

State of Colorado
Oil and Gas Conservation Commission

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Document Number:
402732832
Receive Date:
08/20/2021

Report taken by:
ALEX FISCHER

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: UNKNOWN	Operator No: 1	Phone Numbers Phone: (970) 2500130 Mobile: ()
Address: XXXXXXXXXXXXXXXXXXXX		
City: XXXXX State: XX Zip: _____		
Contact Person: Shannon Chollett	Email: shannon.chollett@state.co.us	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 20538 Initial Form 27 Document #: 402732832

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: Rule 911: Closure of Oil and Gas Facility

SITE INFORMATION

No Multiple Facilities

Facility Type: WELL	Facility ID: _____	API #: 077-08440	County Name: MESA
Facility Name: SNOWDEN (OWP) 1	Latitude: 39.261532	Longitude: -108.915912	
	** correct Lat/Long if needed: Latitude: 39.261590	Longitude: -108.916074	
QtrQtr: SWNW	Sec: 20	Twp: 9S	Range: 103W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications CL Most Sensitive Adjacent Land Use Livestock grazing and crop land
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

COGCC GIS Topographic Map (attached) shows mapped, unnamed intermittent drainage features located approximately 120' to the east and 185' to the west of wellhead. Mapped domestic water well located approximately 1,320' southeast. Depth to groundwater is estimated to be greater than 20' based on water well depth (400').

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- E&P Waste
- Other E&P Waste
- Non-E&P Waste
- Produced Water
- Workover Fluids
- No waste generated to date
- Oil
- Tank Bottoms
- Condensate
- Pigging Waste
- Drilling Fluids
- Rig Wash
- Drill Cuttings
- Spent Filters
- Pit Bottoms
- Other (as described by EPA)

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
No	SOILS	n/a	Laboratory analytical

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 Orphan Well Program will be plugging the Snowden (OWP) #1 well and decommissioning any associated flowlines. Well has been plugged previously, per COGCC doc #399348 and will require drilling out existing cement to re-plug. Soil samples will be collected in accordance with COGCC Rule 911.a(4) Guidance Document. Samples will be collected from the wellhead excavation and any encountered flowline path and submitted for laboratory analysis of Table 915-1 constituents.

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):

Soil samples will be collected for for laboratory analysis of Table 915-1 constituents in the area showing the highest degree of impact during field screening activities at the wellhead and any encountered flowlines; if no potential impacts are observed, samples will be collected in accordance with COGCC Rule 911.a(4) Guidance Document.

Proposed Groundwater Sampling

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

If a pathway to groundwater is determined or groundwater is encountered during excavation activities, a sample will be collected and analyzed for Table 915-1 constituents.

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):

Visual inspection of the well area will occur during abandonment activities. Field personnel will field screen all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling is required.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 1
Number of soil samples exceeding 915-1 1
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 9

NA / ND

-- Highest concentration of TPH (mg/kg) 351
NA Highest concentration of SAR
BTEX > 915-1 No
Vertical Extent > 915-1 (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 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.

Impacts above 915-1 Residential Screening Level were restricted to arsenic and are in line with state ambient background levels of arsenic in soil. Impacts above 915-1 Protection of Groundwater Soil Screening levels are believed to be concentrated directly around the wellhead at shallow depths (2 feet) and are removed through well abandonment excavation activities.

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.

No remedial action beyond abandonment activities is warranted due to the depth of groundwater and soil conditions. All constituents analyzed for under 915-1 were below Residential Soil Screening levels with the exception of arsenic which is equivalent to state ambient background concentrations.

Soil Remediation Summary

In Situ

Ex Situ

 Bioremediation (or enhanced bioremediation)

 Excavate and offsite disposal

 Chemical oxidation

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.

n/a

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. _____

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/14/2021

Proposed site investigation commencement. 05/14/2021

Proposed completion of site investigation. 07/02/2021

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

Updated site investigation results and attached investigation report.

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

Signed: David Weber

Title: Project Manager

Submit Date: 08/20/2021

Email: david.weber@anteagroup.us

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: ALEX FISCHER

Date: 10/25/2021

Remediation Project Number: 20538

Condition of Approval**COA Type****Description**

	<p>Based on Inspection Doc #694300008 and Complaint Doc #200447226, the COGCC samples should be collected and analyzed for the Protection of groundwater Soil Screening Level.</p> <p>Per Rule 915.a. Operators will adhere to the concentrations for soil cleanup in Table 915-1.</p> <p>Naphthalene was detected at 6.5 mg/kg.</p> <p>Per Table 915-1 Footnotes (6, 9, and 10) The Director will consider organics in soil.</p>
	<p>Based on Inspection Doc #694300008 and Complaint Doc #200447226, the COGCC samples should be collected and analyzed for the Protection of groundwater Soil Screening Level.</p>
	<p>Based on Inspection Doc #694300008 and Complaint Doc #200447226, the COGCC samples should be collected and analyzed for the Protection of groundwater Soil Screening Level.</p> <p>Per Rule 915.a. Operators will adhere to the concentrations for soil cleanup in Table 915-1.</p> <p>Arsenic was detected at 10.2 mg/kg. Barium was detected at 198 mg/kg. Cadmium was detected at 2.3 mg/kg. Lead was detected at 22.7 mg/kg. Nickel was detected at 30.6mg/kg. Selenium was detected at 6.5 mg/kg.</p> <p>Per Table 915-1 Footnotes (1, 6, 9, 10, and 11) The Director will consider site specific background levels for metals in soil.</p>
	<p>It is stated, "Impacts above 915-1 Residential Screening Level were restricted to arsenic and are in line with state ambient background levels of arsenic in soil." Referencing the CDPHE guidance.</p> <p>Per Rule 915.a. Operators will adhere to the concentrations for soil cleanup in Table 915-1.</p>

4 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.

<u>Att Doc Num</u>	<u>Name</u>
402732832	FORM 27-INITIAL-SUBMITTED
402786902	SITE INVESTIGATION REPORT

Total Attach: 2 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Inspection Doc #694300008 states, "From Complaint form 18 doc# 200447226: "Inspection of the well showed that the casing is open with water level at 19.8 feet and depth to obstruction at 188 feet. Observations of the water surface shows that it is periodically rippling or being disturbed, possibly by bubbling gas. A hydrocarbon odor was detected at the top of casing. A headspace from a water sample bottle showed an LEL of 18%.	10/25/2021
Environmental	API 077-08440 Location ID: 391199 Water well, Receipt # 0430352 and Permit # 49965-F located approximately 3400 feet south of the well head shows static groundwater at 14 feet below ground surface (bgs). F6 Doc #402608113 states, "The deepest water well within 1 mile is 60 ft." Well previously PAed 12/6/1981, Doc #399348. One sample collected at 2 feet bgs. Work completed in May 2021 prior to approval of an Initial F27 (received 8/20/2021). Historic topos depict an intermittent stream approximately 112 feet east and 222 feet west of the well head.	10/25/2021

Total: 2 comment(s)