

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received: 03/24/2020

TYPE OF WELL OIL GAS COALBED OTHER: CO2 _____ Refilling

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 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 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 attached Oil and Gas Lease map.

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 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 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. 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: _____

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

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: _____

Expiration Date: _____

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

Best Management Practices

No BMP/COA Type

Description

1	Traffic control	A Road Use Plan, which addresses traffic concerns specific to the CB-4 well, has been agreed upon between Kinder Morgan and the Montezuma County Road and Bridge Department. 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.
2	General Housekeeping	During the drilling and completion phases, on-site trash dumpsters are emptied regularly by a local waste management company. Any material not in use that might constitute a fire hazard will be stored at least 25 feet away from the well head. Tubular steel fencing (livestock panels) will be placed around the well head after the well is drilled. Once the well is connected to the flowline, the fencing will be removed. The proposed well location will be drilled using a closed loop system. Open pits will not be used. 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 production equipment present on the well pad will be a section of above-ground piping from the wellhead and (possibly) a glycol skid.
3	Storm Water/Erosion Control	Compacted earthen berms/diversion ditches with rock velocity checks have been installed around the perimeter of the CB-4 Well Pad to control stormwater run-on and run-off. Tackifier was added to the topsoil stockpiles and all cut and fill slopes to prevent erosion. Stockpiled soils have slopes that do not exceed 3H:1V. This site is covered under Kinder Morgan's CDPHE Field-Wide Construction Storm Water permit. During the drilling and completion phases this site will be inspected daily by an onsite safety professional and every 14 days by a Kinder Morgan Regulatory Representative.

4	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 permitted commercial solid waste facility.</p> <p>Water that can no longer be reused or recycled will be disposed of at a permitted oil and gas exploration and production waste handling facility.</p> <p>Sufficiently impervious containment devices will be constructed around any tanks or other fluid containing equipment where drilling fluids, fuel, sewage and produced water will be stored. The containment devices will be sufficiently impervious and sized to contain 110% of the contents of the largest volume tank within the containment. All containment devices will be inspected at regular intervals and maintained in good condition.</p> <p>Tanks are designed to meet all API650 guidelines.</p>
5	Noise mitigation	<p>Kinder Morgan will comply with COGCC noise regulations during drilling operations. Kinder Morgan will perform at least one noise survey at the required distance in the direction of existing building units to ensure that drilling activities are in compliance with the permissible level. Kinder Morgan drilling will schedule alarm tests/drills during normal business hours.</p>
6	Emissions mitigation	<p>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.</p>
7	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>
8	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 attached.</p>

9	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>
10	Interim Reclamation	<p>This location is currently classified as 'Dry-land Crop'. Surface roughening, surface contouring, seeding and weed control will be employed to facilitate vegetation reestablishment. A standard stabilized "Working Area" 150 feet by 150 feet in size will be maintained as level, graveled and weed-free for maintenance/workover activities. The area surrounding the Working Area will be returned to dry-land crop or re-seeded with a surface owner approved seed mix.</p>
11	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: 11 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
402345512	APD ORIGINAL
402345621	LGD CONSULTATION

Total Attach: 2 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
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: 1 comment(s)

Public Comments

No public comments were received on this application during the comment period.

