

**APPLICATION FOR PERMIT TO:**

**Drill**       Deepen       Re-enter       Recomplete and Operate

TYPE OF WELL	OIL <input type="checkbox"/>	GAS <input type="checkbox"/>	COALBED <input type="checkbox"/>	OTHER <u>CO2</u>	Refilling <input type="checkbox"/>
ZONE TYPE	SINGLE ZONE <input checked="" type="checkbox"/>	MULTIPLE ZONES <input type="checkbox"/>	COMMINGLE ZONES <input type="checkbox"/>	Sidetrack <input type="checkbox"/>	Date Received: 10/07/2014

Well Name: CX      Well Number: 2

Name of Operator: KINDER MORGAN CO2 CO LP      COGCC Operator Number: 46685

Address: 17801 HWY 491

City: CORTEZ      State: CO      Zip: 81321

Contact Name: Paul Belanger      Phone: (970)882-2464      Fax: (970)882-5521

Email: Paul\_Belanger@kindermorgan.com

**RECLAMATION FINANCIAL ASSURANCE**  
Plugging and Abandonment Bond Surety ID: 20110027

**WELL LOCATION INFORMATION**

QtrQtr: Lot 8      Sec: 12      Twp: 38N      Rng: 19W      Meridian: N

Latitude: 37.563230      Longitude: -108.902360

Footage at Surface: 1606 feet      FNL/FSL FSL 337 feet      FEL/FWL FWL

Field Name: MCELMO      Field Number: 53674

Ground Elevation: 6686      County: MONTEZUMA

GPS Data:  
Date of Measurement: 09/15/2014      PDOP Reading: 5.9      Instrument Operator's Name: R J Caffey

If well is  Directional       Horizontal (highly deviated)      **submit deviated drilling plan.**

Footage at Top of Prod Zone:      FNL/FSL      FEL/FWL      Bottom Hole:      FNL/FSL      FEL/FWL

Sec: \_\_\_\_\_ Twp: \_\_\_\_\_ Rng: \_\_\_\_\_      Sec: \_\_\_\_\_ Twp: \_\_\_\_\_ Rng: \_\_\_\_\_

**LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT**

Surface Ownership:  Fee       State       Federal       Indian

The Surface Owner is:  is the mineral owner beneath the location.  
(check all that apply)  is committed to an Oil and Gas Lease.  
 has signed the Oil and Gas Lease.  
 is the applicant.

The Mineral Owner beneath this Oil and Gas Location is:  Fee       State       Federal       Indian

The Minerals beneath this Oil and Gas Location will be developed by this Well: Yes

The right to construct the Oil and Gas Location is granted by: Bond

Surface damage assurance if no agreement is in place: Blanket      Surface Surety ID: 20080051

**LEASE INFORMATION**

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

S2NE S11; SWNW and NWSW S12 38N19W

Total Acres in Described Lease: 160 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 337 Feet

**CULTURAL DISTANCE INFORMATION**

Distance to nearest:

Building: 5280 Feet

Building Unit: 5280 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 2372 Feet

Above Ground Utility: 282 Feet

Railroad: 5280 Feet

Property Line: 362 Feet

**INSTRUCTIONS:**

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).

- Enter 5280 for distance greater than 1 mile.

- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.

- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

**DESIGNATED SETBACK LOCATION INFORMATION**

Check all that apply. This location is within a:  Buffer Zone  
 Exception Zone  
 Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit

- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.

- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: \_\_\_\_\_

**SPACING and UNIT INFORMATION**

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 2215 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 5280 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): McElmo Dome Unit Number: 47653X

**SPACING & FORMATIONS COMMENTS**

\_\_\_\_\_

**OBJECTIVE FORMATIONS**

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
LEADVILLE	LDVLL	389-1		

**DRILLING PROGRAM**

Proposed Total Measured Depth: 8667 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 2215 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? Yes (If Yes, attach an H<sub>2</sub>S Drilling Operations Plan)

Will salt sections be encountered during drilling? Yes

Will salt based (>15,000 ppm Cl) drilling fluids be used? Yes

Will oil based drilling fluids be used? No

BOP Equipment Type:  Annular Preventor  Double Ram  Rotating Head  None

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Recycle/reuse

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Fluids: Recycle as much as possible; any excess will go to licensed UIC disposal facility. Cuttings are dewatered in a closed loop system and disposed of at a permitted E&P commercial solid waste facility.

Beneficial reuse or land application plan submitted? \_\_\_\_\_

Reuse Facility ID: \_\_\_\_\_ or Document Number: \_\_\_\_\_

## CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	20	16	65	0	80	100	80	0
SURF	12+1/4	9+5/8	36	0	2625	1200		0
1ST	8+3/4	7	29/32	0	8213	2200	8213	0
OPEN HOLE	6			8213	8667			

Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

## RULE 502.b VARIANCE REQUEST

Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number \_\_\_\_\_

## OTHER LOCATION EXCEPTIONS

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number \_\_\_\_\_
- Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

**OPERATOR COMMENTS AND SUBMITTAL**

Comments This is an APD for a new vertical wellbore; no horizontal currently being planned.

Work is expected to begin as soon as possible; November 2014. The CX2, CX5 and CX7 are all being given a November 11th 2014 start date. Which site will be constructed first and which well will be drilled first will depend on the timing of form 2A/form 2 approvals, construction delays and/or whether a rig is release or not. The drilling process will take approximately 60 days. Interim reclamation will begin approximately six months after the rig is removed from the location.

No fracking is being planned.

There are no water wells located within a .5 mile radius of the CX-2 Limit of Disturbance. A Form 4 will be filed accordingly.

A Surface Use Agreement will be submitted as soon as it becomes available.

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

Is this application being submitted with an Oil and Gas Location Assessment application? \_\_\_\_\_ Yes \_\_\_\_\_

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

Signed: \_\_\_\_\_ Print Name: Paul Belanger \_\_\_\_\_

Title: Regulatory Contractor Date: 10/7/2014 Email: Paul\_Belanger@kindermorgan.

Operator must have a valid water right or permit allowing for industrial use or purchased water from a seller that has a valid water right or permit allowing for industrial use, otherwise an application for a change in type of use is required under Colorado law. Operator must also use the water in the location set forth in the water right decree or well permit, otherwise an application for a change in place of use is required under Colorado law. Section 37-92-103(5), C.R.S. (2011).

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: Matthew Lee Director of COGCC Date: 12/9/2014

Expiration Date: 12/08/2016

**API NUMBER**  
05 083 06720 00

## Conditions Of Approval

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

<u>COA Type</u>	<u>Description</u>
	Open hole resistivity and gamma logs shall be run to describe the stratigraphy of the entire well bore and to adequately verify the setting depth of surface casing and aquifer coverage. On a multi-well pad, these open hole logs are only required on one of the first wells drilled on the pad and the Drilling Completion Report - Form 5 for every well on the pad shall identify which well was logged.
	1) Provide 48 hour notice of spud to COGCC and submit via form 42  2) Submit CBL on 7" O.D. production casing  3) Follow CO2 venting and monitoring procedures as per procedure prepared by KM, dated June 26, 2014 REV3 and approved by the COGCC Field Inspection Unit.  4) Borehole problems while drilling that require an additional sidetrack: Contact & discuss w/ COGCC Regional Engineer – Mark Weems within 24 hours of occurrence  970-259-4587 off 970-749-0624 cell mark.weems@state.co.us

## Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Planning	A Kinder Morgan Fire Mitigation Plan is currently on file with the Montezuma County Planning Office.  Any material not in use that might constitute a fire hazard will be moved a minimum of 25 feet from the wellhead, tanks and separator.  Any electrical installations inside the bermed area will comply with API RP 500 classifications and comply with the current national electrical code as adopted by the State of Colorado.
2	Traffic control	A Road Use Plan, which addresses traffic concerns specific to the CX-2, is currently on file with Montezuma County. Kinder Morgan will consult with the county Road and Bridge Supervisor to ensure that all county-related traffic concerns are addressed.  All access roads are fully compliant with local county road standards. Access roads are composed of compacted gravel.  This well is covered by Kinder Morgan's Cow Canyon State Highway Access Permit and Method of Handling Traffic plan currently on file with CDOT.
3	General Housekeeping	Erosion control barriers, namely fiber wattles, will be placed at the edge of disturbance where necessary. Care will be taken to avoid disturbance outside of the project area unless it is deemed necessary for equipment stability and fire safety.  During the construction, drilling, and completion phases, on-site trash dumpsters are emptied regularly by the local waste management company.  During drilling and completion operations, safety officers are present on location to ensure that livestock, wildlife, and unauthorized personnel do not enter the location.

4	Storm Water/Erosion Control	<p>Diversion ditches will be implemented to divert run-on and run-off around the well pad. Compacted earthen berms will also be utilized to control stormwater run-on and runoff.</p> <p>Tackifier will be added to the stored topsoil piles and all slopes to prevent erosion.</p> <p>Stormwater BMPs will be maintained/amended by Kinder Morgan as site conditions change throughout the construction and reclamation process.</p>
5	Material Handling and Spill Prevention	<p>The use of a closed-loop drilling system will reduce the amount of waste produced and water used during drilling operations. Solid cuttings will be disposed of at a solid waste facility.</p> <p>Water that can no longer be reused or recycled will be disposed of in a Class I disposal well.</p> <p>Sufficiently impervious containment devices will be constructed around any condensate and produced water tanks. The containment devices will be sufficiently impervious to contain any spilled or released material. All containment devices will be inspected at regular intervals and maintained in good condition.</p> <p>Tanks are designed to meet all API 650 guidelines.</p>
6	Construction	<p>All equipment will be stored within the right-of-way (ROW) area of disturbance. Top soil will be removed to create a level pad for drilling and access road.</p> <p>Vegetation that does not need to be removed will be avoided during construction and removed vegetation will be cut near ground level, leaving the root system intact except where permanent facilities, roads, or ROWs, and wellpads require the complete removal of vegetation.</p>
7	Noise mitigation	<p>During normal operations, the well will remain within COGCC regulations for noise. However, during the construction phase of the project, this standard may be occasionally exceeded.</p>
8	Emissions mitigation	<p>Non-flammable CO2 will be produced from the Leadville formation and thus green completion per rule 805 (3) does not apply.</p> <p>All CO2 wells are equipped with a CO2 leak detection monitor during drilling.</p>
9	Drilling/Completion Operations	<p>Blowout preventer equipment (BOPE) complies with COGCC equipment regulations.</p> <p>Kinder Morgan conducts a BOPE test and files a 24 hour notice (Form 42) at the initial rig-up time, after each casing emplacement, and/or every 30 days.</p> <p>Adequate blowout prevention equipment is used on all well servicing operations.</p> <p>Backup stabbing valves are used on well servicing operations during reverse circulation and are pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.</p> <p>No pits are present at the well site.</p>
10	Drilling/Completion Operations	<p>With the understanding that KM:</p> <ul style="list-style-type: none"> <li>· uses a mudlogger and produces a mudlog from the surface</li> <li>· runs surface and production casing to the surface</li> <li>· runs a CBL to surface</li> </ul> <p>in the event that Kinder Morgan does not log the well with minimum open-hole resistivity and gamma ray log per Rule 317.0. then Kinder Morgan will, at a minimum, log the well bore, or missing portion of the wellbore, with cased hole gamma ray and pulsed neutron from TD to surface casing to comply with COGCC Rule 317.0.</p>
11	Interim Reclamation	<p>Surface roughening, surface contouring, seeding, and weed control will be employed to facilitate vegetation reestablishment. Tackifier will be added to reclaimed areas.</p>
12	Final Reclamation	<p>All disturbed areas that are not necessary for operational procedures will be restored to at least 80 percent of pre-disturbance vegetative cover.</p>

Total: 12 comment(s)

## Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.

### Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1857514	SELECTED ITEMS REPORT
2519490	WELL LOCATION PLAT
400696337	FORM 2 SUBMITTED
400696561	DRILLING PLAN
400696601	OIL & GAS LEASE
400696605	H2S CONTINGENCY PLAN
400696607	OTHER

Total Attach: 7 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Operator revised production casing setting setting depth. In process.	12/9/2014 10:33:55 AM
Final Review	Final review ON HOLD for cement bottom on Surface Casing.	12/6/2014 2:57:18 PM
Permit	Final review completed; no LGD or public comment received.	11/21/2014 12:15:02 PM
Permit	Attached new well location plat and revised footage location and GPS.	11/21/2014 12:13:43 PM
Permit	Location move changed cultural distances and other distances.	11/20/2014 1:03:47 PM
Permit	Location is moving within the pad area.	11/17/2014 6:23:37 AM
Engineer	<p>This is a vertically drilled well or a pilot hole.</p> <p>Fresh water zones have been depicted in the lower cretaceous and into the upper triassic or the windgate sandstone (CGS Ground Water Atlas). Of late, the BLM fluids/minerals geologist has expressed an interest and concern for deeper formations or at least 150' into the Chinle formation (&lt;10,000 ppm TDS). The Chinle formation is estimated to be at a depth of 1816'-2525'. The operator plans to set the surface casing at a depth of 2625 or 100' into the Cutler formation. The surface casing will be cemented to surface as a measure to isolate and protect all shallow water aquifers. The deepest water well within a mile of this proposed well is 282' feet deep (see attached SELECTED ITEMS REPORT).</p> <p>There are no other oil and gas wells within 1500' of the operator's well (see attached SELECTED ITEMS REPORT).</p>	10/21/2014 12:04:00 PM
Permit	Passed Completeness	10/9/2014 11:48:59 AM
Permit	Talked to operator and removed property setback request letter for cx-5 accidentally added to attachments for this well.	10/9/2014 11:46:56 AM

Total: 9 comment(s)