

State of Colorado
Oil and Gas Conservation Commission

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Document Number:
402195459

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION
Remediation Project #: 14056 Initial Form 27 Document #: 402123311

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 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 type="checkbox"/> Other _____ |

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

| | | | |
|--|---------------------|------------------------|---------------------|
| Facility Type: WELL | Facility ID: _____ | API #: 123-45439 | County Name: WELD |
| Facility Name: Wilson IC 03-179HNX | Latitude: 40.259622 | Longitude: -104.958222 | |
| ** correct Lat/Long if needed: Latitude: 40.259939 | | Longitude: -104.958719 | |
| QtrQtr: NWNW | Sec: 1 | Twp: 3N | Range: 68W |
| | | Meridian: 6 | Sensitive Area? Yes |

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? Yes

Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

Residence located approximately 650 feet to the southwest of well location.

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 type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | |
| <input checked="" type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input checked="" 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 |
|-----------|----------------|------------------|-----------------------|
| No | SOILS | No Impacts | Confirmation 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.

A release of approximately 13.3 barrels of oil based drilling mud occurred on May 24, 2019. The initial spill was reported to the COGCC under a Form 19, Document Number 402055762, Release ID 464492. On May 31, 2019, five confirmation soil samples were collected within the spill area as shown on Figure 2. Samples were submitted for laboratory analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), total petroleum hydrocarbons (TPH)-gasoline range organics (GRO), and TPH- diesel range organics (DRO). Concentrations of TPH-GRO and TPH-DRO were added to calculate total petroleum hydrocarbons (TPH). TPH concentrations were reported above the Table 910-1 concentration levels in all samples. Concentrations of BTEX were either not detected at or above laboratory reporting limits or were reported below their Table 910-1 concentration levels in each sample. As a result of current development and completion operations at the site, the spill area is inaccessible. When the spill area becomes accessible in late summer/early fall 2019, additional soil will be removed, and follow-on confirmation samples will be collected. Sample points and the spill area were surveyed with GPS at the time of the initial sampling.

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 5
Number of soil samples exceeding 910-1 0
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 1440

NA / ND

-- 72.8 Highest concentration of TPH (mg/kg)
NA Highest concentration of SAR
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) 0'
Number of groundwater monitoring wells installed 0
Number of groundwater samples exceeding 910-1 0

 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
0 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

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.

On September 23, 2019, Great Western excavated approximately 16 cubic yards of impacted soil from the spill area for offsite disposal at Waste Management's North Weld Landfill in Ault, CO.

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.

On September 23, 2019, Olsson collected five additional confirmation soil samples from the same locations as the initial samples collected on May 31, 2019. Sample points were located using the GPS coordinates. Field screening measurements were collected using a photoionization detector (PID). Soil samples were analyzed for BTEX, TPH-GRO, and TPH-DRO. Concentrations of TPH-GRO and TPH-DRO were added to calculate TPH. TPH concentrations were either not detected at or above laboratory reporting limits or were reported below their Table 910-1 concentration levels in each sample. Concentrations of BTEX were not detected at or above laboratory reporting limits in any of the samples. PID readings and laboratory analytical results are summarized in the attached Table 1 and are illustrated on the attached Figure 2. A copy of the laboratory report is also attached.

Soil Remediation Summary

In Situ

Ex Situ

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

- Yes _____ Excavate and offsite disposal
- _____ If Yes: Estimated Volume (Cubic Yards) _____ 16
- _____ 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.

REMEDIATION 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? 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? Yes _____

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

Does the previous reply indicate consideration of background concentrations? Yes _____

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.

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. 05/24/2019

Actual Spill or Release date, if known. 05/24/2019

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/31/2019

Date of commencement of Site Investigation. 05/31/2019

Date of completion of Site Investigation. 05/31/2019

REMEDIAL ACTION DATES

Date of commencement of Remediation. 09/23/2019

Date of completion of Remediation. 09/23/2019

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 Supervisor

Submit Date: _____

Email: j davidson@gwogco.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: 14056

COA Type

Description

| | |
|--|--|
| | |
|--|--|

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

| | |
|-----------|--------------------------|
| 402195885 | ANALYTICAL RESULTS |
| 402196014 | SOIL SAMPLE LOCATION MAP |
| 402196016 | ANALYTICAL RESULTS |
| 402212519 | DISPOSAL MANIFESTS |

Total Attach: 4 Files

General Comments

User Group

Comment

Comment Date

| | | |
|--|--|---------------------|
| | | Stamp Upon Approval |
|--|--|---------------------|

Total: 0 comment(s)