

FORM  
2

Rev  
08/13

State of Colorado

Oil and Gas Conservation Commission

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



Document Number:

400985829

APPLICATION FOR PERMIT TO:

☒ Drill ☐ Deepen ☐ Re-enter ☐ Recomplete and Operate

TYPE OF WELL OIL ☐ GAS ☐ COALBED ☐ OTHER CO2 ☐

Refilling ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☐

Date Received:

04/07/2016

Well Name: CX Well Number: 14  
Name of Operator: KINDER MORGAN CO2 CO LP COGCC Operator Number: 46685  
Address: 17801 HWY 491  
City: CORTEZ State: CO Zip: 81321  
Contact Name: Andy Antipas Phone: (970)882-5534 Fax: (970)882-5521  
Email: Andrew\_Antipas@kindermorgan.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20110027

WELL LOCATION INFORMATION

QtrQtr: NENW Sec: 10 Twp: 38N Rng: 18W Meridian: N

Latitude: 37.571560

Longitude: -108.821740

Footage at Surface: 644 feet FNL/FSL FNL 1959 feet FEL/FWL FWL

Field Name: MCELMO Field Number: 53674

Ground Elevation: 6892 County: MONTEZUMA

GPS Data:

Date of Measurement: 12/08/2015 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  
357 FNL 1549 FWL 357 FNL 1549 FWL  
Sec: 10 Twp: 38N Rng: 18W Sec: 10 Twp: 38N Rng: 18W

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: applicant is owner

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

## 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.)

W 1/2, S10, 38N18W

Total Acres in Described Lease: 320 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: 357 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 1316 Feet

Building Unit: 1316 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 614 Feet

Above Ground Utility: 575 Feet

Railroad: 5280 Feet

Property Line: 180 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 proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation: 5280 Feet

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

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

## 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			

## DRILLING PROGRAM

Proposed Total Measured Depth: 8692 Feet

Distance from proposed wellbore to nearest existing or permitted wellbore belonging to another operator:

4185 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 excesses will go to licensed UIC disposal facility. Cuttings are dewatered in a closed loop system and disposed of at a permitted 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	55	0	80	100	80	0
SURF	12+1/4	9+5/8	36	0	2821	1200	2821	0
1ST	8+3/4	7	29&32	0	8317	1900	8317	0
1ST LINER	6	4+1/2	13.6	8167	8692	100	8692	8167

☐ 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 a directional well that becomes vertical in the Leadville zone of completion.  
NO wells within 1500'. No fracking is being planned.  
The nearest well is to the SE named BERTWELL #1-11 drilled by TRI EX CORP - 89575 in 1980, status DA without further formation info.

Procedures for drilling through salt formations are described within drilling plans; H2S procedures attached.

According to CO DWR, there are no water wells, seeps or springs located within a 1/2 mile radius of the CX-14 well location. A Form 4 will be filed accordingly per Rule 609.

This application is in a Comprehensive Drilling Plan No 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: 4/7/2016 Email: pebelanger@glassdesignresou

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:  Director of COGCC Date: 6/10/2016

Expiration Date: 06/09/2018

API NUMBER

05 083 06725 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.

### **COA Type**

### **Description**

	<p>1) Submit CBL on 7" O.D. production casing</p> <p>2) 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.</p> <p>3) Borehole problems while drilling that require an additional sidetrack: Contact &amp; discuss w/ COGCC Regional Engineer (Mark Weems) for prior approval.</p> <p>970-259-4587 off 970-749-0624 cell mark.weems@state.co.us</p> <p>4) Contact COGCC Regional Engineer – Mark Weems when encountering a well control issue, unexpected water flows, and unexpected Hydrogen Sulfide.</p>
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## **Best Management Practices**

### **No BMP/COA Type**

### **Description**

1	Planning	<p>A Kinder Morgan Fire Mitigation Plan is currently on file with the Montezuma County Planning Office.</p> <p>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.</p> <p>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.</p>
2	Traffic control	<p>A Road Use Plan, which addresses traffic concerns specific to the CX-14, 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.</p> <p>All access roads are fully compliant with local county road standards. Access roads are composed of compacted gravel.</p> <p>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.</p>
3	General Housekeeping	<p>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.</p> <p>During the construction, drilling, and completion phases, on-site trash dumpsters are emptied regularly by the local waste management company.</p> <p>During drilling and completion operations, safety officers are present on location to ensure that livestock, wildlife, and unauthorized personnel do not enter the location.</p>
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.</p> <p>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>Open-hole Resistivity Log with Gamma Ray Log will be run from TD into the production or intermediate casing. A cased hole Pulsed Neutron log will be run on production casing, or on intermediate casing into the surface casing. A CBL log will be run to surface. Kinder Morgan will use a muddlogger and produce a mudlog from the surface to TD. The Form 5, Completion Report, will list all logs run and have those logs attached.</p> <p>317.p. waiver request letter attached</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**

Policy
<p>Notice Concerning Operating Requirements for Wildlife Protection.</p> <p><a href="http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf">http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf</a></p>

### **Attachment Check List**

<b><u>Att Doc Num</u></b>	<b><u>Name</u></b>
400985829	FORM 2 SUBMITTED
401023580	WELL LOCATION PLAT
401023604	DRILLING PLAN
401023610	H2S CONTINGENCY PLAN
401023613	DIRECTIONAL DATA
401023631	DEVIATED DRILLING PLAN
401023637	OPEN HOLE LOGGING EXCEPTION

Total Attach: 7 Files

### **General Comments**

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Final Review	Offset well within one mile, completed in the Leadville Formation, is an injection well. "Distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation" does not apply to offset injection wells.	6/10/2016 5:16:43 PM
Permit	Final Review Completed.	5/6/2016 3:04:37 PM
Permit	Removed distance from completed portion of wellbore to nearest unit boundary, as no unit exists. Corrected salt based drilling fluids dropdown to "YES" per drilling plan.	5/4/2016 8:50:30 AM
LGD	<p>Per the Montezuma County Board of County Commissioners, High Impact Permit No. 671 for Kinder Morgans CX-14 CO2 Well, was approved on April 4, 2016, with the following contingencies:</p> <ol style="list-style-type: none"> <li>1.Kinder Morgan is required to provide air monitoring specific to LEL, H2S, CO2 and O2, at the residence of Tom Hayden,24990, Road 12, Pleasant View, CO, for H2S and CO2 as well as provide monitoring between the Hayden property and the proposed CX-14 well during construction;</li> <li>2. Kinder Morgan will be responsible for immediately repairing any irrigation leaks and/or damages within a close proximity if a leak does occur;</li> <li>3.Road CC will be used as the designated truck route;</li> <li>4.Kinder Morgan is be required to notify neighbors of flaring activities at their earliest convenience;</li> <li>5.Kinder Morgan is required to notify traffic traveling in both directions of County Road BB in the event of an H2S release; and</li> <li>6.All local, state and federal permits are obtained.</li> </ol> <p>LeeAnn Milligan Planning Director</p>	5/3/2016 3:08:27 PM
Engineer	Operator's comment states, "NO wells within 1500'. No fracking is being planned." Therefore, an offset well stimulation evaluation was not performed by COGCC staff.	5/3/2016 10:11:28 AM
Engineer	The distance from proposed wellbore to nearest existing or permitted wellbore belonging to another operator of 4185' has been verified (Selected Items Report).	5/3/2016 10:08:45 AM
Engineer	Fresh water zones have been depicted in the Lower Cretaceous and into the Upper Triassic or the windgate sandstone (CGS Ground Water Atlas). The deepest water well within a mile of this proposed well is 320 feet deep. Of late, the BLM fluids/minerals geologist has expressed an interest and concern for deeper formations or at least 150' into the Chinle formation (<10,000 ppm TDS). The Chinle formation is estimated to be at a depth of 2005'-2721'. Also, the operator is setting their surface casing well into the Cutler formation or at a depth of 2821' which is 100' deeper than base of the Chinle. The surface casing will be cemented to surface as a measure to isolate and protect all shallow water aquifers.	5/3/2016 9:49:06 AM
OGLA	Comment period extended at written request of LGD (from 5/3/16 to 5/14/16 ending date to match related Form 2A)	4/22/2016 9:27:51 AM
Permit	Passed completeness.	4/13/2016 9:42:26 AM
Permit	<ol style="list-style-type: none"> <li>1. Well Location Top Prod Zone and BHL Township entries corrected per Operator request.</li> <li>2. Operator's wellbore integrity contact email address updated per Operator request.</li> <li>3. Location ID# on Submit Tab deleted per Operator request.</li> </ol>	4/13/2016 9:15:24 AM
Total: 10 comment(s)		