

State of Colorado
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
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Document Number:

403527411

Receive Date:

12/12/2023

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) 623-3573
City: DENVER	State: CO	Zip: 80202
Contact Person: Steve Chonka	Email: schonka08@gmail.com	Mobile: ()

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? Yes

Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

- Unnamed drainage 500 ft east
- Domestic water well located 930 feet northeast (Permit #118715-Well Constructed)
- The COAs for approved Form 27-S Doc #403433475 included the statement "Location lies withing the following mapped High Priority Habitat(s): - Designated Basin." However, during review of the ECMC GIS Online Map, the site does not appear to be mapped within a Designated Basin or any other mapped High Priority Habitats.

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	Unknown	lab 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.

Form 27-S Document No. 403433475 was conditionally approved on August 8, 2023. This Form 27 details groundwater monitoring well installation and soil and groundwater sampling activities that were performed in August, 2023. Per the conditions of approval (COAs) for the August 8, 2023 Form 27-S and a meeting held between ECMC and CGRS personnel on 9/25/2023, laboratory data from eAnalytics are not recognized by the ECMC for site closure as the lab is not currently NELAP accredited. The data is provided as field screening reference only and is not considered for final site delineation or closure. Between August 9 and 16, 2023, soil samples were collected from the former locations of the treater, production tanks, well head, and monitoring wells at the locations illustrated on the attached site figures. The laboratory analytical reports are included as an attachment and the analytical data are summarized on the attached summary tables. The cause for the delay in reporting between the sampling and monitoring well installation events and this Form 27-S submittal is attributed to negotiations with eAnalytics Laboratory to re-instate their NELAP certification which they did not renew in 2019 to avoid re-sampling the produced water pits which will require a significant amount of time and resources to accomplish. However, the negotiation attempts were unsuccessful. Additionally, based on conversations with ECMC personnel, previously approved methods that have widely been accepted for remediation and reclamation of SAR impacted soil will no longer be accepted. Therefore, Coral Production Company has been consulting with reclamation experts and evaluating SAR treatment methods for potential presentation to the ECMC in lieu of excavation and disposal of SAR impacted soil.

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):

Confirmation soil samples were collected from the former locations of the treater, production tanks, well head, and the monitoring well locations illustrated on the attached soil sample location map. The laboratory analytical data are summarized on the attached summary tables and laboratory analytical reports. Re-sampling activities of the produced water pits at the site will be performed due to ECMC directive that eAnalytics laboratory data will not be accepted. Grab soil samples will be collected from the earthen berms and centers of the produced water pits. The proposed locations, illustrated on the attached soil sampling site figure, will be submitted for the full Table 915-1 list of analytes. Results of the soil sampling investigation will be provided in a Form 27-Supplemental report within 90 days from the submittal date of this report.

Proposed Groundwater Sampling

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

Five (5) groundwater monitoring wells were installed at the locations illustrated on the attached site figures. Third quarter 2023 groundwater monitoring activities were performed on August 28, 2023, and the results are summarized in the attached analytical summary tables, site figures, and laboratory analytical report. Groundwater samples will be collected on a quarterly basis and submitted for laboratory analysis of the Table 915-1 list of groundwater analytes until four consecutive quarters of data are returned below the regulatory standards. Fourth quarter 2023 groundwater monitoring is scheduled for December 2023 and the results will be submitted in a Form 27-Supplemental report within 90-days from the submittal date of this report.

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 18

Number of soil samples exceeding 915-1 18

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 0

NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 17.4

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 40

Groundwater

Number of groundwater samples collected 5

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 33

Number of groundwater monitoring wells installed 5

Number of groundwater samples exceeding 915-1 3

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?

Three background samples will be collected at the locations illustrated on the attached site figure and submitted for laboratory analysis of the Table 915-1 soil suitability and metals analytes. Data from background samples collected previously are not recognized by ECMC personnel because eAnalytics laboratory was not NELAP accredited at the time of analysis.

☒ Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 30

Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Soil sample investigation is required at the produced water pits and background locations. Groundwater samples will be submitted for laboratory analysis of the Table 915-1 list of groundwater analytes until four consecutive quarters of data are returned below the regulatory standards.

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.

Remediation of impacted material will be assessed subsequent to the supplemental investigation activities described herein.

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.

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

Soil Remediation Summary

☐ In Situ

☒ Ex Situ

_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

Yes _____ Excavate and offsite disposal
_____ 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.

Five (5) groundwater monitoring wells were installed at the locations illustrated on the attached site figures. Depth to groundwater measurements were collected and purge water volumes were calculated based on the measured depths to water, total depth of the wells, and the well diameter and soil boring annulus at each location. Subsequent to purging three (3) volumes of water from the well, stabilization of monitoring parameters, and a minimum 80% recharge of groundwater within the well, a groundwater sample was collected from each location and submitted for laboratory analysis of the Table 915-1 list of groundwater analytes. As illustrated on the attached groundwater elevation contour figure, groundwater generally flows to the north with a hydraulic gradient of 0.0047 foot per foot. Groundwater analytical results were non-detect for the Table 915-1 list of organics. The upgradient well MW-02 is representative of background conditions for groundwater and demonstrated inorganic compound concentrations of 510 mg/L for TDS, 63.8 mg/L for chloride, and 202 mg/L for sulfate. Based on the analytical data from MW-02, the TDS and chloride concentrations at monitoring well MW-01 and MW-04 are above Table 915-1 standards. The sulfate concentration observed at MW-03 was also above the Table 915-1 standard. Fourth quarter 2023 groundwater monitoring activities are scheduled for December 2023 and the results will be presented in a Form 27-Supplemental report within 90 days from the submittal date of this document. Groundwater samples will be submitted for laboratory analysis of the Table 915-1 list of groundwater analytes until four consecutive quarters of data are returned below regulatory standards.

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 Proposed Confirmation Soil Samples

Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

General Liability insurance coverage of \$1,000,000 per occurrence. \$60,000 bond F/B/o COGCC.

Operator anticipates the remaining cost for this project to be: \$ 33000

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? Yes

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Soil was transported and disposed of at the Pawnee Waste Landfill Facility.

Volume of E&P Waste (solid) in cubic yards 30

E&P waste (solid) description Soil

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Pawnee Waste Landfill

Volume of E&P Waste (liquid) in barrels 0

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?

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards?

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.

A reclamation plan for the site will be submitted for review once final delineation and remediation activities, if required, are completed.

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. _____

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. 02/02/2022

Actual Spill or Release date, or date of discovery. 08/09/2023

SITE INVESTIGATION DATES

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

Proposed site investigation commencement. 08/09/2023

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

Form 27-S Document No. 403433475 was conditionally approved on August 8, 2023. This Form 27 details groundwater monitoring well installation and soil and groundwater sampling activities that were performed in August, 2023. Per the conditions of approval (COAs) for the August 8, 2023 Form 27-S and a meeting held between ECMC and CGRS personnel on 9/25/2023, laboratory data from eAnalytics are not recognized by the ECMC for site closure as the lab is not currently NELAP accredited. The data is provided as field screening reference only and is not considered for final site delineation or closure. Between August 9 and 16, 2023, soil samples were collected from the former locations of the treater, production tanks, well head, and monitoring wells at the locations illustrated on the attached site figures. The laboratory analytical reports are included as an attachment and the analytical data are summarized on the attached summary tables. The cause for the delay in reporting between the sampling and monitoring well installation events and this Form 27-S submittal is attributed to negotiations with eAnalytics Laboratory to re-instate their NELAP certification which they did not renew in 2019 to avoid re-sampling of the produced water pits which will require a significant amount of time and resources to accomplish. However, the negotiation attempts were unsuccessful. Additionally, based on conversations with ECMC personnel, previously approved methods that have widely been accepted for remediation and reclamation of SAR impacted soil will no longer be accepted. Therefore, Coral Production Company has been consulting with reclamation experts on SAR treatment methods for potential presentation to the ECMC in lieu of excavation and disposal of SAR impacted soil. Grab soil samples will be collected from the earthen berms and centers of the produced water pits. The proposed locations are illustrated on the attached proposed soil sampling site figure. Confirmation soil samples were collected from the former locations of the treater, production tanks, well head, and the monitoring well locations illustrated on the attached soil sample location map. The laboratory analytical data are summarized on the attached summary tables and laboratory analytical reports. Five (5) groundwater monitoring wells were installed at the locations illustrated on the attached site figures. Depth to groundwater measurements were collected and purge water volumes were calculated based on the measured depths to water, total depth of the wells, and the well diameter and soil boring annulus at each location. Subsequent to purging three (3) volumes of water from the well, stabilization of monitoring parameters, and a minimum 80% recharge of groundwater within the well, a groundwater sample was collected from each location and submitted for laboratory analysis of the Table 915-1 list of analytes. As illustrated on the attached groundwater elevation contour map, groundwater generally flows to the north with a hydraulic gradient of 0.0047 foot/foot. Groundwater analytical results were non-detect for the Table 915-1 list of organics. The upgradient well MW-02 is representative of background conditions and demonstrated inorganic compound concentrations of 510 mg/L for TDS, 63.8 mg/L for chloride, and 202 mg/L for sulfate. Based on the analytical data from MW-02, the TDS and chloride concentrations at MW-01 and MW-04 are above Table 915-1 standards. The sulfate concentration at MW-03 was above the Table 915-1 standard. Fourth quarter 2023 groundwater monitoring activities are scheduled for December 2023 and the results will be presented in a Form 27-S report within 90 days from the submittal date of this document. Groundwater samples will be submitted for laboratory analysis of the Table 915-1 list of groundwater analytes until four consecutive quarters of data are returned below regulatory standards.

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

Signed: Steve Chonka

Title: Geological Engineer

Submit Date: 12/12/2023

Email: schonka08@gmail.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: 02/27/2024

Remediation Project Number: 21402

COA Type

Description

	If a spill/release of produced fluids or E&P waste causes an impact to soil, the operator should perform sampling and analysis to fully delineate the lateral and vertical extent of those impacts.
	Operator will provide additional data to characterize arsenic, cadmium, and barium concentrations at the site and to determine its source.
	Operator shall collect confirmation soil samples as described in the Rule 915.e.(2) Guidance Document. 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)). It appears several samples were not sampled for metals.
	Operator shall indicate on the Analytics Table which samples were analyzed at the non-NELAP/NELAC accredited lab within the next form submittal.
	Operators will collect and submit for laboratory analysis a soil sample collected from the areas most likely to have been impacted during the operational life of the flowline. These areas include, but are not limited to: where Flowlines connect to the wellhead, surface equipment, risers, valves, or manifolds; where Flowlines bend or were repaired in the past and at joints and hammer unions; where Flowlines connect to Flowlines or equipment of different material; and where Flowlines crossed drainages or surface water or are in contact with shallow groundwater.
	Since the entire facility is being decommissioned, Operator shall include the 3 pits (Facility IDs: 101073, 101074, and 101075) and the location (Facility ID: 317028) within the next Form 27 submittal.

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>
403527411	FORM 27-SUPPLEMENTAL-SUBMITTED
403532822	ANALYTICAL RESULTS
403619760	ANALYTICAL RESULTS
403619762	ANALYTICAL RESULTS
403619765	ANALYTICAL RESULTS
403619767	ANALYTICAL RESULTS
403623427	GROUND WATER ELEVATION MAP
403623428	GROUND WATER SAMPLE LOCATION
403623431	SOIL SAMPLE LOCATION MAP
403623435	ANALYTICAL RESULTS
403623438	ANALYTICAL RESULTS
403623448	LOGS

Total Attach: 12 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. While delineating elevated inorganics around the produced water pit, groundwater was encountered at 42' depth (Jan 2022)	02/27/2024
Environmental	<p>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."</p> <p>403041601 5/13/22 "Burial of the salt impacted soil shall be contingent on the acceptance of a Reclamation plan per Rule 915.b."</p> <p>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."</p>	02/27/2024
Environmental	<p>"The upgradient well MW-02 is representative of background conditions and demonstrated inorganic compound concentrations of 510 mg/L for TDS, 63.8 mg/L for chloride, and 202 mg/L for sulfate. Based on the analytical data from MW-02, the TDS and chloride concentrations at MW-01 and MW-04 are above Table 915-1 standards. The sulfate concentration at MW-03 was above the Table 915-1 standard."</p> <p>Groundwater flow is illustrated as flowing due North.</p>	02/27/2024

Total: 3 comment(s)