

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:
401718951

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

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

Refiling
Sidetrack

Date Received:
10/09/2018

Well Name: RANGER Well Number: 7-20HZ
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: CRAIG RICHARDSON Phone: (720)929-6092 Fax: ()
Email: CRAIG.RICHARDSON@ANADARKO.COM

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20010124

WELL LOCATION INFORMATION

QtrQtr: NENW Sec: 7 Twp: 1N Rng: 67W Meridian: 6
Latitude: 40.070788 Longitude: -104.936657

Footage at Surface: 824 Feet FNL/FSL FNL 1589 Feet FEL/FWL FWL

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 5112 County: WELD

GPS Data:
Date of Measurement: 05/07/2018 PDOP Reading: 1.5 Instrument Operator's Name: PRESTON KNUTSEN

If well is Directional Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL FNL 2378 FEL Bottom Hole: FNL/FSL FNL 2379 FEL
100 FNL 2378 FEL 50 FNL 2379 FEL
Sec: 7 Twp: 1N Rng: 67W Sec: 31 Twp: 2N 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: applicant is owner

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
Section 3: SW/4, S/2 SE/4
Section 7: Lots 1 and 2 (W/2 W/2) (147.88), E/2 W/2, SE/4
Section 11: SW/4, S/2 NW/4
Section 15: W/2, SW/4 NE/4
Section 17: NW/4, S/2
Section 21: W/2, SW/4 NE/4
Section 27: NW/4, S/2
Section 35: NW/4, S/2 SE/4
Weld County, CO

Total Acres in Described Lease: 5742 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: 723 Feet
Building Unit: 723 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 825 Feet
Above Ground Utility: 787 Feet
Railroad: 5280 Feet
Property Line: 538 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: 06/14/2018

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: 121 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 989 Feet (Enter 5280 for distance greater than 1 mile.)

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

SPACING & FORMATIONS COMMENTS

Proposed Spacing Unit:
02N67W: SEC 30: SESW, SWSE;
02N67W: SEC 31: E2W2, W2E2;
01N67W: SEC 06: E2W2, W2E2;
01N67W: SEC 07: NENW, NWNE
Weld County, Colorado

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 | | 800 | GWA |

DRILLING PROGRAMProposed Total Measured Depth: 19093 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: 1233 Feet No well belonging to another operator within 1,500 feetWill a closed-loop drilling system be used? YesIs 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? NoWill salt based (>15,000 ppm Cl) drilling fluids be used? NoWill oil based drilling fluids be used? YesBOP 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 DisposalCuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

PLEASE SEE COMMENTS SECTION FOR DISPOSAL DESC.

Beneficial reuse or land application plan submitted? Yes

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 | 36.94 | 0 | 80 | 64 | 80 | 0 |
| SURF | 13+1/2 | 9+5/8 | 36 | 0 | 1500 | 590 | 1500 | 0 |
| 1ST | 7+7/8 | 5+1/2 | 17 | 0 | 19083 | 2267 | 19083 | |

 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

Drilling fluids disposal: KMG will reuse water-based drilling fluids to the maximum extent possible, at which point they will either be land applied or taken to a licensed, commercial disposal site; the decision will be based upon laboratory analysis of fluids. KMG will reuse oil-based drilling fluids to the maximum extent possible, at which point they will be returned to the fluids manufacturer for reconditioning or disposal at a licensed, commercial disposal site.
Cuttings disposal: If the surface owner authorizes, and if it is feasible for this location at the time of drilling, water-based cuttings will be disposed of onsite using bioremediation/solidification product. If the surface owner does not authorize onsite disposal and/or it is not feasible for this location at the time of drilling, water-based cuttings will be disposed of using a Centralized E&P Waste Management facility or a private spread field. Oil-based cuttings will be disposed of offsite and at a licensed, commercial disposal site.

PLEASE SEE THE ATTACHED GIS BUFFER ANALYSIS FOR IDENTIFICATION OF NEAREST WELLS.

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

Location ID: 460290

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: CRAIG RICHARDSON

Title: REGULATORY ANALYST II Date: 10/9/2018 Email: DJ.REGULATORY@ANADAR

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: 12/29/2018

Expiration Date: 12/28/2020

API NUMBER

05 123 49357 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) Submit Form 42 electronically to COGCC 48 hours prior to MIRU (Spud Notice), for the first well/activity on the pad and provide 48 hour spud notice for all subsequent wells drilled on the pad.</p> <p>2) Comply with Rule 317.j and provide cement coverage from the end of production casing to a minimum of 200' above Niobrara and from 200' below Shannon to 200' above Sussex. Verify coverage with cement bond log.</p> <p>3) Oil-based drilling fluid is to be used only after all fresh water aquifers are covered.</p> |
| | <p>Bradenhead tests shall be performed and reported according to the following schedule and Form 17 submitted within 10 days of each test:</p> <p>1) Within 60 days of rig release and prior to stimulation or</p> <p>2) If a delayed completion, 6 months after rig release and prior to stimulation.</p> <p>3) Within 30 days after first production, as reported on Form 5A.</p> <p>If a Bradenhead test reports a surface casing pressure greater than 200 psig, stimulation is not allowed until the Engineering Supervisor has been consulted.</p> |

Best Management Practices

| No | BMP/COA Type | Description |
|-----------|--------------------------------|---|
| 1 | Drilling/Completion Operations | 604c.(2).B. Closed Loop Drilling System: KMG will use a closed loop or "pitless" system for drilling and fluid management and will not construct a reserve pit. |
| 2 | Drilling/Completion Operations | 604c.(2).C. Green Completions: Temporary above ground polyethylene water pipelines will deliver water to location operations from larger trunk lines to reduce truck traffic and minimize air pollution. Pipeline infrastructure is in place prior to completions operations to ensure saleable gas, once hydrocarbons are cut, is sent directly to sales without flaring during flowback. Environmental Control Devices or Volatile Organic Compound (VOC) Combustors will be used to control working and breathing vapor losses for oil and water tanks. |
| 3 | Drilling/Completion Operations | 604c.(2).H. BOPE: Our rigs at a minimum will have a double ram with blind and pipe ram and annular preventer. |
| 4 | Drilling/Completion Operations | 604c.(2).I. BOPE Testing for Drilling Operations: BOPEs will be tested upon rig-up and, at a minimum, every 30 days. |
| 5 | Drilling/Completion Operations | 604c.(2).J. BOPE for Well Servicing Operations: Blowout prevention equipment will be used on any servicing operations associated with this well. Backup stabbing valves will be used during any future servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using low-pressure air and high-pressure fluid. |
| 6 | Drilling/Completion Operations | 604c.(2).K. Pit Level Indicators: All storage tanks used for active drilling operations (used in lieu of pits) contain pit level monitors with Electronic Drilling Recorders (EDR). KMG uses EDRs with pit level monitor(s) and alarm(s) for production rigs. Basic level gauges are used on tanks utilized for the surface rig. |
| 7 | Drilling/Completion Operations | 604c.(2).L. Drill Stem Tests: No drill stem tests are planned and none will be performed without prior approval from the Director. |
| 8 | Drilling/Completion Operations | 803. Lighting: To the extent practicable, site lighting shall be shielded and directed downward and inward toward operations to avoid glare on public roads and nearby Building Units. |
| 9 | Drilling/Completion Operations | 317.p Logging Program: One of the first wells drilled on the pad will be logged with Open Hole Resistivity Log and Gamma Ray Log from the kick-off point into the surface casing. All wells on the pad will have a cement bond log with gamma-ray run on production casing (or on intermediate casing if production liner is run) into the surface casing. The horizontal portion of every well will be logged with a measured-while-drilling gamma-ray log. The form 5, Completion Report, for each well on the pad will list all logs run and have those logs attached. The Form 5 for a well without open-hole logs shall clearly state "No open-hole logs were run" and shall clearly identify (by API#, well name & number) the well in which open-hole logs were run. |
| 10 | Drilling/Completion Operations | Kerr-McGee acknowledges and will comply with the COGCC Policy for Bradenhead Monitoring during Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012. |
| 11 | Drilling/Completion Operations | Anti-Collision: Kerr-McGee will perform an anti-collision evaluation of all active (producing, shut in, or temporarily abandoned) offset wellbores that have the potential of being within one hundred fifty (150) feet of a proposed well prior to drilling operations for the proposed well. Notice shall be given to all offset operators within one hundred fifty (150) feet prior to drilling. |

Total: 11 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

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

| Att Doc Num | Name |
|--------------------|----------------------------|
| 401718951 | FORM 2 SUBMITTED |
| 401778549 | WELL LOCATION PLAT |
| 401789157 | OffsetWellEvaluations Data |
| 401789158 | GIS BUFFER REVIEW/ANALYSIS |
| 401789159 | EXCEPTION LOC WAIVERS |
| 401789163 | DIRECTIONAL DATA |
| 401789166 | DEVIATED DRILLING PLAN |
| 401789292 | EXCEPTION LOC REQUEST |
| 401789374 | PROPOSED SPACING UNIT |
| 401888788 | OFFSET WELL EVALUATION |

Total Attach: 10 Files

General Comments

| User Group | Comment | Comment Date |
|-------------------|---|---------------------|
| Permit | Final Review Completed. | 12/24/2018 |
| Engineer | Offset Wells Evaluated. | 11/28/2018 |
| Permit | Requested anti-collision and bradenhead BMP's from submitter Received BMP's Passed completeness | 10/18/2018 |

Total: 3 comment(s)