

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

| | |
|--|---|
| TYPE OF WELL OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> COALBED <input type="checkbox"/> OTHER _____ ZONE TYPE SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONES <input type="checkbox"/> COMMINGLE ZONES <input type="checkbox"/> | Refiling <input type="checkbox"/> Sidetrack <input type="checkbox"/> |
|--|---|

Date Received:
01/14/2017

Well Name: Brighton Lakes Well Number: 2017-3-19HN

Name of Operator: WARD PETROLEUM CORPORATION COGCC Operator Number: 10359

Address: 215 WEST OAK STREET #1000

City: FORT COLLINS State: CO Zip: 80521

Contact Name: Andrea Gross Phone: (303)942-0506 Fax: ()

Email: agross@upstreampm.com

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: 20100221

WELL LOCATION INFORMATION

QtrQtr: SWSW Sec: 20 Twp: 1S Rng: 66W Meridian: 6

Latitude: 39.944500 Longitude: -104.805219

| | | |
|-------------------------------------|-----------------------------|-----------------------------|
| Footage at Surface: <u>425</u> Feet | FNL/FSL | FEL/FWL |
| <u>FSL</u> <u>1011</u> Feet | <u>FSL</u> <u>1011</u> Feet | <u>FWL</u> <u>1011</u> Feet |

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 5047 County: ADAMS

GPS Data:
Date of Measurement: 12/12/2016 PDOP Reading: 1.8 Instrument Operator's Name: Dallas Nielsen

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

| | | | | | |
|---|----------------------------|----------------------------|---|----------------------------|----------------------------|
| Footage at Top of Prod Zone: <u>460</u> Feet | FNL/FSL | FEL/FWL | Bottom Hole: <u>460</u> Feet | FNL/FSL | FEL/FWL |
| <u>FSL</u> <u>990</u> Feet | <u>FSL</u> <u>990</u> Feet | <u>FWL</u> <u>990</u> Feet | <u>FNL</u> <u>990</u> Feet | <u>FNL</u> <u>990</u> Feet | <u>FWL</u> <u>990</u> Feet |
| Sec: <u>20</u> Twp: <u>1S</u> Rng: <u>66W</u> | | | Sec: <u>17</u> Twp: <u>1S</u> Rng: <u>66W</u> | | |

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 attached lease map.

Total Acres in Described Lease: 480 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: 1190 Feet

Building Unit: 1190 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 412 Feet

Above Ground Utility: 454 Feet

Railroad: 5280 Feet

Property Line: 425 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: _____

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: 280 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

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

SPACING & FORMATIONS COMMENTS

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 | 407-1881 | 640 | S 20:W2; S 17:W2 |

DRILLING PROGRAM

Proposed Total Measured Depth: 17321 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: 133 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? No

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 | 1500 | 509 | 1500 | 0 |
| 1ST | 8+3/4 | 5+1/2 | 20 | 0 | 17321 | 2340 | 17321 | |

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 Distance to the nearest well permitted in the same formation was measured to the permitted Brighton Lakes 2017-3-20HC. Distance to the nearest well by another operator was measured to the Tashiro UPRR #1 (P & A) operated by Noble Energy, which is P&A'd. The Exception Location Waiver for Rule 318A.a. (GWA Windows) and 318A.c. (GWA Twinning) is located in the attached Surface Use Plan in Section 6.18.

This application is in a Comprehensive Drilling Plan No 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: Andrea Gross

Title: Permit Agent Date: 1/14/2017 Email: agross@upstreampm.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: 6/2/2017

Expiration Date: 06/01/2019

API NUMBER

05 001 10069 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>1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU 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.i. and provide cement coverage from TD to a minimum of 200' above Niobrara. Verify coverage with cement bond log.</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, 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> |

Best Management Practices

| <u>No</u> | <u>BMP/COA Type</u> | <u>Description</u> |
|-----------|--------------------------------|--|
| 1 | Construction | Fencing: The wellsite will be fenced if requested by the Surface Owner. |
| 2 | Noise mitigation | Noise Mitigation: A background noise study will be done prior to drilling and the appropriate sound wall design will be chosen to meet or exceed COGCC noise requirements. |
| 3 | Odor mitigation | Odor Control: Ward will comply with Rule 805 and Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emission, 5 C.C.R. 1001-4, Regulation No. 3 (5 C.C.R. 1001-5), and Regulation No. 7 Section XVII.B.1 (a-c) and Section XII. Ward will utilize Emission Control Devices to reduce odor emissions during production. |
| 4 | Drilling/Completion Operations | <p>Visual Mitigation: Pursuant to Rule 804, the tank battery shall be painted in uniform, non-contrasting, non-reflective color tones with the colors matched to but slightly darker than the surrounding landscape.</p> <p>Light sources during all phases of operations will be directed downwards and away from occupied structures. Permanent lighting will be installed around the facility to allow both the operator and haulers to conduct safe operations at night. All lights will be directed down toward the location or shielded so no light pollution leaves the facility.</p> |
| 5 | Drilling/Completion Operations | Closed Loop System: Closed Loop System will be used for drilling and fluid management. No reserve pit will be used. |
| 6 | Drilling/Completion Operations | 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. |
| 7 | Drilling/Completion Operations | Green Completions: Emission Control Systems. Green Completions: Test separators and associated flow lines and sand traps shall be installed on-site to accommodate Green completion techniques pursuant to COGCC Rules. Ward will utilize ECDs with adequate capacity, will be flanged to route gas to other or permanent oxidizing equipment and shall be provided with the equipment needed to maintain combustions where noncombustible gases are present. |

| | | |
|----|--------------------------------|--|
| 8 | Drilling/Completion Operations | BOPE Testing: Upon initial rig-up and once every 30 days during drilling operations, pressure testing of the casing string and each component of the BOPE will be performed to 70% of working pressure or 70% of the internal yield of the casing, whichever is less. |
| 9 | Drilling/Completion Operations | BOPE for well servicing operations: Adequate blowout prevention equipment will be used on any servicing operations associated with this well. Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves will be pressure tested before each well servicing operation using both low-pressure and high-pressure fluid. |
| 10 | Drilling/Completion Operations | BOPE: Ward will utilize drilling rigs with a minimum of a double ram and annular preventer. |
| 11 | Drilling/Completion Operations | Drill Stem Tests: Drill Stem Tests are not anticipated for this location. |
| 12 | Drilling/Completion Operations | Pit Level Indicators: Pit Level Indicators will not be needed as no pits will be used on location. |
| 13 | Drilling/Completion Operations | Anti-Collision: Ward will perform an anti-collision evaluation of all active (producing, shut in, or temporarily abandoned) offset wellbores that have the potential of being within 150 feet of a proposed well prior to drilling operations for the proposed well. Notice will be given to all offset operators within 150 feet prior to drilling. |

Total: 13 comment(s)

Applicable Policies and Notices to Operators

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|--|
| Policy |
| 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 |
|--------------------|----------------------------|
| 401180112 | FORM 2 SUBMITTED |
| 401180156 | OffsetWellEvaluations Data |
| 401180170 | SURFACE AGRMT/SURETY |
| 401180176 | DEVIATED DRILLING PLAN |
| 401180178 | WELL LOCATION PLAT |
| 401180181 | MINERAL LEASE MAP |
| 401180183 | WASTE MANAGEMENT PLAN |
| 401181123 | EXCEPTION LOC REQUEST |
| 401181155 | DIRECTIONAL DATA |
| 401299089 | OFFSET WELL EVALUATION |

Total Attach: 10 Files

General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|-------------------|--|---------------------|
| Permit | Form 2A off hold--passed final review task. | 06/02/2017 |
| Permit | Form 2A on hold; removed this APD from final approval queue. | 05/23/2017 |
| Permit | Final Review Completed. | 04/05/2017 |
| Permit | Surface Use Agreement has waivers for Rule 318A.a & 318A.c. See page 11, Section 6.18. Open Hole Logging BMP submitted by operator. Removed docket #. Added spacing order 407-1881. Permitting Review Complete. | 04/05/2017 |
| Engineer | Offset wells evaluated | 03/12/2017 |
| OGLA | Comment period extended from 2/13/17 to 3/2/17 at the request of the City of Brighton LGD. The extension matches the Form 2A extension. | 02/10/2017 |
| Permit | Passed completeness. | 01/24/2017 |

Total: 7 comment(s)