FORM 27 Rev 5/22

State of Colorado
Oil and Gas Conservation Commission

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Receive Date: 06/21/2023
Report taken by: Kyle Waggoner

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 INFORMATON

Name of Operator: TALLGRASS WATER WESTERN LLC Operator No: 10608
Address: 370 VAN GORDON STREET
City: LAKEWOOD State: CO Zip: 80228
Contact Person: Scott Yount Email: scott.yount@tallgrass.com

Phone Numbers
Phone: (316) 322-3514
Mobile: (316) 322-3514

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 30336 Initial Form 27 Document #: 403440302

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.
- [X] 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: TANK BATTERY Facility ID: 444115 API #: County Name: WELD
Facility Name: Wildhorse 16 SWD Pad Latitude: 40.749304 Longitude: -103.991457
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NWSW Sec: 16 Twp: 9N Range: 59W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications: SM
Most Sensitive Adjacent Land Use: Cattle grazing 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

none

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [ ] Oil
  - [ ] 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
Yes	SOILS	500' by 3'	visible impacted soil (salt encrustation)

INITIAL ACTION SUMMARY

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

The line was shut in to prevent the release of additional brine water. Excavation of the impacted was conducted and soil samples were collected in accordance with COGCC 900 Series Rules, lab results indicate the removal of additional soil in areas in required to meet state cleanup thresholds.

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):

Sixteen grab soil samples have been collected in the impacted area and were submitted for analysis for soil suitability for reclamation parameters and metals in soil. Seven waste characterization samples were collected and were submitted for analysis for soil suitability for reclamation parameters, metals in soil, BETXN+TMBs, TPH, and PAHs. See attached sample location map, laboratory results and a spreadsheet that summarizes laboratory results.

Proposed Groundwater Sampling

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

If groundwater is encountered during soil remediation, a grab sample will be collected as soon as practical. If contaminated soil is in contact with groundwater or if free product/hydrocarbon sheen are observed, the release will be reported in accordance with Rule 912.b. Groundwater samples will be submitted for laboratory 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):

No surface water present.,

Additional Investigative Actions

[ ] Additional alternative investigative actions described in attached Site Investigation Plan (summary):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil **NA / ND**

Number of soil samples collected 0

Number of soil samples exceeeding 915-1

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

Approximate areal extent (square feet)

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?

See attached soil sample location map for background samples' locations.

☐ 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.

Repairs have been made to the pipe.

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.

Remediation of impacted soils will consist of the removal of visibly impacted soils. Soil samples will be collected from the excavated soil in accordance with the COGCC's excavation guidance document. On May 30, 2023, waste characterization soil samples (SS01@5/WC01, SS02@3/WC02, and SS03@3/WC03) were collected from the base and adjacent sidewalls from the source area trench excavated to repair the flowline and were submitted for analysis of Table 915-1 analytes. Additionally, two composite stockpile samples (C01 and C02) were collected from the source area stockpiles and were submitted for analysis of BTEXN, TMBs, TPH, PAHs, SAR, EC, pH, boron, arsenic, barium and selenium. Based on the results of these samples and site-specific background samples, Tallgrass Energy respectfully requests that the COGCC modify the list of contaminants of concern in soil to include only EC, SAR, boron and barium for soil excavation confirmation soil samples per COGCC Rule 915.e.(2).C. A Sample Location Map, analytical results summary tables, and laboratory analytical reports are attached.

Soil Remediation Summary

☐ **In Situ**

Bioremediation (or enhanced bioremediation)

☒ **Ex Situ**

Yes Excavate and offsite disposal

Chemical oxidation

Air sparge / Soil vapor extraction

Natural Attenuation

Other

If Yes: Estimated Volume (Cubic Yards) 165

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

No Bioremediation (or enhanced bioremediation)

No Chemical oxidation

No Air sparge / Soil vapor extraction

Natural Attenuation

No 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 Reporting conducted as site conditions change.

☐ **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 Removal of impacted soil and sample results

Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).
If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Operator anticipates the remaining cost for this project to be: $

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:

No beneficial use, E&P waste (produced water impacted soil) will be disposed at Pawnee Waste, LLC's landfill in Grover, CO.

Volume of E&P Waste (solid) in cubic yards 80

E&P waste (solid) description Produced water impacted soil

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Pawnee Waste, LLC

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

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.

Reclamation will be conducted in accordance with the COGCC's 1004 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 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. 05/20/2023

Actual Spill or Release date, or date of discovery. 05/20/2023

SITE INVESTIGATION DATES

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

Proposed site investigation commencement.

Proposed completion of site investigation.

REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/22/2023

Proposed date of completion of Remediation. 07/14/2023

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

On May 30, 2023, waste characterization soil samples (SS01@5/WC01, SS02@3/WC02, and SS03@3/WC03) were collected from the base and adjacent sidewalls from the source area trench excavated to repair the flowline and were submitted for analysis of Table 915-1 analytes. Additionally, two composite stockpile samples (C01 and C02) were collected from the source area stockpiles and were submitted for analysis of BTEXN, TMBs, TPH, PAHs, SAR, EC, pH, boron, arsenic, barium and selenium. Based on the results of these samples and site-specific background samples, Tallgrass Energy respectfully requests that the COGCC modify the list of contaminants of concern in soil to include only EC, SAR, boron and barium for soil excavation confirmation soil samples per COGCC Rule 915.e.(2).C. A Sample Location Map, analytical results summary tables, and laboratory analytical reports are attached

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

Signed: Scott Yount Title: Sr. EHS Specialist

Submit Date: 06/21/2023 Email: scott.yount@tallgrass.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: Kyle Waggoner Date: 07/11/2023

Remediation Project Number: 30336

COA Type	Description
	If groundwater is encountered, a sample will be collected and analyzed for Table 915-1 Organic Compounds in Groundwater and Groundwater Inorganic Parameters.
	If a spill/release of produced fluids or E&P waste causes an impact to soil, the operator should perform sampling and analysis to fully delineate the lateral and vertical extent of those impacts.
	Operator shall provide a comprehensive list of all potential receptors within ¼ mile on the subsequent Supplemental Form 27. Location lies within the following mapped High Priority Habitat(s): - Mule Deer Migration Corridor - Mule Deer Severe Winter Range lease note that Approval of this Form 27 does not supersede any Federal, State or Local regulations. COGCC recommends consultation with Colorado Parks and Wildlife.
3 COAs	

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
403440302	FORM 27-INITIAL-SUBMITTED
403440362	SITE MAP
403440364	SOIL SAMPLE LOCATION MAP
403440365	ANALYTICAL RESULTS
403440366	ANALYTICAL RESULTS
403440367	OTHER

Total Attach: 6 Files

General Comments

User Group	Comment	Comment Date
Environmental	COGCC agrees to the reduced analyte list of sampling for only EC, SAR, boron and barium based on the waste characterization sample.	06/21/2023

Total: 1 comment(s)