FORM 27 Rev 3/16

State of Colorado
Oil and Gas Conservation Commission

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Report taken by: Jason Kosola

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 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 Table910-1 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 and sample location figure 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):

The impacted soil stockpile was moved to the treatment area and one surficial confirmation sample (SS05@6-0") was collected from the footprint following removal. Analytical results confimred that the footprint contained soil that exceeded the COGCC standards for TPH and arsenic at 500 mg/kg and 2.16 mg/kg, respectively. Operator will scrape/excavate approximately 6"-12" of soil from the footprint and collect an additional confirmation soil sample for analysis of TPH and arsenic. The soil will be added to the treatment area for remediaiton.

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: 8
Number of soil samples exceeeding 910-1: 8
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet): 2200

NA / ND

-- Highest concentration of TPH (mg/kg): 6900
-- Highest concentration of SAR: 4.19
BTEX > 910-1: Yes
Vertical Extent > 910-1 (in feet): 2

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?

One background soil sample (BG01) was collected from an undisturbed area for the analysis of Arsenic on December 10, 2020.

☐ 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?

Operator plans to scrape/excavate approximately 6"-12" from where the former soil stockpile was located (in the area of soil sample SS05@0-6"). A confirmation soil sample will be collected following the scrape/excavation. The scraped/excavated soil will be added to the treatment area for remedation.

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.

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 was moved and placed in this treatment area. Further excavation/scraping from the soil stockpile's footprint will be conducted, and that soil will be addred to the treatment area for remediation. The treatment 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 was initiated, soil samples were collected on 1-29-21 to delineate the vertical extent of impact in the treatment area. Soil samples of the impacted material that is being treated 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 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 #
- Yes — Excavate and onsite remediation
  - Yes — Land Treatment
  - Yes — Bioremediation (or enhanced bioremediation)
  - No — Chemical oxidation
  - Yes — Other: mechanical mixing

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:

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No

Do all soils meet Table 910-1 standards? No

Does the previous reply indicate consideration of background concentrations?

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? No

Does Groundwater meet Table 910-1 standards?

Is additional groundwater monitoring to be conducted?

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. 01/29/2021

Date of completion of Remediation.

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:` Kent Gilbert Title: Manager

Submit Date:` 02/17/2021 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: 02/22/2021

Remediation Project Number: 16224

COA Type	Description
	Per Rule 913.e. Reporting Schedule. Operator is required to submit quarterly update reports via Form 27 Supplemental. Next update is due second quarter of 2021. Operator shall use updated COGCC Table 915-1 for sampling and analysis.

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
402598836	FORM 27-SUPPLEMENTAL-SUBMITTED
402599469	ANALYTICAL RESULTS
402599474	SOIL SAMPLE LOCATION MAP
402599500	OTHER

Total Attach: 4 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)