

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:

401168352

APPLICATION FOR PERMIT TO:

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

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER _____

Refilling ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☐

Date Received:

02/14/2017

Well Name: Harper

Well Number: A21-674

Name of Operator: NOBLE ENERGY INC

COGCC Operator Number: 100322

Address: 1625 BROADWAY STE 2200

City: DENVER State: CO Zip: 80202

Contact Name: Susan Miller

Phone: (303)228-4246

Fax: ()

Email: susan.miller@nblenergy.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20030009

WELL LOCATION INFORMATION

QtrQtr: NWSW Sec: 21 Twp: 6N Rng: 64W Meridian: 6

Latitude: 40.470750

Longitude: -104.561170

Footage at Surface: 2367 Feet FNL/FSL FSL 950 Feet FEL/FWL FWL

Field Name: WATTENBERG

Field Number: 90750

Ground Elevation: 4743

County: WELD

GPS Data:

Date of Measurement: 11/10/2016 PDOP Reading: 1.8 Instrument Operator's Name: Brian Rottinghaus

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
1030 FNL 1440 FWL 1030 FNL 1 FEL
Sec: 21 Twp: 6N Rng: 64W Sec: 22 Twp: 6N 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: 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.)

Section 21: E/2NW/4, T6N-R64W.

Total Acres in Described Lease: 80 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: 782 Feet
Building Unit: 836 Feet
High Occupancy Building Unit: 4810 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 935 Feet
Above Ground Utility: 778 Feet
Railroad: 5280 Feet
Property Line: 270 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: 12/08/2016

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: 100 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 1030 Feet (Enter 5280 for distance greater than 1 mile.)

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

SPACING & FORMATIONS COMMENTS

Spacing Unit configuration: N/2 Section 21, N/2 Section 22, W/2NW/4 Section 23, Township 6 North, Range 64 West.

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		720	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 16780 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: 152 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:

Drilling waste disposal information added to address non-oil based mud and fluids used in non-producing portion of wellbore.

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: _____ or Document Number: 2614238

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	6	80	0
SURF	13+3/4	9+5/8	36	0	1850	658	1850	0
1ST	8+1/2	5+1/2	20	0	16780	2194		

☐ 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 A21-12 Pad, 14-wells, consists of: Kona A19-670 Ref, doc no. 401168043, Kona A19-640, doc no. 401168192, Kona A19-646, doc no. 401168204, Kona A19-652, doc no. 401168210, Kona A19-662, doc no. 401168231, Kona A19-679, doc no. 401168252, Kona A19-685, doc no. 401168260; Harper A21-643, doc no. 401168268, Harper A21-649, doc no. 401168297, Harper A21-656, doc no. 401168328, Harper A21-664, doc no. 401168333, Harper A21-669, doc no. 401168350, Harper A21-674, doc no. 401168352, Harper A21-681, doc no. 401168357.
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 Upper Pierre Aquifer to oil based mud.
The nearest well in same formation = Eisenstat 22-15, API 05-123-22582, 100', Noble Energy; Nearest well belonging to another Operator = McKee 21-21, API 05-123-20516, Status: P&A, 152', PDC Energy. Please see Anticollision Report included with the attached Directional Drilling Plan.
The lateral path of the proposed well will be less than the required 150' minimum distance from the offset well. Noble Energy is the Operator of the encroached upon well, therefore a signed consent from the Offset operator is not required. Please see Page 4, Section 6 of the attached Surface Use Agreement for exception location waiver language to COGCC Rule 318A.a. to locate any well outside of the GWA window and COGCC Rule 318A.c. to locate any well greater than fifty (50) feet from an existing well.
Per conversation with COGCC, Noble submitted the subject Pad Form 2A, doc no. 401167795 and Facility Form 2A, doc no. 401177144, prior to the submittal of the subject Form 2's, which will be submitted approximately 2/10/17.

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: Susan Miller

Title: Regulatory Analyst Date: 2/14/2017 Email: regulatorynotification@nblener

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: 3/19/2017

Expiration Date: 03/18/2019

API NUMBER

05 123 44473 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>
	<p>Operator acknowledges the proximity of the listed non-producing well. 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, 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>Sexton 43-21 (API #123-14669)</p>
	<p>Operator acknowledges the proximity of the listed well(s). Operator agrees to provide mitigation Option 1 or 2 (per the DJ Basin Horizontal Offset Policy, ensure all applicable documentation is submitted based on the selected mitigation option chosen, and submit Form 42(s) "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 the proposed wells.</p> <p>Gruen 22-1 (API #123-11749) Ottinger 22-1 (API #123-11787) Carpio 22-41 (API #123-15668)</p>
	<p>Operator acknowledges the proximity of the listed non operated well(s). Operator agrees to provide mitigation Option 1 or 2 (per the DJ Basin Horizontal Offset Policy, ensure all applicable documentation is submitted based on the selected mitigation option chosen, and submit Form 42(s) "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 the proposed wells.</p> <p>State Lease 81 14-16 4-36 (API #123-14298) Culbreath 23-21 (API #123-14481) McKee 32-21 (API #123-14580) McKee 42-21 (API #123-14581) McKee 22-21 (API #123-14668) Wells Trust 13-21 (API #123-19571) J&L Farms 23-12 (API #20005)</p>
	<p>1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU for the first well activity with a rig on the pad and provide 48 hour spud notice for each subsequent well drilled on the pad. 2) Comply with Rule 317.j and provide cement coverage from TD to a minimum of 200' above the Niobrara. Verify coverage with cement bond log. 3) Oil-based drilling fluid is to be used only after all aquifers are covered.</p>
	<p>Bradenhead tests shall be performed and reported according to the following schedule and Form 17 submitted within 10 days of each test: 1) Within 60 days of rig release and prior to stimulation and 2) If a delayed completion, 6-7 months after rig release and prior to stimulation. 3) Within 30 days after first production, as reported on Form 5A.</p>
	<p>This Permit to Drill is approved subject to all the BMPs and COAs on the most recently approved Form 2A and any subsequently approved Form 4 for the Oil and Gas Location. The most recently approved Form 2A and any subsequent Form 4s containing applicable COAs for this location shall be posted onsite during construction, drilling, and completions operations.</p>

Best Management Practices

No	BMP/COA Type	Description
1	Planning	<p>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 well path 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.</p> <p>Bradenhead Monitoring: Operator will comply with the 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 has established this Policy regarding Bradenhead monitoring during Hydraulic Fracturing Treatments ("Treatment") in the Greater Wattenberg Area ("GWA") pursuant to COGCC Rule 207.a. Policy. This Policy applies to oil and gas operations in the GWA as defined by the COGCC Rules of Practice and Procedure.</p>
2	General Housekeeping	Housekeeping will consist of neat and orderly storage of materials and fluids. Wastes will be temporarily stored in sealed containers and regularly collected and disposed of at offsite, suitable facilities. If spills occur prompt cleanup is required to minimize any commingling of waste materials with stormwater runoff. Routine maintenance will be limited to fueling and lubrication of equipment. Drip pans will be used during routine fueling and maintenance to contain spills or leaks. Any waste product from maintenance will be containerized and transported offsite for disposal or recycling. There will be no major equipment overhauls conducted onsite. Equipment will be transported offsite for major overhauls. Cleanup of trash and discarded materials will be conducted at the end of each work day. Cleanup will consist of patrolling the roadway, access areas, and other work areas to pickup trash, scrap debris, other discarded materials, and any contaminated soil. These materials will be disposed of properly.
3	Storm Water/Erosion Control	Stormwater management plans (SWMP) are in place to address construction, drilling and operations associated with Oil & Gas development throughout the state of Colorado in accordance with Colorado Department of Public Health and Environment (CDPHE) General Permit No. COR- 038637. BMP's will be constructed around the perimeter of the site prior to, or at the beginning of construction. BMP's used will vary according to the location, and will remain in place and maintained until the pad reaches final reclamation.
4	Material Handling and Spill Prevention	Spill Prevention Control and Countermeasures (SPCC) plans are in place to address any possible spill associated with Oil & Gas operations throughout the state of Colorado in accordance with CFR 112.
5	Drilling/Completion Operations	If a skid is performed for the subject well, then the only required BOPE tests are for the BOPE connection bonnet seal breaks, as long as a full BOPE test was performed at the beginning of the pad, and as long as all necessary BOPE tests are completed at least every 30 days during the pad operations.
6	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.

Total: 6 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>
401168352	FORM 2 SUBMITTED
401189478	DEVIATED DRILLING PLAN
401189479	WELL LOCATION PLAT
401189480	DIRECTIONAL DATA
401200216	OffsetWellEvaluations Data
401200233	EXCEPTION LOC REQUEST
401200234	SURFACE AGRMT/SURETY
401200238	PROPOSED SPACING UNIT
401210227	OPEN HOLE LOGGING EXCEPTION
401236737	OFFSET WELL EVALUATION

Total Attach: 10 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	03/17/2017
Permit	Per operator changed distance to nearest High Occupancy Building Unit. Permitting Review Complete.	02/21/2017
Permit	Surface Use Agreement has waivers for Rule 318A.a & 318A.c. See page 4, Section 6.	02/21/2017
Permit	Operator requested Exception to Open Hole Logging Rule 317.p. See attached.	02/21/2017
Permit	This form has passed completeness.	02/16/2017

Total: 5 comment(s)