

State of Colorado Oil and Gas Conservation Commission

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401820149

Receive Date:

11/01/2018

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.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

OPERATOR INFORMATION

Name of Operator: GREAT WESTERN OPERATING COMPANY LLC	Operator No: 10110	Phone Numbers
Address: 1001 17TH STREET #2000		
City: DENVER	State: CO Zip: 80202	
Contact Person: Ben Huggins	Email: bhuggins@gwogco.com	
		Phone: (720) 595-2078
		Mobile: (303) 332-4548

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 8798

Initial Form 27 Document #: 2313343

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 type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation | <input checked="" 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 checked="" type="checkbox"/> Other Spill/Release 2146021 |

SITE INFORMATION

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

Facility Type: LOCATION	Facility ID: 320035	API #:	County Name: ADAMS
Facility Name: GREAT WESTERN CLYDE E. WILLIAM 2		Latitude: 39.834612	Longitude: -104.529279
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SENE	Sec: 34	Twp: 2S	Range: 64W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use 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

See Form 19 submitted on 09/06/13

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	excavation dimensions~30'x30'x20'	sample collected excavation/removal

INITIAL ACTION SUMMARY

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

Limited excavation & stockpiling of visibly impacted soils. Collected initial excavation soil samples for lab analysis. See Form 19 submitted for the site on 09/06/13.

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):

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 18

Number of soil samples exceeding 910-1 5

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

Approximate areal extent (square feet) 1000

NA / ND

-- Highest concentration of TPH (mg/kg) 12060

NA Highest concentration of SAR

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 14

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) 350

Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Please see attached narrative, diagram and laboratory analytical results. Great Western Operating Co LLC request closure of this site.

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.

Soil excavation based on staining, odors and final lab analytical results was conducted at the location of the former produced water vessel during October 2014.

REMEDICATION 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 the soil analytical results obtained at the site, impacted soils at the Clyde E Williams 2 production site were present in the water production pit area. Following soil excavation, final soil sampling activities conducted on October 27, 2014 and October 6, 2015 confirmed that impacted soil has been removed from the spill area and remaining soils do not contain TPH or BTEX values greater than Table 910-1 concentrations.

Soil Remediation Summary

☐ In Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ Other _____

☒ Ex Situ

Yes _____ Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) _____ 350

Name of Licensed Disposal Facility or COGCC Facility ID # _____

No _____ 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 in the excavation. Impacted soils did not extend to the depth of groundwater.

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

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

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? Yes _____

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Based on the soil analytical results obtained at the site, impacted soils at the Clyde E Williams 2 production site were present in the water production pit area. Following soil excavation, final soil sampling activities conducted on October 27, 2014 and October 6, 2015 confirmed that impacted soil has been removed from the spill area and remaining soils do not contain TPH or BTEX values greater than Table 910-1 concentrations.

Volume of E&P Waste (solid) in cubic yards _____ 350

E&P waste (solid) description _____ hydrocarbon impacted soils

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: CSI Landfill, Bennett, CO _____

Volume of E&P Waste (liquid) in barrels _____ 0

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 _____

Do all soils meet Table 910-1 standards? Yes _____

Does the previous reply indicate consideration of background concentrations? No _____

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? _____

Does Groundwater meet Table 910-1 standards? Yes _____

Is additional groundwater monitoring to be conducted? No _____

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.

The site will be reclaimed in accordance with the 1000 series rules.

Is the described reclamation complete? _____

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. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). _____

Date of commencement of Site Investigation. 09/12/2013 _____

Date of completion of Site Investigation. 10/27/2014 _____

REMEDIAL ACTION DATES

Date of commencement of Remediation. 10/08/2014 _____

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

Based on the soil analytical results obtained at the site, impacted soils at the Clyde E Williams 2 production site were present in the water production pit area. Following soil excavation, final soil sampling activities conducted on October 27, 2014 and October 6, 2015 confirmed that impacted soil has been removed from the spill area and remaining soils do not contain TPH or BTEX values greater than Table 910-1 concentrations. GWOC requests closure for this project from the COGCC.

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

Signed: Rachel A. Peterson, P.G.

Title: Senior Project Manager

Submit Date: 11/01/2018

Email: petersonr@agwco.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: 11/02/2018

Remediation Project Number: 8798

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**

401820149	FORM 27-SUPPLEMENTAL-SUBMITTED
401820167	REMEDATION PROGRESS REPORT

Total Attach: 2 Files

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

Environmental	The COGCC has reviewed the NFA request for Project/Remediation #8798. Based on the information presented, no further action is necessary at this time. However, should future conditions at the site indicate contaminant concentrations in soils or groundwater exceeding COGCC standards then further investigation and/or remediation activities may be required at the site. 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.	11/02/2018
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Total: 1 comment(s)