

FORM  
**27**  
Rev 6/99

**State of Colorado**  
**Oil and Gas Conservation Commission**

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FOR COGCC USE ONLY  
MAY 05 2016  
**COGCC**  
OGCC Employee:  
☐ Spill ☐ Complaint  
☐ Inspection ☐ NOAV  
Tracking No:

**SITE INVESTIGATION AND REMEDIATION WORKPLAN**

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

**CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED**

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☒ Other (describe): Evaluation of Former Drilling Pit Area

OGCC Operator Number: <u>46685</u>	Contact Name and Telephone: <u>Andrew Antipas</u>
Name of Operator: <u>Kinder Morgan CO2 Co</u>	No: <u>970-882-5534</u>
Address: <u>17801 Hwy 491</u>	Fax: <u>970-882-5521</u>
City: <u>Cortez</u> State: <u>CO</u> Zip: <u>81321</u>	
API Number: <u>05-083-06649</u>	County: <u>Montezuma</u>
Facility Name: <u>N/A</u>	Facility Number: <u>N/A</u>
Well Name: <u>Goodman Point (GP-16)</u>	Well Number: <u>16</u>
Location (QtrQtr, Sec, Twp, Rng, Meridian): <u>NW 1/4, NW 1/4, Sec 33, T37N, R17W</u> Latitude: <u>37.42572 N</u> Longitude: <u>108.73514 W</u>	

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Potential for CO2 well drill cuttings exceeding Current Table 910-1 concentrations

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Dry Land Farming

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Submitted on previous Form 2A

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Water well located approximately 1,000 feet south of this location.

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):	Extent of Impact:	How Determined:
<input checked="" type="checkbox"/> Soils	<u>Not yet determined</u>	
<input type="checkbox"/> Vegetation		
<input checked="" type="checkbox"/> Groundwater	<u>Not yet determined</u>	
<input type="checkbox"/> Surface Water		

**REMEDIALTION WORKPLAN**

Describe initial action taken (if previously provided, refer to that form or document):

To date the only initial actions that have taken place is to conduct a water well review to identify water wells winin 1/2 mile of the location and the preparation of the attached scope of work for the assessment of the former drilling pit location.

Describe how source is to be removed:

Upon completion of assessment activities, Kinder Morgan will meet with COGCC and present a Remediation Work plan if subsurface conditions warrant.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

Upon the completion of the assessment activities, Kinder Morgan will submit the results to the COGCC along with any remediation plans (as needed) for teh consideration and approval of the COGCC.



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**REMEDIATION WORKPLAN (Cont.)**

Tracking Number: \_\_\_\_\_  
Name of Operator: \_\_\_\_\_  
OGCC Operator No: \_\_\_\_\_  
Received Date: \_\_\_\_\_  
Well Name & No: \_\_\_\_\_  
Facility Name & No: \_\_\_\_\_

OGCC Employee: \_\_\_\_\_

**If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):**

There are no anticipated impacts to groundwater at this location, however, there is a water well located with 1/2 mile of this location. This water well is approximately 1,000 feet South of the well location. Residence in this area are connected to a municipal water system. An additional boring will be advanced to a depth of 50 feet below ground surface at the location to evaluate the potential for shallow groundwater in the area. If groundwater is present in this 50 foot boring, a water sample will be collected and submitted for analysis by the current COGCC Table 910 constituents.

**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. Use additional sheet for description if required.

If a remediation plan is deemed necessary, Kinder Morgan will address any needed reclamation activities within the remediation plan. This would be completed after Kinder Morgan submits the soil assessment report to the COGCC.

**Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.**

**Is further site investigation required?** ☐ Y ☐ N If yes, describe:

No soil samples are available at this time. Proposed soil boring locations are presented on the figure included within the attached general scope of work.

**Final disposition of E&P waste** (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

If offsite disposal of any material is deemed necessary, a properly licensed disposal facility will be used.

**IMPLEMENTATION SCHEDULE**

Date Site Investigation Began: 2Q 2016 Date Site Investigation Completed: \_\_\_\_\_ Date Remediation Plan Submitted: \_\_\_\_\_  
Remediation Start Date: \_\_\_\_\_ Anticipated Completion Date: \_\_\_\_\_ Actual Completion Date: \_\_\_\_\_

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

Print Name: Andrew Antipas

Signed: \_\_\_\_\_

Title: Project Manager

Date: 5-3-2016

OGCC Approved: \_\_\_\_\_

Title: Environmental Protection Specialist

Date: 5/10/16



### **General Scope of Work for Goodman Point (GP-16)**

Kinder Morgan CO2 – McElmo Dome and Doe Canyon Units  
SW Colorado

### **Applicable COGCC 910 Table**

Current Table 910

### **Groundwater Anticipated**

There is a water well located approximately 1,000 feet to the south of the location. Residences in this area are also connected to the local water supply system. Kinder Morgan will advance a soil boring to a depth of up to 50 feet in depth to evaluate the potential for shallow groundwater in the area.

### **Site Assessment**

The site assessment is intended to collect current data from the former drilling pit location including:

- Photographic documentation of current surface vegetation and current land use.
- Soil samples from 8 boring locations within the former pit area to gather the following data:
  - Thickness of the “clean” soil cap and collection of soil samples to determine constituents of the boring.
  - Thickness of any drilling material left in the former drilling pit and soil samples to evaluate current concentrations of applicable constituents.
  - Document the presence or absence of any liner material.
  - Depth to native soils below the former drilling pit.
- One soil boring to a depth of 50 feet below ground surface (or until groundwater is encountered) including soil sampling and water sampling (if encountered).
- GPS coordinates of each soil boring location.
- Summary report

### **Soil Boring Program:**

Eight soil borings will be advanced to native soils below the former drilling pit location to assess the current conditions of the former drilling pits. Borings will not extend more than 2 feet below the bottom of the former drilling pit. Also, an additional soil borings will be advanced outside of the pit area to either 50 feet in depth or until groundwater is encountered. The soil boring program will be conducted as follows:

- All necessary utility notifications will be made prior to advancing soil borings.
- A hollow stem auger rig will be utilized to collect a continuous sample of each boring.

- Photograph each full diameter split spoon for inclusion in the assessment report.
- Field screen a sample of each 1 foot interval for total chloride concentration and note on a boring log. Jar the remainder of the sample for potential laboratory analysis for constituents identified on the current COGCC Table 910. The typical sample submittal for laboratory analysis for each boring will be as follows:
  - Highest chloride sample interval observed from the surface to 3 feet bgs.
  - Highest chloride concentration of the visually identified drilling waste. If no waste is visible, the highest observed chloride concentration from 3 feet bgs to 20 feet bgs.
  - The bottom boring sample.
  - The deeper soil boring will only have a 1 foot soil sample collected every 5 feet to the total depth of the boring. The highest chloride sample interval and the sample from the bottom of the boring will be submitted for laboratory analysis. In addition, if groundwater is encountered, a water sample will be collected and submitted for analysis by the current COGCC Table 910 constituents.
  - Please note that groundwater is not anticipated to be encountered in the shallow borings, however, perched water may be encountered in the bottom of the hole in select locations. If groundwater is encountered, a sample will be submitted for analysis as well by the applicable COGCC Table 910 constituents.
- Collect the GPS coordinate for each boring with an accuracy of less than 1 foot.
- Backfill each boring with removed material. There may be a few locations where placing the drill cuttings on plastic will be required. If so, the cuttings will be moved from the former drilling pit location and placed on the adjacent Kinder Morgan CO2 well pad and stored in a manner acceptable to the COGCC.

**Summary Report:**

Upon completion of the site assessment activities, a summary report will be completed. This summary report should contain all sampling information, including sampling data from laboratory, and drawings of sampling sites.

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