

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:

403845868

Date Received:

07/16/2024

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: Gregory 0780 Well Number: 4-4H9
Name of Operator: FULCRUM ENERGY OPERATING LLC ECMC Operator Number: 10805
Address: 240 SAINT PAUL STREET SUITE 502
City: DENVER State: CO Zip: 80206
Contact Name: Heidi Kaczor Phone: (303)981 5409 Fax: ()
Email: Heidi.Kaczor@fulcrumeo.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): 20230091

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: NENE Sec: 5 Twp: 7N Rng: 80W Meridian: 6

Footage at Surface: 432 Feet FNL 777 Feet FEL

Latitude: 40.613969 Longitude: -106.390126

GPS Data: GPS Quality Value: 1.3 Type of GPS Quality Value: PDOP Date of Measurement: 07/11/2022

Ground Elevation: 8098

Field Name: NORTH PARK HORIZONTAL NIOBRARA Field Number: 60120

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: 4 Twp: 7N Rng: 80W Footage at TPZ: 100 FNL 2144 FWL
Measured Depth of TPZ: 9688 True Vertical Depth of TPZ: 8565 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 9 Twp: 7N Rng: 80W Footage at BPZ: 100 FSL 2144 FWL
Measured Depth of BPZ: 20529 True Vertical Depth of BPZ: 8565 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 9 Twp: 7N Rng: 80W Footage at BHL: 100 FSL 2144 FWL
FNL/FSL FEL/FWL

LOCAL GOVERNMENT PERMITTING INFORMATION

County: JACKSON 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: Waived Date of Final Disposition: 05/23/2019

Comments: Jackson County does not regulate oil & gas per letter 5/23/19.

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.)

T7N R80W Sec. 4, 9, 16: W2

Total Acres in Described Lease: 960 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: 3587 Feet
 Above Ground Utility: 3338 Feet
 Railroad: 5280 Feet
 Property Line: 1809 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	531-52	1281	Township 7 North, Range 80 West: Section 4, 9, 16, 21: W2

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: 100 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: 330 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: 20529 Feet TVD at Proposed Total Measured Depth 8565 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? 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	A252	82.85	0	120	120	120	0
SURF	13+1/2	9+5/8	L80	40	0	4600	1413	4600	0
1ST	8+1/2	5+1/2	P110	20	0	20529	3014	20529	3600

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	Coalmont Sand	0	0	2135	2135	1001-10000	USGS	Site Name: SB00708019BCD1 TD@500' TDS@1240
Confining Layer	Coalmont Shale	2135	2135	4213	4110			
Confining Layer	Upper Pierre	4213	4110	6228	5850			
Hydrocarbon	Sussex	6228	5850	6691	6250			
Confining Layer	Pierre Lower (Shale)	6691	6250	6824	6365			
Hydrocarbon	Shannon	6824	6365	6940	6465			
Confining Layer	Pierre Lower (Shale)	6940	6465	8865	8130			
Hydrocarbon	Niobrara	8865	8130	20529	8565			Bottom TVD is bottom of the well and not bottom of the formation; The formation is not planned to be exited.

OPERATOR COMMENTS AND SUBMITTAL

Comments

PFZ Comment: The upper shallow section of the North Park is not well defined. We used the depth and lithology components to define two separate sections; one being sand (as North Park FM) which is most likely a possible source of groundwater and the second being a shale (as Coalmont FM) which should not be a source of groundwater. The shale should not be a source of groundwater and has not been found to be a source of groundwater in the USGS dataset.

Nearest well in DSU (producing zone to producing zone) per 2-D calculation is the proposed Gregory 0780 5-4H9 @ 330. No well belonging to another operator within 1,500 feet.

This application is in a Comprehensive Area Plan No CAP #:
 Oil and Gas Development Plan Name Janet OGDG OGDG ID#: 486502
 Location ID: 487288
 I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.
 Signed: _____ Print Name: Justin Garrett
 Title: Sr. Regulatory Analyst Date: 7/16/2024 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 ECMC Rules, applicable orders, and SB 19-181 and is hereby approved.

ECMC Approved:  Director of ECMC Date: 8/19/2024

Expiration Date: 06/25/2027

API NUMBER 05 057 06639 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.

COA Type	Description
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 a minimum of 3600' MD as stated in the attached Casing Program. Verify coverage with a cement bond log.
Drilling/Completion Operations	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 CECMC 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 CECMC 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.
2 COAs	

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Alternative Logging Program: 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	A double ram annular preventer will be used during drilling.

Total: 2 comment(s)

ATTACHMENT LIST

<u>Att Doc Num</u>	<u>Name</u>
403845868	FORM 2 SUBMITTED
403856585	WELL LOCATION PLAT
403856588	DEVIATED DRILLING PLAN
403856589	DIRECTIONAL DATA
403891221	OffsetWellEvaluations Data
403892873	OFFSET WELL EVALUATION

Total Attach: 6 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	08/16/2024
Engineer	<ul style="list-style-type: none"> •Surface Casing Check complete Offset water well check: CECMC evaluated offset water wells within one mile of this proposed well's surface hole location. This information was used in addition to locally available geophysical logs and hydrogeologic information to evaluate the adequacy of the operator's proposed surface casing setting depth. The deepest water well within one mile of the lateral is 175 feet. •Offset well review complete 408.t - No wells 408.u - No wells •Engineering review complete 	08/15/2024
OGLA	The Commission approved OGDG #486502 on June 26, 2024 for the Oil and Gas Location related to this Form 2. OGLA task passed.	07/29/2024
Permit	<ul style="list-style-type: none"> -Corrected Spacing order, acreage, Unit configuration -Corrected lease description to lease that will be developed by well 	07/18/2024

Total: 4 comment(s)