

# State of Colorado Oil and Gas Conservation Commission

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402730353

Receive Date:

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Report taken by:

BOB CHESSON

## 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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

### OPERATOR INFORMATION

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

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 16770 Initial Form 27 Document #: 402600970

#### 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

No Multiple Facilities

Facility Type: WELL	Facility ID:	API #: 001-06503	County Name: ADAMS
Facility Name: DAVIS 1-30	Latitude: 39.845298	Longitude: -104.472466	
** correct Lat/Long if needed: Latitude: 39.845228		Longitude: -104.472455	
QtrQtr: NESE	Sec: 30	Twp: 2S	Range: 63W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications SC  
 Most Sensitive Adjacent Land Use Agricultural  
 Is domestic water well within 1/4 mile? No  
 Is surface water within 1/4 mile? Yes  
 Is groundwater less than 20 feet below ground surface? No

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

The Davis 1-30 wellhead and associated 542-foot flowline are surrounded by agricultural fields in all directions. The flowline runs southeast from the wellhead to the tank battery. The tank battery, which is addressed under a separate Form 27 (Document #402601098), is located approximately 565 feet to the southeast of the wellhead. West Sand Creek, an ephemeral drainage, is in place ~¼ mile to the west. There are no groundwater wells mapped within ¼ mile of the wellhead and flowline. Depth to groundwater is expected to be encountered at ~70 feet below ground surface. There are no additional sensitive areas or wildlife habitats identified within a quarter mile of the wellhead and flowline. See the attached Figure 1 for an illustration of the location of the Site.

## 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
No	SOILS	Not impacted	Confirmation Soil Sampling

### INITIAL ACTION SUMMARY

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

Great Western proposes to conduct closure of the Davis 1-30 wellhead and flowline. Plugging and abandonment of the well is scheduled to commence on 3/16/2021 and be completed by 3/18/2021. Flowline removal activities and cut and cap activities are planned to commence on 3/24/2021 and be completed by 3/26/2021. Great Western will conduct site investigation activities, field screening, and confirmation soil sampling activities during closure in accordance with COGCC 900 Series Rules. Discreet soil samples will be collected and analyzed pursuant to Rule 915, following the general sample collection guidance in Rule 915.e.(2). All waste generated during the closure activities will be managed and disposed of at Waste Connections' Denver Regional Landfill in Erie, CO in accordance with Rules 905 and 906.

### 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 ):

Four discreet soil samples will be collected for field screening at the wellhead. At least one of the field screening samples will be submitted to an accredited laboratory for analysis. Soil samples will be analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, and Total Volatile Petroleum Hydrocarbons (TVPH [C6-C10]) by EPA Method 8260 and Total Extractable Petroleum Hydrocarbons (TEPH [C10-C36]) by EPA Method 8015. Analytical results for TVPH and TEPH will be added together to calculate Total Petroleum Hydrocarbons (TPH). See the attached Figure 2 for an illustration of the wellhead layout and proposed discreet soil sample locations for field screening and for laboratory analysis. See the Additional Investigative Actions section below for a summary of the flowline investigation and sampling activities.

#### Proposed Groundwater Sampling

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

Depth to groundwater in the vicinity of the facility has been determined to be approximately 70 feet below ground surface based on ground elevation and alluvial groundwater elevation contours from the 2010 Lost Creek Basin Aquifer Recharge and Storage Study. Groundwater or a pathway to groundwater are not expected to be encountered during facility closure activities. However, if groundwater is encountered, one groundwater sample will be collected in accordance with COGCC Rule 915.e.(3), and will be submitted to an accredited laboratory for analysis of BTEX, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene by EPA Method 8260.

#### 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 ):

Great Western will remove the flowline by cutting it in 50' to 100' sections and pulling it from the subsurface. Up to four discreet soil samples will be collected for field screening during flowline abandonment. If indications of soil impacts are present, the samples will be submitted to an accredited laboratory for analysis as discussed in the Proposed Soil Sampling section above. If indications of groundwater impacts are present, samples will be collected and submitted to an accredited laboratory for analysis as discussed in the Proposed Groundwater Sampling section above. See the attached Figure 3 for an illustration of the wellhead, flowline, and associated tank battery and proposed field screening sample locations.

## SITE INVESTIGATION REPORT

## **SAMPLE SUMMARY**

### **Soil**

Number of soil samples collected 1  
Number of soil samples exceeding 915-1 0  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 0

### **NA / ND**

ND Highest concentration of TPH (mg/kg) \_\_\_\_\_  
NA Highest concentration of SAR \_\_\_\_\_  
BTEX > 915-1 No  
Vertical Extent > 915-1 (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) 0  
Number of groundwater monitoring wells installed \_\_\_\_\_  
Number of groundwater samples exceeding 915-1 \_\_\_\_\_

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 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?

Background soil samples were collected in association with facility closure activities at the tank battery, COGCC Remediation Project #16788.

☐ 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**

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.

Based on site investigation activities and laboratory analytical results for confirmation soil sample SS3-1 collected adjacent to the Davis 1-30 wellhead, source removal is not needed.

## **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.

Based on site investigation activities and laboratory analytical results for confirmation soil sample SS3-1 collected adjacent to the Davis 1-30 wellhead, a remediation plan is not needed.

## **Soil Remediation Summary**

☐ In Situ

☐ Ex Situ

\_\_\_\_ Bioremediation ( or enhanced bioremediation )

\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

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.

Groundwater was not encountered during site investigation activities.

## **REMEDIATION PROGRESS UPDATE**

### **PERIODIC REPORTING**

#### **Approved Reporting Schedule:**

☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other \_\_\_\_\_

#### ☐ **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: \_\_\_\_\_

## REMEDATION COMPLETION REPORT

### REMEDATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes \_\_\_\_\_

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? Yes \_\_\_\_\_

Does the previous reply indicate consideration of background concentrations? \_\_\_\_\_

Does Groundwater meet Table 915-1 standards? Yes \_\_\_\_\_

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.

GWOC has conducted final reclamation of the land and soil affected by the wellhead and flowline in accordance with COGCC 1000-Series Rules. The wellhead and flowline are wholly situated in cropland. All disturbed areas have been reclaimed as nearly as practical to their original condition and the wellhead excavation and flowline trenches have been backfilled. All areas compacted by oil and gas operations have been cross-ripped. GWOC has applied topsoil and compost, the land has been adequately tilled to re-establish a proper seedbed, stabilized to minimize erosion, and returned to the landowner for agricultural use. The landowner will reincorporate the area into the agricultural field and plant crops.

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? No \_\_\_\_\_

### SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 04/07/2021

Proposed date of completion of Reclamation. 04/09/2021

## 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. 02/05/2021

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/16/2021

Proposed site investigation commencement. 04/07/2021

Proposed completion of site investigation. 04/07/2021

## REMEDIAL ACTION DATES

Proposed start date of Remediation. \_\_\_\_\_

Proposed date of completion of Remediation. \_\_\_\_\_

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

Cut and cap activities, associated site investigation, and confirmation soil sampling at the Davis 1-30 wellhead and flowline occurred on April 7, 2021. Four discrete soil samples were collected from the 0-1 ft-bgs (feet below ground surface) interval in each cardinal direction from the wellhead and field screened using a photo-ionization detector (PID). Field screening results ranged from 0.1 parts per million (ppm) to 1.4 ppm. Confirmation soil sample SS3-1, collected from the east side of the wellhead adjacent to the flowline connection, was submitted to Origins Laboratory, Inc. (Origins) in Denver, CO. Origins analyzed the soil sample for benzene, toluene, ethylbenzene, total xylenes (BTEX), and naphthalene by EPA Method 8260, and Gasoline Range Organics (GRO) [C6-C10], Diesel Range Organics (DRO) [C10-C28], and Residual Range Organics (ORO) [C28-C40] by EPA Method 8015. All analytes were reported below their respective laboratory method detection limits.

Great Western removed the flowline by trenching along the flowline and cutting and pulling it from the subsurface in 50' to 100' sections. A portion of a historic flowline was also removed where it had been previously left in place. Four discrete soil samples were collected along the active flowline and two discrete soil samples were collected along the historic flowline and screened using a PID. Field screening results along the flowlines ranged from 0.0 ppm to 0.5 ppm. Soil impacts were not observed during flowline abandonment activities and no soil samples were submitted for laboratory analysis.

Please refer to the attached Wellhead and Flowline Closure Checklists for a detailed description of the site investigation activities. Soil sample and field screening locations are presented on Figure 2, and analytical results are presented on Table 1. Sample location information is provided on Table 2. A photo log and a copy of the laboratory analytical report are also attached.

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: 06/28/2021

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: BOB CHESSON

Date: 07/22/2021

Remediation Project Number: 16770

## Condition of Approval

### COA Type

### Description

0 COA	

## 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

402730353	FORM 27-SUPPLEMENTAL-SUBMITTED
402730717	PHOTO DOCUMENTATION
402730718	SOIL SAMPLE LOCATION MAP
402730719	ANALYTICAL RESULTS
402730720	SITE INVESTIGATION REPORT
402730721	ANALYTICAL RESULTS
402730778	SITE INVESTIGATION REPORT

Total Attach: 7 Files

Date Run: 7/22/2021 Doc [#402730353]

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## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	<p>Based on the information presented no further remedial action is necessary at this time and the COGCC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required.</p> <p>This no further action determination is limited to environmental remediation. Operator is required to comply with COGCC 1100 Series Rules for Flowline Regulations for all Flowline Abandonment activities and COGCC 400 Series Rules for Wellhead Plugging and Abandonment.</p> <p>The surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules. For locations with active ongoing oil and gas operations, comply with Rule 1003 interim reclamation requirements and for locations that will no longer have active oil and gas operations, comply with Rule 1004 Final Reclamation requirements.</p>	07/22/2021

Total: 1 comment(s)