

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

TYPE OF WELL OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> COALBED <input type="checkbox"/> OTHER _____ ZONE TYPE SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONES <input type="checkbox"/> COMMINGLE ZONES <input type="checkbox"/>	Refiling <input type="checkbox"/> Sidetrack <input type="checkbox"/>
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Date Received:
07/18/2018

Well Name: STARS FEDERAL Well Number: LD17-740

Name of Operator: NOBLE ENERGY INC COGCC Operator Number: 100322

Address: 1001 NOBLE ENERGY WAY

City: HOUSTON State: TX Zip: 77070

Contact Name: LOGAN BOUGHAL Phone: (832)639-7447 Fax: ()

Email: LOGAN.BOUGHAL@NBLENERGY.COM

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: 20030009

WELL LOCATION INFORMATION

QtrQtr: SWSE Sec: 5 Twp: 9N Rng: 58W Meridian: 6

Latitude: 40.774150 Longitude: -103.884280

Footage at Surface: <u>380</u> Feet	FNL/FSL	FEL/FWL
<u>FSL</u> <u>1470</u> Feet	<u>FSL</u>	<u>FEL</u>

Field Name: DJ HORIZONTAL NIOBRARA Field Number: 16950

Ground Elevation: 4797 County: WELD

GPS Data:
Date of Measurement: 10/12/2016 PDOP Reading: 1.4 Instrument Operator's Name: OWEN MCKEE

If well is Directional Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: <u>200</u> Feet	FNL/FSL	FEL/FWL	Bottom Hole: <u>140</u> Feet	FNL/FSL	FEL/FWL
<u>FNL</u> <u>1980</u> Feet	<u>FNL</u>	<u>FEL</u>	<u>FSL</u> <u>1980</u> Feet	<u>FSL</u>	<u>FEL</u>
Sec: <u>8</u> Twp: <u>9N</u> Rng: <u>58W</u>			Sec: <u>17</u> Twp: <u>9N</u> Rng: <u>58W</u>		

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.)

T9N-R58W, 6th P.M.:
Section 7: NESE,
Section 8: NWNW,
Section 17: SWNW, NWSW, NWSE,
Section 18: Lot 4, SENE, SESW, NESE

Total Acres in Described Lease: 360 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # COC76992

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 5280 Feet
Building Unit: 5280 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 4895 Feet
Above Ground Utility: 4270 Feet
Railroad: 5280 Feet
Property Line: 380 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: 624 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

COGCC approved Order No. 535-912 which establishes an approximate 2,560-acre drilling and spacing unit consisting of ALL of Sections 7, 8, 17, and 18, T9N-R58W, 6th P.M.

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	535-912	2560	Sec 7, 8, 17, 18:ALL

DRILLING PROGRAM

Proposed Total Measured Depth: 16504 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: 633 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 609

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	144	80	0
SURF	13+1/2	9+5/8	36	0	1850	658	1850	0
1ST	8+1/2	5+1/2	20	0	16504	1775	16504	

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 respectfully submits this application for a permit to drill, which is a part of a 4 well pad producing to the proposed LD05-15 Tank (Doc No 401698200). The closest wellbore in the same formation is the STARS FEDERAL LD17-750 (Doc#401679284).

The wellbore belonging to an outside operator within 1500' of our proposed well is, Timmerman 44-18 (API:05-123-19066). The distance was determined by using the attached Offset Well Evaluation.

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. Noble Energy shall isolate both the Fox Hills and Upper Pierre Aquifers with surface casing from hydrocarbon bearing zones and exposures to oil based drilling fluid. Noble Energy also agrees to not expose the Upper Pierre Aquifer to oil based mud. Noble Energy will comply with the COGCC Policy for Bradenhead Monitoring during Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated 5/29/12.

This well has a bottom hole location beyond the unit boundary setback. The bottom hole of the completed interval will be within the unit boundary setback at 200' FSL and 1980' FEL of Section 17. The wellbore beyond the unit boundary will be physically isolated and will not be completed.

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: LOGAN BOUGHAL

Title: REGULATORY ANALYST II Date: 7/18/2018 Email: LOGAN.BOUGHAL@NBLENE

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: 2/1/2019

Expiration Date: 01/31/2021

API NUMBER
05 123 49607 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>
	Drilling Beyond the Unit Boundary Setback: Operator will ensure the wellbore beyond the unit boundary setback is physically isolated and is not completed. In the Operator Comments on the Form 5A the operator will (1) report the footages from the section lines of the bottom of the completed interval, (2) describe how the wellbore beyond the unit boundary setback is physically isolated, and (3) certify that none of the wellbore beyond the setback was completed.
	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, prior to stimulation. 2) 6 months after rig release, prior to stimulation. 3) Within 30 days of first production, as reported on Form 5A.
	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.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	OPEN HOLE LOGGING: 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.
2	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 150' 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 bottom hole 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.

Total: 2 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

<u>Att Doc Num</u>	<u>Name</u>
2238741	SURFACE AGRMT/SURETY
401679281	FORM 2 SUBMITTED
401686830	OffsetWellEvaluations Data
401687195	DIRECTIONAL DATA
401687196	DEVIATED DRILLING PLAN
401702483	WELL LOCATION PLAT
401926720	OFFSET WELL EVALUATION

Total Attach: 7 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Final Review	<ul style="list-style-type: none"> •With concurrence from operator, corrected the distance from the completed portion of proposed wellbore to the nearest completed portion of the offset wellbore permitted or completed in the same formation. •With concurrence from the operator, corrected the offset well name on the submit tab for the wellbore that is nearest to the completed portion of the proposed wellbore. •With concurrence from operator, added the Beneficial Reuse/Land Application statement and the Document # as reported on the Form 2A. •With concurrence from operator, removed the housekeeping and stormwater bmps as these pertain to the surface location. •With concurrence from operator, corrected the right to construct to SUA and attached SUA from Form 2A. •Final permitting review complete. Sent to Final Approval. 	01/24/2019
Permit	•Initial permitting review complete and task pending - WO operator to confirm RTC.	01/23/2019
Engineer	Offset Wells Evaluated	10/22/2018
Permit	Passed Completeness.	08/09/2018
Permit	<p>Returned to draft for: Attachments: The Surface Use Agreement does not cover surface location.</p> <ol style="list-style-type: none"> 1. missing check for SO = MO? Should this be O&G lease since SUA doesn't cover surface? 2. This is a Drilling and Spacing Unit. The distance to the nearest well should be measured to a well in the unit. The according the to DSU the Timbro kept it's unit until it's PA'd. 3. The distance to the nearest unit is incorrect. Even with the HZ wellbore drilling beyond the setback the distance to the unit should be within the DSU (200' N/S & 300' E/W.) 4. The HZ wellbore beyond the setback requires an operator comment. Here is the standard comment: Operator Comment: This well has a bottom-hole location beyond the unit boundary setback. The bottom of the completed interval will be within the unit boundary setback at XXXX' FNL/FSL and YYYY' FEL/FWL of Section ZZ. The wellbore beyond the unit boundary setback will be physically isolated and will not be completed. 5. ?The Bradenhead monitoring BMP is for GWA and can be removed. 	07/25/2018

Total: 5 comment(s)