

FORM
2

Rev
12/20

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:

402735396

(SUBMITTED)

Date Received:

07/01/2021

APPLICATION FOR PERMIT TO:

☒ Drill ☐ Deepen ☐ Re-enter ☐ Recomplete and Operate

Amend ☐

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER: Unplanned Sidetrack

Refill ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☒

Well Name: Vega Well Number: 5N
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

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20160047

WELL LOCATION INFORMATION

Surface Location

QtrQtr: SENW Sec: 6 Twp: 3N Rng: 65W Meridian: 6
Footage at Surface: 2374 Feet FNL 2596 Feet FWL
Latitude: 40.255160 Longitude: -104.706360
GPS Data: GPS Quality Value: 2.3 Type of GPS Quality Value: PDOP Date of Measurement: 11/16/2017
Ground Elevation: 4976
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: 6 Twp: 3N Rng: 65W Footage at TPZ: 2530 FNL 1530 FWL
Measured Depth of TPZ: 7775 True Vertical Depth of TPZ: 7188 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 31 Twp: 4N Rng: 65W Footage at BPZ: 150 FNL 1530 FWL
Measured Depth of BPZ: 15454 True Vertical Depth of BPZ: 7188 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 31 Twp: 4N Rng: 65W Footage at BHL: 150 FNL 1530 FWL
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.? No

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: 08/13/2018

Comments: WOGLA18-0081 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 Financial Assurance (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.)

3N-65W: Sec. 6: Lot 5 (SWNW), SENW, S2NE

Total Acres in Described Lease: 160 Described Mineral Lease is: ☒ Fee ☐ State ☐ Federal ☐ Indian

Federal or State Lease # _____

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 528 Feet
Building Unit: 528 Feet
Public Road: 2365 Feet
Above Ground Utility: 642 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.

Railroad: 5280 Feet
Property Line: 51 Feet

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	407-2365	1920	S.31, 6-7: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: 150 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: 349 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: 15454 Feet TVD at Proposed Total Measured Depth 7188 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: 106 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? Yes

Reuse Facility ID: 449950 or Document Number:

CASING PROGRAM

<u>Casing Type</u>	<u>Size of Hole</u>	<u>Size of Casing</u>	<u>Grade</u>	<u>Wt/Ft</u>	<u>Csg/Liner Top</u>	<u>Setting Depth</u>	<u>Sacks Cmt</u>	<u>Cmt Btm</u>	<u>Cmt Top</u>
SURF	12+1/4	9+5/8	J-55	36	0	1696	530	1696	0
1ST	8+1/2	5+1/2	P-110	20	0	15454	2035	15454	

☒ Conductor Casing is NOT planned

POTENTIAL FLOW AND CONFINING FORMATIONS

<u>Zone Type</u>	<u>Formation /Hazard</u>	<u>Top M.D.</u>	<u>Top T.V.D.</u>	<u>Bottom M.D.</u>	<u>Bottom T.V.D.</u>	<u>TDS (mg/L)</u>	<u>Data Source</u>	<u>Comment</u>
Groundwater	Fox Hills Sandstone	0	0	960	959	1001-10000	Other	COGCC UPWQ Study
Groundwater	UPIR/Pawnee Aquifer	1176	1174	1708	1706	1001-10000	Other	COGCC UPWQ Study
Confining Layer	Pierre Shale	1708	1706	4075	3997			
Hydrocarbon	Parkman	4075	3997	4384	4297			
Confining Layer	Pierre Shale	4384	4297	4465	4375			
Hydrocarbon	Sussex	4465	4375	4790	4692			
Confining Layer	Pierre Shale	4790	4692	5167	5059			
Hydrocarbon	Shannon	5167	5059	5237	5127			
Confining Layer	Pierre Shale	5237	5127	7311	7060			
Subsurface Hazard	Sharon Springs Shale	7311	7060	7347	7080			Least Competent Shales
Hydrocarbon	Niobrara/Codell	7397	7105	15535	7188			Nio B Target

OPERATOR COMMENTS AND SUBMITTAL**Comments**

APD is being submitted for an unplanned sidetrack. While drilling the vertical portion of the well at 4,590' we experienced an 850 psi pressure loss. After tripping out of the hole it was determined that we lost the bit. The bit is an extremely low probability of fishing and so we would like to sidetrack. The plan is to spot a cement plug from 4,590' MD (4497' TVD) to 1,000' above that 3,590' MD (3525' TVD)

Sidetrack point is estimated to be around 4,000' MD (3,943' TVD) however this can vary slightly due to when we get kicked off the cement plug. Please see the information below. Diagram attached.

- Well Name and API: Vega 5N API: 05-123-48463
- Explanation of situation and why you need to sidetrack: While drilling the vertical portion of the well at 4,590' we experienced an 850 psi pressure loss. After tripping out of the hole it was determined that we lost the bit. The bit is an extremely low probability of fishing and so we would like to sidetrack.
- Casing sizes set and measured depth: 9-5/8" Surface set @ 1,696' MD / 1,691' TVD
- Description of fish-including top and bottom: Schlumberger Drill Bit. Length 1'. Top of fish 4,589'. Bottom of fish 4,590'.
- Type of cement you will be using including weight, yield, and sacks. 74 bbls (362 sks) of Class G, 4% Cacl Cement. Yield: 1.15 cuft/sk, Density: 15.8 lb/gal, Water: 5 gal/sk
- Measured depth and TVD of sidetrack point: Top of Plug: 3,590' MD/ 3,525' TVD; Estimated Sidetrack Point: 4,000' MD/ 3,943' TVD
- Proposed target formation of sidetrack hole if different than permitted: Same as permit
- BHL of sidetrack hole: Same as permit
- Wellbore Diagram: Attached

This application is in a Comprehensive Area Plan No CAP #:

Oil and Gas Development Plan Name _____

OGDP ID#: _____

Location ID: 458732

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: 7/1/2021

Email: alexandria.ota@pdce.com

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: _____

Expiration Date: _____

API NUMBER

05 123 48463 01

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

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Best Management Practices

<u>No</u>	<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	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 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 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.
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)

Attachment List

<u>Att Doc Num</u>	<u>Name</u>
402735441	CORRESPONDENCE
402735442	WELLBORE DIAGRAM

Total Attach: 2 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)

Public Comments

No public comments were received on this application during the comment period.

