

FORM
2

Rev
05/22

State of Colorado

Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

403836747

Date Received:

08/15/2024

APPLICATION FOR PERMIT TO

Drill Deepen Re-enter Recomplete and Operate

Amend

TYPE OF WELL OIL GAS COALBED OTHER: _____

Refile

ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES

Sidetrack

Well Name: PH FENRIR F16 Well Number: 08N-20-03
Name of Operator: BONANZA CREEK ENERGY OPERATING COMPANY LLC ECMC Operator Number: 8960
Address: 555 17TH STREET SUITE 3700
City: DENVER State: CO Zip: 80202
Contact Name: Jeff Annable Phone: (303)3128529 Fax: ()
Email: dlockiespermitting@civiresources.com

FINANCIAL ASSURANCE FOR PLUGGING, ABANDONMENT, AND RECLAMATION

ECMC Financial Assurance

The Operator has provided or will provide Financial Assurance to the ECMC for this Well.

Surety ID Number (if applicable): 20210054

Federal Financial Assurance

In checking this box, the Operator certifies that it has provided or will provide at least this amount of Financial Assurance to the federal government for this Well. (Per Rule702.a.)

Amount of Federal Financial Assurance \$ _____

WELL LOCATION INFORMATION

Surface Location

QtrQtr: NENW Sec: 16 Twp: 5N Rng: 61W Meridian: 6

Footage at Surface: 372 Feet FNL/FSL 1509 Feet FEL/FWL

Latitude: 40.407380 Longitude: -104.218250

GPS Data: GPS Quality Value: 1.6 Type of GPS Quality Value: PDOP Date of Measurement: 09/14/2021

Ground Elevation: 4643

Field Name: WATTENBERG Field Number: 90750

Well Plan: is Directional Horizontal (highly deviated) Vertical

If Well plan is Directional or Horizontal attach Deviated Drilling Plan and Directional Data.

Subsurface Locations

Top of Productive Zone (TPZ)

Sec: 8 Twp: 5N Rng: 61W Footage at TPZ: 200 FSL 0 FEL

Measured Depth of TPZ: 6584 True Vertical Depth of TPZ: 6027 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 5 Twp: 5N Rng: 61W Footage at BPZ: 150 FNL 0 FEL
Measured Depth of BPZ: 16796 True Vertical Depth of BPZ: 6027 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 5 Twp: 5N Rng: 61W Footage at BHL: 150 FNL 0 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: 04/07/2022

Comments: Pad location was part of the approved 1041WOGLA21-0017 CDP. The individual 1041WOGLA application was submitted to Weld County on 7/31/2024 and is still in process.

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: [] Fee [X] 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.)

T5N R61W
Section 4: W2SW4;
Section 9: E2;
Recorded with Weld County, Record # 3127857

Total Acres in Described Lease: 400 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # _____

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 5280 Feet
Building Unit: 5280 Feet
Public Road: 1500 Feet
Above Ground Utility: 345 Feet
Railroad: 5280 Feet
Property Line: 372 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	407-3614	320	T5N-R61W:SEC 4 & 9- W2W2W2, SEC 5 & 8- E2E2E2

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: 150 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: 0 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: 16796 Feet

TVD at Proposed Total Measured Depth 6027 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: 1010 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? 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	26	16	A53B	36.95	0	80	105	80	0
SURF	13+1/2	9+5/8	J-55	36	0	1545	524	1545	0
1ST	8+1/2	5+1/2	P-110	20	0	16796	2453	16796	1545

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	24	24	267	267	1001-10000	Other	ECMC UPWQ REPORT
Confining Layer	Pierre Formation	267	267	407	407			
Groundwater	Upper Pierre Aquifer	407	407	1491	1487	1001-10000	Other	ECMC UPWQ REPORT
Confining Layer	Pierre Formation	1491	1487	3320	3232			
Hydrocarbon	Larimer ("Parkman") Sand	3320	3232	3583	3482			NOT PRODUCTIVE IN THIS AREA
Confining Layer	Pierre Formation	3583	3482	3840	3727			
Hydrocarbon	Terry ("Sussex") Sand	3840	3727	3987	3867			NOT PRODUCTIVE IN THIS AREA
Confining Layer	Pierre Formation	3987	3867	4529	4382			
Hydrocarbon	Hygiene ("Shannon") Sand	4529	4382	4628	4477			NOT PRODUCTIVE IN THIS AREA
Confining Layer	Pierre Formation	4628	4477	6197	5907			
Subsurface Hazard	Sharon Springs Member	6197	5907	6584	6027			Sloughing Shales
Hydrocarbon	Niobrara	6584	6027	16796	6027			

OPERATOR COMMENTS AND SUBMITTAL

Comments

The distance to the completed portion of the nearest well in the same unit on the "Spacing & Formation" tab is 0' since this is the only well within the drilling and spacing unit.

Distance from the proposed wellbore to nearest existing or proposed wellbore belonging to another operator, including plugged wells was measured to the ESTERLING #44-33H (API Number 05-123-35472). This distance was measured in 3-dimensional space.

Attached as OTHER, is the anti-collision analysis which factors in three dimensional measurements as well as gyro surveys performed on the offset wellbores. All measurements provided in 3-dimensional space were derived from this analysis.

This application is in a Comprehensive Area Plan _____ CAP #: _____
 Oil and Gas Development Plan Name Pronghorn OGD OGDP ID#: 486210
 Location ID: 431197

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

Signed: _____ Print Name: Stephen Miller

Title: Lead, W&L Permitting Date: 8/15/2024 Email: dlockiespermitting@civiresourc

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

ECMC Approved:  **Director of ECMC** Date: 10/14/2024

Expiration Date: 05/14/2027

API NUMBER
05 123 52777 00

CONDITIONS OF APPROVAL, IF ANY LIST

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	Operator will log two (2) additional well(s) with open-hole resistivity log with gamma-ray log from the kick-off point into the surface casing for the stratigraphically deepest wells for each wellbore orientation of the pad for a total of three (3) wells logged during the second rig occupation of this location.
Interim Reclamation	In the event delayed operations are to occur, Operator shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operations (dated January 5, 2017).
Drilling/Completion Operations	1) Submit Form 42 electronically to ECMC 2 business days prior to MIRU (spud notice) for the first well activity with a rig on the pad and provide 2 business day spud notice via Form 42 for all subsequent wells drilled on the pad. 2) Comply with Rule 408.j. and provide cement coverage from TD to as approved on this permit. Verify coverage with a cement bond log.
Drilling/Completion Operations	Per Order 1-232, Bradenhead tests shall be performed according to the following schedule and Form 17 submitted within 10 days of each test: 1) Within 60 days of rig release, prior to stimulation. If any pressure greater than 200 psi is observed or if there is continuous flow, Operator must contact ECMC engineering for approval prior to stimulation. 2) If a delayed completion, a second test is required between 6-9 months after rig release and must be conducted prior to stimulation. If any pressure greater than 200 psi is observed or if there is continuous flow, Operator must contact ECMC engineering for approval prior to stimulation. 3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.
4 COAs	

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	One of the first wells drilled on the pad during the second 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

<u>Att Doc Num</u>	<u>Name</u>
403836747	FORM 2 SUBMITTED
403873037	DIRECTIONAL DATA
403873039	DEVIATED DRILLING PLAN
403873040	OTHER
403873041	WELL LOCATION PLAT
403878395	OffsetWellEvaluations Data
403956730	OFFSET WELL EVALUATION

Total Attach: 7 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Approval	This APD will not be delayed for the final disposition of the individual 1041WOGLA, as Weld County deems the siting of this Oil and Gas Location preliminarily approved per their land use process as stated by Director Local Government Designee (LGD), Jason Maxey.	10/14/2024
Permit	Final Review Completed.	10/10/2024
Permit	Made the following changes with concurrence from the operator: - Revised "Minerals Developed By Well" from State to Fee Permit Review Complete	10/03/2024
Permit	Emailed the SLB to notify them of this pending application. SLB has no concerns with this application. Emailed operator for the following: - Confirm "Minerals Developed By Well"	10/01/2024
Engineer	Groundwater: High Plains, Upper Pierre Deepest water well: 740'(1mi, 5 records), 910'(2mi, 9 records) Log: 123-10086 GR=4685 LARAMIE-FOX HILLS 0-215, PIERRE SHALE 215-430, UPPER PIERRE 430-1510 •Surface Casing Check complete •Offset well review complete 408.t - None 408.u - None •Engineering review complete	09/25/2024
OGLA	The Commission approved OGDG #486210 on May 15, 2024 for the Oil and Gas Location related to this Form 2. See Sundry doc #403946559 in Location #431197 file for additional information. OGLA task passed.	08/23/2024

Total: 6 comment(s)