

FORM
2
Rev
08/16

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:
401177814

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received:
02/07/2017

TYPE OF WELL OIL GAS COALBED OTHER CO2
ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES

Refilling
Sidetrack

Well Name: CX Well Number: 8
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: Chris Lopez Phone: (970)882-5537 Fax: (970)882-5521
Email: christopher_lopez@kindermorgan.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20110027

WELL LOCATION INFORMATION

QtrQtr: NWNE Sec: 8 Twp: 38N Rng: 18W Meridian: N
Latitude: 37.570090 Longitude: -108.855220

Footage at Surface: 1175 Feet FNL/FSL FNL 2448 Feet FEL/FWL FEL

Field Name: MCELMO Field Number: 53674
Ground Elevation: 6884 County: MONTEZUMA

GPS Data:
Date of Measurement: 11/28/2014 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: FNL/FSL FEL/FWL Bottom Hole: FNL/FSL FEL/FWL
Sec: _____ Twp: _____ Rng: _____ Sec: _____ Twp: _____ Rng: _____

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: oil and gas lease

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.)

E/2 Section 8, T38N, R18W = 320 acres

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: 190 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 1200 Feet
 Building Unit: 1200 Feet
 High Occupancy Building Unit: 5280 Feet
 Designated Outside Activity Area: 5280 Feet
 Public Road: 1166 Feet
 Above Ground Utility: 1200 Feet
 Railroad: 5280 Feet
 Property Line: 188 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: 3225 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: 8701 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 UIC 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? _____

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	2744	1200	2744	0
1ST	8+3/4	7	29 & 32	0	8326	2200	8326	0
1ST LINER	6	4+1/2	12.6	8176	8701	100	8701	8176

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 refile of the approved CX-8 Form 2 (Document #400758212) that is set to expire on 3/30/2017. The approved Form 2A (Document #400758213) is still associated with this well. There have been no changes to the surrounding land use, well construction plan, or mineral lease description. The proposed well site has not been built, nor is any drilling taking place on the well site.

A revised Drilling and H2S Contingency Plan have been attached to this Form 2. The following attachments from Document #400758212 are all still valid: Open Hole Logging Exception, Selected Items Report, Well Location Plat, Oil & Gas Lease (2), and Selected Items Report.

Work is expected to begin in Spring, 2017. The drilling process will take approximately 60 days. Interim reclamation will begin approximately six months after the rig is removed from the location.

No hydraulic fracturing is being planned.

There are no water wells, seeps or springs located within a .5 mile radius of the CX-8 well location. A Form 4 will be filed accordingly.

This application is in a Comprehensive Drilling Plan _____ CDP #: _____

Location ID: 441379

Is this application being submitted with an Oil and Gas Location Assessment application? No

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: _____ Print Name: Chris Lopez

Title: EHS Specialist Date: 2/7/2017 Email: christopher_lopez@kindermorg

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: *Matthew Lee* Director of COGCC Date: 3/17/2017

Expiration Date: 03/16/2019

API NUMBER
05 083 06722 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	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 removed 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-8, 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. In an effort to mitigate dust, magnesium-chloride applications to the road surface are performed at the request of Montezuma County.</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 construction, drilling and completion phases, on-site trash dumpsters are emptied regularly by the local waste management company.</p> <p>The proposed location will be drilled using a closed-loop system and therefore will not use open pits.</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> <p>Following completion, the only items present on the well pad are the well head, above ground pipeline junction, and possible glycol skid.</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 run-off.</p> <p>Tackifier will be added to stored topsoil piles and all slopes to prevent erosion. Stockpiled soils will have slopes not greater than 3:1.</p> <p>Stormwater BMP's 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 commercial 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 ROW's, and well pads require the complete removal of vegetation.</p>
7	Noise mitigation	<p>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.</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>Kinder Morgan submitted an 'Open Hole Logging' Exception request that was accepted with the original approved Form 2 (Document #400758212). Kinder Morgan requested for an exception to Rule 317.p, requiring wells to be logged with a minimum of a resistivity log with gamma ray, and instead run a Cased Hole Pulse Neutron Log due to problems with exploration through the gothic Shale formation.</p> <p>The CX-8 will also be cased-hole logged with a cement bond and gamma ray log from the TD point to the surface. The Drilling Completion Report (Form 5) will indicate that "no open-hole logs were run" for the intermediate cased hole interval to surface; below that point the Leadville zone is open-hole logged and logs will be submitted.</p>
10	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.</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>
11	Interim Reclamation	<p>This location is currently classified as 'Dry Land' agriculture. Surface roughening, surface contouring, seeding, and weed control will be employed to facilitate vegetation reestablishment. A standard stabilized 'Working Area' 150 feet by 250 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 agriculture or re-seeded with a surface owner approved seed mix.</p>
12	Final Reclamation	<p>All disturbed areas that are not necessary for operational procedures will be resotred to at least 80 percent of pre-disturbance vegetative cover.</p>

Total: 12 comment(s)

Applicable Policies and Notices to Operators

Policy

Notice Concerning Operating Requirements for Wildlife Protection.
http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf

Attachment Check List

Att Doc Num	Name
401177814	FORM 2 SUBMITTED
401203617	DRILLING PLAN
401203618	H2S CONTINGENCY PLAN
401227605	SELECTED ITEMS REPORT

Total Attach: 4 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed. No LGD or public comment received.	03/15/2017
Permit	Removed related forms (2A) as it is not necessary. Removed open hole logging exception attachment, as it is already on the well file.	03/15/2017
Engineer	<p>1) Submit CBL on 7" & 4-1/2" O.D. 1st string casing (production) and liner, respectfully.</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) 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: Mark Weems – Regional Engineer-SW Colorado 970-259-4587 off 970-749-0624 cell mark.weems@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 Basing 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 – Mark Weems when encountering a well control issue, unexpected water flows, and unexpected Hydrogen Sulfide.</p>	03/07/2017
Engineer	<p>This is a vertically drilled well or a pilot hole.</p> <p>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 300 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 1997'-2684'. Also, the operator is setting their surface casing well into the Cutler formation or at a depth of 2744' which is 744' deeper than top of the Chinle. The surface casing will be cemented to surface as a measure to isolate and protect all shallow water aquifers.</p> <p>There are no other oil and gas wells within 1500' of the operator's well (see attached SELECTED ITEMS REPORT)</p> <p>Operator's comment states, 'NO wells within 1500'. No fracture stimulation is being planned.' Therefore, an offset well stimulation evaluation was not performed by COGCC staff.</p>	03/07/2017
Permit	Passed completeness.	02/16/2017

Total: 5 comment(s)