



Base of Productive Zone (BPZ)  
 Sec: 16 Twp: 1S Rng: 66W Footage at BPZ: 2283 FSL 2180 FEL  
 Measured Depth of BPZ: 21573 True Vertical Depth of BPZ: 7154 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)  
 Sec: 16 Twp: 1S Rng: 66W Footage at BHL: 2283 FSL 2180 FEL  
 FNL/FSL FEL/FWL

**LOCAL GOVERNMENT PERMITTING INFORMATION**

County: ADAMS 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.? No

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: In Process Date of Final Disposition: 03/20/2022

Comments: Pending

**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.)

Township 1 South Range 66 West  
Sec 14: SW4

Total Acres in Described Lease: 160

Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # \_\_\_\_\_

## SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 2586 Feet  
Building Unit: 2667 Feet  
Public Road: 1284 Feet  
Above Ground Utility: 1334 Feet  
Railroad: 5280 Feet  
Property Line: 567 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	407-3386	2640	T1S R66W SEC 13: W2W2, SEC 14: ALL, SEC 15: ALL, SEC 16: E2, SEC 21: NE4, SEC 22: N2, SEC 23: N2, SEC 24: W2NW4

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: 460 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: 318 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

## DRILLING PROGRAM

Proposed Total Measured Depth: 21573 Feet

TVD at Proposed Total Measured Depth 7154 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: 823 Feet  No well belonging to another operator within 1,500 feet

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No If yes, attach an H<sub>2</sub>S 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	24	16	N/A	42	0	80	100	80	0
SURF	12+1/4	9+5/8	J-55	36	0	2500	669	2500	0
1ST	8+1/2	5+1/2	P-110	20	0	21573	2779	21573	2500

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	Alluvium	24	24	69	69	1001-10000	USGS	USGS Site Name SC00106612DCC
Groundwater	Arapahoe	69	69	1026	1024	501-1000	Groundwater Atlas	USGS HA-647 (Robson & Romero, 1981)
Groundwater	Laramie-Fox Hills	1026	1024	1301	1294	0-500	Groundwater Atlas	USGS HA-650 (Robson et al, 1981)
Confining Layer	Pierre Formation	1301	1294	1782	1749			
Groundwater	Upper Pierre	1782	1749	2214	2144	501-1000	Electric Log Calculation	Pete Rock 1 (05-001-08469 -0000)
Confining Layer	Base of Upper Pierre	2214	2144	3722	3524			
Hydrocarbon	Parkman Sandstone	3722	3524	3798	3594			Not productive in this area
Confining Layer	Pierre Formation	3798	3594	5088	4774			
Hydrocarbon	Sussex Sandstone	5088	4774	5328	4994			Not productive in this area
Confining Layer	Pierre Formation	5328	4994	6006	5614			
Hydrocarbon	Shannon Sandstone	6006	5614	6093	5694			Not productive in this area
Confining Layer	Pierre Formation	6093	5694	7655	7064			
Subsurface Hazard	Sharon Springs	7655	7064	7982	7154			Sloughing Shale
Hydrocarbon	Niobrara	7982	7154	21573	7154			

## OPERATOR COMMENTS AND SUBMITTAL

Comments

The distance to the completed portion of the nearest well in the same unit on the "Spacing & Formations" tab is measured to the proposed Warbler 13W-27-16. This distance was measured in 2-dimensional space.

The distance to the nearest well belonging to another operator on the "Drilling Plan" tab was measured to Rock #1 (API #05-001-08339).

Attached as OTHER, is the anti-collision analysis which factors in three dimensional measurements as well as gyro surveys performed on some of the offset wellbores. All measurements to offset wellbores were derived from this analysis.

This application is in a Comprehensive Area Plan \_\_\_\_\_ CAP #: \_\_\_\_\_

Oil and Gas Development Plan Name Warbler OGD

OGDP ID#: 481783

Location ID: 483031

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_

Print Name: Jeff Annable

Title: Lead, Regulatory

Date: 10/21/2022

Email: jannable@civiresources.com

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: \_\_\_\_\_

<b>API NUMBER</b>
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.

COA Type	Description
0 COA	

### Best Management Practices

No BMP/COA Type	Description
1 Drilling/Completion Operations	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.
2 Drilling/Completion Operations	Anti-collision: Operator will perform an anti-collision evaluation of all active (producing, shut in, or temporarily abandoned) offset wellbores that have the potential of being within 150 feet of a proposed well prior to drilling operations for the proposed well. Notice shall be given to all offset operators prior to drilling

Total: 2 comment(s)

### Attachment List

Att Doc Num	Name
403181539	OffsetWellEvaluations Data
403200519	DIRECTIONAL DATA
403200521	DEVIATED DRILLING PLAN
403202044	OTHER
403204756	WELL LOCATION PLAT

Total Attach: 5 Files

**General Comments**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
Permit	•Returned to draft at Operator's request.	10/21/2022

Total: 1 comment(s)



**Public Comments**

No public comments were received on this application during the comment period.

