

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:  
400823516

APPLICATION FOR PERMIT TO:

Drill       Deepen       Re-enter       Recomplete and Operate

Date Received:  
04/15/2015

TYPE OF WELL    OIL     GAS     COALBED     OTHER \_\_\_\_\_  
ZONE TYPE      SINGLE ZONE     MULTIPLE ZONES     COMMINGLE ZONES

Refiling   
Sidetrack

Well Name: Sappington      Well Number: 22T-341  
Name of Operator: PDC ENERGY INC      COGCC Operator Number: 69175  
Address: 1775 SHERMAN STREET - STE 3000  
City: DENVER      State: CO      Zip: 80203  
Contact Name: Kelsi Welch      Phone: (303)860-5800      Fax: ( )  
Email: Kelsi.Welch@pdce.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20090078

WELL LOCATION INFORMATION

QtrQtr: SWSE      Sec: 22      Twp: 5N      Rng: 64W      Meridian: 6  
Latitude: 40.379930      Longitude: -104.532550

Footage at Surface: 853 feet      FNL/FSL      FEL/FWL  
FSL      1722 feet      FEL

Field Name: WATTENBERG      Field Number: 90750  
Ground Elevation: 4601      County: WELD

GPS Data:  
Date of Measurement: 12/04/2014    PDOP Reading: 2.4    Instrument Operator's Name: Adam Kelly

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  
825    FSL    1739    FEL      500    FNL    1725    FEL  
Sec: 22    Twp: 5N    Rng: 64W      Sec: 22    Twp: 5N    Rng: 64W

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.)

Section 22: W/2SE/4, lying South of the Union Pacific Railroad Rightof-Way except the South 20 acres thereof.

Total Acres in Described Lease: 58 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: 740 Feet  
Building Unit: 838 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 844 Feet  
Above Ground Utility: 784 Feet  
Railroad: 1661 Feet  
Property Line: 191 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: 03/12/2015

### SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 192 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

E2 of Section 22 in T5N R64W

### 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: 11164 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 177 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 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             | 7208          | 650       | 7208    | 500     |
| 1ST LINER   | 6+1/8        | 4+1/2          | 13.5  | 5997          | 11164         |           |         |         |

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, P&H 22-32, measured to via the Anti-Collision Report in the Deviated Drilling plan.

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

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: 4/15/2015 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: 5/29/2015

Expiration Date: 05/28/2017

|                   |
|-------------------|
| <b>API NUMBER</b> |
| 05 123 41550 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 shall comply with Buffer Zone Move-In, Rig-Up Notice Rule 305.h (effective 9/30/2014).   |
|                 | 1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU.<br>2) Comply with Rule 317.j and provide cement coverage from end of 7" casing to a minimum of 200' above Niobrara. Verify coverage with cement bond log.<br>3) Run and submit Directional Survey from TD to base of surface casing. The operator shall comply with Rule 321, and it shall be the operator's responsibility to ensure that the wellbore complies with setback requirements in commission orders or rules prior to producing the well. |

### 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.  |
| 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                               | 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. |
| 6  | 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.  |
| 7  | 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.   |
| 8  | 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.   |
| 9  | 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.  |
| 10 | 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.                         |
| 11 | 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.   |
| 12 | 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.   |
| 13 | 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.   |

|    |                      |  |
|----|----------------------|--|
| 14 | 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. |
| 15 | 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.  |
| 16 | Construction         | 604c.(2).S. Access Roads: PDC will utilize the lease access road off of CR 54 1/2, gravel, temporary access off of CR 54 will only be used for light pickup traffic and emergency use only. All heavy traffic will be routed from the south on CR 57, per the Town of Kersey's request. 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.   |
| 17 | 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.   |
| 18 | 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.  |
| 19 | 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.   |
| 20 | 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 located 737 feet north-west, 741 feet north-west and 964 feet south-east of the proposed location. Light and sound mitigation will be installed to the north, west and south of the drill pad. Methods of noise mitigation shall include but not be limited to hay bales, noise walls, or customized semi-trailers.  |
| 21 | 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.  |

|    |                                |   |
|----|--------------------------------|---|
| 22 | Drilling/Completion Operations | One of the first wells drilled on the pad will be logged with Casedhole 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 measuredwhile-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. |
| 23 | Drilling/Completion Operations | 604c.(2).O. Loadlines: All loadlines shall be bullplugged or capped.  |

Total: 23 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**

| <b><u>Att Doc Num</u></b> | <b><u>Name</u></b>          |
|---------------------------|-----------------------------|
| 2238373                   | SUA                         |
| 400823516                 | FORM 2 SUBMITTED            |
| 400823519                 | OffsetWellEvaluations Data  |
| 400823525                 | WELL LOCATION PLAT          |
| 400823527                 | DEVIATED DRILLING PLAN      |
| 400823528                 | PROPOSED SPACING UNIT       |
| 400823531                 | OTHER                       |
| 400823532                 | 30 DAY NOTICE LETTER        |
| 400823535                 | EXCEPTION LOC WAIVERS       |
| 400823537                 | DIRECTIONAL DATA            |
| 400827069                 | OPEN HOLE LOGGING EXCEPTION |
| 400827070                 | EXCEPTION LOC REQUEST       |
| 400827988                 | SURFACE AGRMT/SURETY        |

Total Attach: 13 Files

### **General Comments**

| <b><u>User Group</u></b> | <b><u>Comment</u></b>  | <b><u>Comment Date</u></b> |
|--------------------------|--|----------------------------|
| Permit                   | Final Review Completed. No LGD or public comment received.   | 5/26/2015<br>11:52:06 AM   |
| Permit                   | Operator provided signed SUA.  | 5/4/2015 1:40:38<br>PM     |
| Permit                   | SUA is not signed by both parties. Contacted operator to correct.  | 5/4/2015<br>10:32:02 AM    |
| Engineer                 | Offset Wells Evaluated.  | 4/27/2015<br>1:33:24 PM    |
| Permit                   | SUA not redacted properly. COGCC staff confirmed change with operator and attached a corrected SUA. Passed completeness.   | 4/20/2015<br>3:33:54 PM    |
| Permit                   | Exception location request does not meet COGCC requirements. 317.p exception request does not meet COGCC requirements. Monetary compensation must be redacted in Surface Use Agreement. Return to draft. | 4/17/2015<br>10:33:27 AM   |

Total: 6 comment(s)