

State of Colorado Oil and Gas Conservation Commission

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04/15/2021

Report taken by:

Jim Hughes

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: <u>KINDER MORGAN CO2 CO LP</u>	Operator No: <u>46685</u>	Phone Numbers
Address: <u>1001 LOUISIANA ST SUITE 1000</u>		Phone: <u>(970) 882-5532</u>
City: <u>HOUSTON</u>	State: <u>TX</u>	Zip: <u>77002</u>
Contact Person: <u>Michael Hannigan</u>	Email: <u>co2source_regulatory@kindermorgan.com</u>	Mobile: <u>(970) 403-9501</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 15551 Initial Form 27 Document #: 402396763

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 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 checked="" type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation | <input 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: <u>SPILL OR RELEASE</u>	Facility ID: <u>471621</u>	API #: _____	County Name: <u>MONTEZUMA</u>
Facility Name: <u>Yellow Jacket Produced Water Pump 103B</u>		Latitude: <u>37.470397</u>	Longitude: <u>-108.790697</u>
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNW</u>	Sec: <u>13</u>	Twp: <u>37N</u>	Range: <u>18W</u>
Meridian: <u>N</u>		Sensitive Area? <u>Yes</u>	

SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use crop and livestock production

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

None

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	6' wide x 15' long x 1.5' deep	Soil sampling and observation

INITIAL ACTION SUMMARY

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

Upon discovery of the release of 111 barrels of produced water, the pump and associated piping were isolated. Produced water (72 barrels) was recovered from two (2) of the three (3) secondary containment areas and the sumps. Initial assessment of the impact of the spill included laboratory analysis of soil samples collected from three (3) separate areas: Two (2) soil samples were collected from spill area #1 (adjacent to the produced water pump curbed concrete containment); two (2) soil samples were collected from spill area #2 (adjacent to the glycol pump curbed concrete containment); and one (1) soil sample was collected from spill area #3 (inside the secondary containment of the blowdown tank). Results of the initial sampling showed that Table 910-1 screening levels were not exceeded in samples collected from spill areas #1 and #2. The analytical results of the sample collected from spill area #3 yielded a concentration of TPH (870.3 mg/kg) that exceeded the Table 910-1 screening level of 500 mg/kg.

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):

Two (2) confirmation soil samples will be collected from spill area #3 after all of the impacted soil has been removed and properly disposed of.

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 5

Number of soil samples exceeding 910-1 1

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 90

NA / ND

-- Highest concentration of TPH (mg/kg) 870.3

-- Highest concentration of SAR 1.37

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 2

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 900'

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 910-1 0

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

0 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?

Two (2) soil samples (YJBSS-1 and YJBSS-2) were collected from off-site undisturbed native soil to obtain background concentrations of EC, SAR, pH and arsenic. The analytical results for all soil samples are attached.

☐ 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? No _____

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

The soil impacted by the spill will be removed from the facility, probably using hydroexcavation equipment, and transported to a permitted E&P waste disposal/treatment facility.

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.

Remediation of soil impacted by the release of produced water will be accomplished by excavating the impacted soil and transporting it to a permitted disposal/treatment facility.

Update 4/15/2021: TPH impact remains after hydroexcavation and disposal. Remediation plan is to employ subsurface oxidant injection in the impacted area.

Soil Remediation Summary

☒ In Situ

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

☒ Ex Situ

Yes _____ Excavate and offsite disposal
_____ If Yes: Estimated Volume (Cubic Yards) 7
_____ Name of Licensed Disposal Facility or COGCC Facility ID # _____
No _____ Excavate and onsite remediation
_____ 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.

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☒ Semi-Annually ☐ Annually ☐ Other _____

Report Type: ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other Progress and schedule of chemox injection project _____

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: _____

REMEDATION COMPLETION REPORT

REMEDATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No

Do all soils meet Table 910-1 standards? _____

Does the previous reply indicate consideration of background concentrations? _____

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? _____

Is additional groundwater monitoring to be conducted? _____

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.

Remediation of soil impacted by the release of produced water will be accomplished by removing the impacted soil and transporting it to a permitted disposal/treatment facility. The removal method will likely be hydroexcavation and the soil will be transported to the disposal/treatment facility in the tank of the hydroexcavation unit. The proposed disposal/treatment facility is Industrial Ecosystems, Inc. located in Aztec, NM and is permitted by the NMOCD. The remediation area is located within the secondary containment of a process tank at the Yellow Jacket Compressor Plant therefore there will be no re-vegetation required.

Update 4/15/2021: The remediation method will change however there will be no change to the reclamation planning.

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 approve the seed mix? No

If NO, does the seed mix comply with local soil conservation district recommendations? No

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. _____

Actual Spill or Release date, if known. 02/13/2020

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/13/2020

Date of commencement of Site Investigation. 02/13/2020

Date of completion of Site Investigation. 11/17/2020

REMEDIAL ACTION DATES

Date of commencement of Remediation. 05/18/2020

Date of completion of Remediation. 12/31/2021

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

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

Signed: Michael Hannigan

Title: EHS Supervisor

Submit Date: 04/15/2021

Email: michael_hannigan@kindermorgan.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: Jim Hughes

Date: 05/18/2021

Remediation Project Number: 15551

Condition of Approval

COA Type

Description

	Manufacturer's suggested treatment times will be adhered to for this chemical injection treatment.
	The operator will provide the regional EPS with 72 hours notice prior to chemical oxidant injection.
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

402660202	FORM 27-SUPPLEMENTAL-SUBMITTED
402660258	ANALYTICAL RESULTS
402660276	SOIL SAMPLE LOCATION MAP

Total Attach: 3 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)