FORM 27 Rev 3/16

State of Colorado
Oil and Gas Conservation Commission

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Receive Date: 03/29/2021
Report taken by: KRIS NEIDEL

Site Investigation and Remediation Workplan (Initial 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 COGCC 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.
Refer to Rules 340, 905, 906, 907, 908, 909, and 910

OPERATOR INFORMATON

Name of Operator: CHEVRON USA INC Operator No: 16700
Address: 100 CHEVRON ROAD
City: RANGELY State: CO Zip: 81648
Contact Person: Chris patterson Email: spwu@chevron.com

Phone Numbers
Phone: (970) 675-3814
Mobile: (307) 871-5363

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 19116 Initial Form 27 Document #: 402641282

PURPOSE INFORMATION

- [ ] 901.e. Sensitive Area Determination
- [ ] 909.c.(1), Rule 905: Pit or PW vessel closure
- [x] 909.c.(2), Rule 906: Spill/Release Remediation
- [ ] 909.c.(3), Rule 907.e.: Land treatment of oily waste
- [ ] 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure
- [ ] 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water
- [ ] Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b.
- [ ] Rule 909.e.(2)B.: Closure of remediation project
- [ ] Rule 906.c.: Director request
- [ ] Other

SITE INFORMATION

N Multiple Facilites (in accordance with Rule 909.c.)

Facility Type: SPILL OR RELEASE Facility ID: 477880 API #: County Name: RIO BLANCO
Facility Name: Emerald 39 Latitude: 40.101000 Longitude: -108.893000
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWNW Sec: 31 Twp: 2N Range: 102W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications CH
Most Sensitive Adjacent Land Use Non Crop Land
Is domestic water well within 1/4 mile? No
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

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [x] **E&P Waste**
  - [x] Produced Water
  - [ ] Oil
  - [ ] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	332ft. x 20ft. x 0.5 ft	Field determined with tape measure

INITIAL ACTION SUMMARY

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

Operator was making normal check in his area and discovered leak coming from the Emerald 39 produced water Lateral. He shut in lateral and equipment and made all proper notifications. Standing produced water was picked up with a vac-truck Area was water washed with 320 bbls of clean water from the Main Water Plant. Depth of release was approximately 6 ft bgs. A soil sample location map and preliminary analytical results are included as an attachment.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

- [x] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

Preliminary soil samples were collected on September 16, 2020 from below the repaired section of flowline and on October 5, 2020 from the spill path. A total of five (5) grab samples analyzed for Table 910-1 parameters were collected at a depths from 0 to 6 feet below ground surface (ft-bgs). Results show elevated DRO, SAR and EC levels within the impacted area.
Subsequent soil samples analyzed for SAR at SS2 and SS3 sample locations and EC at SS1-SS3 sample locations will be collected during 2021 to monitor natural attenuation.
A confirmation soil sample analyzed for DRO will be collected once impacted soil has been removed.
SAR and EC impacted soils will be treated in-situ by Natural Attenuation. After initial water wash seasonal precipitation events will be utilized.

Proposed Groundwater Sampling

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

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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 5

Number of soil samples exceeeding 910-1: 4

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

Approximate areal extent (square feet): 6640

NA / ND

-- Highest concentration of TPH (mg/kg): 790

-- Highest concentration of SAR: 35

BTEX > 910-1: No

Vertical Extent > 910-1 (in feet): 0

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 910-1:

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 910-1

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?

Background samples were collected as part of this 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

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

The area around the SS2 sample location will be visually inspected, field screened using a PID during 2021. Identified impacted areas will be flagged and scheduled for excavation to remove hydrocarbon impacted soil. All soil will be transported to the Rangely landfarm for disposal.

SAR and EC impacted soils will be treated in-situ by Natural Attenuation. After initial water wash seasonal precipitation events will be utilized. Subsequent soil samples analyzed for SAR at SS2 and SS3 sample locations and EC at SS1-SS3 sample locations will be collected during 2021 to monitor natural attenuation.

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.

The area around the SS2 sample location will be visually inspected, field screened using a PID during 2021. Identified impacted areas will be flagged and scheduled for excavation to remove hydrocarbon impacted soil. All soil will be transported to the Rangely landfarm for disposal.

Soil Remediation Summary

☒ **In Situ**

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

☒ **Ex Situ**

- Yes Excavate and offsite disposal
  - If Yes: Estimated Volume (Cubic Yards) 20
  - Name of Licensed Disposal Facility or COGCC Facility ID # ____
- Yes Excavate and onsite remediation
  - Yes Land Treatment
  - No Bioremediation (or enhanced bioremediation)
  - No Chemical oxidation
  - No 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.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☒ Annually ☐ Other

Report Type: ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other REM Progress Rpt.

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation?

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

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

E&P waste (liquid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

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.

Site will be reclaimed and seeded once repairs are completed.

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 approve the seed mix?

If NO, does the seed mix comply with local soil conservation district recommendations?

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required.

Actual Spill or Release date, if known. 09/04/2020

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/05/2020

Date of commencement of Site Investigation.

Date of completion of Site Investigation. 10/05/2020

REMEDIAL ACTION DATES

Date of commencement of Remediation. 07/01/2021

Date of completion of Remediation.

SITE RECLAMATION DATES

Date of commencement of Reclamation.

Date of completion of Reclamation.

OPERATOR COMMENT

Please see attachment

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

Signed:` Chris patterson Title: Lead ENV Specialist

Submit Date:` 03/29/2021 Email: spwu@chevron.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: KRIS NEIDEL Date: 07/20/2021

Remediation Project Number: 19116

Condition of Approval

COA Type	Description
	Per Rule 915.f, if the remediation project is not completed by January 15, 2022, soils shall comply with Table 915-1.
	Soil delineation shall include a sample, at appropriate depth, at the Spill/Release Point Location.
	By December 2021 the Operator shall collect samples and provide soil delineation results on a form 27.
	Semi-annual reporting is approved, not annual.
4 COAs	

Attachment Check 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
402641282	FORM 27-INITIAL-SUBMITTED
402641290	ANALYTICAL RESULTS

Total Attach: 2 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)