

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
Krystal Heibel

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: CORAL PRODUCTION CORP	Operator No: 20275	Phone Numbers
Address: 1600 STOUT ST STE 1500		Phone: (303) 6233573
City: DENVER State: CO Zip: 80202		Mobile: ()
Contact Person: Jim Wieger	Email: jimwieger@qwestoffice.net	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 21402 Initial Form 27 Document #: 402908271

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: WELL	Facility ID: _____	API #: 121-06740	County Name: WASHINGTON
Facility Name: JOST A 2	Latitude: 40.040220	Longitude: -103.375290	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNW	Sec: 24	Twp: 1N	Range: 54W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications OH Most Sensitive Adjacent Land Use PASTURELAND, DRY LAND FARMING
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

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 checked="" 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	SOILS	produced water pit 0-3'	analytical resul

INITIAL ACTION SUMMARY

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

IN PROCESS OF REMOVING ALL EQUIPMENT TO FACILITATE SOIL INVESTIGATION. ANY VISIBLY STAINED SOIL WILL BE REMOVED AND STOCKPILED ONSITE UNTIL CONFIRMATION SAMPLING HAS BEEN COMPLETED.

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 sampling will be conducted at the pit location, treater pad, tank battery, and wellhead pad. Samples will be analyzed for TPH and BTEX. Grab sample will be taken at the pit area for the pit bottom an grab samples for the pit banks. 2 composite samples will be taken from a grid at the tank battery. One composite sample each will be taken from the treater pad and wellhead. One composite sample each will be taken for inorganics at the tank battery and pit and analyzed for EC, SAR, pH and boron. One background sample will be taken for inorganics.

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 31
Number of soil samples exceeding 915-1 10
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 2500

NA / ND

 Highest concentration of TPH (mg/kg)
 Highest concentration of SAR
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 22

Groundwater

Number of groundwater samples collected 1
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 47
Number of groundwater monitoring wells installed 0
Number of groundwater samples exceeding 915-1 0

ND Highest concentration of Benzene (µg/l)
ND Highest concentration of Toluene (µg/l)
ND Highest concentration of Ethylbenzene (µg/l)
ND 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?

A background sample was collected at 1' and 3'. Both depths were analyzed for soil suitability parameters.

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?

The areas north of SS-11 and SS-08 and east of SS-05 have not been assessed due to weather conditions.

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.

Removal method will be determined once impacts are fully delineated

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.

A remediation plan will be developed once the extent of impacts are delineated

Soil Remediation Summary

In Situ

Ex Situ

 Bioremediation (or enhanced bioremediation) Yes Excavate and offsite disposal

_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

If Yes: Estimated Volume (Cubic Yards) _____ 30
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.

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.

PROPOSE TO FILL PITS WITH BANK MATERIAL UP TO 3 FEET FROM SURFACE CAP WITH AGRICULTURAL GYPSUM AND FILL TO NATURAL CONTOUR WITH UNAFFECTED BANK SOIL. THE AREA WILL BE GRADED TO NATURAL CONTOURS. SEEDING PROGRAM WILL CONSIST OF A DRYLAND PASTURE MIX AS SHOWN IN ATTACHMENT. THE ADDITIONAL DISTURBED AREAS WILL GRADED AND SEEDED AS DESCRIBED ABOVE.

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? No

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

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

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 09/01/2022

Proposed date of completion of Reclamation. 09/05/2022

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. _____

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/02/2022

Proposed site investigation commencement. _____

Proposed completion of site investigation. _____

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

On 1/27/2022 a second site investigation was attempted to further delineate elevated inorganics discovered in the soils on the north and east sides of the produced water pit during the initial site investigation on 8/3/2022. However, sampling on the north and east sides of the pit was prevented by snow drifts. To investigate the presence of a confining layer, one Geoprobe boring (SS-16) was advanced on the south side of the pit to 48 ft. bgs. The soil boring log does not indicate results consistent with a well-defined confining layer. Soil was screened with a PID in 2 ft. intervals. Soil samples were collected from the boring at 2, 4, 8, and 22 ft. and submitted for analysis of EC, SAR, pH, and Boron (HWS). Groundwater was encountered at ~42 ft. bgs and a water sample was collected for analysis of TDS, Sulfate, Chloride, BTEX, Naphthalene, 1,2,4-TMB, and 1,3,5-TMB. An additional soil sample was obtained from the previous location of the PW tank (SS-15 @ 4ft.) and analyzed for EC, SAR, pH, and Boron (HWS) to further delineate inorganic impacts reported in SS-15 at 2 ft. during the initial site investigation on 8/3/2022.

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

Signed: Drezden Kinnaird

Title: Project Consultant

Submit Date: 02/16/2023

Email: dkinnaird@cgrs.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: Krystal Heibel

Date: 05/18/2023

Remediation Project Number: 21402

COA Type

Description

	Soil confirmation sample data indicate that pH, SAR, EC, and boron at the site exceeds the Table 915-1 soil suitability levels for reclamation. If the Operator proposes to leave material with elevated levels of pH, SAR, EC, and boron in situ, the Operator define the vertical and lateral extent of impacts and provide a detailed Reclamation plan that includes, but is not limited to, soil analysis from adjacent undisturbed lands, revegetation techniques, site stabilization, and details of seeded species. Operator will submit the Reclamation plan on a Form 27 Supplemental Report for Director review.
	Operator shall provide a summary table(s) of all comprehensive soil and/or groundwater laboratory analytical results compared to Table 915-1 standards analyzed to date on subsequent Supplemental Form 27s.
	Operator shall submit a revised "Soil Sampling Location Map" that includes: a scale, an aerial photograph that shows the location of field screenings (sidewall and bottom hole), sample(s), and background sample(s) for the pit location, treater pad, tank battery, and wellhead pad.
	Due to shallow groundwater reported in previously installed soil borings on location - Operator shall comply with Table 915-1 Protection of Groundwater Soil Screening Level Concentrations.
	Operator shall collect confirmation soil samples to fully vertically and horizontally delineate as described in the Rule 915.e.(2). Operator will analyze soil samples for TPH (C6-C36), Table 915-1 Organic Compounds in Soil, Table 915-1 metals, and Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)).
	Operator will analyze groundwater samples from all monitoring wells for Table 915-1 Groundwater Inorganic Parameters and Organic Compounds in Groundwater for a minimum of four quarterly monitoring events post-COGAC injection.
	In accordance with Rule 914 monitoring wells are required to define the horizontal extent of impacts to groundwater. More than one well may be required to obtain a point of compliance. The monitoring well(s) shall be installed within 60 days (July 4, 2023).
	Operator shall fully populate the implementation schedule in accordance with Rule 913.d on the next Form 27.
	Operator will continue quarterly reporting until the site investigation is complete and the implementation schedule can be updated. COGCC selected Quarterly under Remediation Progress Update.
	Per Doc #403144127, on next Supplemental Form 27, change "Is surface water within ¼ mile?" to = YES.
	Per Doc #403144127, on next Supplemental Form 27, change "Is domestic water well within ¼ mile?" to = YES.
	Per Doc #403144127, on next Supplemental Form 27, change Sensitive Area to = YES.

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>
403321814	FORM 27-SUPPLEMENTAL-SUBMITTED
403323592	ANALYTICAL RESULTS
403323593	ANALYTICAL RESULTS
403323913	ANALYTICAL RESULTS
403323914	SOIL SAMPLE LOCATION MAP

Total Attach: 5 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Operator has not demonstrated in this or prior Form 27s that pathway to groundwater is not complete. Nearby domestic water well (<1/4 mile from pits) indicates depth to ground water of 38'. This location is within 500' of surface water (Shears Draw) and should be listed as a sensitive area.	05/05/2023
Environmental	Operator has not completed full delineation of Soil Suitability for Reclamation parameters. Specifically areas north of SS-11 and SS-08 and east of SS-05 have not been assessed. "Reclamation Plan" section does not meet the standards required for relief to be granted under Rule 915.b. Referring to COGCC Reclamation Group for further review.	05/05/2023
Environmental	Prior Form 27 Comments and COAs: 402908271 12/27/21 "Confirmation samples should be collected from the areas that had visibly impacted soils removed. Photo documentation of the areas before and after soil removal (confirmation soil sampling) should be provided on subsequent Form 27. Discrete soil samples should be collected at the depth of riser plugging (tanks, separator, wellhead, etc.), for the purpose of facility closure documentation. Discrete samples are required for confirmation sampling. A lab familiar with agricultural analysis must be used for the Soil Suitability for Reclamation parameters. Guidance documents for facility closure are available on the COGCC website." 403041601 5/13/22 "Burial of the salt impacted soil shall be contingent on the acceptance of a Reclamation plan per Rule 915.b." 403073293 6/30/22 "The screening level inorganics data from the pit sampling indicates elevated salt levels. The inorganics impact needs to be delineated in support of developing a Reclamation plan per Rule 915.b."	05/05/2023

Total: 3 comment(s)