

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
CHRIS CANFIELD

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 INFORMATION

Name of Operator: VERDAD RESOURCES LLC	Operator No: 10651	Phone Numbers
Address: 1125 17TH STREET SUITE 550		Phone: (720) 8456901
City: DENVER State: CO Zip: 80202		Mobile: ()
Contact Person: Michael Cugnetti	Email: mcugnetti@verdadresources.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION
Remediation Project #: 15653 Initial Form 27 Document #: 402428831

PURPOSE INFORMATION

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

SITE INFORMATION N Multiple Facilities (in accordance with Rule 909.c.)

Facility Type: LOCATION	Facility ID: 320077	API #: _____	County Name: ADAMS
Facility Name: GREAT WESTERN LEECH 1	Latitude: 39.953330	Longitude: -104.720676	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNE	Sec: 24	Twp: 1S	Range: 66W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use cropland

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

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | _____ |
| <input type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> Other (as described by EPA) | _____ |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	GROUNDWATER	one of two pools in excavation	groundwater analysis
Yes	SOILS	70'x60'x18'bgs	visual, PID, soil analysis

INITIAL ACTION SUMMARY

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

We are planning to remove a partially buried PW vessel. No action has occurred yet. 9/2/2020: See attached report.

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):

When the partially buried PW vessel has been removed we will investigate the soil under the vessel for any impacts (visually and with a PID). If impacts are apparent we will remove impacted soil. If no impacts are apparent or impacted soil has been removed, we will pull confirmation soil samples for analysis. We will take a grab sample from the north south east and west of the vessel area, 4 samples total. Backfilling will not occur until confirmation samples are returned within 910 acceptable concentrations.

Proposed Groundwater Sampling

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

If extent of any impact reaches groundwater, we will update this Site Investigation and Remediation Workplan. 0samples planned at this time.

Proposed Surface Water Sampling

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

If extent of any impact reaches surface water, we will update this Site Investigation and Remediation Workplan.

Additional Investigative Actions

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

Any impacted soil will be disposed of properly according to 907.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 5
Number of soil samples exceeding 910-1 0
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 4200

NA / ND

-- Highest concentration of TPH (mg/kg) 55
NA Highest concentration of SAR
BTEX > 910-1 No
Vertical Extent > 910-1 (in feet) 18

Groundwater

Number of groundwater samples collected 2
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 16'
Number of groundwater monitoring wells installed 0
Number of groundwater samples exceeding 910-1 1

-- Highest concentration of Benzene (µg/l) 58
ND Highest concentration of Toluene (µg/l)
-- Highest concentration of Ethylbenzene (µg/l) 70
-- Highest concentration of Xylene (µg/l) 144
NA 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) 2760 Volume of liquid waste (barrels) 0

Is further site investigation required?

REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? Yes _____

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

This plan will be updated if impacts are discovered. If small amounts of impacted soil is discovered it will be removed and properly disposed of per 907. 9/2/2020: See attached report.

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 impacts discovered yet. This plan will be updated if impacts are discovered. 9/2/20: All impacted soil has been removed and disposed of at Front Range Landfill. Some groundwater impact remain (1 of 2) samples. 370 gallons of Microblaze bioremediation solution was added to the groundwater and excavation floor to accelerate attenuation of residual dissolved groundwater impact. Estimated time to NFA is 6 months to 1 year.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

Yes _____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____ 2760

_____ 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

Yes _____ 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.

We propose to pull a groundwater sample at sample location #10 to confirm the residual groundwater impact has attenuated. We propose to pull this sample in 6 months and analyze for BTEX.

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? No

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

Do all soils meet Table 910-1 standards? Yes

Does the previous reply indicate consideration of background concentrations? Yes

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? _____

Does Groundwater meet Table 910-1 standards? Yes

Is additional groundwater monitoring to be conducted? No

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 done as part of the location abandonment and final reclamation per 1004. Site has been reclaimed and returned to the land owner for farming alfalfa.

Is the described reclamation complete? Yes

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? Yes

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. 06/23/2020

Actual Spill or Release date, if known. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/27/2020

Date of commencement of Site Investigation. 07/27/2020

Date of completion of Site Investigation. 08/24/2020

REMEDIAL ACTION DATES

Date of commencement of Remediation. 08/17/2020

Date of completion of Remediation. 04/06/2021

SITE RECLAMATION DATES

Date of commencement of Reclamation. 08/26/2020

Date of completion of Reclamation. 09/09/2020

OPERATOR COMMENT

All project sample locations compliant with COGCC Cleanup Concentrations.
Requesting Closure of Remediation Project #15653.

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

Signed: Michael Cugnetti _____

Title: Director of EHS&R _____

Submit Date: 04/13/2021 _____

Email: mcugnetti@verdadresources.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: CHRIS CANFIELD _____

Date: 04/21/2021 _____

Remediation Project Number: 15653 _____

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

	The surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules. For locations with active ongoing oil and gas operations, comply with Rule 1003 interim reclamation requirements and for locations that will no longer have active oil and gas operations, comply with Rule 1004 Final Reclamation requirements.
	Based on the information presented, it appears that no further action is necessary at this time and the COGCC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required.
2 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**

402656148	FORM 27-SUPPLEMENTAL-SUBMITTED
402656177	REMEDICATION PROGRESS REPORT
402656183	ANALYTICAL RESULTS
402656196	GROUND WATER SAMPLE LOCATION
402656220	DISPOSAL MANIFESTS

Total Attach: 5 Files

General Comments**User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)