

State of Colorado Oil and Gas Conservation Commission

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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 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 INFORMATION

Name of Operator: CHEVRON USA INC	Operator No: 16700	Phone Numbers
Address: 100 CHEVRON ROAD		Phone: (970) 675-3814
City: RANGELY State: CO Zip: 81648		Mobile: (307) 871-5363
Contact Person: Chris Patterson	Email: spwu@chevron.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 10116 Initial Form 27 Document #: 401176729

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: Environmental Protection Specialist Request

SITE INFORMATION

No Multiple Facilities

Facility Type: SPILL OR RELEASE	Facility ID: 448739	API #:	County Name: RIO BLANCO
Facility Name: SPILL/RELEASE POINT	Latitude: 40.130622	Longitude: -108.888345	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SENW	Sec: 19	Twp: 2N	Range: 102W Meridian: 6 Sensitive Area? Yes

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

None

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	SOILS	High salt in area contacted	Oprator knowledge from injection water properties

INITIAL ACTION SUMMARY

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

At 7:10 am the release occurred, and was noticed on our pressure monitoring system. Operators were immediately dispatched to shut in the line. Vac trucks were sent to pull the produced water, and a hot water truck was requested so that water washing could occur before the spring. All injection fluids recovered were taken to truck unloading to be reinjected.

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):

The proposed plan is to take 2 background samples off the spill path, and to take 7 samples from the spill path. 3 from the upper section where the sheet flow occurred, and 4 from the lower spill path, where more channel flow took place. All proposed samples are grab samples. Samples will be analyzed for table 910-1 compliance, but the contaminate of concern is salts, so specifically SAR and/or EC are the expected drivers to show effective remediation.

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 9

Number of soil samples exceeding 915-1 5

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

Approximate areal extent (square feet) 6300

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 1

Number of groundwater monitoring wells installed 1

Number of groundwater samples exceeding 915-1 1

Surface Water

0 Number of surface water samples collected

Number of surface water samples exceeding 915-1 1

If surface water is impacted, other agency notification may be required.

NA / ND

-- Highest concentration of TPH (mg/kg) 810

-- Highest concentration of SAR 2.7

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 0

Highest concentration of Benzene (µg/l) 1

Highest concentration of Toluene (µg/l) 1

Highest concentration of Ethylbenzene (µg/l) 1

Highest concentration of Xylene (µg/l) 1

Highest concentration of Methane (mg/l) 1

OTHER INVESTIGATION INFORMATION☐ Were impacts to adjacent property or offsite impacts identified?☒ Were background samples collected as part of this site investigation?

Yes 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) 1

Volume of liquid waste (barrels) 1

☐ Is further site investigation required?**REMEDIAL ACTION PLAN**

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? Yes

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

The pipe was excavated, a 10-20-foot section on each side was removed to ensure no corrosion was left, and stainless was used as the replacement material to prevent corrosion in the future.
UPDATE - 6/18/21 the soil around the SS4 sample location which has TPH impacts above standard will be excavated and taken to the Rangely landfarm for remediation. It is anticipated that impacts do not occur below 1 ft bgs. After TPH impacted soils are removed, a confirmation of cleanup grab soil sample will be collected. Excavation activities are projected to begin in July 2021

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.

Free fluids were removed as quickly as possible to prevent soak in, after all free fluids were removed, water washing was started with heated water as the temperature was below freezing, and it was decided that less residence time of the salt water would be better for the vegetation during spring growth. Water washing was completed in a week. Technology is to pull out as much salt as possible from the soil through diffusion, and to drive the deepest salt below the root zone of the plants to allow vegetation to grow unaffected in the spring. It was determined that sampling should wait until the ground was no longer frozen, to get a better sample data, and to allow accurate background sampling due to the snow cover on the un affected areas.

It is anticipated that the first sample data received will show NFA status.

UPDATE 6/18/21 - The soil around the SS4 sample location which has TPH impacts above standard will be excavated and taken to the Rangely landfarm for remediation. It is anticipated that impacts do not occur below 1 ft bgs. After TPH impacted soils are removed, a conformaiton of cleanup grab soil sample will be collected.

EC impacted soils will be treated in-situ by Natural Attenuation. Seasonal precipitation events will be utilized. Subsequent soil samples from the SS2 - SS6 sample locations will be collected and analyzed for EC during the summer of 2021 to monitor natural attenuation.

Soil Remediation Summary

☒ In Situ

No Bioremediation (or enhanced bioremediation)

No Chemical oxidation

No Air sparge / Soil vapor extraction

No Natural Attenuation

Yes Other Water wash

☒ Ex Situ

Yes Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) 50

Name of Licensed Disposal Facility or COGCC Facility ID # 72370

Excavate and onsite remediation

Land Treatment

Bioremediation (or enhanced bioremediation)

Chemical oxidation

Other

Groundwater Remediation Summary

No Bioremediation (or enhanced bioremediation)

No Chemical oxidation

No Air sparge / Soil vapor extraction

No Natural Attenuation

No 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.

No impact to groundwater

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

☐ Quarterly

☐ Semi-Annually

☐ Annually

☒ Other

When sampling data is received

☐ **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 _____

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 _____

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: _____

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 COGCC 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.

No digging was done as a part of the remediation, thus if the water washing was effective at keeping the vegetation from seeing significant degradation, no reclamation will be necessary. If significant degradation is noticed the area will be managed along with the operators stormwater remediation efforts across the field.

UPDATE 6/18/21 - Impacted soil excavation around the SS4 sample location to take place during the summer of 2021. Clean topsoil will be imported for backfill once conformation of cleanup samples have been verified below Table 910-1 standards.

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? Yes _____

If YES, does the seed mix comply with local soil conservation district recommendations? Yes _____

Did the local soil conservation district provide the seed mix? _____

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. _____

Proposed date of completion of Reclamation. _____

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. 12/15/2016

Actual Spill or Release date, or date of discovery. 12/15/2016

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 12/15/2016

Proposed site investigation commencement. _____

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/05/2021

Proposed date of completion of Remediation. 07/31/2021

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

Impacted soil excavation in the vicinity of SS4 is projected to take place in July 2021. Confirmation soil samples will be collected to ensure compliance with Table 910-1.

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

Signed: Tim Dobransky - Entrada

Title: Principal Scientist

Submit Date:

Email: tdobransky@entradainc.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:

Date:

Remediation Project Number: 10116

COA Type**Description**

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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**

402722813	ANALYTICAL RESULTS
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Total Attach: 1 Files

General Comments**User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)