

State of Colorado
Oil and Gas Conservation Commission

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Document Number:
403008744

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.

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	Phone Numbers
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 #: _____ Initial Form 27 Document #: 403008744

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: LOCATION	Facility ID: 436119	API #: _____	County Name: WELD
Facility Name: Schmunk EF Offsite Tank Battery 31		Latitude: 40.534297	Longitude: -104.701619
		** correct Lat/Long if needed: Latitude: 40.534142	Longitude: -104.701656
QtrQtr: SWNE	Sec: 31	Twp: 7n	Range: 65w 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? Yes 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

The Schmunk EF tank battery is surrounded by agricultural land in all directions. An irrigation pond is in place ~430 feet north and irrigation ditches are in place ~1,275 feet west and ~1,320 feet east of the battery. A residential neighborhood is in place ~1,000 feet south. There is one groundwater well mapped within a ¼ mile of the battery. Groundwater depth is unknown but is expected to be encountered at less than 20 feet below ground surface (bgs). The 100-year floodplain of the Mead Lateral Ditch is mapped ~950 feet southwest of the battery. There are no other sensitive areas, wetland, 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:

- | | | |
|--|--|--|
| <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 checked="" type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input checked="" 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
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.

A leak from a Balon valve at Condensate Tank #3 resulted in the release of approximately 47 bbls of oil all within unlined secondary containment. The release was discovered during a routine site visit on 2/23/2022 and was immediately stopped and completely contained on-site. Great Western conducted excavation activities inside the steel tank berm utilizing hydrovac equipment on 2/24/2022. All free oil, melted snow, and loose material were removed by the hydrovac. However, the roadbase/surface material was frozen and unable to be excavated. On 4/5/2022, a limited subsurface investigation was conducted with hand auger equipment within the steel tank berm, adjacent to the partially buried produced water tanks and west row of above ground storage tanks (ASTs). Six characterization soil samples were collected from five hand auger borings and submitted to Summit Scientific Laboratory (Summit) in Golden, CO for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene (TMB), 1,3,5-TMB and Gasoline Range Organics (GRO) [C6-C10] by EPA Method 8260 and for Diesel Range Organics (DRO) [C10-C28] and Residual Range Organics (RRO) [C28-C40] by EPA Method 8015. At this time, laboratory analytical results have not been received. Based on observations made during the hand auger investigation and to address the impacted soil, Great Western proposes to conduct remedial excavation activities at the battery during the week of April 11, 2022.

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):

At this time, the vertical and lateral extent of the proposed excavation is unknown. Great Western will collect a sufficient number of excavation sidewall and base confirmation soil samples to demonstrate successful remediation. In addition, Great Western plans to permanently remove the four partially buried produced water tanks associated with the facility. Great Western will conduct field screening and confirmation soil sampling activities during excavation and removal of the partially buried produced water tanks in accordance with COGCC 900 Series Rules. Discrete soil samples will be collected and analyzed pursuant to Rule 915, following the general sample collection guidance in Rule 915.e.(2). See the attached Figure 2 for an illustration of the Site layout and proposed discrete soil sample locations. Please refer to the Remediation Summary section under the Remedial Action Plan tab of this Form 27 for additional discussion.

Proposed Groundwater Sampling

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

Depth to groundwater is unknown but may be encountered within 20 feet of ground surface. Up to two test pits will be excavated to a depth of approximately 12 feet bgs between the water vaults and ASTs. If groundwater is encountered within the test pits or a pathway to groundwater is observed, ground water samples 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-TMB, and 1,3,5 TMB 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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 0

Number of soil samples exceeding 915-1

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

Approximate areal extent (square feet)

NA / ND

 Highest concentration of TPH (mg/kg)

 Highest concentration of SAR

 BTEX > 915-1

 Vertical Extent > 915-1 (in feet)

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 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?

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 plans to excavate impacted soils above COGCC Table 915-1 concentration levels utilizing backhoe and trackhoe equipment. All waste generated during the excavation activities will be managed and disposed of at a licensed disposal facility in accordance with Rules 905 and 906. cted soils to below COGCC Table 915-1 concentration levels onsite.

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.

Great Western plans to excavate impacted soils at the tank battery above COGCC Table 915-1 concentration levels utilizing backhoe and trackhoe equipment. Prior to excavation, the four partially buried produced water tanks will be permanently removed and the west row of four ASTs will be temporarily removed to allow access to the impacted soil. Discrete soil samples will be submitted to Summit for analysis of Table 915-1 organic compounds, total petroleum hydrocarbons, and metals. In addition, the soil samples from the base of the partially buried produced water tanks will be analyzed for the Soil Suitability for Reclamation parameters; Electrical Conductivity (EC), Sodium Absorption Ratio (SAR), and pH by Saturated Paste Method, and boron by Hot Water-Soluble Soil Extract Method. See the attached Figure 2 for an illustration of the Site layout and proposed discrete soil sample locations. Please refer to the Proposed Soil Sampling section under the Site Investigation Plan tab of this Form 27 for additional discussion.

Soil Remediation Summary

In Situ

Ex Situ

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

- _____ 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.

If impacted groundwater is encountered, a monitoring plan will be developed and submitted with a follow-up Supplemental Form 27.

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? _____

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.

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 provide the seed mix? _____

If YES, does the seed mix comply with local soil conservation district recommendations? _____

Did the local soil conservation district provide the seed mix? _____

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. _____

Proposed date of completion of Reclamation. _____

User Group

Comment

Comment Date

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

Total: 0 comment(s)