



**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.)

NE/4 of Sec 33 T7N R65W. Horizontal wellbore crosses multiple lease lines in drilling and spacing unit. Distance to lease line is 0', distance to unit boundary is 500'.

Total Acres in Described Lease: 160 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: 611 Feet  
 Building Unit: 611 Feet  
 High Occupancy Building Unit: 5280 Feet  
 Designated Outside Activity Area: 5280 Feet  
 Public Road: 321 Feet  
 Above Ground Utility: 304 Feet  
 Railroad: 5280 Feet  
 Property Line: 330 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: 06/30/2014

**SPACING and UNIT INFORMATION**

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 530 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**

S2N2 and N2S2 of Section 33 T7N R65W

**OBJECTIVE FORMATIONS**

| Objective Formation(s) | Formation Code | Spacing Order Number(s) | Unit Acreage Assigned to Well | Unit Configuration (N/2, SE/4, etc.) |
|------------------------|----------------|-------------------------|-------------------------------|--------------------------------------|
| CODELL                 | CODL           |                         | 320                           | GWA                                  |

**DRILLING PROGRAM**

Proposed Total Measured Depth: 11658 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 530 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:     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 429629, 430649, 431183, 434889, or 436033.

Beneficial reuse or land application plan submitted?     Yes    

Reuse Facility ID:     429629     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+3/4       | 9+5/8          | 36    | 0             | 875           | 830       | 875     | 0       |
| 1ST         | 8+3/4        | 7              | 26    | 0             | 7811          | 650       | 7811    | 500     |
| 1ST LINER   | 6+1/8        | 4+1/2          | 13.5  | 6509          | 11658         |           |         |         |

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 at least 200' above Niobrara, around 500' from surface. CBL will only be run in the vertical section of the wellbore. Distance to nearest well, Lamb 33-23, measured to via the Anti-Collision Report in the Deviated Drilling plan.

There have been no changes to the location.  
 I certify that there has been no changes on land use, lease description.  
 This pad has not been built.  
 There will be no additional surface disturbance.  
 The location does not require a variance from any of the rules listed in Rule 306.d.(1).(A).(ii).  
 The location is not within a wildlife Restricted Surface Occupancy Area.  
 No Form 2A required.

PDC request an exception to rule 317.p.: PDC will not run an open hole log or cased hole log.

Pre-Application Certification letter attached as other.

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

Location ID: 432871

Is this application being submitted with an Oil and Gas Location Assessment application? No

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: 1/7/2015 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: 2/27/2015

Expiration Date: 02/26/2017

|                   |
|-------------------|
| <b>API NUMBER</b> |
| 05 123 37331 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>  |
|-----------------|---|
|                 | Operator acknowledges the proximity of the listed non-producing well(s). Operator agrees to provide mitigation Option 3 (per the DJ Basin Horizontal Offset Policy), ensure all applicable documentation is submitted, and submit Form 42(s) ("OFFSET MITIGATION COMPLETED") for the remediated well(s), 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.<br><br>Harper 34-22 (API #123-26081) |
|                 | 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. 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.   |
|                 | Operator shall comply with Buffer Zone Move-In, Rig-Up Notice Rule 305.h (effective 9/30/2014).   |

## Best Management Practices

| <u>No</u> | <u>BMP/COA Type</u> | <u>Description</u>   |
|-----------|---------------------|--|
| 1         | Planning            | 604c.(2).E. Multiwell Pads: This 2A application is for a 4-well pad. No suitable existing locations are in the area. The location was surface owners preference as it kept impact to farmable ground to a minimum.   |
| 2         | Planning            | 604c.(2).V. Development From Existing Well Pads: An existing pad was not available to utilize to develop these wells.  |
| 3         | 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.   |
| 4         | Planning            | 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.   |
| 5         | Planning            | 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. |

|    |  |   |
|----|--|---|
| 6  | Planning                               | 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.   |
| 7  | Planning                               | 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.  |
| 8  | Planning                               | 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.   |
| 9  | Planning                               | 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.  |
| 10 | Planning                               | To prevent adverse impacts to shallow groundwater, buried produced water vault shall be installed above an impermeable synthetic or geosynthetic liner system which shall be tied back into the surface liner.  |
| 11 | 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.  |
| 12 | 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.   |
| 13 | 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.   |
| 14 | General Housekeeping                   | 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.   |
| 15 | Material Handling and Spill Prevention | 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.   |
| 16 | Construction                           | 604c.(2).G. Berm Construction: Containment berms shall be constructed of steel rings with a geosynthetic liner, designed and installed to prevent leakage and resist degradation from erosion or routine operation. All berms will be visually checked periodically to ensure proper working condition. Secondary containment devices shall be sufficiently impervious to contain any spilled or released material. Due to a downgradient surface water body within 500', tertiary containment (such as an earthen berm or the like), will be installed around Production Facilities. |
| 17 | Construction                           | "604c.(2).S. Access Roads: PDC will utilize the existing lease access road off of CR 43, paved, for 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.<br>"  |

|    |                                |  |
|----|--------------------------------|--|
| 18 | 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.   |
| 19 | 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.  |
| 20 | 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.   |
| 21 | 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 are 4 building units of concern There are 4 building units of concern. Light and sound mitigation will be installed to the north and south east of the proposed location. Methods of noise mitigation shall include but not be limited to hay bales, noise 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. |
| 22 | Drilling/Completion Operations | 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.  |
| 23 | Drilling/Completion Operations | 604c.(2).O. Loadlines: All loadlines shall be bullplugged or capped.   |
| 24 | Drilling/Completion Operations | Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys 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 will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as-constructed gyro survey will be submitted to COGCC with the Form 5.  |
| 25 | 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.   |

Total: 25 comment(s)

## Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.

### Attachment Check List

| <u>Att Doc Num</u> | <u>Name</u>                 |
|--------------------|-----------------------------|
| 2238335            | OPEN HOLE LOGGING EXCEPTION |
| 400648478          | FORM 2 SUBMITTED            |
| 400766187          | OffsetWellEvaluations Data  |
| 400766189          | OTHER                       |

Total Attach: 4 Files

### General Comments

| <u>User Group</u> | <u>Comment</u>   | <u>Comment Date</u>      |
|-------------------|--|--------------------------|
| Permit            | COGIS Maps appears to show wells in the SENE but surveyor plots wells in NENE as the surveyor is using BLM section corners. BLM Plats layer in COGIS Maps will display the BLM section lines used by surveyor.<br><br>Final Review Completed. No LGD or public comment received. | 2/25/2015<br>2:37:50 PM  |
| OGLA              | Operator has submitted a Form 4 Sundry (Doc #400793756) to add the 604.c. mitigation measure Best Management Practices to this Location.   | 2/20/2015<br>9:56:13 AM  |
| Engineer          | No active wells within 150'  | 2/12/2015<br>10:36:11 AM |
| Permit            | Operator submitted revised logging exception letter and distance to wellbore in formation and penetrating from 950' to 530'.   | 2/11/2015<br>1:50:36 PM  |
| Permit            | The Certification of Compliance with Rule 305.a Pre-Application Notice is under "OTHER".<br><br>-Open hole logging exception letter lists wrong qtrqtr.<br><br>-Distance to wellbore in formation and wellbore penetrating formation is incorrect. Emailed operator to correct.  | 2/11/2015<br>8:18:19 AM  |
| Permit            | Passed completeness.   | 1/9/2015 9:49:50<br>AM   |

Total: 6 comment(s)