH07, and BH08). In accordance with the COA associated with previously approved Form 27 document #403955299. Soil samples will be collected at flowline directional changes during the SSI. Soil samples collected during the SSI will be analyzed for the full ECMC Table 915-1 suite. Concurrently with the SSI, additional background samples will be collected and analyzed for metals in soil per ECMC Table 915-1, pH, SAR, EC, and boron. 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.

Please note that the in-process Form 27 Supplemental (Document #404075636) previously submitted on January 30, 2025, and this Form 27 (Document #404176952) includes a change in the previously proposed work plan. The work plan proposed under this Form 27 (Document #404176952) will be completed in lieu of the previously proposed work plan.

Based on currently available data, this project is not affected by data integrity irregularities and is not associated with Operator's data integrity review process and its Rule 525.e. Voluntary disclosure. As part of its data integrity review process, Operator requested the lab protect the laboratory analytical reports from subsequent modification by anyone outside the lab, which resulted in the lab reissuing the original reports with the additional protections (Reissued Reports). The Reissued Reports were received directly from the lab on April 15 through 17, 2025, which includes the application of a Digital ID/Verified Certification (lock) to support reissuance. The metadata associated with the Reissued Reports also includes the lab representative's name, the date and time the laboratory reissued the reports, and an explanation for the report reissuance. The Reissued Reports are attached to this submission.

In the event additional responsive information is received or discovered that would suggest this project should be incorporated into the ongoing data integrity review process associated with Operator's Rule 525.e. Voluntary Disclosure, Operator will update and/or amend the statements in this submission and provide any new or revised data or other information.

The SSI is currently scheduled for 05/16/2025. Pursuant to Rule 913.e, quarterly reporting will be conducted until closure criteria are achieved for the remediation project. The results of the SSI 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: Michael Liston

Title: Environmental Consultant

Submit Date: _____

Email: Tas-chevron-3@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: _____

Date: _____

Remediation Project Number: 17229

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.

Att Doc Num

Name

404177947	ANALYTICAL RESULTS
404177948	ANALYTICAL RESULTS
404177949	ANALYTICAL RESULTS
404177950	ANALYTICAL RESULTS
404177951	ANALYTICAL RESULTS
404179600	SITE INVESTIGATION REPORT
404179601	SITE INVESTIGATION PLAN
404179602	SITE INVESTIGATION PLAN

Total Attach: 8 Files

General Comments

User Group

Comment

Comment Date

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

Total: 0 comment(s)