

Base of Productive Zone (BPZ)
 Sec: 31 Twp: 7N Rng: 64W Footage at BPZ: 200 FNL 841 FEL
 Measured Depth of BPZ: 17553 True Vertical Depth of BPZ: 6973 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)
 Sec: 31 Twp: 7N Rng: 64W Footage at BHL: 200 FNL 841 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? 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: 01/08/2020

Comments: CDP WOGLA 1041WOGLA19-0042 filed 12/10/2019, recorded 1/8/2020. A site-specific WOGLA will be filed prior to commencement of operations.

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 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):

- 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.)

Lot 1 (NW/4NW/4), Lot 2 (SW/4NW/4), E/2W/2, and E/2 of Section 31, T7N, R64W, 6th P.M.

Total Acres in Described Lease: 560 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # _____

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 522 Feet
 Building Unit: 621 Feet
 Public Road: 490 Feet
 Above Ground Utility: 472 Feet
 Railroad: 5280 Feet
 Property Line: 499 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	407-2963	1865	Township 6 North, Range 64 West, 6th P.M. Section 5: Lot 2, S/2NW/4, SW/4; Section 6: Lots 1-4, S/2NE/4, SE/4NW/4, E/2SW/4, SE/4 [All]; Township 7 North, Range 64 West, 6th P.M. Section 31: Lots 1-4, E/2W/2, E/2 [All]; Section 32: W/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: 611 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

See the Approved Spacing Order No. 407-2963.

DRILLING PROGRAM

Proposed Total Measured Depth: 17553 Feet

TVD at Proposed Total Measured Depth 6973 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: 26 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? _____

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	1850	640	1850	0
1ST	8+1/2	5+1/2	P-110	17	0	17553	2045	17553	

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	Surface Alluvium	0	0	205	205	0-500	Groundwater Sample	Environmental Sample Site #705285
Groundwater	Laramie Fox Hills	205	205	360	360	501-1000	Groundwater Sample	Environmental Sample Site #705283
Confining Layer	Pierre Shale	360	360	600	600			
Groundwater	Upper Pierre Aquifer	600	600	1600	1600	1001-10000	Other	COGCC Project #2141, Figure 5
Confining Layer	Pierre Shale	1600	1600	3800	3700			
Hydrocarbon	Parkman	3800	3700	4200	4150			
Confining Layer	Pierre Shale	4200	4150	4300	4280			
Hydrocarbon	Sussex	4300	4280	4700	4680			
Confining Layer	Pierre Shale	4700	4680	5100	5030			
Hydrocarbon	Shannon	5100	5030	5200	5180			
Confining Layer	Pierre Shale	5200	5180	6100	6060			
Hydrocarbon	Tepee Buttes	6100	6060	6700	6650			
Confining Layer	Pierre Shale	6700	6650	6850	6780			
Hydrocarbon	Niobrara	6850	6780	17553	6973			Potential Flow Formation Table: The TVD of the deepest hydrocarbon zone is the bottom of the well and not the bottom of the formation. The formation is not planned to be exited.

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 Upper Pierre Aquifers to oil-based mud.

The nearest well in unit per 2-D calculation is the Bishop A06-731 @ 611'.
The nearest outside operated well per anti-collision is the Dyer 41-7 (API: 05-123-20669) SI Status @ 26'. Producing zones are >150' apart; no 408.u is required.
Wells also within 150':
Stille 12-6H (API: 05-123-34410) PR Status @ 41'. 408.u consent is attached.
Pfenning 43-31 (API: 05-123-22378) SI Status @ 55'. 408.u consent is attached.
Pfenning 44-31 (API: 05-123-22574) SI Status @ 63'. 408.u consent is attached.

This application is in a Comprehensive Area Plan No CAP #: _____
Oil and Gas Development Plan Name WR OGDP 1 OGDP ID#: 481728
Location ID: 483510

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: 1/20/2023 Email: regulatory@ascentgeomatics.c

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

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>
0 COA	

Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Open-Hole Logging Exception: One of the first wells drilled on the pad during the first rig occupation 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 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 will state "Open-Hole Logging Exception - 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.
2	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.
3	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 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: 3 comment(s)

Attachment List

Att Doc Num	Name
403214151	STIMULATION SETBACK CONSENT
403216712	OPEN HOLE LOGGING EXCEPTION
403295173	DEVIATED DRILLING PLAN
403295175	DIRECTIONAL DATA
403295178	WELL LOCATION PLAT
403295575	OffsetWellEvaluations Data

Total Attach: 6 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)