

FORM

2

Rev
08/16

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:

401798387

APPLICATION FOR PERMIT TO:

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

Date Received:

10/31/2018

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER _____Refiling ☐ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐Sidetrack ☐

Well Name: Booth

Well Number: C35-745

Name of Operator: NOBLE ENERGY INC

COGCC Operator Number: 100322

Address: 1001 NOBLE ENERGY WAY

City: HOUSTON State: TX Zip: 77070

Contact Name: Holly Hill

Phone: (303)228 4232

Fax: ()

Email: CDPNBLPermitting@nblenergy.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20030009

WELL LOCATION INFORMATION

QtrQtr: NWNE Sec: 2 Twp: 3N Rng: 64W Meridian: 6

Latitude: 40.260530

Longitude: -104.515220

Footage at Surface: 441 Feet FNL/FSL FNL 1784 Feet FEL/FWL FEL

Field Name: WATTENBERG

Field Number: 90750

Ground Elevation: 4721

County: WELD

GPS Data:

Date of Measurement: 09/26/2018 PDOP Reading: 1.7 Instrument Operator's Name: David Born

If well is ☐ Directional ☒ Horizontal (highly deviated) submit deviated drilling plan.
 Footage at Top of Prod Zone: FNL/FSL FNL/FWL Bottom Hole: FNL/FSL FEL/FWL
 200 FSL 2305 FEL 2433 FSL 2316 FEL
 Sec: 35 Twp: 4N Rng: 64W Sec: 23 Twp: 4N Rng: 64W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: ☒ Fee ☐ State ☐ Federal ☐ IndianThe 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: No

The right to construct the Oil and Gas Location is granted by: Surface Use Agreement

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.)

E/2, SW/4, Sec 26, T4N, R64W

Total Acres in Described Lease: 480 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: 4599 Feet
Building Unit: 4812 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 3469 Feet
Above Ground Utility: 3516 Feet
Railroad: 5280 Feet
Property Line: 441 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: 325 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 200 Feet (Enter 5280 for distance greater than 1 mile.)

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

SPACING & FORMATIONS COMMENTS

Proposed Spacing Unit = T4N-R64W: Section 35: All; Section 26: All; Section 23: S/2
Per the Comprehensive Drilling Plan (#11984) this well will be completed less than 460' from the boundary of the Wellbore Spacing Unit.

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		1600	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 19936 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: 986 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? Yes

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: Commercial Disposal

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Beneficial reuse or land application plan submitted?

Reuse Facility ID: 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
CONDUCTOR	26	16	42	0	80	173	80	0
SURF	13+1/2	9+5/8	36	0	1850	663	1850	0
1ST	8+1/2	5+1/2	20	0	19936	2199	19936	

☐ 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 Noble Energy shall isolate both the Fox Hills and Upper Pierre Aquifers with surface casing from hydrocarbon bearing zones and exposure to oil based drilling fluid. Noble Energy also agrees to not expose the UPAq to oil based mud.

Nearest HZ well producing zone to producing zone per manual calculation is the proposed Booth C35-750.

Nearest non-op is the name Booth 21-35U (API: 05-123-25054) PR Status.

The following wells are all within 150'. All are Noble operated, therefore no 317.s is required:

Sater C26-69HN (API: 05-123-33440) PR Status

UPV 23-10I4 (API: 05-123-18055) PR Status

Prospect CO26-15I4 (API: 05-123-18070) PR Status

Kern D2-2Ji (API: 05-123-22182) PR Status

Wellbore to wellbore distances populated from attached anti-collision report unless otherwise indicated.

Exception Location waiver language is included in attached SUA (Page 3, Section 4.A.6).

This application is in a Comprehensive Drilling Plan Yes CDP #: 11984

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: Ann Feldman

Title: Regulatory Manager Date: 10/31/2018 Email: CDPNBLPermitting@nblenergy

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:  Director of COGCC Date: 12/4/2018

Expiration Date: 10/28/2024

API NUMBER

05 123 48924 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>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. 3) Oil-based drilling fluid is to be used only after all aquifers are covered.
	<p>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 wells stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of the proposed wells.</p> <p>Kissler 3 (API NO 123-12896)</p>
	<p>Operator acknowledges the proximity of the following non-operated 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>Booth 22-35U (API NO 123-25055)</p>
	<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>UPV 35-214 (API NO 123-18671)Prospect CO 26-814 (API NO 123-18063) Prospect CO 26-1014 (API NO 123-18065)Dinnel C 26-21D (API NO 123-29584) Slater C 23-24 (API NO 123-25489)Prospect CO 26-1514 (API NO 123-18070) UPV 23-1014 (API NO 123-18055)Prospect CO 26-714 (API NO 123-18062) Booth C 35-27 (API NO 123-29316)Slater C 23-22 (API NO 123-25441) Prospect CO 26-1614 (API NO 123-18071)Booth C 35-01 (API NO 123-27157) Booth C 35-08 (API NO 123-27181)Booth C 35-07 (API NO 123-27180) Prospect CO 26-114 (API NO 123-18061)Prospect CO 26-914 (API NO 123-18064) Coleman C 23-21 (API NO 123-25412)Prospect CO 26-1414 (API NO 123-18069) UPV 23-1614 (API NO 123-18069)UPV 23-914 (API NO 123-18054) Prospect CO 26-1114 (API NO 123-18066)Kissler 3X (API NO 123-13005) Kissler 2 (API NO 123-12069)Dinnel 3 (API NO 123-12906) Kern D 2-2JI (API NO 123-22182)UPV 23-814 (API NO 123-18053) Donovan D 2-3JI (API NO 123-22178)Ava State C 36-31 (API NO 123-29202) Coleman 23-614 (API NO 123-17748)Booth C23-20 (API NO 123-27169) Dinnel C 26-20 (API NO 123-29433)State C 36-4 (API NO 123-21121) State C 36-13 (API NO 123-23981)Dinnel C 26-19 (API NO 123-21768) State 36-1214 (API NO 123-17802)Slater C 23-17 (API NO 123-28039)</p>

Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Anti-collision: 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	During and Post stimulation: Noble Energy will comply with the COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated 5/29/12.
3	Drilling/Completion Operations	One of the first wells drilled on the pad will be logged with open hole Resistivity Log and 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 and have those logs attached. The Form 5 for a well without open-hole logs shall clearly state "No open-hole logs were run" and shall clearly identify (by API#, well name & number) the well in which open hole logs were run.

Total: 3 comment(s)

Applicable Policies and Notices to Operators

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

Att Doc Num	Name
401798387	FORM 2 SUBMITTED
401819353	OffsetWellEvaluations Data
401819355	EXCEPTION LOC REQUEST
401819357	PROPOSED SPACING UNIT
401819359	SURFACE AGRMT/SURETY
401819364	WELL LOCATION PLAT
401819366	DEVIATED DRILLING PLAN
401819368	DIRECTIONAL DATA
401861121	OFFSET WELL EVALUATION

Total Attach: 9 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Final Review	•Final permitting review complete. Sent to Final Approval.	12/03/2018
Permit	Permitting Review Complete.	11/16/2018
Engineer	Offset Wells Evaluated	11/09/2018
Permit	Passed Completeness	11/02/2018

Total: 4 comment(s)