

FORM

2

Rev  
02/20

## 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:

402344289

## APPLICATION FOR PERMIT TO:

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

Date Received:

03/24/2020

TYPE OF WELL OIL ☐ GAS ☒ COALBED ☐ OTHER: CO2Refilling ☒ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐Sidetrack ☐

Well Name: CB

Well Number: 4

Name of Operator: KINDER MORGAN CO2 CO LP

COGCC Operator Number: 46685

Address: 1001 LOUISIANA ST SUITE 1000

City: HOUSTON

State: TX

Zip: 77002

Contact Name: Michael Hannigan

Phone: (970)882-5537

Fax: (970)882-5521

Email: CO2Source\_Regulatory@kindermorgan.com

## RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20110027

## WELL LOCATION INFORMATION

QtrQtr: Lot 13 Sec: 10 Twp: 38N Rng: 19W Meridian: N

Latitude: 37.561410

Longitude: -108.924790

Footage at Surface: 949 Feet FNL/FSL FSL 906 Feet FEL/FWL FEL

Field Name: MCELMO

Field Number: 53674

Ground Elevation: 6633

County: MONTEZUMA

GPS Data: GPS Quality Value: 6.0 Type of GPS Quality Value: PDOP Date of Measurement: 12/02/2014

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:

## LOCAL GOVERNMENT INFORMATION

County: MONTEZUMA

Municipality: N/A

Per § 34-60-106 (1)(f)(I)(A), the following questions pertain to the "local government with jurisdiction to approve the siting of the proposed oil and gas location."

The local government with jurisdiction is: County

Does the local government with jurisdiction regulate the siting of Oil and Gas Locations, with respect to this location? If the local government does regulate the siting, but has waived its right to precede the COGCC in siting determination, indicate by selecting "YES" here and selecting "Waived" for the disposition below.

☒ Yes ☐ NoIf yes, in checking this box, I hereby certify that an application has been filed with the local government with jurisdiction to approve the siting of the proposed oil and gas location. ☒

The local government siting permit type is: HIP/SUP

The local government siting permit was filed on: 02/22/2018

The disposition of the application filed with the local government is: Approved

Additional explanation of local process:

Kinder Morgan CO2 recieved High Impact Permit & Special Use Permit approval from Montezuma County on 03/26/18.

## 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: Surface Use Agreement

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.)

See Oil and Gas Lease map (well file doc: 401584854).

Total Acres in Described Lease: 447 Described Mineral Lease is: ☐ Fee ☐ State ☒ Federal ☐ Indian

Federal or State Lease # COC052523

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 283 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 4870 Feet

Building Unit: 4870 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 901 Feet

Above Ground Utility: 942 Feet

Railroad: 5280 Feet

Property Line: 283 Feet

School Facility: 5280 Feet

School Property Line: 5280 Feet

Child Care Center: 5280 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, Designated Outside Activity Area, School Facility, and Child Care Center – 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: 2908 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

If this Form 2 is associated with a Drilling and Spacing Unit application, provide docket number: \_\_\_\_\_

## 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	203234	

## DRILLING PROGRAM

Proposed Total Measured Depth: 8488 Feet

Distance from the proposed wellbore to nearest existing or proposed wellbore belonging to another operator, including plugged wells:

Enter distance if less than or equal to 1,500 feet: \_\_\_\_\_ Feet ☒ No well belonging to another operator within 1,500 feet

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 a licensed Class I disposal facility. Cuttings are dewatered in a closed loop system and disposed of at a permitted commercial solid waste facility.

Beneficial reuse or land application plan submitted? No

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	2786	1100	2786	0
1ST	8+3/4	7	29&32	0	8192	1490	8192	0
1ST LINER	6	4+1/2	12.6	8042	8488	100	8488	8042

☐ 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 Form 2 is a re-file for an approved APD for a vertical wellbore. The original APD (Document Number 401584381) was approved on 05/11/18. Location has not been built. No changes have been made to the drilling plan, but detail has been added in conjunction with the new fields added per SB181.

No hydraulic fracturing is being planned.

There are no water wells, seeps or springs located within 1/2 mile radius of the proposed CB-4 well location. A Form 4 will be filed accordingly per Rule 609.

Kinder Morgan CO2 Company, LP may install glycol skid injection equipment on the well location to address hydrate formation/line obstruction due to freezing. The tanks would be filled by a supply truck every 7 to 10 days, and would be operated between mid-October and June as weather conditions dictate. When not in operation, the skids would either remain installed on location, or be removed from the well location and stored during the off-season to protect them from potential vandalism as determined necessary by Kinder Morgan. The pumps are fairly quiet and should not be audible outside of the well pad area. A plot plan of glycol skid equipment is attached.

This application is in a Comprehensive Drilling Plan No CDP #: \_\_\_\_\_

Location ID: 454998

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: Michael Hannigan

Title: EHS Supervisor Date: 3/24/2020 Email: michael\_hannigan@kindermor

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, applicable orders, and SB 19-181 and is hereby approved.

COGCC Approved:  Director of COGCC Date: 8/10/2020

Expiration Date: 08/09/2022

### API NUMBER

05 083 06730 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>
Construction	If location is not constructed by 2A expiration (5/10/2021), a refile Form 2A must be approved prior to location construction.
Drilling/Completion Operations	<p>1) Follow CO2 venting and monitoring procedures as per procedure prepared by Kinder Morgan, dated June 26, 2014 REV3 or the most current version approved by the COGCC Field Inspection Unit.</p> <p>2) Operator shall provide cement coverage from the First String (7" casing) shoe to a minimum of 200' above the surface casing shoe to provide isolation of all Permian (Cutler) or other oil, gas, and water-bearing sandstone and coalbed formations that are not otherwise covered by surface casing. Verify First String (7" casing) and First Liner (4 ½" liner) cement coverage with a cement bond log.</p> <p>3) If borehole problems occur while drilling and an unplanned sidetrack is required, the following shall apply: a.) Before proceeding, contact the COGCC Regional Engineer for SW Colorado for verbal approval and provide an explanation as to what happened to the original borehole and what the plan is for the sidetrack.</p> <p>Contact Information: Alicia Duran – Area Engineer 303-894-2100 x 5690 303-548-7396 cell alicia.duran@state.co.us</p> <p>b.) Adhere to the instructions provided in the “UNPLANNED Sidetrack While Drilling: Approval and Reporting Process – Southwestern Colorado San Juan Basin ONLY” that can be found on the COGCC website.</p> <p>At the COGCC Web Site Forms Form 2-Permit to Drill Instructions</p> <p>4) Contact COGCC Regional Engineer – Alicia Duran when encountering a well control issue, unexpected water flows, and unexpected Hydrogen Sulfide.</p>

## Best Management Practices

No BMP/COA Type	Description
1 Emissions mitigation	Non-flammable CO2 will be produced from the Leadville formation and thus green completion per Rule 805.b.(3) does not apply. All CO2 wells are equipped with a CO2 leak detection monitor during drilling.
2 Drilling/Completion Operations	<p>1) Follow CO2 venting and monitoring procedures as per procedure prepared by Kinder Morgan, dated June 26, 2014 REV3 and approved by the COGCC Field Inspection Unit.</p> <p>2) Operator shall provide cement coverage from the First String (7" casing) shoe to a minimum of 200' above the surface casing shoe to provide isolation of all Permian (Cutler) or other oil, gas, and water-bearing sandstone and coalbed formations that are not otherwise covered by surface casing. Verify First String (7" casing) and First Liner (4 ½" liner) cement coverage with a cement bond log.</p> <p>3) If borehole problems occur while drilling and an unplanned sidetrack is required, the following shall apply:  a.) Before proceeding, contact the COGCC Regional Engineer for SW Colorado for verbal approval and provide an explanation as to what happened to the original borehole and what the plan is for the sidetrack.  Contact Information:  Alicia Duran - Area Engineer  303-894-2100 x 5690  303-548-7396 cell  alicia.duran@state.co.us</p> <p>b.) Adhere to the instructions provided in the "UNPLANNED Sidetrack While Drilling: Approval and Reporting Process - Southwestern Colorado San Juan Basin ONLY" that can be found on the COGCC website.</p> <p>At the COGCC Web Site  Forms  Form 2-Permit to Drill  Instructions</p> <p>4) Contact COGCC Regional Engineer - Alicia Duran when encountering a well control issue, unexpected water flows, and unexpected Hydrogen Sulfide.</p>
3 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 mudlogger 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. exception request letter on well file (doc: 401584889).</p>
4 Drilling/Completion Operations	<p>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) after each casing emplacement and/or every 30-days.</p> <p>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.</p> <p>No pits will be constructed at this well site.</p>

Total: 4 comment(s)

## Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.  
[http://cogcc.state.co.us/documents/reg/Policies/Wildlife\\_Notice.pdf](http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf)

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2109273	CB-4 APPROVED FEDERAL APD - MAY 29, 2018
2109274	CB-4 APPROVED 2-YEAR EXTENSION FOR FEDERAL APD - MAY 26, 2020
402344289	FORM 2 SUBMITTED
402345512	APD ORIGINAL
402345621	LGD CONSULTATION

Total Attach: 5 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Final Review	Final approval ready - no additional revisions needed. H2S Plan is in the Well File.	08/10/2020
OGLA	08/05/2020 - removed surface related BMPs; repassed OGLA-181 task.	08/05/2020
Final Review	Final Approval pending - referred to OGLA staff for follow up.	08/04/2020
Permit	Final Review Completed.	07/21/2020
Permit	Referenced existing well file documents for O&G lease and for open hole logging exception within this Form 2 where applicable.	07/21/2020
OGLA	07/16/2020 - received original CB-4 Approved Federal APD and recently CB-4 Approved 2-Year Extension for the Federal APD and attached to the Form 2; passed OGLA task.	07/16/2020
OGLA	07/15/2020 - COGCC staff conducted its technical review of this Form 2 Application for Permit to Drill (APD) and the previously approved Oil and Gas Location Assessment associated with this APD within the context of SB 19-181 and the required Objective Criteria. This APD did not meet any of the Objective Criteria and is compliant with all applicable COGCC Rules; passed OGLA-181 task.	07/15/2020
Engineer	Fresh water zones have been depicted in the Lower Cretaceous and into the Upper Triassic or the Wingate sandstone (CGS Ground Water Atlas) which is the formation on top of the Chinle. The Chinle formation is estimated to be at a depth of 1660'-2686' with the potential of <10,000 ppm TDS). The operator plans to set the surface casing at a depth of 2786' 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. There are no permitted water wells within one mile of this proposed surface hole location.  Offset well evaluation: Existing offset oil and gas wells within 1,500 feet of this wellbore meet standards. No mitigation required. Operator's comment states: No hydraulic fracturing is being planned.	04/16/2020
Permit	Passed completeness.	03/25/2020
Permit	Person listed on submit tab is not listed as an authorized agent for operator no. 46685. Any attachments that have not changed since APD was originally submitted may be removed. Return to draft.	03/25/2020

Total: 10 comment(s)