

FORM

2

Rev
05/22

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:

403135225

Date Received:

09/01/2022

APPLICATION FOR PERMIT TO

☒ Drill
 ☐ Deepen
 ☐ Re-enter
 ☐ Recomplete and Operate
Amend ☐
 TYPE OF WELL OIL ☐ GAS ☒ COALBED ☐ OTHER: CO2 Production
Refile ☒
 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: Jenna Emerick

Phone: (970)882-5537

Fax: ()

Email: CO2Source_regulatory@kindermorgan.com

FINANCIAL ASSURANCE FOR PLUGGING, ABANDONMENT, AND RECLAMATION

COGCC Financial Assurance

☐ The Operator has provided or will provide Financial Assurance to the COGCC for this Well.

Surety ID Number (if applicable):

Federal Financial Assurance

☒ In checking this box, the Operator certifies that it has provided or will provide at least this amount of Financial Assurance to the federal government for this Well. (Per Rule702.a.)

Amount of Federal Financial Assurance \$ 150000

WELL LOCATION INFORMATION

Surface Location

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

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

Latitude: 37.561410

Longitude: -108.924790

GPS Data: GPS Quality Value: 6.0 Type of GPS Quality Value: PDOP

Date of Measurement: 12/02/2014

Ground Elevation: 6633

Field Name: MCELMO

Field Number: 53674

Well Plan: is ☐ Directional ☐ Horizontal (highly deviated) ☒ Vertical

If Well plan is Directional or Horizontal attach Deviated Drilling Plan and Directional Data.

Subsurface Locations

Top of Productive Zone (TPZ)

Sec: Twp: Rng:

Footage at TPZ:

Measured Depth of TPZ:

True Vertical Depth of TPZ:

FNL/FSL

FEL/FWL

Base of Productive Zone (BPZ)

Sec: _____ Twp: _____ Rng: _____ Footage at BPZ: _____
Measured Depth of BPZ: _____ True Vertical Depth of BPZ: _____ FNL/FSL _____ FEL/FWL _____

Bottom Hole Location (BHL)

Sec: _____ Twp: _____ Rng: _____ Footage at BHL: _____
FNL/FSL _____ FEL/FWL _____

LOCAL GOVERNMENT PERMITTING INFORMATION

County: MONTEZUMA Municipality: N/A

Is the Surface Location of this Well in an area designated as one of State interest and subject to the requirements of § 24-65.1-108 C.R.S.? No

Per § 34-60-106(1)(f)(I)(A) C.R.S., the following questions pertain to the Relevant Local Government approval of the siting of the proposed Oil and Gas Location.

SB 19-181 provides that when "applying for a permit to drill," operators must include proof that they sought a local government siting permit and the disposition of that permit application, or that the local government does not have siting regulations. § 34-60-106(1)(f)(I)(A) C.R.S.

Does the Relevant Local Government regulate the siting of Oil and Gas Locations, with respect to this Location? ☒ Yes ☐ No

☒ If 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 disposition of the application filed with the Relevant Local Government is: Approved Date of Final Disposition: 03/26/2018

Comments: Kinder Morgan CO2 received High Impact Permit & Special Use Permit approval from Montezuma County on 3/26/18.

SURFACE AND MINERAL OWNERSHIP AT WELL'S OIL & GAS LOCATION

Surface Owner of the land at this Well's Oil and Gas Location: ☒ Fee ☐ State ☐ Federal ☐ Indian

Mineral Owner beneath this Well's Oil and Gas Location: ☐ Fee ☐ State ☒ Federal ☐ Indian

Surface Owner Protection Bond (if applicable): _____ Surety ID Number (if applicable): _____

MINERALS DEVELOPED BY WELL

The ownership of all the minerals that will be developed by this Well is (check all that apply):

- ☐ Fee
☐ State
☒ Federal
☐ Indian
☐ N/A

LEASE INFORMATION

Using standard QtrQtr, Section, Township, Range format describe one entire mineral lease as follows:

* If this Well is within a unit, describe a lease that will be developed by the Well.

* If this Well is not subject to a unit, describe the lease that will be produced by the Well.

(Attach a Lease Map or Lease Description or Lease if necessary.)

See attached BLM Oil and Gas Lease Case Recordation.

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

Federal or State Lease # COC052523

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 4870 Feet
Building Unit: 4870 Feet
Public Road: 901 Feet
Above Ground Utility: 942 Feet
Railroad: 5280 Feet
Property Line: 283 Feet

INSTRUCTIONS:

- Specify all distances per Rule 308.b.(1).
- 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 – as defined in 100 Series Rules.

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			

Federal or State Unit Name (if appl): McElmo

Unit Number: 47653X

SUBSURFACE MINERAL SETBACKS

Enter 5280 for distance greater than 1 mile.

Is this Well within a unit? Yes

If YES:

Enter the minimum distance from the Completed Zone of this Well to the Unit Boundary: 5280 Feet

Enter the minimum distance from the Completed Zone of this Well to the Completed Zone of an offset Well within the same unit permitted or completed in the same formation: 2908 Feet

If NO:

Enter the minimum distance from the Completed Zone of this Well to the Lease Line of the described lease: _____ Feet

Enter the minimum distance from the Completed Zone of this Well to the Completed Zone of an offset Well producing from the same lease and permitted or completed in the same formation: _____ Feet

Exception Location

☐ If this Well requires the approval of a Rule 401.c Exception Location, enter the Rule or spacing order number and attach the Exception Location Request and Waivers. _____

SPACING & FORMATIONS COMMENTS

DRILLING PROGRAM

Proposed Total Measured Depth: 8488 Feet

TVD at 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 H₂S 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 Plan unless a plan was already submitted with the Form 2A per Rule 304.c.(10).

Will there be hydraulic fracture treatment at a depth less than 2,000 feet in this well? No

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

Beneficial reuse or land application plan submitted? No

Reuse Facility ID: _____ or Document Number: _____

<u>Casing Type</u>	<u>Size of Hole</u>	<u>Size of Casing</u>	<u>Grade</u>	<u>Wt/Ft</u>	<u>Csg/Liner Top</u>	<u>Setting Depth</u>	<u>Sacks Cmt</u>	<u>Cmt Btm</u>	<u>Cmt Top</u>
CONDUCTOR	26	16	A253B	36.94	0	80	160	80	0
SURF	12+1/4	9+5/8	J-55	36	0	2786	1100	2786	0
1ST	8+3/4	7	13CR	29&32	0	8192	1490	8192	0
1ST LINER	6	4+1/2	CR13	12.6	8042	8488	100	8488	8042

POTENTIAL FLOW AND CONFINING FORMATIONS

<u>Zone Type</u>	<u>Formation /Hazard</u>	<u>Top M.D.</u>	<u>Top T.V.D.</u>	<u>Bottom M.D.</u>	<u>Bottom T.V.D.</u>	<u>TDS (mg/L)</u>	<u>Data Source</u>	<u>Comment</u>
Groundwater	Dakota	0	0	448	448	1001-10000	Other	Data Source: Published Data
Groundwater	Morrison	448	448	1052	1052	1001-10000	Other	Data Source: Published Data
Subsurface Hazard	Entrada - Lost Circ. Zone	1052	1052	1660	1660	1001-10000	Other	Data Source: Published Data
Groundwater	Entrada	1052	1052	1660	1660	1001-10000	Other	Data Source: Published Data
Groundwater	Chinle	1660	1660	2686	2686	1001-10000	Other	Data Source: Published Data
Confining Layer	Cutler	2686	2686	4642	4642	>10000	Other	Data Source: Published Data
Confining Layer	Upper Hermosa	4642	4642	5575	5575	>10000	Other	Data Source: Published Data
Confining Layer	Paradox	5575	5575	5981	5981	>10000	Other	Data Source: Published Data
Hydrocarbon	Desert Creek	5981	5981	6090	6090	>10000	Other	Data Source: Published Data
Confining Layer	Paradox Salt	6090	6090	7821	7821	>10000	Other	Data Source: Published Data
Subsurface Hazard	Paradox Salt - H2S	6090	6090	7821	7821	>10000	Other	Data Source: Published Data
Confining Layer	Base Salt	7821	7821	7958	7958	>10000	Other	Data Source: Published Data
Confining Layer	Lower Hermosa	7958	7958	8167	8167	>10000	Other	Data Source: Published Data
Hydrocarbon	Leadville	8167	8167	8250	8250	>10000	Produced Water Sample	
Hydrocarbon	Base Karst	8250	8250	8443	8443	>10000	Other	Data Source: Published Data
Hydrocarbon	Ouray	8443	8443	8593	8593	>10000	Other	Data Source: Published Data

Comments	<p>APD for a proposed wellbore on the existing CB-4 pad location. The associated well pad Location ID: 454998 was approved on 5/11/2018 by the Director of COGCC (Doc #401584382). BMPs were updated for both the location and well in 2020 per the attached approved forms.</p> <p>The BLM Tres Rios Field Office (TRFO) approved the Federal Application for Permit to Drill (APD) on 6/29/2018. The permit has since expired, and will be resubmitted concurrently with this Form 2. There will be no changes to the proposed drilling plans except for the addition of drilling logs.</p> <p>Conductor casing grade will be A253B or A252 (character limit in form).</p>
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I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: _____

Print Name: Jenna Emerick

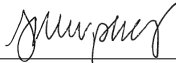
Title: EHS Specialist

Date: 9/1/2022

Email: jenna_emerick@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, applicable orders, and SB 19-181 and is hereby approved.

COGCC Approved: 

Director of COGCC

Date: 1/23/2023

Expiration Date: 01/22/2026

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.

COA Type

Description

	<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 1/2" 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:</p> <p>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 – Statewide” that can be found on the COGCC website at: Go to COGCC Web Site for more details if necessary Regulation, 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>
1 COA	

Best Management Practices

No	BMP/COA Type	Description
1	Wildlife	All produced liquids and chemicals used for production and completion will be stored in secondary containment structures which are exclusionary to wildlife.
2	Wildlife	Surveys for MBTA species will be conducted if drilling takes place between May 15th-June 30th, unless Kinder Morgan acquires written approval from the BLM and COGCC for any given year.
3	Wildlife	A timing limitation for Golden Eagles will be observed by avoiding drilling and workover activities from February 1st to July 15th during the documented breeding season, unless Kinder Morgan acquires written approval from the BLM and COGCC for any given year.
4	Wildlife	A timing limitation for Elk and Mule Deer Winter Concentration Areas will be observed. No surface disturbance activities, drilling/completion activities, or workover rig activities will occur at the well site between December 1st –and April 30th of any given year, unless Kinder Morgan acquires written approval from the BLM and COGCC for any given year.
5	Emissions mitigation	Non-flammable CO2 will be produced from the Leadville formation. All CO2 wells are equipped with a CO2 leak detection monitor during drilling.
6	Drilling/Completion Operations	Closed loop system will be used. No pits will be used at any point during drilling, completion, production, or workover of the CB-4 well.
7	Drilling/Completion Operations	Kinder Morgan will place all non-freshwater liquids used for drilling or completing the well in secondary containment capable of handling 150% of the contained liquid volumes.
8	Drilling/Completion Operations	Logging Program Detail attached. The Form 5 will state that no open-hole logs were run.

Total: 8 comment(s)

Attachment List

Att Doc Num	Name
403135225	FORM 2 SUBMITTED
403135310	LEGAL/LEASE DESCRIPTION
403135389	H2S DRILLING / OPERATIONS PLAN
403144944	DRILLING PLAN
403144967	FED. DRILLING PERMIT
403144973	PROPOSED BMPS
403145009	APD APPROVED
403145041	WELLBORE DIAGRAM
403145066	WELL LOCATION PLAT
403153884	OPEN HOLE LOGGING EXCEPTION

Total Attach: 10 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	01/12/2023
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 1781'-2739' with the potential of <10,000 ppm TDS). The operator plans to set the surface casing at a depth of 2839' 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.	11/02/2022
Engineer	Offset well evaluation not required. Operator's comment states: No hydraulic fracturing is being planned.	11/02/2022
OGLA	This Location (ID #454998) and its associated Form 2A materials were fully reviewed during the OGLA review of this APD in accordance with current Rules. This APD complies with all COGCC Rules and is adequately protective of public health, safety, welfare, the environment, and wildlife resources.	09/14/2022
Permit	Returned to draft per operator request.	08/25/2022

Total: 5 comment(s)