

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:
401042443

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received:
05/19/2016

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

Refiling
Sidetrack

Well Name: Olson Well Number: 30M-223
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)831-3974 Fax: ()
Email: kelsi.welch@pdce.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20160047

WELL LOCATION INFORMATION

QtrQtr: NWNE Sec: 30 Twp: 4N Rng: 67W Meridian: 6
Latitude: 40.289021 Longitude: -104.931570

Footage at Surface: 983 feet FNL/FSL FNL 2374 feet FEL/FWL FEL

Field Name: WATTENBERG Field Number: 90750
Ground Elevation: 4967 County: WELD

GPS Data:
Date of Measurement: 11/07/2015 PDOP Reading: 1.5 Instrument Operator's Name: Jason Dahlman

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
783 FNL 2371 FEL 500 FSL 2365 FEL
Sec: 30 Twp: 4N Rng: 67W Sec: 30 Twp: 4N Rng: 67W

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.)

Township 4 North, Range 67 West, 6th P.M.
Section 30: NESE, SENE, N2NE, less tract in NWNE as described in WD recorded in bk 517 under Rec 1439475 of records of Weld Co, Colorado

Total Acres in Described Lease: 120 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: 2140 Feet
Building Unit: 2332 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 248 Feet
Above Ground Utility: 229 Feet
Railroad: 1558 Feet
Property Line: 258 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: 31 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: E2W2 and W2E2 of Section 30 in T4N R67W

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: 11655 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: 392 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? 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 | 12+1/2 | 9+5/8 | 36 | 0 | 1350 | 920 | 1350 | 0 |
| 1ST | 8+1/2 | 5+1/2 | 20 | 0 | 11655 | 2035 | 11655 | 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 5.5" 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 in the same formation was measured to via the anti-collision attached as "other". Both distances were measured in 3D via the anti-collision report because the Chandler Farms HD 20-389HN appears to be ~76' from the proposed 30M-223 when measured in 2D map view but it is actually 392' away so no stimulation setback consent is needed. If measured in 2D map view, the Chandler Farms HD 20-389HN would have been the well measure to for the "distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation" also. To avoid having two different distances listed on the permit for the Chandler Farms HD 20-389HN, I also used the anti-collision report for the "distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation", which puts the Shultz 30-32 closest to the proposed. Supporting anti-collision report attached to permit.

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

The subject well will have a treated interval less than 150' from the treated interval of the Shultz farm 30-32. All wells are owned by PDC Energy, Inc. so no stimulation setback consent is needed.

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: 5/19/2016 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: 8/10/2016

Expiration Date: 08/09/2018

API NUMBER

05 123 43489 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 or 2 (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") for the remediated wells, 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.</p> <p>MCCARTY 30-2 (API NO 123-12166)BROWN 30-2 (API NO 123-12427) MCCARTY 30-4 (API NO 123-12492)BROWN MCCARTY 30-5 (API NO 123-12941)</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> <ol style="list-style-type: none">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. |
| | <ol style="list-style-type: none">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 production casing to a minimum of 200' above Niobrara. Verify coverage with cement bond log. |

Best Management Practices

| No | <u>BMP/COA Type</u> | <u>Description</u> |
|----|--------------------------------|---|
| 1 | 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. |
| 2 | 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 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 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. |
| 3 | 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: 3 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

| <u>Att Doc Num</u> | <u>Name</u> |
|--------------------|-----------------------------|
| 1696714 | OPEN HOLE LOGGING EXCEPTION |
| 401042443 | APD APPROVED |
| 401043818 | OffsetWellEvaluations Data |
| 401043825 | DEVIATED DRILLING PLAN |
| 401043826 | OTHER |
| 401043827 | DIRECTIONAL DATA |
| 401043828 | PROPOSED SPACING UNIT |
| 401043829 | EXCEPTION LOC WAIVERS |
| 401043831 | 30 DAY NOTICE LETTER |
| 401044078 | EXCEPTION LOC REQUEST |
| 401050591 | WELL LOCATION PLAT |
| 401091895 | OFFSET WELL EVALUATION |

Total Attach: 12 Files

General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|-------------------|---|---------------------|
| Engineer | On the Drilling & Waste Plans tab, changed closed loop system to "yes". to match other wells and Form 2A. | 08/08/2016 |
| Permit | Final Review Completed. | 08/04/2016 |
| Permit | Attached corrected Open Hole Logging Exception letter. Permitting Review Complete. | 08/04/2016 |
| Permit | Per operator changed the mineral acreage from 80 to 120. Changed Will Oil based drilling fluids be used from Yes, to NO. Per operator distance to nearest well in same formation is correct. ON HOLD: Requesting corrections to the Open Hole Logging Exception letter. | 08/02/2016 |
| Permit | ON HOLD: requesting confirmation of the description of the minerals. Doesn't match the acreage given. Request confirmation of change to Will Oil based drilling fluids be used. Requesting corrections to the Open Hole Logging Exception letter. | 08/02/2016 |
| Permit | Operator requested Exception to Open Hole Logging Rule 317.p. See attached. | 08/02/2016 |
| Engineer | Offset Wells Evaluated | 07/28/2016 |
| Engineer | Revised the distance from a proposed wellbore to nearest existing or permitted wellbore belonging to another operator from 1284', to 392', Chandler Farms HD 20-389HN, on the Drilling & Waste Plans tab, per operator. | 07/28/2016 |
| Permit | Passed completeness. | 05/30/2016 |
| Permit | Corrected typo in survey date per well location plat. | 05/30/2016 |

Total: 10 comment(s)