

Base of Productive Zone (BPZ)
 Sec: 6 Twp: 2S Rng: 97W Footage at BPZ: 1920 FSL 658 FEL
 Measured Depth of BPZ: 12598 True Vertical Depth of BPZ: 12262 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)
 Sec: 6 Twp: 2S Rng: 97W Footage at BHL: 1920 FSL 658 FEL
 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? 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: 07/07/2022

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 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.)

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

Federal or State Lease # COC62046

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 5280 Feet
Building Unit: 5280 Feet
Public Road: 292 Feet
Above Ground Utility: 508 Feet
Railroad: 5280 Feet
Property Line: 4435 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: 658 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: 354 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: 12598 Feet

TVD at Proposed Total Measured Depth 12262 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? 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	1240	416	1274	0
1ST	12+1/4	9+5/8	J55	36.00	0	2940	157	3053	2030
2ND	8+3/4	4+1/2	P110	11.6	0	12262	992	12598	7062

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	657	650	501-1000	Produced Water Sample	
Groundwater	GREEN RIVER	657	650	814	800	501-1000	Produced Water Sample	
Subsurface Hazard	A GROOVE	814	800	1023	1000			
Subsurface Hazard	B GROOVE	1023	1000	1337	1300			
Subsurface Hazard	DISSOLUTION SURFACE	1337	1300	2279	2200			POSSIBLE LOSS ZONE
Confining Layer	GARDEN GULCH	2279	2200	2446	2360			
Confining Layer	ORANGE MARKER	2446	2360	2530	2440			
Confining Layer	UPPER WASATCH	2530	2440	5262	5050			
Hydrocarbon	TOP OF G SAND	5262	5050	5534	5310			POSSIBLE LOSS ZONE
Hydrocarbon	FORT UNION	5534	5310	6360	6100			
Confining Layer	LOWER WASATCH	6360	6100	7262	6962			
Hydrocarbon	OHIO CREEK	7262	6962	8012	7682			POSSIBLE LOSS ZONE
Hydrocarbon	UPPER MESAVERDE	8012	7682	8818	8482			
Hydrocarbon	TOP GAS	8818	8482	10388	10052			
Hydrocarbon	CAMEO COALS	10388	10052	11118	10782			
Hydrocarbon	ROLLINS	11118	10782	11268	10932			
Hydrocarbon	COZZETTE	11268	10932	11593	11257			
Hydrocarbon	CORCORAN	11593	11257	11853	11517			
Hydrocarbon	UPPER SEGO	11853	11517	12098	11762			
Hydrocarbon	LOWER SEGO	12098	11762	12598	12262			

OPERATOR COMMENTS AND SUBMITTAL

Comments: Nearest offset well producing from the same lease and permitted or completed in the same formation: Federal RGU 543-6-297 (Doc #403559217).

OGDP application (Docket# 221200375) was approved on 08/23/2023, Form 2A (Doc# 402932511) 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: 335602

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

<u>COA Type</u>	<u>Description</u>
0 COA	

Best Management Practices

No BMP/COA Type Description

<u>No BMP/COA Type</u>	<u>Description</u>
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

<u>Att Doc Num</u>	<u>Name</u>
403566171	OffsetWellEvaluations Data
403574054	DIRECTIONAL DATA
403574056	DRILLING PLAN
403574057	WELL LOCATION PLAT
403631499	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)

