

**APPLICATION FOR PERMIT TO:**

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

Date Received:  
02/29/2016

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

ZONE TYPE      SINGLE ZONE     MULTIPLE ZONES     COMMINGLE ZONES

Refiling   
Sidetrack

Well Name: HILGERS      Well Number: 40N-34HZ

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)929-6759      Fax: (720)929-7759

Email: cheryl.light@anadarko.com

**RECLAMATION FINANCIAL ASSURANCE**

Plugging and Abandonment Bond Surety ID: 20010124

**WELL LOCATION INFORMATION**

QtrQtr: SESE      Sec: 22      Twp: 3N      Rng: 68W      Meridian: 6

Latitude: 40.206605      Longitude: -104.982099

Footage at Surface: 856 feet      FNL/FSL      FSL      715 feet      FEL/FWL      FEL

Field Name: WATTENBERG      Field Number: 90750

Ground Elevation: 5000      County: WELD

GPS Data:  
Date of Measurement: 06/25/2015    PDOP Reading: 2.1    Instrument Operator's Name: JEFF HAWKINS

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

148    FNL      528    FEL      1561    FSL      500    FEL

Sec: 27    Twp: 3N    Rng: 68W      Sec: 34    Twp: 3N    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: 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.)

See lease map.

Total Acres in Described Lease: 94 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: 520 Feet  
 Building Unit: 871 Feet  
 High Occupancy Building Unit: 5162 Feet  
 Designated Outside Activity Area: 5280 Feet  
 Public Road: 347 Feet  
 Above Ground Utility: 1977 Feet  
 Railroad: 5280 Feet  
 Property Line: 260 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: 11/10/2015

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 11/10/2015

**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: 86 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 500 Feet (Enter 5280 for distance greater than 1 mile.)

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

**SPACING & FORMATIONS COMMENTS****UNIT CONFIGURATION:**

3N68W Sec 22: SESE  
 3N68W Sec 27: E2E2  
 3N68W Sec 34: E2E2

**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		360	GWA

**DRILLING PROGRAM**

Proposed Total Measured Depth: 16547 Feet

Distance from proposed wellbore to nearest existing or permitted wellbore belonging to another operator:

2622 Feet (Including plugged wells)

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: [X] Annular Preventor [X] Double Ram [X] 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:

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

Table with 9 columns: Casing Type, Size of Hole, Size of Casing, Wt/Ft, Csg/Liner Top, Setting Depth, Sacks Cmt, Cmt Btm, Cmt Top. Rows include SURF, 1ST, and 1ST LINER.

[X] 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 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.

This proposed well will have a treated interval less than one hundred fifty (150) feet from the treated interval of another well and is subject to COGCC Rule 317.r.

The following well(s) belong to Kerr-McGee and will have treated intervals within one hundred fifty (150) feet of this proposed well:

ANDERSON 16-27  
WATERFRONT 9-27  
FOSTER RIDGE 1-27A (HSR)  
HSR-FOSTER RIDGE 8-27  
WATERFRONT 8-34  
WATERFRONT 33-26 (4700' vertical separation)  
WATERFRONT 41-34 (2500' vertical separation)  
HOPPER STATE 40N-34SLHZ

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

Location ID: 331768

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: Cheryl Light

Title: SR Regulatory Analyst Date: 2/29/2016 Email: cheryl.light@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:  Director of COGCC Date: 6/22/2016

Expiration Date: 06/21/2018

API NUMBER

05 123 43310 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>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, prior to stimulation.</p> <p>2) 6 months after rig release, prior to stimulation.</p> <p>3) Within 30 days of first production, as reported on Form 5A.</p>
	<p>1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU (spud notice) for the first well activity with a rig on the pad and provide 48 hour spud notice via Form 42 for all subsequent wells drilled on the pad.</p> <p>2) Comply with Rule 317.j. and provide cement coverage from end of the 7-inch string to a minimum of 200' above Niobrara. Verify coverage with cement bond log.</p>

## Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Planning	604c.(2).E. Multi-Well Pads: In order to reduce surface impact, this application is for a nine-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 Highway 66 for drilling, completions, and production operations, including maintenance equipment. The road will be properly constructed and maintained to accommodate for local emergency vehicle access.
5	Planning	604c.(2).V. Development From Existing Well Pads: KMG will locate the nine new proposed horizontal wells on the existing well pad with location ID # 331768 to reduce the amount of surface disturbance associated with this project.
6	Community Outreach and Notification	<p>305.a.(2) A Notice of Intent to Conduct Operations was sent to each building unit owner within the Exception Zone or Buffer Zone Setback. Recipients did not contact KMG.</p> <p>As a part of planning this proposed location, Kerr-McGee held multi-disciplinary Surface Impact Planning Meetings regarding the impacts and mitigations associated with this proposed location. The toll-free hotline number and email for the Anadarko Colorado Response Line will be posted at the entrance to the lease access road for stakeholders during drilling and completion operations at this proposed location. Courtesy Notifications will be sent to impacted stakeholders prior to drilling operations and again prior to completions operations, providing contact information for the Anadarko Colorado Response Line and online resources.</p>
7	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.
8	General Housekeeping	604c.(2).O. Loadlines: All loadlines shall be bullplugged or capped.
9	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.
10	Storm Water/Erosion Control	604c.(2).G. Berm Construction: Kerr-McGee will create tertiary containment by construction of a berm or diversion dike, site grading, or other comparable measures sufficient to further protect the ditch located 698' SW of this proposed oil and gas location.

11	Storm Water/Erosion Control	604c.(2).W. Site-Specific Measures: KMG maintains a Storm Water 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 twenty-eight (28) days after construction is completed, and after any major weather event.
12	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).
13	Dust control	805.c. Dust: 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. Highway 66 is paved and maintained by Weld County and will therefore not require dust mitigation.  Straw bales placed on location will further help to minimize dust impacts from operations on location to the surrounding area.
14	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.
15	Noise mitigation	604c.(2).A. Noise: Sound surveys have been conducted on each rig type and are utilized to anticipate any additional effective noise mitigation once a drilling rig is determined.  At a minimum, and pending a safety review after construction of the location, sound mitigation barriers (straw bales) will be placed around the perimeter of the pad location (excluding access points) to dampen noise and minimize impact to the nearby residences and to Highway 66 and Interstate 25 during drilling and completions. Operations are not expected to significantly impact the building units on the other side of the Interstate, due to the commercial/industrial nature of the building units and the ambient noise from the Interstate.  Should technological advancements allow for better noise mitigation at the time of drilling and completion operations on this location, Kerr-McGee will re-evaluate the most effective method at that time.
16	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.
17	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.
18	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.
19	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.
20	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.
21	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.
22	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.

23	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. Straw bales placed on location will further assist in mitigating light nuisance for residents and drivers in the area. LED lighting will be utilized during completions operations on this location.
24	Drilling/Completion Operations	Visual Mitigation: A flare enclosure will be utilized during drilling operations. Straw bales will also assist in providing visual mitigation during drilling and completion operations.
25	Drilling/Completion Operations	604.c.(4)B.i. Production Facility will be automated and remotely monitored by the Integrated Operations Center (IOC) at all times. In the event of a fire, explosion or lighting strike, wells flowing to the Production Facility would be remotely shut-in and Kerr McGee's Emergency Response Plan would be initiated. This location is bonded and grounded and static is not a concern due to the lack of oil storage tanks.
26	Drilling/Completion Operations	604.c.(4)B.ii. The piping between pieces of equipment on this Production Facility will be above-ground on racks, expediting any fluid leak detection and associated repair. Oil will be piped off location in a closed system to the sales line, minimizing on-site fluid handling and storage. Water and condensate will be stored on location and Kerr-McGee will adhere to all regulations pertaining to leak detection, repair, reporting and record keeping.
27	Drilling/Completion Operations	604.c.(4)B.iii. This Production Facility will have continuous pressure monitoring by the IOC (Integrated Operations Center) and in the event of an upset condition the entire facility would be shut down to prevent improper venting from occurring. Bulk and production separators have monitors that assist in preventing a release to the atmosphere. ECDs are constantly monitored and any upset conditions would result in all wells served by the ECD being remotely shut-in. At this site, Kerr-McGee will install compressed air (instrument air skids) to drive pneumatically actuated valves; there are no emissions associated with this activity.
28	Drilling/Completion Operations	604.c.(4)B.iv. Zero flaring or venting of gas upon completion of flowback, excepting upset or emergency conditions, or with prior written approval from the director for necessary maintenance operations.
29	Drilling/Completion Operations	604.c.(4)B.v. Fluid levels at the Production Facility are metered via sensor automation. Maintenance tanks are used only during maintenance and upset conditions, with levels monitored at all times. Oil will not be trucked off location; it will be transported via a closed system that ties into a sales line.
30	Drilling/Completion Operations	604.c.(4)B.vi. During completions operations, proppant is contained on location in sand silos, which are designed to minimize release and reduce silica dust at ground level and at breathing levels. The associated process has been tested to ensure compliance with OSHA & industry regulations and standards.
31	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.
32	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.
33	Drilling/Completion Operations	317.p Logging Program: One of the first wells drilled on the pad will be logged with Cased-hole Pulsed Neutron Log with Gamma Ray Log from 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 in that well and have those logs attached. The Form 5 for each well shall clearly state "No open-hole logs were run" and shall reference the Rule 317.p Exception granted for the well.
34	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.

35	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: 35 comment(s)

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

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

### **Attachment Check List**

<b><u>Att Doc Num</u></b>	<b><u>Name</u></b>
2365164	SURFACE CASING CHECK
400930112	FORM 2 SUBMITTED
400996834	OffsetWellEvaluations Data
400996835	DIRECTIONAL DATA
400996836	OPEN HOLE LOGGING EXCEPTION
400996837	OTHER
400996838	DEVIATED DRILLING PLAN
400996839	WELL LOCATION PLAT
400996840	PROPOSED SPACING UNIT
400996909	MINERAL LEASE MAP

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.	6/21/2016 11:11:01 AM
Permit	Corrected Open Hole Logging BMP. Attached new mineral lease map & changed description to See lease map. Changed total acres to 94. Changed "The minerals beneath this O&G location will be developed" from NO to YES. Changed contact information. Permitting Review Complete.	3/3/2016 1:08:42 PM
Permit	ON HOLD: requesting corrected Open Hole Logging BMP, confirming the lease description, confirming "The minerals beneath this O&G location will be developed".	3/1/2016 4:01:50 PM
Permit	Operator requested Exception to Open Hole Logging Rule 317.p. See attached.	3/1/2016 4:01:47 PM
Engineer	Offset wells evaluated	5/13/2016 9:45:34 AM
Permit	Passed completeness.	3/7/2016 8:13:05 AM

Total: 6 comment(s)