

State of Colorado  
Oil and Gas Conservation Commission

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Document Number:  
402649082

Receive Date:  
\_\_\_\_\_

Report taken by:  
\_\_\_\_\_

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 INFORMATION

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

PROJECT, PURPOSE & SITE INFORMATION

**PROJECT INFORMATION**  
Remediation Project #: \_\_\_\_\_ Initial Form 27 Document #: 402649082

**PURPOSE INFORMATION**

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

**SITE INFORMATION**        N   Multiple Facilities ( in accordance with Rule 909.c. )

Facility Type: LOCATION	Facility ID: 315175	API #: _____	County Name: RIO BLANCO
Facility Name: FEE-62N102W 19SESE	Latitude: 40.121695	Longitude: -108.876738	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESE	Sec: 19	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:**

- |  |  |  |
|--|--|--|
| <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 type="checkbox"/> Oil                       | <input type="checkbox"/> Tank Bottoms                |  |
| <input 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
Yes	SOILS	2692ft. x 1.5ft. x 0.5 ft	Field determined with tape measure
Yes	VEGETATION	Minor distressed vegetation noted.	Visual

## **INITIAL ACTION SUMMARY**

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

A leak occurred on the 10 inch NW injection line at a ten inch to three inch spool that ties to a lateral injection line 530 feet North Northeast of Fee 113X. The leak was in a weld on the reducer that was internally coated. Approximately 164.4264 Bbls of brine water was released and 91.399 Bbls traveled into Stinking Wash Drainage. Vacuum trucks recovered approximately 159.6694 Bbls of brine water. Injection water line was isolated in approximately 50 minutes. The injection water was recovered, and dirt berm containment was utilized in Stinking Water drainage. The spill potentially contained a trace of crude oil, but there was no visible sheen at the time of the spill. (Note: Stinking Water Drainage was not flowing at the time of the spill.) The fluids were picked up by vacuum truck and recycled at the truck unloading facility at the Main Water Plant. A fresh water wash of the affected area was started at approximately noon on 2-27-11. The injection water traveled 2,692 feet into Stinking Water drainage where it was contained by dirt diking.

## **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 ):

Preliminary soil samples were collected late February and early March from the lower portion of 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 inches below ground surface (ft-bgs). Results show elevated SAR, EC and PAH levels within the impacted area. Five (5) initial samples were collected from upper portion of the spill path on October 18, 2018 and results show one location, SS5, with elevated DRO, PAH and pH concentrations. Subsequent soil samples analyzed for SAR and EC at the SS1 and UGSS sample locations were collected in May of 2011 and on October 18, 2018 to monitor natural attenuation. While SAR and EC concentrations have come within background range, there are still PAH impacts at SS1, SS, SS5 and DGSS sample locations. DRO and pH will be resampled at SS5 location and EC will be resampled at the SS2 sample location. These locations will be sampled during 2021 to further monitor natural att

### **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 14

Number of soil samples exceeding 910-1 4

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

Approximate areal extent (square feet) 4038

### NA / ND

--            Highest concentration of TPH (mg/kg) 1700

--            Highest concentration of SAR 10

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

4 Number of surface water samples collected

1 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.

No soil is intended for removal. If the DRO level at the SS5 location continue to remain above the Table 910-1 allowable concentration then a subsequent Form 27 outlining remediation approach will be submitted. EC impacted soils will be treated in-situ by Natural Attenuation. After initial water wash seasonal precipitation events will be utilized. PAH, pH and EC impacted soils will be treated in-situ by Natural Attenuation. After initial water wash seasonal precipitation events will be utilized.

## 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.

If the DRO level at the SS5 location continue to remain above the Table 910-1 standard then a subsequent Form 27 outlining remediation approach will be submitted. PAH, EC and pH impacted soils will be treated in-situ by Natural Attenuation. After initial water wash seasonal precipitation events will be utilized.

## 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 COGCC Facility ID # \_\_\_\_\_

Yes \_\_\_\_\_ 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.

# 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 was reclaimed and seeded once repairs were completed.

Is the described reclamation complete?  Yes  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. 02/27/2011

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/30/2017

Date of commencement of Site Investigation. 05/30/2017

Date of completion of Site Investigation. \_\_\_\_\_

### REMEDIAL ACTION DATES

Date of commencement of Remediation. \_\_\_\_\_

Date of completion of Remediation. \_\_\_\_\_

### SITE RECLAMATION DATES

Date of commencement of Reclamation. \_\_\_\_\_

Date of completion of Reclamation. \_\_\_\_\_

**OPERATOR COMMENT**

Operator comments: The "surface water" samples collected on 2/27/11 were of the released production water. This water was recovered at diked location in Stinking Water Wash. At the time of the release there was no water in the drainage due to the cold temperatures. On March 1st the weather began to warm and runoff flow began to occur in the drainage. At this time an upgradient water sample (UGWS) and a sample from the diked recovery area were collected. Neither sample showed impacts consistent of a produced water spill. With the exception of SS5 the PAH issues are due to high laboratory method detection limits and are not believed to be an issue related to the release. The DRO, benzo(a)pyrene and pH issues at SS5 appear to be an outlier and at this time it is unknown if it is related to the Fee113X release. The area around the SS5 sample location will be inspected more closely during the time of resample for further clarity as to why the exceedances to Table 910 are present.

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: \_\_\_\_\_

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: \_\_\_\_\_

Date: \_\_\_\_\_

Remediation Project Number: \_\_\_\_\_

**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**

402649085	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)