

**APPLICATION FOR PERMIT TO:**

**Drill**       Deepen       Re-enter       Recomplete and Operate

Date Received:  
03/31/2014

TYPE OF WELL    OIL     GAS     COALBED     OTHER \_\_\_\_\_

ZONE TYPE      SINGLE ZONE     MULTIPLE ZONES     COMMINGLE ZONES

Refilling   
Sidetrack

Well Name: FRONT RANGE FARMS      Well Number: 16N-14HZ

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: NESE      Sec: 11      Twp: 1N      Rng: 68W      Meridian: 6

Latitude: 40.065219      Longitude: -104.963697

Footage at Surface: 2441 feet      FNL/FSL FSL 701 feet      FEL/FWL FEL

Field Name: WATTENBERG      Field Number: 90750

Ground Elevation: 5067      County: WELD

GPS Data:  
Date of Measurement: 01/10/2014    PDOP Reading: 2.0    Instrument Operator's Name: BEN HARDENBERGH

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

2205    FSL    285    FEL      50    FSL    285    FEL

Sec: 11    Twp: 1N    Rng: 68W      Sec: 14    Twp: 1N    Rng: 68W

**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 19: Lots 1 and 2 (W/2W/2) (154.68), E/2W/2, SE/4  
Section 29: NW/4, S/2  
Township 1 North, Range 68 West, 6th P.M.  
Section 3: Lot 2 (N/2NW/4) (77.94), S/2NW/4, SW/4, SE/4  
Section 10: NW/4, S/2  
Section 11: NW/4, S/2  
Section 13: NW/4, S/2  
Section 14: NW/4, S/2  
Section 15: NW/4, S/2  
Section 23: NW/4, S/2  
Section 25: NW/4, S/2  
Section 27: NW/4, S/2  
Section 35: NW/4, S/2

Total Acres in Described Lease: 5753 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: 631 Feet  
Building Unit: 631 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 701 Feet  
Above Ground Utility: 635 Feet  
Railroad: 3702 Feet  
Property Line: 223 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: 02/13/2014

## SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 219 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 1024 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

## SPACING & FORMATIONS COMMENTS

Unit Configuration: 1N-68W-11 E2SE; 12 W2SW; 13 W2W2; 14 E2E2; 23 NENE; 24 NWNW

## OBJECTIVE FORMATIONS

| Objective Formation(s) | Formation Code | Spacing Order Number(s) | Unit Acreage Assigned to Well | Unit Configuration (N/2, SE/4, etc.) |
|------------------------|----------------|-------------------------|-------------------------------|--------------------------------------|
| NIOBRARA               | NBRR           |                         | 560                           | GWA                                  |

## DRILLING PROGRAM

Proposed Total Measured Depth: 15327 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 219 Feet (Including plugged wells)

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? No (If Yes, attach an H<sub>2</sub>S 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? 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 318A

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Recycle/reuse

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Other

Other Disposal Description:

Please see Comments section. Disposal description will not fit in space provided.

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 |
|-------------|--------------|----------------|-------|---------------|---------------|-----------|---------|---------|
| SURF        | 13+1/2       | 9+5/8          | 36    | 0             | 1161          | 440       | 1161    | 0       |
| 1ST         | 8+3/4        | 7              | 26    | 0             | 7958          | 840       | 7958    | 0       |
| 1ST LINER   | 6+1/8        | 4+1/2          | 11.6  | 6920          | 15327         |           |         |         |

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

Other Disposal Description:  
Drilling fluids disposal: KMG will reuse water-based drilling fluids to the maximum extent at which point they will either be land applied or taken to a licensed, commercial disposal site; decided upon based off of laboratory analysis of fluids.  
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.

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ 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: Lauren Kucera

Title: Regulatory Analyst II Date: 3/31/2014 Email: DJRegulatory@anadarko.com

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: 5/15/2014

Expiration Date: 05/14/2016

**API NUMBER**  
05 123 39435 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>Operator acknowledges the proximity of the listed wells. Operator agrees to provide mitigation Option 1 or 2 (per the DJ Basin Horizontal Offset Policy), ensure all applicable documentation is submitted, and submit a Form 42(s) ("OFFSET MITIGATION COMPLETED") for the remediated wells, referencing the API Number of the proposed horizontal well(s) stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well.</p> <p>UPRR 43 Pan Am S 2 (API 123-15032)<br/>UPRR 43 Pan Am U 2 (API 123-15028)</p>  |
|                 | <p>Operator acknowledges the proximity of the listed non-operated wells. Operator agrees to provide mitigation Option 1 or 2 (per the DJ Basin Horizontal Offset Policy), ensure all applicable documentation is submitted, and submit Form 42(s) ("OFFSET MITIGATION COMPLETED") for the remediated wells, referencing the API Number of the proposed horizontal well(s) stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well.</p> <p>Cochrane USX UU 11-8 (API 123-09744)<br/>Sweetgrass-USX UU 14-17 (API 123-09743)<br/>Bury Crandell C Unit 1 (API 014-12407)</p> |
|                 | <p>Open hole resistivity and gamma logs shall be run to describe the stratigraphy of the entire well bore and to adequately verify the setting depth of surface casing and aquifer coverage. On a multi-well pad, these open hole logs are only required on one of the first wells drilled on the pad and the Drilling Completion Report - Form 5 for every well on the pad shall identify which well was logged.</p>  |
|                 | <p>1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU.<br/>2) Comply with Rule 317.i and provide cement coverage from end of 7" casing to a minimum of 200' above Niobrara and from 200' below the Shannon to 200' above Sussex. Verify coverage with cement bond log.<br/>3) Comply with Rule 321. Run and submit Directional Survey from TD to base of surface casing. Ensure that the wellbore complies with setback requirements in commission orders or rules prior to producing the well.</p>  |
|                 | <p>Operator shall comply with Buffer Zone Move-In, Rig-Up Notice Policy dated 12-16-2013.</p>  |

## Best Management Practices

| <u>No</u> | <u>BMP/COA Type</u> | <u>Description</u>  |
|-----------|---------------------|---|
| 1         | Planning            | 604c.(2).E. Multiwell Pads: In order to reduce surface impact, this application is for a two-well pad.  |
| 2         | Planning            | 604c.(2).Q. Guy Line Anchors: Should guy line anchors be left buried for future use, they shall be identified by a bright marker greater than four (4) feet high and no more than one (1) foot east of the guy line anchor.   |
| 3         | Planning            | 604c.(2).R. Tank Specifications: Two 500 barrel skid-mounted frac tanks will be temporarily placed on-site for use of the pre-spud rig only. One tank will store water and the other will store water based mud.  |
| 4         | Planning            | 604c.(2).S. Access Roads: KMG will utilize a lease access road from Weld County Road 11 for drilling operations and maintenance equipment. The road will be properly constructed and maintained to accommodate for local emergency vehicle access. Water will be placed on dirt access roads to mitigate dust as needed. If feasible, magnesium chloride will also be used as needed on access roads to further abate dust. |

|    |  |   |
|----|--|---|
| 5  | Planning                               | 604c.(2).V. Development From Existing Well Pads: Drilling from an existing well pad was not feasible for the development of the wells on this proposed oil and gas location; however, this well pad will be considered for future well locations.   |
| 6  | Traffic control                        | 604c.(2).D. Traffic Plan: If required by the local government, a traffic plan will be coordinated with the local jurisdiction prior to commencement of operations.  |
| 7  | General Housekeeping                   | 604c.(2).O. Loadlines: All loadlines shall be bullplugged or capped.  |
| 8  | General Housekeeping                   | 604c.(2).P. Removal of Surface Trash: A commercial size trash bin for removing debris will be located on site. This bin will be for use by all parties affiliated with the operation.   |
| 9  | Storm Water/Erosion Control            | 604c.(2).W. Site-Specific Measures: KMG maintains a Stormwater Management Plan that assesses erosion control for every KMG operated location. This location will be added to this plan once construction begins. This site will be inspected every fourteen (14) days during construction activities, every thirty (30) days after construction is completed, and after any major weather event.  |
| 10 | Material Handling and Spill Prevention | 604c.(2).N. Control of Fire Hazards: KMG and its contractors will employ best management practices during the drilling and production of its wells and facilities and will comply with appropriate COGCC rules concerning safety and fire. KMG will ensure that any material that might be deemed a fire hazard will remain no less than twenty-five (25) feet from the wellhead(s), tanks and separator(s).  |
| 11 | Construction                           | 604c.(2).M. Fencing Requirements: The completed wellsites will be surrounded with a fence and gate with adequate lock to restrict access to authorized personnel only. KMG personnel will monitor the wellsites regularly upon completion of the wells. Authorized representatives and/or KMG personnel shall be on-site during drilling and completion operations.   |
| 12 | Noise mitigation                       | 604c.(2).A. Noise: Pending a safety review after construction of the location, sound mitigation barriers (hay bales) will be placed along the northeastern side of the pad location to damper noise during drilling and completions to the nearby building units. Sound surveys that have been conducted on each rig type are utilized to anticipate any additional noise mitigation once a drilling rig is determined.   |
| 13 | 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.   |
| 14 | Drilling/Completion Operations         | Prior to drilling operations, Operator may perform an anti-collision review of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision review may include MWD or gyro surveys and surface locations of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well may only be drilled if the anti-collision review results indicate that the risk of collision is sufficiently low as defined by the anti-collision plan, with separation factors greater than 1.5, or if the risk of collision has been mitigated through other means including shutting in wells, plugging wells, increased drilling fluid in the event of lost returns or as is appropriate for the specific situation. In the event of an increased risk of collision, that risk will be mitigated to prevent harm to people, the environment or property. For the proposed well, upon conclusion of drilling operations, an as-constructed directional survey will be submitted to COGCC with the Form 5.<br>Please see the attached 318A.m letter for a list of well(s) identified by the operator as being within 150 feet of the proposed well(s). If no letter is attached, the operator has not identified any wells as being within 150 feet of the proposed well(s) at the time of permitting. |
| 15 | 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.   |
| 16 | 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.  |
| 17 | Drilling/Completion Operations         | 604c.(2).I. BOPE Testing for Drilling Operations: Upon initial rig-up, BOPEs will be tested at a minimum of every 30 days.  |

|    |                                |  |
|----|--------------------------------|--|
| 18 | 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. |
| 19 | Drilling/Completion Operations | 604c.(2).K. Pit Level Indicators: All tanks (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.   |
| 20 | 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.   |
| 21 | Final Reclamation              | 604c.(2).T. Well Site Cleared: The wellsite will be cleared of all non-essential equipment within ninety (90) days after all wells associated with the pad have been plugged and abandoned.  |
| 22 | Final Reclamation              | 604c.(2).U. Identification of Plugged and Abandoned Wells: Pursuant to rule 319.a.(5)., once the well has been plugged and abandoned, KMG will identify the location of the wellbore with a permanent monument that will detail the well name and date of plugging.  |

Total: 22 comment(s)

### **Applicable Policies and Notices to Operators**

Notice Concerning Operating Requirements for Wildlife Protection.

Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area.

### **Attachment Check List**

| <b><u>Att Doc Num</u></b> | <b><u>Name</u></b>         |
|---------------------------|----------------------------|
| 400581314                 | FORM 2 SUBMITTED           |
| 400581336                 | OffsetWellEvaluations Data |
| 400581339                 | PROPOSED SPACING UNIT      |
| 400581341                 | EXCEPTION LOC REQUEST      |
| 400581342                 | OTHER                      |
| 400581343                 | DEVIATED DRILLING PLAN     |
| 400581344                 | EXCEPTION LOC WAIVERS      |
| 400581345                 | WELL LOCATION PLAT         |
| 400581347                 | DIRECTIONAL DATA           |
| 400583207                 | SURFACE AGRMT/SURETY       |

Total Attach: 10 Files

### **General Comments**

| <b><u>User Group</u></b> | <b><u>Comment</u></b>  | <b><u>Comment Date</u></b> |
|--------------------------|--|----------------------------|
| Permit                   | Final Review Completed. No LGD or public comment received.   | 5/7/2014<br>11:19:13 AM    |
| Permit                   | The Certification of Compliance with Rule 305.a is under other. ok to pass.  | 4/15/2014<br>2:39:05 PM    |
| Permit                   | Operator requests approval of a Rule 318Aa and Rule 318Ac exception location: Wellhead is to be located outside of a GWA drilling window and will be located more than 50' from an existing well location. Request and waivers attached. | 4/15/2014<br>2:39:04 PM    |
| Permit                   | Operator added map to SUA. With aerials on, it can be seen that SUA covers the location.<br>This form has passed completeness.   | 4/3/2014 2:19:45<br>PM     |
| Permit                   | SUA is vague, (most of the SE/4 Parcel) needs a map.<br>Opr notified and form back in draft.   | 4/1/2014 1:16:07<br>PM     |

Total: 5 comment(s)