FORM 27 Rev 3/16

State of Colorado
Oil and Gas Conservation Commission

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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 INFORMATON

Name of Operator: KINDER MORGAN CO2 CO LP Operator No: 46685
Address: 1001 LOUISIANA ST SUITE 1000
City: HOUSTON State: TX Zip: 77002
Contact Person: Michael Hannigan

Phone Numbers
Phone: (970) 882-5532
Mobile: (970) 403-9501
Email: co2source_regulatory@kindermorgan.com

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

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

PURPOSE INFORMATION

- [ ] 901.e. Sensitive Area Determination
- [ ] 909.c.(1), Rule 905: Pit or PW vessel closure
- [x] 909.c.(2), Rule 906: Spill/Release Remediation
- [ ] 909.c.(3), Rule 907.e.: Land treatment of oily waste
- [ ] 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure
- [ ] 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water
- [ ] Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b.
- [ ] Rule 909.e.(2)B.: Closure of remediation project
- [ ] Rule 906.c.: Director request
- [x] Other Compliance with Rule 913.e.(2) and request an alternative reporting schedule

SITE INFORMATION

N Multiple Facilites (in accordance with Rule 909.c.)

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

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
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

Number of soil samples collected: 31

Number of soil samples exceeeding 910-1: 1

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

Approximate areal extent (square feet): 1200

NA / ND

-- Highest concentration of TPH (mg/kg): 3590

-- Highest concentration of SAR: 259

BTEX > 910-1: No

Vertical Extent > 910-1 (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 910-1: 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 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?

☐ 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.

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.

Remediation of TPH in soil surrounding soil boring #7 will be remediated by the subsurface application of liquid chemical oxidant (chem-ox injection) at a depth of 10' to 11' below ground surface. The proposed remediation schedule is being developed and is based on contractor availability. Remediation of soil to TPH concentrations less than the current Table 910-1 standard of 500 mg/kg will take approximately 18 to 24 months and will be verified by soil sample collection and laboratory analysis. 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 standard of 500 mg/kg.

Soil Remediation Summary

☒ **In Situ**

- Yes — Bioremediation (or enhanced bioremediation)
- Yes — Chemical oxidation
- No — Air sparge / Soil vapor extraction
- No — Natural Attenuation
- No — Other

☐ **Ex Situ**

- Excavate and offsite disposal
  - 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

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

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?

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

Do all soils meet Table 910-1 standards? No

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? No

Does Groundwater meet Table 910-1 standards? Yes

Is additional groundwater monitoring to be conducted? No

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 approve the seed mix? Yes

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

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. 03/02/2017

Actual Spill or Release date, if known.

SITE INVESTIGATION DATES

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

Date of commencement of Site Investigation. 11/19/2016

Date of completion of Site Investigation. 02/08/2017

REMEDIAL ACTION DATES

Date of commencement of Remediation. 10/23/2017

Date of completion of Remediation.

SITE RECLAMATION DATES

Date of commencement of Reclamation. 11/20/2017

Date of completion of Reclamation.

OPERATOR COMMENT

The purpose of this Supplemental Form 27 is to satisfy the requirement of new COGCC Rule 913.e.(2) which requires that Operators of existing remediation projects approved prior to January 15, 2021 submit a Supplemental Form 27 with a detailed project summary and status by April 15, 2021. In accordance with COGCC Rule 913.e., Kinder Morgan formally requests that the Director approve a semi-annual reporting schedule for Remediation Project #9666 at the GP-13 production well location.

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:` 03/18/2021 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: 03/24/2021

Remediation Project Number: 9666

COA Type	Description
	The previously approved semi-annual reporting schedule for REM #9666 will remain in effect until conditions at this site warrant a revised reporting schedule or the Remediation Project is closed.

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
402632466	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 1 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)