

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:  
401875023

APPLICATION FOR PERMIT TO:

Drill       Deepen       Re-enter       Recomplete and Operate

Date Received:  
12/19/2018

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

Refiling   
Sidetrack

Well Name: DC      Well Number: 16  
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: ( )  
Email: christopher\_lopez@kindermorgan.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20110027

WELL LOCATION INFORMATION

QtrQtr: NWNE      Sec: 18      Twp: 40N      Rng: 17W      Meridian: N  
Latitude: 37.733630      Longitude: -108.764990

Footage at Surface: 331 Feet <sup>FNL/FSL</sup> FNL 2302 Feet <sup>FEL/FWL</sup> FEL

Field Name: DOE CANYON      Field Number: 17210  
Ground Elevation: 7405      County: DOLORES

GPS Data:  
Date of Measurement: 11/12/2018    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: <sup>FNL/FSL</sup> 106 <sup>FEL/FWL</sup> FNL 3261 <sup>FEL</sup> FEL      Bottom Hole: <sup>FNL/FSL</sup> 106 <sup>FEL/FWL</sup> FNL 3261 <sup>FEL</sup> FEL  
Sec: 18    Twp: 40N    Rng: 17W      Sec: 18    Twp: 40N    Rng: 17W

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.)

Township 40N, Range 17W, Section 18, Lots 5, 6, 7, 8, 9 & 10

Total Acres in Described Lease: 249 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: 106 Feet

**CULTURAL DISTANCE INFORMATION**

Distance to nearest:

Building: 3135 Feet

Building Unit: 3135 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 3636 Feet

Above Ground Utility: 4090 Feet

Railroad: 5280 Feet

Property Line: 331 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: 3828 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): Doe Canyon Unit Number: 47612X

**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			

## DRILLING PROGRAM

Proposed Total Measured Depth: 9146 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	14+3/4	10+3/4	40.5	0	2464	1550	2464	0
1ST	9+1/2	7+5/8	29&33	0	8767	2600	8767	0
1ST LINER	6+1/2	4+1/2	12.6	8692	9146	100	9146	8692

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 an APD for a directional wellbore.  
No hydraulic fracturing is being planned.  
There are no water wells, seeps or springs located within 1/2 mile radius of the proposed DC-16 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: Chris Lopez

Title: EHS Specialist Date: 12/19/2018 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:  \_\_\_\_\_ Director of COGCC Date: 3/22/2019

Expiration Date: 03/21/2021

**API NUMBER**  
05 033 06185 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>
	<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 5/8" 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 5/8" 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 – SW Regional 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 SW Regional Engineer – Alicia Duran when encountering a well control issue, unexpected water flows, and unexpected Hydrogen Sulfide.</p>

## Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Planning	<p>Kinder Morgan coordinates fire mitigation with the Dolores County Sheriff's Department and local volunteer Fire and Rescue Departments.</p> <p>Any material not in use that might constitute a fire hazard will be removed a minimum of 25 feet from the well head.</p> <p>Any electrical installations inside bermed areas will comply with API 500 classifications and comply with the current national electrical code as adopted by the State of Colorado.</p>
2	Traffic control	<p>Kinder Morgan addresses road use and traffic control specific to the DC-16 well through the Dolores County permitting process, as well as an Agreement between Kinder Morgan and the Dolores 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.</p> <p>All access roads are fully compliant with local county road standards. Access roads are composed of compacted gravel.</p> <p>The well is covered by Kinder Morgan's Doe 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 the construction, drilling and completion phases, on-site trash dumpsters are emptied regularly by the local waste management company.</p> <p>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.</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 stormwater run-on and run-off around the well pad. Compacted earthen berms will also be utilized to control stormwater runoff and run-off.</p> <p>Tackifier will be added to the stored topsoil piles and all slopes to prevent erosion.</p> <p>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 permitted commercial solid waste facility.</p> <p>Water that can no longer be reused or recycled will be disposed of at a permitted 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 occasionally be exceeded.</p>
8	Emissions mitigation	<p>Non-flammable CO<sub>2</sub> will be produced from the Leadville formation and thus green completion per Rule 805.b.(3) does not apply. All CO<sub>2</sub> wells are equipped with a CO<sub>2</sub> leak detection monitor during drilling.</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. 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 this well site.</p>
10	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>

11	Interim Reclamation	This location is currently classified as 'Rangeland'. Surface roughening, surface contouring, seeding and weed control will be employed to facilitate vegetation reestablishment. A standard stabilized "Working Area" 150 feet by 360 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 rangeland and re-seeded with a surface owner approved seed mix.
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.  
[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>
401875023	FORM 2 SUBMITTED
401875152	WELL LOCATION PLAT
401875170	SURFACE AGRMT/SURETY
401875262	OPEN HOLE LOGGING EXCEPTION
401879464	OIL & GAS LEASE
401879499	DRILLING PLAN
401879510	DEVIATED DRILLING PLAN
401879844	DIRECTIONAL DATA
401880304	H2S CONTINGENCY PLAN
401880308	EQUIPMENT LIST

Total Attach: 10 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	03/20/2019
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 1647'-2364' with the potential of <10,000 ppm TDS). The operator plans to set the surface casing at a depth of 2464' 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 263' feet deep.  Offset well evaluation not required. Operator's comment states: No hydraulic fracturing is being planned.	01/28/2019
Permit	Passed completeness.	12/21/2018

Total: 3 comment(s)