

Base of Productive Zone (BPZ)

Sec: 1 Twp: 2N Rng: 64W Footage at BPZ: 200 FNL 1607 FEL
Measured Depth of BPZ: 17493 True Vertical Depth of BPZ: 6772 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 1 Twp: 2N Rng: 64W Footage at BHL: 200 FNL 1607 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? [X] Yes [] No

[X] 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: 11/21/2023

Comments: 1041WOGLA23-0017 Approved on 11/21/2023

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

Surface Owner of the land at this Well's Oil and Gas Location: [X] Fee [] State [] Federal [] Indian

Mineral Owner beneath this Well's Oil and Gas Location: [X] 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):

- [X] 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.)

T2N, R4W, Sec 1: All, & Sec 12: All
T2N, R63W, Sec 7: All, & Sec 18: W/2NW/4

Total Acres in Described Lease: 2024 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # _____

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 2627 Feet
Building Unit: 3698 Feet
Public Road: 3178 Feet
Above Ground Utility: 561 Feet
Railroad: 5280 Feet
Property Line: 610 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	407-3543	2264	T2N, R4W, Sec 1: All, & Sec 12: All T2N, R63W, Sec 7: All, & Sec 18: N/2

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: 628 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

COGCC Spacing Order Cause #407-3543

DRILLING PROGRAM

Proposed Total Measured Depth: 17493 Feet TVD at Proposed Total Measured Depth 6772 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: _____ 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
CONDUCTOR	26	16	A-52A	36.94	0	80	175	80	0
SURF	13+1/2	9+5/8	J-55	36	0	1950	665	1950	0
1ST	8+1/2	5+1/2	P-110	17	0	17493	2033	17493	1000

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	443	443	763	763	1001-10000	DWR	COGCC UPWQ Study
Confining Layer	Pierre Shale	763	763	830	830			
Groundwater	Upper Pierre Aquifer top	830	830	1652	1652	1001-10000	Other	COGCC UPWQ Study
Confining Layer	Pierre Shale	1652	1652	3954	3888			
Hydrocarbon	Parkman	3954	3888	4120	4040			
Confining Layer	Pierre Shale	4120	4040	4383	4296			
Hydrocarbon	Sussex	4383	4296	4750	4650			
Confining Layer	Pierre Shale	4750	4650	5141	5016			
Hydrocarbon	Shannon	5141	5016	5360	5210			
Confining Layer	Pierre Shale	5360	5210	6845	6605			
Subsurface Hazard	Sharon Springs Shale	6845	6605	6904	6643			least competent shales
Hydrocarbon	Niobrara	6904	6643	17493	6772			NIO C TARGET

OPERATOR COMMENTS AND SUBMITTAL

Comments

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/Completion Operations	Operator will log one (1) additional well during the first rig occupation with open-hole resistivity log with gamma-ray log from the kick-off point into the surface casing for the stratigraphically deepest wells on each side of the pad for a total of two wells logged.
Planning	Pursuant to Rule 702.b.(2), the approval of this Application for Permit to Drill constitutes a "change in circumstance" to the approved Financial Assurance Plan. The Operator must file a revised Form 3, Financial Assurance Plan, within 10 days of this approval.
Drilling/Completion Operations	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: 1) Within 60 days of rig release, prior to stimulation. If any pressure greater than 200 psi, must contact ECMC engineer prior to stimulation. 2) If a delayed completion, a second test is required between 6-9 months, of if there is pressure above 200 psi, after rig release and prior to stimulation. If any pressure greater than 200 psi, must contact ECMC engineer prior to stimulation. 3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.
Drilling/Completion Operations	1) Submit Form 42 electronically to ECMC 2 business days prior to MIRU (Spud Notice), for the first well/activity on the pad and provide 2 business days spud notice for all subsequent wells drilled on the pad. 2) Comply with Rule 408.j and provide cement coverage from the end of production casing to a minimum of 500' above Niobrara. Verify coverage with cement bond log. 3) Oil-based drilling fluid is to be used only after all aquifers are covered.
Drilling/Completion Operations	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. J.H. Cuykendall 1 (API NO 123-07251)
5 COAs	

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Operator will perform anti-collision evaluation of all active (producing, shut-in, or temporarily abandoned) offset wellbores that have the potential of being within 150' of the proposed well prior to drilling operations.`
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	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.`

4	Drilling/Completion Operations	Alternative Logging Program: One of the first wells drilled on the pad during the first rig occupation will be logged with open-hole resistivity log with gamma-ray log from the kick-off point into the surface casing for one of the stratigraphically deepest wells on the pad. 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 will state "Alternative Logging Program - No open-hole logs were run" and will clearly identify the type of log and the well (by API#) in which open-hole logs were run.
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Total: 4 comment(s)

Attachment List

<u>Att Doc Num</u>	<u>Name</u>
403619079	FORM 2 SUBMITTED
403619198	OffsetWellEvaluations Data
403619204	SURFACE AGRMT/SURETY
403627583	DIRECTIONAL DATA
403687112	DEVIATED DRILLING PLAN
403687113	WELL LOCATION PLAT
403697091	OFFSET WELL EVALUATION

Total Attach: 7 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	02/21/2024
Permit	Permit Review Complete	02/15/2024
Permit	Emailed operator for the following: - Confirm BPZ & BHL - Confirm Beyond unit boundary setback - Confirm Public Road cultural distance Return to DRAFT - per operator request	02/13/2024
Engineer	Offset Wells Evaluated.	01/10/2024
OGLA	The Commission approved OGDG #485115 on November 15, 2023 for the Oil and Gas Location related to this Form 2. OGLA task passed.	01/03/2024

Total: 5 comment(s)