

FORM  
2

Rev  
08/13

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:

400854585

Date Received:

08/31/2015

APPLICATION FOR PERMIT TO:

☒ Drill ☐ Deepen ☐ Re-enter ☐ Recomplete and Operate

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

Refilling ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☐

Well Name: LAND FED

Well Number: 35N-29HZ

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: Ronett Powers

Phone: (720)929-6759

Fax: (720)929-7759

Email: ronett.powers@anadarko.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20010124

WELL LOCATION INFORMATION

QtrQtr: NENW Sec: 32 Twp: 2N Rng: 66W Meridian: 6

Latitude: 40.099025

Longitude: -104.805306

Footage at Surface: 1040 feet FNL/FSL FNL 1469 feet FEL/FWL FWL

Field Name: WATTENBERG

Field Number: 90750

Ground Elevation: 4897

County: WELD

GPS Data:

Date of Measurement: 03/24/2015 PDOP Reading: 1.4 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 FNL/FWL Bottom Hole: FNL/FSL FNL/FWL  
21 FSL 1634 FWL 1 FNL 1682 FWL  
Sec: 29 Twp: 2N Rng: 66W Sec: 29 Twp: 2N Rng: 66W

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 2 North, Range 66 West, 6th P.M.  
Section 29: E/2SW/4  
Weld County, Colorado

Total Acres in Described Lease: 80 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: 722 Feet  
Building Unit: 864 Feet  
High Occupancy Building Unit: 4762 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 1033 Feet  
Above Ground Utility: 288 Feet  
Railroad: 310 Feet  
Property Line: 283 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: 06/17/2015

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 06/17/2015

## SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 149 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 962 Feet (Enter 5280 for distance greater than 1 mile.)

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

## SPACING & FORMATIONS COMMENTS

UNIT CONFIGURATION:  
02N66W SEC 20 S2SW  
02N66W SEC 29 W2  
02N66W SEC 32 N2NW

## 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		480	GWA

## DRILLING PROGRAM

Proposed Total Measured Depth: 12953 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 149 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? 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:

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	1800	700	1800	0
1ST	7+7/8	5+1/2	17	0	12943	1517	12943	

☒ 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: Water-based cuttings will be disposed of using a Centralized E&P Waste Management facility or a private spread field, depending on what is feasible at the time of drilling. 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 well(s) belong to Kerr-McGee and will have treated intervals within one hundred fifty (150) feet of this proposed well:

SHIVERS GU FEDERAL 2-29

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: 332882

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: Ronett Powers

Title: Regulatory Analyst II Date: 8/31/2015 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:  Director of COGCC Date: 11/1/2015

Expiration Date: 10/31/2017

### API NUMBER

05 123 42392 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>Operator acknowledges the proximity of the listed wells. Operator agrees to: provide mitigation option 1 (per the DJ Basin Horizontal Offset Policy) to mitigate the situation, ensure all applicable documentation is submitted based on the selected mitigation option chosen, and submit a Form 42 ("OFFSET MITIGATION COMPLETED") stating that appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well.</p> <p>Pacheco Heirs Gas Unit 1 API# 123-08406</p> <p>Operator acknowledges the proximity of the listed non-operated wells. Operator assures that this offset list will be remediated per the DJ Basin Horizontal Offset Policy (option 4). Operator will submit a Form 42 ("OFFSET MITIGATION COMPLETED") stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well. Operator will provide proof of cement.</p> <p>Dale Ewing 1 API# 123-11812; Ben F. 1 Counter API# 123-07371; Succo Gas Unit 3 API# 123-09123</p>
	<p>1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU.</p> <p>2) Comply with Rule 317.j and provide cement coverage from end of 5.5" casing to a minimum of 200' above Niobrara and from 200' below the Sussex to 200' above Sussex. Verify coverage with cement bond log.</p>

## **Best Management Practices**

### **No BMP/COA Type**

### **Description**

1	Planning	604c.(2).E. Multi-Well Pads: In order to reduce surface impact, this application is for a thirteen-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: A geosynthetic liner will be laid under the tanks on this location and a metal containment will be constructed. Storage tanks will be designed, constructed and maintained in accordance with National Fire Protection Association (NFPA) Code 30 (2008 version). KMG will maintain written records to verify proper design, construction and maintenance. All records will be available for inspection by the Director.
4	Planning	604c.(2).S. Access Roads: KMG will utilize a lease access road from Weld County Road 16 for drilling and production operations and 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 thirteen proposed horizontal wells on the existing well pad with location ID #332882 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> <p>KMG/Anadarko hosted a community forum on June 24, 2015 from 4:00 to 7:00 pm at the Fort Lupton Recreation Center. Approximately 300 invitations were sent to nearby residents and 14 people attended. Twenty KMG/Anadarko employees were on hand to listen, answer questions and share information regarding development plans for this location and others nearby.</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 ditches located 124' N and 163' NE 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).F. Leak Detection Plan: Automation technology will be utilized at this facility. This technology includes the use of fluid level monitoring for the tanks and produced water sumps, high-level shut offs, and electronic sensors to monitor the interstitial space of double-walled produced water sumps. All automation is monitored by Kerr-McGee's Integrated Operations Center (IOC), which is manned 24 hours per day, 7 days per week.
13	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).
14	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.
15	Construction	604c.(2).G. Berm Construction: A geosynthetic liner will be laid under the tanks on this location and a metal containment will be constructed. Berms or other secondary containment devices will be constructed around crude oil, condensate, and produced water storage tanks and shall enclose an area sufficient to contain and provide secondary containment for 150% of the largest single tank.
16	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.
17	Noise mitigation	604c.(2).A. Noise: Sound surveys that have been conducted on each rig type are utilized to anticipate any additional noise mitigation once a drilling rig is determined. This location is in an industrial area and noise is not expected to be a major concern.

18	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.
19	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.
20	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.
21	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.
22	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.
23	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.
24	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.
25	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. Business hours of the nearby commercial/industrial businesses should limit impact from oil and gas operation lighting.
26	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.
27	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.
28	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 TD 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.
29	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.
30	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: 30 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

<u>Att Doc Num</u>	<u>Name</u>
400854585	FORM 2 SUBMITTED
400892026	OffsetWellEvaluations Data
400892465	DIRECTIONAL DATA
400892466	OPEN HOLE LOGGING EXCEPTION
400892467	OTHER
400892468	SURFACE AGRMT/SURETY
400892469	EXCEPTION LOC REQUEST
400892470	EXCEPTION LOC WAIVERS
400892471	DEVIATED DRILLING PLAN
400892472	WELL LOCATION PLAT
400892473	PROPOSED SPACING UNIT
400924235	SURFACE CASING CHECK
400924236	OFFSET WELL EVALUATION

Total Attach: 13 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	10/26/2015 3:53:47 PM
Permit	Permitting Review Complete.	10/26/2015 10:41:42 AM
Permit	Operator requested Exception to Open Hole Logging Rule 317.p. See attached.	10/26/2015 10:41:40 AM
LGD	These wells have been reviewed and approved by the City of Fort Lupton. The City requires that Kerr-McGee enter into an off-site improvements agreement for these wells.	9/21/2015 9:32:54 AM
Permit	Passed completeness.	9/7/2015 7:35:19 AM

Total: 5 comment(s)