

Base of Productive Zone (BPZ)

Sec: 8 Twp: 6N Rng: 63W Footage at BPZ: 1440 FNL 200 FEL

Measured Depth of BPZ: 20040 True Vertical Depth of BPZ: 6755 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 8 Twp: 6N Rng: 63W Footage at BHL: 1440 FNL 200 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: 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: [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.)

T6N-R64W, 6th P.M., Sec 12: N/2NE/4

Total Acres in Described Lease: 80 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # _____

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 1213 Feet
Building Unit: 2487 Feet
Public Road: 2348 Feet
Above Ground Utility: 283 Feet
Railroad: 5280 Feet
Property Line: 286 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	407-3389	1979	T6N-R63W, 6th P.M., Section 7: All, Section 8: All, Section 17: N2N2, Section 18: N2N2 T6N-R64W, 6th P.M., Section 12: E2, Section 13: N2NE4

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: 660 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 407-3389.

DRILLING PROGRAM

Proposed Total Measured Depth: 20040 Feet TVD at Proposed Total Measured Depth 6755 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: 269 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	20040	2310	20040	

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	Laramie Fox Hills	0	0	290	290	501-1000	Groundwater Sample	COGCC Environmental Sample Site #754128, 704790, & 754475
Confining Layer	Pierre Shale	290	290	500	500			
Groundwater	Upper Pierre Aquifer	500	500	1500	1500	1001-10000	Other	COGCC Project #2141, Figure 5
Confining Layer	Pierre Shale	1500	1500	3500	3500			
Hydrocarbon	Parkman	3500	3500	4000	3950			
Confining Layer	Pierre Shale	4000	3950	4300	4280			
Hydrocarbon	Sussex	4300	4280	4600	4520			
Confining Layer	Pierre Shale	4600	4520	4983	4880			
Hydrocarbon	Shannon	4983	4800	5200	5075			
Confining Layer	Pierre Shale	5200	5075	6100	5900			
Hydrocarbon	Tepee Buttes	6100	5900	6650	6460			
Confining Layer	Pierre Shale	6650	6460	6828	6580			
Hydrocarbon	Niobrara	6828	6580	20040	6755			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 Gabel A12-678 @ 660'.
 The nearest outside operated well per anti-collision is the Cecil 21-12 (API: 05-123-22377) SI Status 269'.
 Wells within 150':
 Shoemaker A12-17 (API: 05-123-24951) PR Status @ 65'. Well is Noble operated; no 408.u is required.
 Shoemaker PC A12-69HN (API: 05-123-34557) PR Status @ 72'. Well is Noble operated; no 408.u is required.
 NCLP PC AA08-18D (API: 05-123-32573) TA Status @ 93'. Well is Noble operated; no 408.u is required.
 NCLP PC AA08-19 (API: 05-123-32568) TA Status @ 57'. Well is Noble operated; no 408.u is required.

This application is in a Comprehensive Area Plan No CAP #: _____
 Oil and Gas Development Plan Name WR OGD 2 OGD ID#: 481735
 Location ID: 483562

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: 2/1/2023 Email: regulatory@ascentgeomatics.c

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, applicable orders, and SB 19-181 and is hereby approved.

COGCC Approved: 

Director of COGCC

Date: 3/23/2023

Expiration Date: 03/24/2030

API NUMBER 05 123 52084 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/Completion Operations	<p>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:</p> <ol style="list-style-type: none"> 1) Within 60 days of rig release, prior to stimulation. If any pressure greater than 200 psi, must contact COGCC 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 COGCC 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	<ol style="list-style-type: none"> 1) Submit Form 42 electronically to COGCC 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	<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>Schrant 23-12 (API NO 123-22290) Cecil 21-12 (API NO 123-22377) Cache 8-13 (API NO 123-24410)</p>
Drilling/Completion Operations	<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>Gibson 11-9 (API NO 123-23102) Storer A 12-2 (API NO 123-23275) Shoemaker A 12-8 (API NO 123-24950) Shoemaker A 12-17 (API NO 123-24951)</p>
4 COAs	

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
402874301	FORM 2 SUBMITTED
403291767	OffsetWellEvaluations Data
403291768	OPEN HOLE LOGGING EXCEPTION
403307014	WELL LOCATION PLAT
403307016	DEVIATED DRILLING PLAN
403307017	DIRECTIONAL DATA
403354330	OFFSET WELL EVALUATION

Total Attach: 7 Files

General Comments

User Group	Comment	Comment Date
Permit	Final Review Completed.	03/21/2023
Permit	Made the following changes with concurrence from the operator: - Revised Spacing Order No. from 407-3092 to 407-3389 (amended) Permit Review Complete	03/16/2023
Permit	Emailed operator for the following: - Confirm revising Spacing Order No. from 407-3092 to 407-3389 (amended)	03/15/2023
Engineer	Offset Wells Evaluated.	02/03/2023
OGLA	The Commission approved OGDG #481735 on October 7, 2022 for the Oil and Gas Location related to this Form 2. OGLA task passed.	02/01/2023

Total: 5 comment(s)