

FORM

2

Rev
05/22

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:

403069173

Date Received:

07/21/2022

APPLICATION FOR PERMIT TO

☒ Drill
 ☐ Deepen
 ☐ Re-enter
 ☐ Recomplete and Operate
Amend ☐
 TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER: _____
Refill ☐
 ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐
Sidetrack ☐

Well Name: Drake

Well Number: 18N

Name of Operator: PDC ENERGY INC

COGCC Operator Number: 69175

Address: 1775 SHERMAN STREET - STE 3000

City: DENVER

State: CO

Zip: 80203

Contact Name: Ally Ota

Phone: (303)860-5800

Fax: ()

Email: alexandria.ota@pdce.com

FINANCIAL ASSURANCE FOR PLUGGING, ABANDONMENT, AND RECLAMATION

COGCC Financial Assurance

☒ The Operator has provided or will provide Financial Assurance to the COGCC for this Well.

Surety ID Number (if applicable): 20160047

Federal Financial Assurance

☐ In checking this box, the Operator certifies that it has provided or will provide at least this amount of Financial Assurance to the federal government for this Well. (Per Rule702.a.)

Amount of Federal Financial Assurance \$ _____

WELL LOCATION INFORMATION

Surface Location

QtrQtr: SWNW Sec: 17 Twp: 4N Rng: 64W Meridian: 6

Footage at Surface: 2311 Feet FNL/FSL 1013 Feet FEL/FWL

Latitude: 40.313290 Longitude: -104.580230

GPS Data: GPS Quality Value: 1.6 Type of GPS Quality Value: PDOP

Date of Measurement: 02/06/2021

Ground Elevation: 4733

Field Name: WATTENBERG

Field Number: 90750

Well Plan: is ☐ Directional ☒ Horizontal (highly deviated) ☐ Vertical

If Well plan is Directional or Horizontal attach Deviated Drilling Plan and Directional Data.

Subsurface Locations

Top of Productive Zone (TPZ)

Sec: 18 Twp: 4N Rng: 64W

Footage at TPZ: 1433 FSL 450 FEL

Measured Depth of TPZ: 7791

True Vertical Depth of TPZ: 6877 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 16 Twp: 4N Rng: 64W Footage at BPZ: 1432 FSL 200 FEL
Measured Depth of BPZ: 18584 True Vertical Depth of BPZ: 6791 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 16 Twp: 4N Rng: 64W Footage at BHL: 1432 FSL 200 FEL
FNL/FSL FEL/FWL

LOCAL GOVERNMENT PERMITTING INFORMATION

County: WELD Municipality: N/A

Is the Surface Location of this Well in an area designated as one of State interest and subject to the requirements of § 24-65.1-108 C.R.S.? Yes

Per § 34-60-106(1)(f)(I)(A) C.R.S., the following questions pertain to the Relevant Local Government approval of the siting of the proposed Oil and Gas Location.

SB 19-181 provides that when "applying for a permit to drill," operators must include proof that they sought a local government siting permit and the disposition of that permit application, or that the local government does not have siting regulations. § 34-60-106(1)(f)(I)(A) C.R.S.

Does the Relevant Local Government regulate the siting of Oil and Gas Locations, with respect to this Location? ☒ Yes ☐ No

☒ If yes, in checking this box, I hereby certify that an application has been filed with the local government with jurisdiction to approve the siting of the proposed oil and gas location.

The disposition of the application filed with the Relevant Local Government is: Approved Date of Final Disposition: 03/17/2022

Comments: 1041WOGLA21-0007 CDP is approved

SURFACE AND MINERAL OWNERSHIP AT WELL'S OIL & GAS LOCATION

Surface Owner of the land at this Well's Oil and Gas Location: ☒ Fee ☐ State ☐ Federal ☐ Indian

Mineral Owner beneath this Well's Oil and Gas Location: ☒ Fee ☐ State ☐ Federal ☐ Indian

Surface Owner Protection Bond (if applicable): _____ Surety ID Number (if applicable): _____

MINERALS DEVELOPED BY WELL

The ownership of all the minerals that will be developed by this Well is (check all that apply):

- ☒ Fee
☒ State
☐ Federal
☐ Indian
☐ N/A

LEASE INFORMATION

Using standard QtrQtr, Section, Township, Range format describe one entire mineral lease as follows:

* If this Well is within a unit, describe a lease that will be developed by the Well.

* If this Well is not subject to a unit, describe the lease that will be produced by the Well.

(Attach a Lease Map or Lease Description or Lease if necessary.)

T4N-R64W Section 17: NW/4, S/2, among other lands

Total Acres in Described Lease: 5660 Described Mineral Lease is: ☒ Fee ☐ State ☐ Federal ☐ Indian

Federal or State Lease # _____

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 1102 Feet
Building Unit: 1241 Feet
Public Road: 979 Feet
Above Ground Utility: 710 Feet
Railroad: 5280 Feet
Property Line: 307 Feet

INSTRUCTIONS:

- Specify all distances per Rule 308.b.(1).
- 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 – as defined in 100 Series Rules.

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	407-3328	3770	S.4: S2S2S2, S.5: S2S2SE, S.7: SESESE, S.8: E2, S2S2SW, S.9: All, S.16: All, S.17: All, S.18: E2E2E2, S.20: All, S.21: All

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

SUBSURFACE MINERAL SETBACKS

Enter 5280 for distance greater than 1 mile.

Is this Well within a unit? Yes

If YES:

Enter the minimum distance from the Completed Zone of this Well to the Unit Boundary: 200 Feet

Enter the minimum distance from the Completed Zone of this Well to the Completed Zone of an offset Well within the same unit permitted or completed in the same formation: 218 Feet

If NO:

Enter the minimum distance from the Completed Zone of this Well to the Lease Line of the described lease: _____ Feet

Enter the minimum distance from the Completed Zone of this Well to the Completed Zone of an offset Well producing from the same lease and permitted or completed in the same formation: _____ Feet

Exception Location

☐ If this Well requires the approval of a Rule 401.c Exception Location, enter the Rule or spacing order number and attach the Exception Location Request and Waivers. _____

SPACING & FORMATIONS COMMENTS

DRILLING PROGRAM

Proposed Total Measured Depth: 18584 Feet

TVD at Proposed Total Measured Depth 6791 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: 30 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 Plan unless a plan was already submitted with the Form 2A per Rule 304.c.(10).

Will there be hydraulic fracture treatment at a depth less than 2,000 feet in this well? No

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

Beneficial reuse or land application plan submitted? No

Reuse Facility ID: _____ or Document Number: _____

CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Grade	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
SURF	13+1/2	9+5/8	J-55	36	0	1600	920	1600	0
1ST	8+1/2	5+1/2	P-110	20	0	18584	2035	18584	2000

☒ Conductor Casing is NOT planned

POTENTIAL FLOW AND CONFINING FORMATIONS

Zone Type	Formation /Hazard	Top M.D.	Top T.V.D.	Bottom M.D.	Bottom T.V.D.	TDS (mg/L)	Data Source	Comment
Groundwater	Fox Hills Sandstone	495	495	880	880	1001-10000	Other	COGCC UPWQ Study
Confining Layer	Pierre Shale	925	925	975	975			
Groundwater	UPIR/Pawnee Aquifer	975	975	1493	1493	1001-10000	Other	COGCC UPWQ Study
Confining Layer	Pierre Shale	1493	1493	3655	3655			
Hydrocarbon	Parkman	3655	3655	3955	3955			
Confining Layer	Pierre Shale	3955	3955	4047	4047			
Hydrocarbon	Sussex	4047	4047	4430	4430			
Confining Layer	Pierre Shale	4430	4430	4897	4897			
Hydrocarbon	Shannon	4897	4897	4967	4967			
Confining Layer	Pierre Shale	4967	4967	7402	6681			
Subsurface Hazard	Sharon Springs Shale	7402	6681	7469	6727			
Hydrocarbon	Niobrara	7469	6727	18584	6791			

OPERATOR COMMENTS AND SUBMITTAL

Comments

The distance to the completed portion of the nearest well on the "Spacing and Formations" tab was measured to the Drake 19NA (Doc #403069176). The distance to the nearest wellbore belonging to another operator on the "Drilling Plan" tab was measured to the Angela C17-25 (05-123-24345). Both distances were measured via the anti-collision report attached in the deviated drilling plan.

The subject well will have a treated interval less than 175' from the treated interval of the below listed wells owned by Noble. Stimulation Setback Consent is attached for those closer than 150'. All distances were measured using the attached anti-collision report.

Mark Alter C16-79HN (05-123-33386), 77', PR

SH C 17-24D (05-123-34498), 57', P&A

Angela C17-25 (05-123-24345), 30', P&A

Ocoma C17-23 (05-123-21728), 85', P&A

Ryann State C16-24 (05-123-25634), 58', P&A

Ryann State C16-25 (05-123-25399), 101', PR

Ryann State C16-23 (05-123-25398), 153', SI

This application is in a Comprehensive Area Plan No CAP #: _____
Oil and Gas Development Plan Name Kenosha OGD ID#: 481580
Location ID: 482390


I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: _____ Print Name: Ally Ota

Title: Regulatory Analyst Date: 7/21/2022 Email: alexandria.ota@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, applicable orders, and SB 19-181 and is hereby approved.

COGCC Approved:  Director of COGCC Date: 8/24/2022
Expiration Date: 08/23/2025

API NUMBER

05 123 51823 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.

Condition of Approval

COA Type	Description
Drilling/Completion Operations	<p>Operator acknowledges the proximity of the listed non-operated wells. Operator assures that this offset list will be remediated per the Offset Well Evaluation and Hydraulic Fracturing Operator Guidance Document Operator using Option 3. Operator will submit a Form 42 ("OFFSET MITIGATION COMPLETED") stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well.</p> <p>NOBLE ENERGY INC 123-07280 UPRR 36 PAN AM B *1</p> <p>Operator acknowledges the proximity of the listed wells. Operator agrees to: provide mitigation option 1 or 2 (per the Offset Well Evaluation and Hydraulic Fracturing Operator Guidance Document) 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") stating that appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well.</p> <p>NOBLE ENERGY INC 123-10565 STATE A *41-16 NOBLE ENERGY INC 123-11827 CHENOWETH *1 NOBLE ENERGY INC 123-12441 CPC-HARLESS *17-1 NOBLE ENERGY INC 123-12467 CPC-HARLESS *17-2 NOBLE ENERGY INC 123-12896 CLEMONS *15-1 NOBLE ENERGY INC 123-14211 HARLESS PM C *17-8</p> <p>Operator acknowledges the proximity of the listed wells. Operator agrees to: provide mitigation option 4 (per the Offset Well Evaluation and Hydraulic Fracturing Operator Guidance Document). Operator will submit a Form 42 ("OTHER – AS SPECIFIED BY PERMIT CONDITION") stating that appropriate mitigation will be completed, during the hydraulic stimulation of this well. This Form 42 shall be filed 48 hours prior to stimulation. Surface and production casing pressures of this offset well list will be actively monitored during stimulation of this well. Records shall be retained and provided to COGCC engineering upon request. If there is indication of communication between the stimulation treatment and an offset well, treatment will be stopped and COGCC Engineering notified.</p> <p>NOBLE ENERGY INC 123-33279 FRICK C *17-79HN NOBLE ENERGY INC 123-33281 FRICK PC C *17-65HN NOBLE ENERGY INC 123-34723 ALTER C *09-24D PDC ENERGY INC 123-45882 Jagged *10N PDC ENERGY INC 123-45884 Jagged *8N PDC ENERGY INC 123-45885 Jagged *7N PDC ENERGY INC 123-45886 Jagged *9N PDC ENERGY INC 123-48736 Jagged *12N PDC ENERGY INC 123-48737 Jagged *11N</p>
Drilling/Completion Operations	<p>Per COGCC Order 1-232, Bradenhead tests shall be performed 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. If any pressure greater than 200 psi is observed or if there is continuous flow, Operator must contact COGCC engineering for approval prior to stimulation.</p> <p>2) If a delayed completion, a second test is required between 6-9 months after rig release and must be conducted prior to stimulation. If any pressure greater than 200 psi is observed or if there is continuous flow, Operator must contact COGCC engineering for approval prior to stimulation.</p> <p>3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.</p>
Drilling/Completion Operations	<p>1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU (spud notice) 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 408.j. and provide cement coverage from TD to a minimum of 500' above Niobrara and from 500' below Sussex to 500' above Sussex. Verify coverage with a cement bond log.</p> <p>3) Oil-based drilling fluid is to be used only after all fresh water aquifers are covered.</p>

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Operator 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 shall be given to all offset operators prior to drilling.
2	Drilling/Completion Operations	OPEN HOLE LOGGING EXCEPTION: One of the first wells drilled on the pad will be logged with cased-hole neutron log with 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 in that well and have those logs attached. The Form 5 for each well shall state "Open Hole Logging Exception - No open-hole logs were run" and shall clearly identify the type of log and the well (by API #) in which open-hole logs were run.

Total: 2 comment(s)

Attachment List

<u>Att Doc Num</u>	<u>Name</u>
403069173	FORM 2 SUBMITTED
403074999	OffsetWellEvaluations Data
403075015	OPEN HOLE LOGGING EXCEPTION
403075017	STIMULATION SETBACK CONSENT
403075018	WELL LOCATION PLAT
403075019	DEVIATED DRILLING PLAN
403075020	DIRECTIONAL DATA
403146025	OFFSET WELL EVALUATION

Total Attach: 8 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	08/18/2022
Permit	Close: SLB has no concerns with this application (7/19/2022). Initial permitting review complete and task passed.	08/02/2022
Permit	Submitting per operator request; technical issue prevents the operator from doing so.	07/21/2022
Permit	Open: Emailed the SLB to notify them of this pending (7/18/2022) RETURNED TO DRAFT: This application has been reviewed by COGCC staff and cannot be approved based on the information submitted; therefore, the COGCC is returning this form to DRAFT for the applicant to resolve the issues. In compliance with § 24-65.1-108(1), C.R.S., the COGCC is returning this application to the applicant to remedy the deficiencies. The applicant may resubmit this application for COGCC review; upon resubmittal of any application, the COGCC will have 60 days in which to approve, deny, or request all additional information necessary to complete the regulatory review. In addition to all standard required information and attachments, the COGCC hereby confirms the following information is necessary for review: 1. Missing Deviated Drilling Plan as required by: Rule 308.b.(5) . Rule 410.a.(1)	07/21/2022
OGLA	The Commission approved OGDG #481580 on 06/08/2022 for the Oil and Gas Location related to this Form 2. OGLA task passed.	06/24/2022

Total: 5 comment(s)