



Base of Productive Zone (BPZ)

Sec: 1 Twp: 2S Rng: 98W Footage at BPZ: 1480 FSL 1652 FWL  
Measured Depth of BPZ: 12439 True Vertical Depth of BPZ: 12046 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 2 Twp: 2S Rng: 98W Footage at BHL: 1480 FSL 1652 FWL  
FNL/FSL FEL/FWL

LOCAL GOVERNMENT PERMITTING INFORMATION

County: RIO BLANCO 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? [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: 07/07/2023

Comments:

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 [X] Federal [ ] Indian

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

Please see lease map

Total Acres in Described Lease: Described Mineral Lease is: [ ] Fee [ ] State [X] Federal [ ] Indian

Federal or State Lease # COC60736

**SAFETY SETBACK INFORMATION**

Distance from Well to nearest:

Building: 5280 Feet  
Building Unit: 5280 Feet  
Public Road: 261 Feet  
Above Ground Utility: 753 Feet  
Railroad: 5280 Feet  
Property Line: 1119 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.)
WILLIAMS FORK	WMFK	1-229		

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: 1480 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: 360 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: 12439 Feet

TVD at Proposed Total Measured Depth 12046 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 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? No

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	30	20	X65	78.67	0	80	230	80	0
SURF	17+1/2	13+3/8	J55	54.5	0	1230	405	1241	0
1ST	12+1/4	9+5/8	J55	38.6	0	3000	158	3117	2086
2ND	8+3/4	4+1/2	P100	11.6	0	12046	992	12439	6899

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	UINTA	30	30	701	700	501-1000	Produced Water Sample	
Groundwater	GREEN RIVER	701	700	853	850	501-1000	Produced Water Sample	
Subsurface Hazard	A GROOVE	853	850	1056	1050			
Subsurface Hazard	B GROOVE	1056	1050	1365	1350			
Subsurface Hazard	DISSOLUTION SURFACE	1365	1350	2320	2250			POSSIBLE LOSS ZONE
Confining Layer	GARDEN GULCH	2320	2250	2501	2420			
Confining Layer	ORANGE MARKER	2501	2420	2586	2500			
Confining Layer	UPPER WASATCH	2586	2500	5360	5110			
Hydrocarbon	TOP OF G SAND	5360	5110	5636	5370			POSSIBLE LOSS ZONE
Hydrocarbon	FORT UNION	5636	5370	6476	6160			
Confining Layer	LOWER WASATCH	6476	6160	7099	6746			
Hydrocarbon	OHIO CREEK	7099	6746	7853	7466			POSSIBLE LOSS ZONE
Hydrocarbon	UPPER MESSAVERDE	7853	7466	8659	8266			
Hydrocarbon	TOP GAS	8659	8266	10229	9836			
Hydrocarbon	CAMEO COALS	10229	9836	10959	10566			
Hydrocarbon	ROLLINS	10959	10566	11109	10716			
Hydrocarbon	COZZETTE	11109	10716	11434	11041			
Hydrocarbon	CORCORAN	11434	11041	11694	11301			
Hydrocarbon	UPPPER SEGO	11694	11301	11939	11546			
Hydrocarbon	LOWER SEGO	11939	11546	12439	12049			

## OPERATOR COMMENTS AND SUBMITTAL

Comments: Nearest offset well producing from the same lease and permitted or completed in the same formation: Federal RGU 423-1-298 (Doc #403561248).

OGDP application (Docket# 221200375) was approved on 08/23/2023, Form 2A (Doc# 402525732) approved on 09/11/2023.

This application is in a Comprehensive Area Plan       No       CAP #: \_\_\_\_\_  
 Oil and Gas Development Plan Name       Ryan Gulch Phase 3       OGDP ID#:       484436

Location ID: 335640

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

Signed: \_\_\_\_\_ Print Name: Melissa Luke

Title: Regulatory Specialist Date: 12/20/2023 Email: mluke@terraep.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: \_\_\_\_\_

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.

#### COA Type

#### Description

0 COA

### Best Management Practices

#### No BMP/COA Type

#### Description

1 Drilling/Completion Operations

Alternative Logging Program: One of the first wells drilled on this pad will be logged with an open-hole resistivity log with gamma-ray, from TD into the surface casing. All wells on the pad will have a cement bond log (CBL) with gamma-ray run on production casing (or on intermediate casing if production liner is run) into the surface casing. 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.

Total: 1 comment(s)

### Attachment List

#### Att Doc Num

#### Name

403625019	OffsetWellEvaluations Data
403625024	DIRECTIONAL DATA
403625025	WELL LOCATION PLAT
403625026	DEVIATED DRILLING PLAN
403631302	LEASE MAP

Total Attach: 5 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)

