

FORM  
**27**  
Rev 6/99

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



1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109

FOR OGCC USE ONLY
Document 2526427
OGCC Employee:
<input type="checkbox"/> Spill <input type="checkbox"/> Complaint
<input type="checkbox"/> Inspection <input type="checkbox"/> 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): drilling pit status

OGCC Operator Number: 46685	Contact Name and Telephone: Andrew Antipas
Name of Operator: Kinder Morgan CO2 Company, LP	No: 970-882-5534
Address: 17801 Highway 491	Fax: 970-882-5521
City: Cortez      State: CO      Zip: 81321	

API Number: 05-033-06078	County: Dolores County
Facility Name: NA	Facility Number: 289825
Well Name: DWD	Well Number: 1
Location: (QtrQtr, Sec, Twp, Rng, Meridian): SESE 20 40N 17W N PM	Latitude: 37.70627      Longitude: -108.73984

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): NA.

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.):

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

Potential receptors (water wells within 1/4 mi, surface waters, etc.):

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

Impacted Media (check):	Extent of Impact:	How Determined:
<input type="checkbox"/> Soils	_____	_____
<input type="checkbox"/> Vegetation	_____	_____
<input type="checkbox"/> Groundwater	_____	_____
<input type="checkbox"/> Surface Water	_____	_____

**REMEDIALTION WORKPLAN**

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

The DWD-1 was originally called the DC-1, which was drilled in 1983. In 2007, the DC-1 was deepened and converted to an EPA Class 1 salt water disposal well. The name was changed at that time to DWD-1. Closed loop drilling was utilized during the deepening process, and documentation is attached to this Form 27.

Describe how source is to be removed:

NA

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.:

NA



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

**REMEDIATION WORKPLAN (Cont.)**

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

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

**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.  
NA

**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:

When this well was reentered, closed loop drilling operations were completed. No additional sampling is required.

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

**IMPLEMENTATION SCHEDULE**

Date Site Investigation Began: \_\_\_\_\_ 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: Andrew Antipas  
Title: Project Manager Date: 4/25/2016

OGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8**

1595 Wynkoop Street  
DENVER, CO 80202-1129  
Phone 800-227-8917  
<http://www.epa.gov/region08>

**UNDERGROUND INJECTION CONTROL (UIC)**

**FINAL PERMIT**

**Date Prepared: June 2012**

**CLASS I  
NON-HAZARDOUS INDUSTRIAL WASTE DISPOSAL WELL**

**Permit No. CO12182-08833**

**DWD-1**

**County & State: Dolores County, Colorado**

**Issued To:**

**KINDER MORGAN CO<sub>2</sub> COMPANY LP  
17801 Hwy 491  
Cortez, CO 81321**



**SUNDRY NOTICE**

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form.) Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b)

1. OGCC Operator Number: 46685	4. Contact Name: Paul Belanger	Complete the Attachment Checklist DP DGCC
2. Name of Operator: KINDER MORGAN CO2 CO LP	Phone: 97D-882-2464	
3. Address: 17801 HWY 491 City: Cortez State: CO Zip: 81321	Fax: 97D-882-5521	
5. API Number 65-033-06078	OGCC Facility ID Number 322104	Survey Plat
6. Well/Facility Name: DWD	7. Well/Facility Number #1	Directional Survey
8. Location (Qtr/Qtr, Sec, Twp, Rng, Meridian): NENE 19 40N 17W N PM		Surface Egoim Diagram
9. County: DOLORES	10. Field Name: DOE CANYON	Technical Info Page <input checked="" type="checkbox"/>
11. Federal, Indian or State Lease Number: N/A		Other WBD <input checked="" type="checkbox"/>

**General Notice**

CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)

Change of Surface Footage from Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Surface Footage to Exterior Section Lines:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of Bottomhole Footage from Exterior Section Lines:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Change of Bottomhole Footage to Exterior Section Lines:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Bottomhole location Qtr/Qtr, Sec, Twp, Rng, Mer \_\_\_\_\_  
 Latitude \_\_\_\_\_ Distance to nearest property line \_\_\_\_\_ Distance to nearest bldg, public rd, utility or RR \_\_\_\_\_  
 Longitude \_\_\_\_\_ Distance to nearest lease line \_\_\_\_\_ Is location in a High Density Area (rule 603b)? Yes/No \_\_\_\_\_  
 Ground Elevation \_\_\_\_\_ Distance to nearest well same formation \_\_\_\_\_ Surface owner consultation date: \_\_\_\_\_

GPS DATA:  
 Date of Measurement \_\_\_\_\_ PDOP Reading \_\_\_\_\_ Instrument Operator's Name \_\_\_\_\_

CHANGE SPACING UNIT

Formation	Formation Code	Spacing order number	Unit Acreage	Unit configuration

Remove from surface bond  
 Signed surface use agreement attached

CHANGE OF OPERATOR (prior to drilling):  
 Effective Date: \_\_\_\_\_  
 Plugging Bond:  Blanket  Individual

CHANGE WELL NAME NUMBER  
 From: \_\_\_\_\_  
 To: \_\_\_\_\_  
 Effective Date: \_\_\_\_\_

ABANDONED LOCATION:  
 Was location ever built?  Yes  No  
 Is site ready for inspection?  Yes  No  
 Date Ready for inspection: \_\_\_\_\_

NOTICE OF CONTINUED SHUT IN STATUS  
 Date well shut in or temporarily abandoned: \_\_\_\_\_  
 Has Production Equipment been removed from site?  Yes  No  
 MIT required if shut in longer than two years. Date of last MIT \_\_\_\_\_

SPUD DATE: \_\_\_\_\_  REQUEST FOR CONFIDENTIAL STATUS (\$ moe from data casing set)

SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK \*submit cbl and cement job summaries

Method used	Cementing tool setting/perf depth	Cement volume	Cement top	Cement bottom	Date

RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.  
 Final reclamation will commence on approximately \_\_\_\_\_  Final reclamation is completed and site is ready for inspection.

**Technical Engineering/Environmental Notice**

Notice of Intent Approximate Start Date: \_\_\_\_\_  Report of Work Done Date Work Completed: 9/13/2012

Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)

<input type="checkbox"/> Intent to Recomplete (submit form 2)	<input type="checkbox"/> Request to Vent or Flare	<input checked="" type="checkbox"/> E&P Waste Disposal
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well	<input type="checkbox"/> Beneficial Reuse of E&P Waste
<input type="checkbox"/> Gross Interval Changed?	<input type="checkbox"/> Rule 502 variance requested	<input type="checkbox"/> Status Update/Change of Remediation Plans
<input type="checkbox"/> Casing/Cementing Program Change	<input checked="" type="checkbox"/> Other: EPA regulated well/deepen	for Spills and Releases

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

Signed: Paul E. Belanger Date: 11/30/2012 Email: Paul\_Belanger@KinderMorgan.com  
 Print Name: Paul E. Belanger Title: Regulatory Contractor

COGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

1. OGCC Operator Number: 46685 API Number: 05-033-06078

2. Name of Operator: KINDER MORGAN CO2 CO LP OGCC Facility ID # 322104

3. Well/Facility Name: DWD Well/Facility Number: #1

4. Location (QtrQtr, Sec, Twp, Rng, Meridian): NENE 19 40N 17W N PM

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

5. DESCRIBE PROPOSED OR COMPLETED OPERATIONS

INTRODUCTION:

This Sundry dated 11/30/2012 has been created per recent email and phone communication between COGCC and Regulatory consultant Paul Belanger. A prior re-naming sundry had a 2nd technical info page indicating the intent to deepen this well. The purpose of this sundry is to better communicate those objectives intended and accomplished: to deepen and create a class I EPA disposal well. The permit has since been submitted and approved by the EPA. A form 5, docnum 400347589 will be submitted simultaneous to the submission of this sundry along with approved EPA permits and associated documents; form 5A docnum 400347590 will be submitted upon completion of ongoing work as of 11/30/2012.

BACKGROUND:

Water produced from the Leadville formation in the McElmo dome and Doe Canyon Units has typically been re-injected back in the the Leadville through three saltwater disposal (SWD) wells: the Hovenweep SWD (HWD-1), Yellow Jacket SWD (YWD-1), and the MWD-1, which receives all the water from the southern area of the McElmo Dome Unit.

Current water handling in the southern area of McElmo Dome is constrained by the limited water injection capacity of the MWD-1. To alleviate this problem KM geologists recommended deepening of the MWD-1 to target the Cambrian Sand below the Leadville for injection disposal potential. This has been done.

In a similar fashion the same process is being proposed for the Doe Canyon field by deepening the DWD-1.

Once the well bore is deepened, The Cambrian formation will be tested for injection capacity. If successful, KM will proceed with applying for a Class I injection permit with the EPA to inject produced water into the Cambrian Sand, which will serve two purposes:

- 1. By removing the water from the Leadville formation and transferring it to another interval (i.e. the Cambrian), the bottom hole pressure will be reduced and recoverable CO2 reserves will be increased.
- 2. If an acceptable injection rate into the Cambrian is achieved, current and near future water handling will not be a constraint on the Doe Canyon wells. Wells shut-in due to high water rates can then be brought back into production and waste water injected into this local disposal well and eliminate transportation costs and truck traffic.

WORK COMPLETED:

The DWD-1 was deepened to the Cambrian Sand by drilling out an additional 800', tested for injection capacity and permitted as a Class 1 salt water disposal well. This was completed on 9/13/2012 to a TD depth of 9500'.

The Cambrian does not appear to be as permeable as the MWD-1; however, the intent will be to inject into all open zones, including the Cambrian.

The EPA approved procedure and permit will be submitted with a form 5 docnum 400347589 simultaneous to the submission of this work completed sundry.

Work is still ongoing and as a result the form 5A will be submitted at a later date.

As part of Kinder Morgan's February 17, 2016 Rule 523.e voluntary self-disclosure, a supplemental disclosure was made on April 29, 2016. Included in that packet was a Form 27 for the Kinder Morgan CO<sub>2</sub> Co. DWD #1.

After reviewing the COGIS database, it has been determined that there is not a permitted drilling pit associated with this well. Pit facility ID #289825 listed on the submitted Form 27 is related to the Kinder Morgan DWD X-1, not the DWD-1. The operator has stated that in 2012 when this well was re-entered, that a closed loop system was utilized.

An electronic copy of the submitted Form 27 shall be uploaded to the COGIS database. A remediation project regarding pit closure at this location will **not** be created at this time.

Based on review of information presented, it appears that no further action is necessary at this time. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if ground water is found to be significantly impacted, then further investigation and/or remediation activities may be required at the site.