FORM 27 Rev 3/16

State of Colorado
Oil and Gas Conservation Commission

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Receive Date: 01/13/2021
Report taken by: Jason Kosola

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

OPERATOR INFORMATON

Name of Operator: GILBERT-STEWART OPERATING LLC Operator No: 34105
Address: 1801 BROADWAY STE 200
City: DENVER State: CO Zip: 80202
Contact Person: Kent Gilbert Email: kgoil@msn.com

Phone Numbers
Phone: (303) 478-8393
Mobile: (303) 478-8393

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 16224 Initial Form 27 Document #: 402572626

PURPOSE INFORMATION

- [ ] 901.e. Sensitive Area Determination
- [ ] 909.c.(1), Rule 905: Pit or PW vessel closure
- [x] 909.c.(2), Rule 906: Spill/Release Remediation
- [ ] 909.c.(3), Rule 907.e.: Land treatment of oily waste
- [ ] 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure
- [ ] 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water
- [ ] Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b.
- [ ] Rule 909.e.(2)B.: Closure of remediation project
- [ ] Rule 906.c.: Director request
- [ ] Other

SITE INFORMATION

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

Facility Type: LOCATION Facility ID: 475565 API #: County Name: CHEYENNE
Facility Name: YELTSIN-615S45W 1SWSE Latitude: 38.770553 Longitude: -102.390873
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SESE Sec: 1 Twp: 15S Range: 45W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

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

None identified.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [x] **E&P Waste**
  - [ ] Produced Water
  - [x] 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	2,200 square feet	Soil samples and visual observation

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 COGCC conducted a field inspection of the site on 12/1/2020 and noted oil staining in soil within the tank battery earthen berm containment and a soil stockpile on location (COGCC Document Number 700600223). On December 10, 2020, WSP collected two confirmation soil samples (SS01@0-12" and SS02@0-12") from the tank battery area and one 5-point composite sample (Comp 01) from the soil stockpile. One surficial background sample was also collected from an area away from potential impacts of oil and gas operations. The confirmation and soil samples were submitted for laboratory analysis of BTEX, TPH-GRO/DRO/ORO, EC, pH, SAR, and arsenic. The background sample (BG01) was submitted for laboratory analysis of arsenic.
Results indicated TPH exceeded the applicable COGCC Table 910-1 standard in samples Comp01, SS01@0-12", and SS02@0-12", with concentrations of 610 mg/kg, 3,323 mg/kg, and 6,900 mg/kg, respectively. Arsenic exceeded the applicable COGCC Table 910-1 standard in samples Comp01, SS01@0-12", and SS02@0-12", with concentrations of 2.43 mg/kg, 1.91 mg/kg, and 1.37 mg/kg, respectively. Arsenic in BG01 was also above the COGCC Table 910-1 standard with a concentration of 1.04 mg/kg. All remaining results were compliant. The laboratory analytical results summary table, sample location figure, and laboratory report are attached.

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):

Land treatment within the earthen berm containment is being proposed to remediate the remaining impact identified onsite. When land treatment is initiated the impacted soil within the earthen berm will be turned over and at that time two additional soil samples will be collected to define the vertical extent of impact: one from the northern half and one from the southern half of the treatment area. The impacted soil stockpile will be moved to the treatment area and one surficial confirmation sample will be collected from the footprint following removal.

Land treatment soil sampling will be conducted on a semi-annual schedule to monitor the remedial progress of land treatment. During each soil monitoring event, three discrete confirmation soil samples will be collected from the treatment area: one at the northern end, one at the southern end, and one in the center. All samples will be submitted for laboratory analysis of TPH-GRO/DRO/ORO and arsenic.

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: 3

Number of soil samples exceeeding 910-1: 3

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

Approximate areal extent (square feet): 2200

NA / ND

-- Highest concentration of TPH (mg/kg): 6900

-- Highest concentration of SAR: 4.19

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): `

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):

Volume of liquid waste (barrels):

☐ Is further site investigation required?

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

See below.

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.

The identified impact will be remediated onsite by land treatment within the tank battery's earthen berm containment. The earthen berm will be maintained to contain impacted material and prevent runoff. The soil stockpile with identified TPH and arsenic impact will be moved and placed in this treatment area. The area will be mechanically turned, and manure will be applied as a remedial amendment to aerate the impacted material, provide nutrients to enhance hydrocarbon biodegradation, and dilute inorganic constituents. When land treatment is initiated, two soil samples will be collected at depth to delineate the vertical extent of impact in the treatment area. Soil samples will be collected on a semi-annual schedule until compliance COGCC Table 910-1 standards is acheived. Remediation will continue until soil is within COGCC specs.

The proposed treatment area is depicted on the attached figure.

Soil Remediation Summary

☐ **In Situ**

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

☐ **Ex Situ**

- _____ 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.

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? Yes

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

None

Volume of E&P Waste (solid) in cubic yards 81

E&P waste (solid) description Stained soil

COGCC Disposal Facility ID #, if applicable: 0

Non-COGCC Disposal Facility:

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.

Site will be reclaimed in accordance with applicable COGCC rules at the time of final site closure.

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). 12/10/2020

Date of commencement of Site Investigation. 12/10/2020

Date of completion of Site Investigation.

REMEDIAL ACTION DATES

Date of commencement of Remediation.

Date of completion of Remediation.

SITE RECLAMATION DATES

Date of commencement of Reclamation.

Date of completion of Reclamation.

OPERATOR COMMENT

Per COGCC Rule 915 (f.), Gilbert-Stewart Operating requests that COGCC Table 910-1 standards be used to determine compliance until January 15, 2022.

Please note that this remediation will occur at the Akers #2 Tank Battery located at coordinates 38.769491°, -102.390759°.

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

Signed:` Kent Gilbert Title: Manager

Submit Date:` 01/13/2021 Email: kgoil@msn.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: Jason Kosola Date: 01/14/2021

Remediation Project Number: 16224

COA Type	Description
Interim Reclamation	Control noxious weeds throughout the reclamation process. Weed control measures shall be performed in compliance with the Colorado Noxious Weed Act C.R.S. 35-5.5-115.
Interim Reclamation	Comply with COGCC 1000 Series Stormwater Management rules throughout the duration of the project. a. Perform and document stormwater inspections after any storm event that results in runoff. b. Verify that stormwater controls are properly maintained or replaced as needed throughout the duration of the project.
	Compliance sampling shall occur every 180 days from date of approval of this Form 27. First round of complaince sampling must conducted by 7/13/2021 and be submitted via Form 27 to COGCC area Environmental Protections Specialist no later than 14 days after date of sampling.

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
402572626	FORM 27-INITIAL-SUBMITTED
402572851	SOIL SAMPLE LOCATION MAP
402572854	ANALYTICAL RESULTS
402572855	ANALYTICAL RESULTS

Total Attach: 4 Files

General Comments

User Group	Comment	Comment Date
Environmental	Remediation standards for this approved remediation shall fall under COGCC Rule 910-1 standards in place at the time remediation was approved.	01/14/2021
Environmental	Changed Facility ID to 475565 to reflect COGCC facility number for tank battery and associated inspection 700600223	01/14/2021

Total: 2 comment(s)