

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received:
04/26/2018

TYPE OF WELL OIL GAS COALBED OTHER UNPLANNED Refiling

ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES Sidetrack

Well Name: QUARTER CIRCLE Well Number: 24-2HZX

Name of Operator: KERR MCGEE OIL & GAS ONSHORE LP COGCC Operator Number: 47120

Address: P O BOX 173779

City: DENVER State: CO Zip: 80217-3779

Contact Name: CHERYL LIGHT Phone: (720)929-6461 Fax: (720)929-7461

Email: CHERYL.LIGHT@ANADARKO.COM

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: 20010124

WELL LOCATION INFORMATION

QtrQtr: SWSW Sec: 24 Twp: 1N Rng: 67W Meridian: 6

Latitude: 40.030326 Longitude: -104.844247

Footage at Surface: 344 Feet FNL/FSL FSL 1156 Feet FEL/FWL FWL

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 4941 County: WELD

GPS Data:
Date of Measurement: 03/05/2018 PDOP Reading: 1.6 Instrument Operator's Name: ROB WILSON

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

900 FSL 378 FWL 49 FNL 379 FWL

Sec: 24 Twp: 1N Rng: 67W Sec: 13 Twp: 1N Rng: 67W

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.)

Township 1 North, Range 67 West, 6th P.M.
 Section 24: S/2S/2 except a tract desc as: Comm. @ a pt. 1212' N.
 of SW/cor. of 24, th E 3132', th S28°15'E 223', th N83°15' E 371 ft.,
 th NO°45'E 272' to E/W centerline of said S/2 of 24, th due W 3601'
 to W boundary line of said 24, th due S 96' to p.o.b

Total Acres in Described Lease: 148 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: 0 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 1332 Feet
 Building Unit: 1332 Feet
 High Occupancy Building Unit: 5280 Feet
 Designated Outside Activity Area: 5280 Feet
 Public Road: 355 Feet
 Above Ground Utility: 341 Feet
 Railroad: 5280 Feet
 Property Line: 344 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: 05/12/2017

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: 130 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 900 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): _____ Unit Number: _____

SPACING & FORMATIONS COMMENTS

Spacing Unit: 1N/67W 24:W2W2, 23:E2E2, 13:W2W2, 14:E2E2, 11:SESE, 12:SWSW

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
CODELL	CODL		720	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 17670 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: 300 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? No (If Yes, attach an H₂S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? Yes

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 318A

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Commercial Disposal

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

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	26	16	42.1	0	80	30	80	0
SURF	13+1/2	9+5/8	36	0	1872	590	1872	0
1ST	8+1/2	5+1/2	17	0	17660	4172	17660	

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

Explanation of situation and why we need to sidetrack

- This well is a Codell two section lateral. We reached a MD of 12,849'. We were drilling a Codell well and had some high doglegs and increased wellbore geometry due to a fault in the well. We are sidetracking around the high doglegs to stay in zone and finish drilling the well to TD.
- Total Measured Depth Reached (Using KB of 20')
- 12,849' MD
- 7,529' TVD

Casing Sizes set and MD

- 16" conductor casing set at 80 ft. (using GL)
- 9.625" surface casing set at 1,872' MD (Using GL)

Type of cement (if necessary)

- We will first try an openhole sidetrack at 9,457'ft MD (Using KB). Only if this does not work, will we pump a cement plug and sidetrack off of plug.
- Contingency plug length = ~600'
- Weight: 17.0 ppg
- Yield: ~0.95 ft3/sk
- Sacks: ~249

Measured Depth and TVD of open hole sidetrack point (Using KB of 20')

- 9457' MD
- 7,604' TVD

Proposed target formation of sidetrack hole if different than permitted

- Same well plan as permit

BHL of sidetrack hole

- Same well plan as permit

Wellbore diagram

- See attached

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

Location ID: 453711

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: CHERYL LIGHT

Title: STAFF REGULATORY ANALYST Date: 4/26/2018 Email: DJREGULATORY@ANADARK

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: 4/30/2018

Expiration Date: 04/29/2020

API NUMBER

05 123 46266 01

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>
	This Permit to Drill is approved subject to all the BMPs and COAs on the most recently approved Form 2A and any subsequently approved Form 4 for the Oil and Gas Location (Location ID #453711). The most recently approved Form 2A and any subsequent Form 4s containing applicable COAs for this location shall be posted onsite during construction, drilling, and completions operations.
	Bradenhead tests shall be performed according to the following schedule and the Form 17 submitted within 10 days of each test: 1) Within 60 days of rig release and prior to stimulation and 2) If a delayed completion, 6 months after rig release and prior to stimulation. 3) Within 30 days after first production, as reported on Form 5A. If a bradenhead test reports a surface casing pressure greater than 200 psig stimulation is not allowed until the Engineering Supervisor has been consulted.

Best Management Practices

<u>No BMP/COA Type</u>	<u>Description</u>

Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection. http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf
Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area. http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401620908	FORM 2 SUBMITTED
401620922	WELLBORE DIAGRAM
401620958	CORRESPONDENCE

Total Attach: 3 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Engineer	Confirmed during phone call with operator that the hole size for the original and the sidetrack is 8-1/2 inches.	04/30/2018
Permit	Final review complete.	04/26/2018
Permit	Added Location ID. Permitting review complete.	04/26/2018
Permit	Passed completeness. LGD and public comment periods waived by COGCC Staff. Comment periods do not apply to this application for an unplanned sidetrack when drilling is in progress.	04/26/2018

Total: 4 comment(s)