

State of Colorado
Oil and Gas Conservation Commission

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Document Number:
402728655
Receive Date:
06/24/2021
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.

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

OPERATOR INFORMATION

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 9666 Initial Form 27 Document #: 200439556

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: Compliance with Rule 913.e.(2) and request an alternative reporting schedule

SITE INFORMATION

No Multiple Facilities

Facility Type: LOCATION	Facility ID: 313620	API #: _____	County Name: MONTEZUMA
Facility Name: GOODMAN POINT (GP #13)- N37N17W 32SESE		Latitude: 37.413710	Longitude: -108.738230
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESE	Sec: 32	Twp: 37N	Range: 17W Meridian: N Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use Non-irrigated agricultural
Is domestic water well within 1/4 mile? Yes 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:

- X E&P Waste
Other E&P Waste
X Non-E&P Waste
Produced Water
Workover Fluids
Oil
Tank Bottoms
Condensate
Pigging Waste
Drilling Fluids
Rig Wash
X Drill Cuttings
Spent Filters
Pit Bottoms
Other (as described by EPA)
Drilling pit liner

DESCRIPTION OF IMPACT

Table with 4 columns: Impacted?, Impacted Media, Extent of Impact, How Determined. Row 1: Yes, SOILS, TPH > Table 910-1, Soil sample collection & laboratory 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.

Initial actions included conducting a review of water well databases to identify water wells within a 1/2 mile of the location and preparing a scope of work for the assessment of the former drilling pit.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

X Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

After the proposed remediation activities have been completed, a soil sample will be collected from the location of soil boring #7 at a depth of 10' to 11' below ground surface where the TPH concentration in a soil sample collected on 8/24/2020 exceeded the Table 910-1 screening level of 500 mg/kg.

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

NA / ND

Number of soil samples collected 31
 Number of soil samples exceeding 915-1 1
 Was the areal and vertical extent of soil contamination delineated? Yes
 Approximate areal extent (square feet) 1200

-- Highest concentration of TPH (mg/kg) 3590
 -- Highest concentration of SAR 259
 BTEX > 915-1 No
 Vertical Extent > 915-1 (in feet) 1

Groundwater

Number of groundwater samples collected 1
 Was extent of groundwater contaminated delineated? Yes
 Depth to groundwater (below ground surface, in feet) 44'
 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
0 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?

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.
 Soil samples were collected at the GP-13 site on 8/24/2020 to verify successful remediation of TPH, EC and SAR impacts to soil. The 2020 sample collection and laboratory analyses showed that the EC and SAR impacts to soil <3' below ground surface in the areas of soil borings #1, #2, #3, #5 and #6, as documented in the site characterization report, were successfully remediated. However, the TPH concentration in the soil sample collected from soil boring #7 at a depth of 10' to 11' below ground surface exceeded the Table 910-1 standard (3,590 mg/kg). All other waste remaining in place meets Table 910-1 standards and/or criteria described in COGCC 2008 Rulemaking Frequently Asked Questions (#32) related to depth of clean cover.

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.
 Subsurface application of liquid chemical oxidant (chem-ox injection) to soil surrounding boring #7 at a depth of 10' to 11' below ground surface was conducted May 29 and May 30, 2021. A total of 2,300 gallons of chem-ox slurry was injected at 7 different points in the treatment area. At this time we anticipate collecting a composite soil sample from the treatment area for laboratory analysis in November 2021 in order to monitor the remediation progress. Soil samples for laboratory analysis will be collected from the location of soil boring #7 at a depth of 10' to 11' below ground surface.

Soil Remediation Summary

In Situ Ex Situ
Yes Bioremediation (or enhanced bioremediation) _____ Excavate and offsite disposal _____

Yes Chemical oxidation
No Air sparge / Soil vapor extraction
No Natural Attenuation
No Other

If Yes: Estimated Volume (Cubic Yards)
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.

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 Soil remediation (TPH)

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 _____

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.

The site is currently in interim reclamation status (crop production). The landowner and tenant were advised of both the subsurface oxidant injection and surface soil amendment application. Both treatments took place after crops were harvested, which did not adversely disturb the soil conditions in the areas of soil borings #1, #2, #3, #4, #5, #6 and #7. Photos of the 2020 bean crop growing in the interim reclamation area are attached to this Form 27. The location will continue to be included in Kinder Morgan's noxious weed prevention program.

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 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? _____

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 11/20/2017

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. 03/02/2017

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/02/2016

Proposed site investigation commencement. 11/19/2016

Proposed completion of site investigation. 02/08/2017

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/23/2017

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

This supplemental Form 27 is being submitted to provide COGCC with an update on the progress of remediation at the site of former drilling pits at the GP-13 production well location. Another update will be provided subsequent to soil sample collection and laboratory analysis in November 2021.

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: 06/24/2021 _____

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: 07/28/2021 _____

Remediation Project Number: 9666 _____

Condition of Approval

COA Type

Description

	Per Rule 915.b: Operators will adhere to the concentrations for soil in Table 915-1 for restoring soil to the agronomic properties for electrical conductivity ("EC"), sodium adsorption ratio ("SAR"), pH, and boron for soils. Subject to prior approval by the Director, Operators may leave materials with elevated concentrations of EC, SAR, or pH in situ. In such cases, the Operator will 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.
	Per Rule 913.b.(2).C composite sample results may be submitted for preliminary analysis and waste profiling. Discrete sample results will be required for confirmation sampling.
	For sites that are subject to an open Form 19 or Form 27 as of January 15, 2021, Operators may seek the Director's permission to comply with the version of Table 910-1 that was previously in effect, if Remediation is completed by January 15, 2022. If Remediation at a site subject to an open Form 19 or Form 27 is not completed by January 15, 2022, then the Operator will comply with the current version of Table 915-1.

3 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

402728655	FORM 27-SUPPLEMENTAL-SUBMITTED
402728715	OTHER

Total Attach: 2 Files

General Comments

User Group

Comment

Comment Date

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)