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: 400594822

Date Received: 06/08/2014

APPLICATION FOR PERMIT TO:

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

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

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐ Sidetrack ☐

Well Name: CD Well Number: 4

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)882-2264 Fax: (970)882-5521

Email: Paul_Belanger@kindermorgan.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20110027

WELL LOCATION INFORMATION

QtrQtr: NWSE Sec: 18 Twp: 38N Rng: 18W Meridian: N

Latitude: 37.548680 Longitude: -108.873080

Footage at Surface: 1580 feet FNL/FSL FSL 2356 feet FEL/FWL FEL

Field Name: MCELMO Field Number: 53674

Ground Elevation: 6795 County: MONTEZUMA

GPS Data:

Date of Measurement: 04/10/2014 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: 1902 FNL/FSL FSL 3152 FEL/FWL FWL

Sec: 18 Twp: 38N Rng: 18W

Bottom Hole: 2286 FNL/FSL FNL 2144 FEL/FWL FWL

Sec: 18 Twp: 38N Rng: 18W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: ☒ Fee ☐ State ☐ Federal ☐ Indian

The Surface Owner is: (check all that apply)

☐ is the mineral owner beneath the location.
☐ 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.)

SEE ATTACHED LEASE: 38N 18W:
360 Ac: Section 18: W1/2 (LOTS 5, 6,9, 10, 11, 12, 15, 16).

Total Acres in Described Lease: 360 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: 131 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building:	1753	Feet
Building Unit:	2070	Feet
High Occupancy Building Unit:	5280	Feet
Designated Outside Activity Area:	5280	Feet
Public Road:	795	Feet
Above Ground Utility:	790	Feet
Railroad:	5280	Feet
Property Line:	254	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: 5280 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 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: 10061 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 2490 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H_2S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? Yes (If Yes, attach an H2S 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	55	0	80	100	80	0
SURF	14+3/4	10+3/4	41	0	2773	2000	2773	0
1ST	9+7/8	7+5/8	30&34	0	8498	2500	8498	0
1ST LINER	6+1/8	4+1/2	13	8498	10061	0		

☐ 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 ia a one borehole horizontal well that starts on fee surface land and lands in fee minerals to the NW of the surface location; it does not involve completing in the eastern half of section 18 which is fed minerals. SHL is 263 from median line in section 18; landing will be some 59 west of that line and 59' to the north (NW azimuth).
There are no wells within 1500' and fracking is not being planned.
There are no water wells located within a .5 mile radius of the CD-4 Limit of Disturbance. A Form 4 will be filed accordingly.

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: 6/8/2014 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: _____ **Director of COGCC** Date: 7/25/2014

Expiration Date: 07/24/2016

API NUMBER
05 083 06718 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
	1) Provide 48 hour notice of spud to COGCC and submit via form 42 2) Submit CBL on 7" production casing 3) The operator shall comply with Rule 321 and it shall be the operator's responsibility to ensure that the well bore complies with setback requirements in Commission orders and/or rules prior to producing the well. 4) Run and submit Directional Survey from the base of the vertical hole through the lateral & all the way to TD 5) Venting of CO2 at any time including both drilling & completing must receive prior authorization from the COGCC (see below) Steve Labowskie- COGCC FIU Supervisor 970-259-0945 off 970-946-5073 cell steve.labowskie@state.co.us Margaret Ash-COGCC FIU Manager 303-894-2100 x 5110 off 303-548-6298 cell margaret.ash@state.co.us 6) 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

No	BMP/COA Type	Description
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 removed 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 CD-4, is currently on file with Montezuma County. The Road Use Plan was produced after consulting with the county Road and Bridge Supervisor. All access roads are fully compliant with local county road standards. Access roads are composed of compacted gravel. In an effort to mitigate dust, magnesium-chloride applications to the road surface are performed at the request of Montezuma County.

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. Steel ranch fencing will be placed around the well head after the well is drilled. Once the well is tied in, the fencing will be removed. The proposed well location will be drilled using a closed loop system and will therefore not use open pits. During drilling and completion operations, safety officers are present on location to ensure that livestock, wildlife, and unauthorized personnel do not enter the location. Following completion, the only items present on the well pad are the well head and aboveground pipeline junction.
4	Storm Water/Erosion Control	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. Tackifier will be added to the stored topsoil piles and all slopes to prevent erosion. Stockpiled soils will have slopes not greater than 3:1. Stormwater BMPs will be maintained/amended by Kinder Morgan as site conditions change throughout the construction and reclamation process.
5	Material Handling and Spill Prevention	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. Water that can no longer be reused or recycled will be disposed of in a Class I disposal well. 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. Tanks are designed to meet all API 650 guidelines.
6	Construction	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. 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.
7	Noise mitigation	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.
8	Emissions mitigation	Non-flammable CO2 will be produced from the Leadville formation and thus green completion per rule 805 (3) does not apply. All CO2 wells are equipped with a CO2 leak detection monitor during drilling.

9	Drilling/Completion Operations	Blowout preventer equipment (BOPE) complies with COGCC equipment regulations. Mineral Management certification or Director approved training for blowout prevention has been conducted for at least one person at the well site during drilling operations. 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. Adequate blowout prevention equipment is used on all well servicing operations. 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. No pits are present at the well site.
10	Drilling/Completion Operations	"With the understanding that KM: · uses a mudlogger and produces a mudlog from the surface · runs surface and production casing to the surface · runs a CBL to surface 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.o."
11	Interim Reclamation	Surface roughening, surface contouring, seeding, and weed control will be employed to facilitate vegetation reestablishment. Tackifier will be added to reclaimed areas.
12	Final Reclamation	All disturbed areas that are not necessary for operational procedures will be restored to at least 80 percent of pre-disturbance vegetative cover.

Total: 12 comment(s)

Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.

Attachment Check List

Att Doc Num	Name
1857442	SELECTED ITEMS REPORT
400594822	FORM 2 SUBMITTED
400622959	WELL LOCATION PLAT
400622961	OIL & GAS LEASE
400622962	DRILLING PLAN
400622963	H2S CONTINGENCY PLAN
400622964	OTHER
400622965	DEVIATED DRILLING PLAN
400622966	DIRECTIONAL DATA

Total Attach: 9 Files

General Comments

User Group	Comment	Comment Date
Permit	Final review completed; no LGD or public comment received.	7/24/2014 7:06:36 AM
Permit	Kinder Morgan has attached a BMP regarding logging of the well.	7/24/2014 7:04:45 AM
Engineer	The operator will not be drilling a pilot hole (vertical) and then plugging back and kick off to drill the lateral as has been typically done. The operator will drill only one well that has both vertical and lateral components in one continuous well. 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 (<10,000 ppm TDS). The Chinle formation is estimated to be at a depth of 1963'-2673'. The operator plans to set the surface casing at a depth of 2773 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). There are no other oil and gas wells within 1500' of the operator's well (see attached SELECTED ITEMS REPORT); therefore no consideration is warranted at this time for further investigation of offset wells as required in the COGCC HZ Offset Wells Policy. The operator will install external swelling packers on the lateral 4 ½" OD production casing/liner and will not cement it in place. The pay zone (Leadville) will likely be cleaned by treating with 15% HCL (acid).	6/18/2014 3:00:20 PM
Permit	Passed completeness.	6/10/2014 10:45:47 AM

Total: 4 comment(s)