FORM 27 Rev 4/21

State of Colorado
Oil and Gas Conservation Commission

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Receive Date: 01/25/2022
Report taken by: RICK ALLISON

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 Form27.
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 INFORMATON

Name of Operator: GREAT WESTERN OPERATING COMPANY LLC Operator No: 10110
Address: 1001 17TH STREET #2000
City: DENVER State: CO Zip: 80202
Contact Person: Jason Davidson Email: jdavidson@gwp.com

Phone Numbers
Phone: (720) 595-2132
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 21791 Initial Form 27 Document #: 402935094

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.
- [X] 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: 417318 API #: County Name: WELD
Facility Name: HEINZE TANK BATTERY 1 Latitude: 40.524730 Longitude: -104.475220
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWSE Sec: 31 Twp: 7N Range: 63W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications: SM
Most Sensitive Adjacent Land Use: Dairy farm and agriculture
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

The Heinze #1 tank battery is surrounded by a dairy farm and agricultural land in all directions. The nearest occupied structure is a residential home located approximately 0.3 miles to the east-southeast. The nearest surface water feature is an un named 2.2-acre pond located approximately 0.6 miles to the west. There are no DWR permitted groundwater wells within 0.25 miles of the Site. Depth to water is unknown but expected to be encountered at a depth greater than 20 feet below ground surface (ft-bgs) based on DWR records of the nearest permitted well (permit receipt #0302696A with reported DTW of 50 ft-bgs], 0.32 miles east southeast of the Site). The site is located within the CPW's high priority habitat "Pronghorn Winter Concentration" mapped extent. There are no additional sensitive areas or wildlife habitats identified within a quarter mile of the facility. See the attached Figure 1 for an illustration of the location of the Site.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [X] Oil
  - [X] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	GROUNDWATER	Unknown	Not yet determined
UNDETERMINED	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.

Great Western proposes to conduct closure of the Heinze #1 Tank battery. There is one partially buried water vessel, one above ground storage tank, two separators, and four emission combustion devices associated with the site. Tank battery closure activities are planned to commence on 2/7/22 and be completed by 3/31/22. Great Western will conduct site investigation activities, field screening, and confirmation soil sampling activities during closure 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). All waste generated during the closure activities will be managed and disposed of at a licensed disposal facility in accordance with Rules 905 and 906.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

During tank battery closure, at least 13 discrete soil samples will be collected for field screening only and at least 7 discrete soil samples will be collected for laboratory 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. Analytical results for GRO, DRO, and RRO will be added together to calculate total petroleum hydrocarbons (TPH). In addition, a soil sample will be collected from the base of the partially buried produced water vessel and 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 soil sample locations.

Proposed Groundwater Sampling

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

Depth to groundwater is unknown but is expected to be encountered at a depth greater than 20 ft-bgs based the static water levels reported in the nearest DWR permitted wells. Up to two test pits will be excavated to a depth of approximately 10 feet adjacent to the water vault and separators. 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. See the attached Figure 2 for a presentation of potential grab groundwater sample locations.

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 exceeeding 915-1

Was the areal and vertical extent of soil contamination delineated?

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.

If impacted soil is encountered, Great Western will either dig and haul impacted soils to a commercial landfill or treat impacted soils above COGCC Table 915-1 concentration levels onsite.

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.

A remediation or closure plan will be developed based on the analytical results of the confirmation soil samples collected during facility closure activities.

Soil Remediation Summary

☐ **In Situ**

Bioremediation (or enhanced bioremediation)

Chemical oxidation

☐ **Ex Situ**

Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards)

Air sparge / Soil vapor extraction

Natural Attenuation

Other

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.

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.

If necessary, the site will be reclaimed in accordance with COGCC 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 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. _____

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. 12/20/2021

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/07/2022

Proposed site investigation commencement. 02/07/2022

Proposed completion of site investigation. _____

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

There are 4 wells associated with the Heinze #1 tank battery.
- The Heinze 31-34 was P&Ad on 9/19/19 and its associated off-location flowline was abandoned in place, as it shares a trench with the Heinze 31-14 and Heinze 31-24 off-location flowlines, discussed below.
- The Heinze 31-44 was P&Ad on 3/26/21 and its associated off-location flowline was fully removed on 11/15-16/21. This work was addressed under Form 27 Supplemental Document #402890937.
- The Heinze 31-14 and Heinze 31-24 wells will be P&Ad and the associated off-location flowlines will be fully removed concurrently with tank battery decommissioning. The Heinze 31-34 off-location flowline will also be fully removed concurrently with tank battery decommissioning. This proposed sampling related to well P&A and off-location flowline removal activities is being addressed under Form 27 Initial Document #402935132.

Because the facility is located within the CPW Pronghorn Winter Concentration HPH, Great Western consulted with the CPW via email on January 12, 13, and 14 2022. CPW will allow Great Western to conduct facility closure activities during the timing limitation (January 1 through April 30), adhering to the following BMPs:
- Conduct all work during daylight hours.
- Stormwater perimeter controls will be installed prior to the arrival of heavy equipment at the tank battery.
- Pursuant to COGCC Rule 912, Great Western will provide verbal or written notification to CPW if a reportable spill or release occurs within the High Priority Habitat.

The landowner was notified on December 20, 2021. Follow-up reporting will be submitted via a Form 27 Supplemental within 90 days after work is completed.

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:` 01/25/2022 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: RICK ALLISON Date: 01/31/2022

Remediation Project Number: 21791

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
402935094	FORM 27-INITIAL-SUBMITTED
402935568	SITE MAP
402935569	SOIL SAMPLE LOCATION MAP

Total Attach: 3 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)