

State of Colorado
Oil and Gas Conservation Commission

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KRIS NEIDEL

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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATION

Name of Operator: <u>GADECO LLC</u>	Operator No: <u>10673</u>	Phone Numbers Phone: <u>(303) 3463696</u> Mobile: <u>()</u>
Address: <u>7535 EAST HAMPDEN AVE STE 400</u>		
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80231</u>		
Contact Person: <u>Trent Green</u> Email: <u>trent@gfccap.com</u>		

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 18162 Initial Form 27 Document #: 402679327

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: _____

SITE INFORMATION

No Multiple Facilities

Facility Type: <u>PIT</u>	Facility ID: <u>100262</u>	API #: _____	County Name: <u>MOFFAT</u>
Facility Name: <u>GRYNBERG STATE 1</u>	Latitude: <u>40.936606</u>	Longitude: <u>-108.732500</u>	
	** correct Lat/Long if needed: Latitude: <u>40.936199</u>	Longitude: <u>-108.732607</u>	
QtrQtr: <u>SWSE</u>	Sec: <u>3</u>	Twp: <u>11N</u>	Range: <u>101W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SP Most Sensitive Adjacent Land Use Rangeland
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

Pit is within Sage Grouse priority habitat

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- E&P Waste
- 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
- No waste generated _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	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.

A site investigation was conducted pursuant to COGCC rule 911 at the State-Grynberg-611N101W 3SWSE pit. The pit was historically back-filled by previous operator, soil samples were taken and analyzed per a modified Table 915-1 (excluding PAHs, boron, and all Table 915 metals (other than arsenic)) to ensure that this pit does not require any remediation prior to final reclamation on this location.

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):

Collected (4) four soil sample cores from previously closed pit. Samples were taken down far enough to identify a bentonite layer or undisturbed soil to ensure the samples include native soil, likely not to exceed 15 ft. Samples will be submitted and analyzed per modified Table 915-1 Residential (excluding PAHs, boron, and all Table 915 metals (other than 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 4
Number of soil samples exceeding 915-1 4
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 3600

NA / ND

-- Highest concentration of TPH (mg/kg) 6700
-- Highest concentration of SAR 5.44
BTEX > 915-1 Yes
Vertical Extent > 915-1 (in feet) 15

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?

Excavation of the historically backfilled pit needs to delineate the horizontal and vertical extent of the contamination of the soil in the pit.

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.

The backfilled soil will be excavated from the pit.

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 backfilled soil will be excavated from the pit and disposed of at an offsite disposal facility (Rock Springs Landfill). It is estimated that the volume of soil to be disposed of is 45 cubic yards, although this will be determined in the field. In determining how deep to dig in excavating the operator will utilized field screening methods (PID). The estimated aerial extent is 60-ft x 60-ft and is likley greater than 30-ft bgs.

Soil Remediation Summary

- In Situ
 - Bioremediation (or enhanced bioremediation)
 - Chemical oxidation
- Ex Situ
 - Yes Excavate and offsite disposal
 - If Yes: Estimated Volume (Cubic Yards) 20

_____ Air sparge / Soil vapor extraction

_____ Name of Licensed Disposal Facility or COGCC Facility ID # _____

_____ Natural Attenuation

_____ Excavate and onsite remediation

_____ Other _____

_____ 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: _____

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes _____

If YES:

Compliant with Rule 913.h.(1).

Compliant with Rule 913.h.(2).

Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards? Yes _____

Does the previous reply indicate consideration of background concentrations? Yes _____

Does Groundwater meet Table 915-1 standards? Yes _____

Is additional groundwater monitoring to be conducted? _____

Operator shall comply with the COGCC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

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 in accordance with State Land Board, CPW, and COGCC 1000 Series Rules requirements.

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. 02/25/2021

Actual Spill or Release date, or date of discovery. 05/27/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/12/2021

Proposed site investigation commencement. _____

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/14/2021

Proposed date of completion of Remediation. 10/31/2021

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:

[Empty text box for basis of change]

OPERATOR COMMENT

Question: "Field Notes could be very helpful in this project. What did soil near TPS2 look like, was it screened above sample." TP-S2 was investigated on 8-30-21. Attached are the field notes from that day as well as a photo from that day of TP-S1. No photo was taken of TP-S2. The soil above 12' in TP-S2 was not field screened, however, TP-S1 was. Based on field observations of TP-S1, the field team stepped out and excavated TP-S2. Based on the lab results in TP-S2, the excavation extended beyond TP-S2. Soil sample SS08 is a confirmation soil sample outside of TP-S2.

Question: "The area of SS01, SS02, SS03 contain Volatile Organics. What is believed to be the source of this? was soil screened above the sampled data? was the vertical extent established?" The source of VOC's is unknown; this is a very old pit area. Soil was field screened throughout the excavation. Those soil samples were collected on 7-30-21. See attached photos for the few days leading up the collection of those samples. See the field notes from 7-26-21 for PID results as excavation approached SS01, SS02, and SS03. Regarding the vertical delineation, these 3 soil samples were over-excavated in subsequent visits to the site. Analytical results from SS05 and SS07 (combined with the depth of SS04) show that the vicinity of SS01, SS02, and SS03 were eventually excavated down to 20 feet, and confirmation soil samples collected.

Question: "Arsenic in background appears to be taken at 2-8 feet. Confirmation samples were at a deeper depth." Correct. We did not dig 20-foot holes in the native soil in the adjacent field to collect background samples. The data we have, albeit only to 8 feet bgs, shows that arsenic is naturally high in the area.

Question: "Please explain TP S2 hydrocarbon concentration in subsequent Form 27." TP-S2 was a "step-out" pothole during the earlier stages of the excavation (9-30-21) to help us get our arms around how big this excavation will be. As mentioned previously, it was subsequently over-excavated, and confirmation soil sample SS08 (9-23-21) was clean at the same depth.

Comment: "It does not appear that anything is being proposed in this document." This Form 27 makes the request for closure.

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

Signed: Trent Green

Title: Managing Director

Submit Date: 03/11/2022

Email: trent@gfccap.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: KRIS NEIDEL

Date: 03/11/2022

Remediation Project Number: 18162

Condition of Approval

COA Type

Description

	Based on a review of the information provided, it appears that no further action is necessary at this time and COGCC approves the closure request. Should conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards, or, if groundwater is found to be significantly impacted, further investigation and/or remediation activities may be required at the site.
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1 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.

<u>Att Doc Num</u>	<u>Name</u>
402902882	FORM 27-SUPPLEMENTAL-SUBMITTED
402906804	SOIL SAMPLE LOCATION MAP
402906809	PHOTO DOCUMENTATION
402906815	ANALYTICAL RESULTS
402906816	ANALYTICAL RESULTS
402906817	ANALYTICAL RESULTS
402944727	OTHER
402944728	OTHER
402944729	PHOTO DOCUMENTATION

Total Attach: 9 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	The following questions were asked of the Operator, they are included here for context of Operator response: ---Please explain TP S2 hydrocarbon concentration in subsequent Form 27. ---Arsenic in background appears to be taken at 2-8 feet. Confirmation samples were at a deeper depth. ---The area of SS01, SS02, SS03 contain Volatile Organics. What is believed to be the source of this? was soil screened above the sampled data? was the vertical extent established? ---Field Notes could be very helpful in this project. What did soil near TPS2 look like, was it screened above sample.	03/11/2022
Environmental	Pit 100262 was CL in the COGCC database	01/24/2022

Total: 2 comment(s)