

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 mineral lease map attached.

Total Acres in Described Lease: 154 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: 814 Feet

Building Unit: 814 Feet

High Occupancy Building Unit: 2235 Feet

Designated Outside Activity Area: 1501 Feet

Public Road: 228 Feet

Above Ground Utility: 204 Feet

Railroad: 2545 Feet

Property Line: 240 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: 01/26/2016

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: 194 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

PSU: S2N2 and N2S2 of Section 22 in T4N R66W

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		320	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 11598 Feet

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

194 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? 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: Land application

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Drill cuttings will be land applied at PDC spread fields with COGCC Facility ID 444255, 159534, 436033, or 434889.

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: 444255 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	1425	920	1425	0
1ST	8+3/4	5+1/2	20	0	11598	2035	11598	0

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 7" casing string will be cemented to surface. CBL will only be run in the vertical section of the wellbore. Distance to the completed portion of the nearest well was measured to via the anti-collision report located within the deviated drilling plan attached, beginning on Page 8. Distance to the nearest wellbore belonging to another operator was measured using COGIS Map in 2D (plan view) from the Peppler Federal 1.

PDC requests an exception to rule 317.p.: PDC will run a cased hole log.

Please see pre-application notice certification attached as other.

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: Kelsi Welch

Title: Regulatory Analyst Date: 5/11/2016 Email: kelsi.welch@pdce.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: 7/21/2016

Expiration Date: 07/20/2018

API NUMBER
05 123 43392 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>
	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. 2) Comply with Rule 317.j and provide cement coverage from the end of 7" casing to a minimum of 200' above Niobrara. Verify coverage with cement bond log.
	Bradenhead tests shall be performed and reported according to the following schedule and Form 17 submitted within 10 days of each test.: 1) Within 60 days of rig release, prior to stimulation. 2) 6 months after rig release, prior to stimulation. 3) Within 30 days of first production, as reported on Form 5A.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Planning	604c.(2).V. Development From Existing Well Pads: An existing pad was not available to utilize to develop these wells.
2	Planning	604.c.(2).W. Site Specific Measures: Lights should be turned downward and away from building units within the 1,000 foot buffer area. Dust mitigation will be provided as necessary on lease access roads.
3	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.
4	General Housekeeping	604c.(2).N. Control of Fire Hazards: PDC will ensure that any material that might be deemed a fire hazard will be will remain no less than twenty-five (25) feet from the wellhead(s), tanks and separator(s). PDC installs automation equipment for tank level and pressure monitoring inside the bermed area that complies with API RP 500 classifications and with the current national electrical code as adopted by the State of Colorado.
5	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.
6	Material Handling and Spill Prevention	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.

7	Dust control	805.b(1)-(c) Odors and Dust: Oil and gas facilities and equipment will operate in a manner that odors and dust do not constitute a nuisance or hazard to public welfare. Odors: Oil and gas operations will be in compliance with the 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. Dust; PDC will employ practices for control of fugitive dust caused by operations include but not limited to the use of speed restrictions, regular road maintenance, restriction of construction activity during high-wind days, and silica dust controls when handling sand used in hydraulic fracturing operations. When necessary, PDC coordinates dust mitigation with the county on gravel roads, places road base where allowed by surface owner around tanks and wellheads to minimize dust, and will water the roads and locations when dry. In addition, automation is used on all new wells to minimize truck traffic.
8	Construction	"604c.(2).S. Access Roads: PDC will utilize an improved lease access road off of County Road 31 (paved) for all heavy truck traffic and rig moves along with drilling operations and maintenance equipment. The lease access road will be properly constructed and maintained to accommodate for local emergency vehicle access. Dust will be mitigated as necessary on lease access road. "
9	Construction	804. Visual Impact: Production facilities, regardless of construction date, which are observable from any public highway will be painted with uniform, non-contrasting, non-reflective color tones (similar to the Munsell Soil Color Coding System), and with colors matched to but slightly darker than the surrounding landscape.
10	Construction	604c.(2).M. Fencing Requirements: The completed wellsites will be surrounded with a fence and gate. PDC personnel will monitor the wellsites regularly upon completion of the wells. Authorized representatives and/or PDC personnel shall be on-site during drilling and completion operations.
11	Construction	604c.(2).O. Loadlines: All loadlines shall be bullplugged or capped.
12	Construction	604c.(2).Q. Guy Line Anchors: Rig guy wires are anchored to the rig's base beam that the rig stands on, temporary and permanent anchors will not be set on this location.
13	Construction	604c.(2).R. Tank Specifications: Condensate storage tanks will be designed, constructed and maintained in accordance with National Fire Protection Association (NFPA) Code 30 (2008 version). PDC will maintain written records to verify proper design, construction and maintenance. All records will be available for inspection by the Director.
14	Noise mitigation	"604c.(2).A. Noise: WELL PAD: PDC has conducted baseline noise surveys for all drilling rigs that are being contracted and has also conducted a baseline noise survey for hydraulic fracture stimulation operations on a representative horizontal well. These baseline surveys are utilized for site specific noise modeling to determine if any mitigation measures are warranted. A review was conducted to identify potential receptors within 1000 feet of the proposed pad site. There is one (1) building unit of concern located 692' SW. Light and sound mitigation will be installed to the South and West of the proposed location. Methods of noise mitigation shall include but not be limited to hay bales, sound walls, or customized semi-trailers. PRODUCTION FACILITIES: It is not anticipated that noise mitigation will be necessary at the proposed tank battery location. After construction is completed, equipment installed and production begins, noise levels will be assessed to determine if mitigation measures will be required to be compliant with Rule 802. "

15	Emissions mitigation	604c.(2).C. Green Completions: Flowlines, 48" HLPs, sand traps all capable of supporting green completions as described in rule 805 shall be installed at any Oil and Gas location at which commercial quantities of gas and or oil are reasonable expected to be produced based on existing wells. All green flow back equipment will be able to handle more than 1.5 times the amount of any know volumes in the surrounding field. First sign of salable gas will be put into production equipment and turned down line.
16	Drilling/Completion Operations	604c.(2).I. BOPE Testing for Drilling Operations: PDC's contractors will supply a double ram BOPE (Blinds and pipes). BOPE is always function tested and all seals and ram block rubbers are inspected. After installation of the BOPE, PDCE conducts a pressure test on the BOPE at a low pressure of (200-400 psi) and a high pressure test with a third party tester, all tests are digitally recorded and any failed equipment or seals are replaced and re-tested.
17	Drilling/Completion Operations	604c.(2).J. BOPE for Well Servicing Operations: All valves will also be tested to maximum rating by a third party prior to being delivered to location. Whenever snubbing operations are being used the snubbing stack will be pressure tested at the same time the BOPE is being tested which consist of a single pipe ram and a annular bag.
18	Drilling/Completion Operations	604c.(2).K. Pit Level Indicators: PDC uses an Electronic Drilling Recorder (EDR) with pit level monitor(s) and alarm(s) for production rigs. Basic level gages are used on steel pits utilized for the surface rig.
19	Drilling/Completion Operations	604c.(2).L. Drill Stem Tests: PDC does not conduct drill stem tests, but will seek prior approval from the director if a drill stem test will be preformed.
20	Drilling/Completion Operations	604c.(2).U. Identification of Plugged and Abandoned Wells: Pursuant to rule 319.a. (5)., once the well has been plugged and abandoned, PDC will identify the location of the wellbore with a permanent monument that will detail the well name and date of plugging.
21	Drilling/Completion Operations	Operator will comply with COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012. The Colorado Oil and Gas Conservation Commission (COGCC) has established this Policy Regarding Bradenhead Monitoring During Hydraulic Fracturing Treatments ("Treatment") in the Greater Wattenberg Area ("GWA") pursuant to COGCC 207.a. ("Policy"). This Policy applies to oil and gas operations in the GWA as defined by the COGCC Rules of Practice and Procedure.
22	Drilling/Completion Operations	One of the first wells drilled on the pad will be logged with Cased hole Pulsed Neutron Log with Gamma Ray Log from kickoff 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.

Total: 22 comment(s)

Applicable Policies and Notices to Operators

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
400992805	FORM 2 RESUBMITTED
401017613	FORM 2 SUBMITTED
401017614	FORM 2 REJECTED
401045005	WELL LOCATION PLAT
401045006	DEVIATED DRILLING PLAN
401045007	PROPOSED SPACING UNIT
401045008	DIRECTIONAL DATA
401045009	EXCEPTION LOC WAIVERS
401045010	OTHER
401045011	OPEN HOLE LOGGING EXCEPTION
401045012	EXCEPTION LOC REQUEST
401045014	MINERAL LEASE MAP
401045015	OTHER
401045024	FORM 2 SUBMITTED

Total Attach: 14 Files

General Comments

User Group	Comment	Comment Date
Permit	Final Review Completed.	7/15/2016 3:47:04 PM
Permit	Permitting Review Complete.	6/24/2016 3:38:36 PM
Permit	Operator requested Exception to Open Hole Logging Rule 317.p. See attached.	6/24/2016 3:38:35 PM
Permit	Passes completeness.	5/16/2016 10:04:17 AM
Permit	REJECTION COMMENT: This APD is being rejected per the Rejection Process criteria that a pad of Form 2's requiring a total of four or more attachments to be added will be rejected. This pad requires an Open Hole Logging Exception Request that states cased hole neutron log will be run from kick-off point to into surface casing for a total of (10) APD's. The Operator and COGCC staff have been consulted.	3/30/2016 8:10:14 AM
Engineer	Offset Wells Evaluated	3/21/2016 2:20:30 PM
Permit	Passed completeness.	3/3/2016 1:07:28 PM

Total: 7 comment(s)