

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.

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

OPERATOR INFORMATION

Name of Operator: KODA EXPLORATION LLC	Operator No: 10720	Phone Numbers
Address: 2443 SOUTH UNIVERSITY BLVD 215		Phone: (303) 915-2555
City: DENVER State: CO Zip: 80210		Mobile: ()
Contact Person: Anders Elgerd	Email: elgerd@comcast.net	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 17970 Initial Form 27 Document #: 402665871

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: LOCATION	Facility ID: 477611	API #:	County Name: LINCOLN
Facility Name: WHP Misty 2-7 Pad	Latitude: 38.593580	Longitude: -103.492650	
** correct Lat/Long if needed: Latitude: 38.593270		Longitude: -103.492490	
QtrQtr: NWNE	Sec: 7	Twp: 17S	Range: 54W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use Rangeland
Is domestic water well within 1/4 mile? No 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

There is a stock watering well (DWR Permit # 279321) approx. 2970' SW from the WHP Misty 2-7 wellhead. According to log ran to 488' bgs in the WHP Misty 2-7 surface hole, there is no evidence of fresh water zones at this location. There are no high priority habitats within 1/4 of a mile.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- E&P Waste
- Other E&P Waste
- Non-E&P Waste
- Produced Water
- Workover Fluids
- 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
Yes	SOILS	140' x 100' x 2'	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.

Background pit samples were collected on 10/29/20, and analyzed prior to pit use. Upon completion of drilling activity and evaporation of fluids in the pit, a site investigation was conducted pursuant to COGCC rule 911 at the WHP Misty 2-7 oil and gas location for closure of drill cuttings pit and interim reclamation. Drill cuttings were analyzed and subsequent pit wall samples were collected. After receiving results, additional step-out composite samples were analyzed for EC and SAR. Results indicate that EC and SAR are consistently greater than approved Table 915-1 thresholds at the pit walls and for background samples collected at depth. Initial pit background samples were analyzed by the laboratory using the standard probe method for Electrical Conductivity (EC) in accordance with COGCC-Table 910-1. Since that time, COGCC requires EC analysis using the saturated paste preparation method, which, according to the lab, commonly yields EC readings 10 times greater than the standard probe method. Thus, the 10/29/20 EC analyses are not comparable to newly collected samples.

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):

All soil sampling has been conducted and EC and SAR levels have been fully delineated.

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):

All site investigation has been conducted and EC and SAR levels have been fully delineated.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 26
Number of soil samples exceeding 915-1 26
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 14000

NA / ND

NA Highest concentration of TPH (mg/kg) _____
-- Highest concentration of SAR 23.5
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 _____

NA Highest concentration of Benzene (µg/l) _____
NA Highest concentration of Toluene (µg/l) _____
NA Highest concentration of Ethylbenzene (µg/l) _____
NA Highest concentration of Xylene (µg/l) _____
NA 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?

Surface and pre-drill pit base samples were collected. Initial pit background samples were analyzed conducted utilizing the standard probe method for Electrical Conductivity (EC) in accordance with COGCC-approved laboratory methods in place at the time of the baseline samples, per COGCC Table 910-1. Since that time, COGCC has modified Soil Suitability for Reclamation requirements in accordance with Table 915-1, specifically requiring that, "Soil suitability thresholds for electrical conductivity ("EC"), pH, and sodium adsorption ratio ("SAR") in soils are based on use of saturated paste preparation methods, followed by analysis." Further, the laboratory stated that the latest method required for EC analysis consistently yields EC numbers ten times greater than the previously approved method when conducted side by side. Therefore, the initial pre-cuttings pit EC analysis conducted with the October 2020 samples is incomparable. Additional background soil samples have been collected.

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

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 supplemental Form 27 is being submitted for pit closure of drill cuttings to be left in situ. No additional sources of contamination are located on the site.

REMEDICATION 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.

Operator requests permission to backfill the pit with clean native fill and leave EC and SAR inorganic exceedances in situ considering sitewide elevated naturally occurring EC and SAR levels. Upon approval, Operator will close the pit leaving cuttings in place at least 8' below after recontouring. Please see attached plan and analytical results.

Soil Remediation Summary

In Situ

Ex Situ

No Bioremediation (or enhanced bioremediation)

Excavate and offsite disposal

No Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) _____

No Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or COGCC Facility ID # _____

No Natural Attenuation

Excavate and onsite remediation

Yes Other Cuttings will remain in situ at
least 8' bgs with inorganics (EC
and SAR) greater than Table
915-1

Land Treatment

Bioremediation (or enhanced bioremediation)

Chemical oxidation

Other _____

Groundwater Remediation Summary

No Bioremediation (or enhanced bioremediation)

No Chemical oxidation

No Air sparge / Soil vapor extraction

No Natural Attenuation

No 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.

NA

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? No _____

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? No _____

Does the previous reply indicate consideration of background concentrations? _____

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.

Drilling pit will be reclaimed with inorganic soils exceeding Table 915-1 EC, SAR, and Arsenic thresholds to be left in place at least 8' below final recontoured ground surface. The drilling pit will be backfilled with clean native fill dirt and recontoured and compacted to ensure the former pit location is returned as close as possible to original conditions. Operator to conduct full site reclamation after pit closure and well P&A (submitted under separate cover) are completed. Top soil currently stockpiled on location will be replaced over the reclamation area and will be furrowed, reseeded and covered with a temporary cover and crop protective material such as straw or mulch. The seed mix was approved by surface owner and/or complies with the local soil conservation district recommendations.

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? Yes

If YES, does the seed mix comply with local soil conservation district recommendations? Yes

Did the local soil conservation district provide the seed mix? No

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 04/01/2022

Proposed date of completion of Reclamation. 04/04/2022

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. 04/29/2021

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/01/2021

Proposed site investigation commencement. 07/01/2021

Proposed completion of site investigation. 12/10/2021

REMEDIAL ACTION DATES

Proposed start date of Remediation. 02/01/2022

Proposed date of completion of Remediation. 02/05/2022

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:

Additional site investigation was subsequently completed and pit closure request has been renewed.

OPERATOR COMMENT

Supplemental Form 27 being submitted to report SAR and EC delineation and background data.
 Operator requests approval to close drilling pit leaving soil cuttings with EC and SAR above table 915-1 levels in situ, buried at least 8' bgs. Upon approval, pit will be reclaimed, well will be P&A'ed (approved under separate submittal), and site will be reclaimed.

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

Signed: Chris Del Hierro

Title: Approved agent

Submit Date: 12/30/2021

Email: chris@cdhconsult.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: 01/10/2022

Remediation Project Number: 17970

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

	Request for closure is removed. Operator shall submit a Form 27 documenting pit closure within 90 days of pit closure date.
	COGCC approves Rule 913.h.(2) variance per the attached Reclamation Plan. Operator may begin pit closure procedures per the approved Reclamation Plan.
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**

402902232	FORM 27-SUPPLEMENTAL-SUBMITTED
402913636	ANALYTICAL RESULTS
402913637	ANALYTICAL RESULTS
402913638	ANALYTICAL RESULTS
402913639	ANALYTICAL RESULTS
402913641	RECLAMATION PLAN

Total Attach: 6 Files

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

Environmental	Request to leave organics in-situ. Added task for Reclamation Specialist review of reclamation plan.	01/03/2022
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Total: 1 comment(s)