

# State of Colorado Oil and Gas Conservation Commission

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402630180

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Report taken by:

Candice (Nikki) Graber

## 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: GREAT WESTERN OPERATING COMPANY LLC	Operator No: 10110	<b>Phone Numbers</b>
Address: 1001 17TH STREET #2000		
City: DENVER	State: CO Zip: 80202	
Contact Person: Jason Davidson	Email: jdavidson@gwp.com	
		Phone: (720) 595-2132
		Mobile: ( )

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 17320

Initial Form 27 Document #: 402630180

#### 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: 454115	API #: _____	County Name: WELD
Facility Name: SCHNEIDER HD NORTH PAD		Latitude: 40.324003	Longitude: -104.826894
		** correct Lat/Long if needed: Latitude: 40.324308	Longitude: -104.826389
QtrQtr: NWSW	Sec: 7	Twp: 4N	Range: 66W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications GW

Most Sensitive Adjacent Land Use Agricultural

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? Yes

#### Other Potential Receptors within 1/4 mile

A residential property is in place approximately 900 feet to the northwest.

# 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	Unknown	Not yet determined
Yes	SOILS	Unknown	Not yet determined

## INITIAL ACTION SUMMARY

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

Surface soil staining and oil were observed adjacent to the ground valve at the Schneider HD 11-179HNX wellhead during routine maintenance at the facility. The release, of unknown volume, was discovered on 2/8/21 (Spill Release Point ID 479338). A limited pothole excavation investigation was conducted on 2/16-17/21. One pothole was excavated to 16 feet below ground surface (bgs) at the Schneider HD 11-179HNX wellhead to define the vertical extent of potentially impacted soil. Three discreet soil samples were collected from the pothole at 10.5 feet, 14 feet, and 16 feet bgs for laboratory analysis. In addition, one background soil sample was collected from 8 feet bgs approximately 60 feet northwest of the pothole. The samples were collected and analyzed pursuant to COGCC Rule 915 for contaminants of concern listed in Table 915-1, following the general sample collection guidance in Rule 915.e.(2). Groundwater was not encountered. Gypsum was placed at the bottom of the pothole prior to backfilling with clean fill to promote biodegradation of residual petroleum in the soil and potential groundwater. All waste generated during the closure activities was managed and disposed of at Pawnee Waste Landfill, located in Grover, Colorado in accordance with Rules 905 and 906. Copies of the waste manifests will be included in a Supplemental Form 27 submittal. The analytical results are summarized on attached Table 1 and Figure 2. A copy of the laboratory analytical report is attached. A Safety Data Sheet (SDS) for agricultural grade gypsum is also attached.

## 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 ):

Great Western proposes to conduct a subsurface investigation to delineate the horizontal and vertical extent of petroleum hydrocarbon impacted soil at the Site. Five soil borings are proposed to be advanced using a Geoprobe to approximately 25 feet bgs. The proposed soil boring locations are shown on Figure 3 but are subject to change based on field observations during soil boring activities. Please refer to the Additional Investigative Actions section below for a description of the proposed confirmation soil sample analysis.

### Proposed Groundwater Sampling

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

Great Western proposes to install up to five monitoring wells in the soil borings to determine if and to what extent groundwater is impacted. Following well development activities, one groundwater sample will be collected from each monitoring well in accordance with COGCC Rule 915.e.(3)., and will be analyzed for BTEX, naphthalene, 1,2,4-TMB, and 1,3,5-TMB by EPA Method 8260. The locations of the proposed monitoring wells are illustrated on the attached Figure 3 but are subject to change based on field observations during soil boring activities. Soil boring and monitoring well installation activities are scheduled for 3/23/21.

### 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 ):

Discreet soil samples will be analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene (TMB), 1,3,5-TMB and Total Petroleum Hydrocarbons (TPH)- Gasoline Range Organics (GRO) [C6-C10] by EPA Method 8260 and for TPH- Diesel Range Organics (DRO) [C10-C28] and TPH- Residual Range Organics (RRO) [C28-C40] by EPA Method 8015. Analytical results for TPH-GRO, TPH-DRO, and TPH-RRO will be added together to calculate TPH. In addition, soil samples will be analyzed for barium by EPA Method 6020, SAR by Method 20B Saturated Paste, and 1-Methylnaphthalene, 2-Methylnaphthalene, and naphthalene by EPA Method 8270.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 3

Number of soil samples exceeding 910-1 3

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

Approximate areal extent (square feet) 400

### NA / ND

-- Highest concentration of TPH (mg/kg) 8190

-- Highest concentration of SAR 13.25

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 16

### 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?

☐ 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.

Great Western will either dig and haul or treat any soils onsite that exceed Table 915-1 concentration levels.

## 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 necessary, a remedial action plan will be developed based on soil and groundwater analytical results.

## Soil Remediation Summary

### ☐ In Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )  
\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

### ☐ Ex Situ

\_\_\_\_\_ Excavate and offsite disposal  
\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_  
\_\_\_\_\_ Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_  
\_\_\_\_\_ Excavate and onsite remediation  
\_\_\_\_\_ 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.

# REMEDATION PROGRESS UPDATE

## PERIODIC REPORTING

**Frequency:** ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Following site investigation activities

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

☒ Other Site Investigation Report

## 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.

If necessary, the site will be reclaimed in accordance with COGCC 1000 Series Rules.

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. 02/08/2021

Actual Spill or Release date, if known. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/16/2021

Date of commencement of Site Investigation. 03/23/2021

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

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

Signed: Jason Davidson

Title: Senior EHS Specialist

Submit Date: 03/19/2021

Email: jdavidson@gwp.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: Candice (Nikki) Graber

Date: 03/19/2021

Remediation Project Number: 17320

### COA Type

### Description

	A supplemental Form 27 must be submitted within 90 days of the completion of this environmental investigation.
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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.

<u>Att Doc Num</u>	<u>Name</u>
402630180	FORM 27-INITIAL-SUBMITTED
402631689	ANALYTICAL RESULTS
402631690	OTHER
402631704	SOIL SAMPLE LOCATION MAP
402631734	MAP
402631763	ANALYTICAL RESULTS

Total Attach: 6 Files

### General Comments

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

Total: 0 comment(s)