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 **(SUBMITTED)**

Date Received: 07/16/2024

APPLICATION FOR PERMIT TO

[X] **Drill** [ ] Deepen [ ] Re-enter [ ] Recomplete and Operate

Amend [ ] Refile [ ] Sidetrack [ ]

TYPE OF WELL OIL [X] GAS [ ] COALBED [ ] OTHER:

ZONE TYPE SINGLE ZONE [X] MULTIPLE ZONES [ ] COMMINGLE ZONES [ ]

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

[X] 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 (FNL/FSL) 777 Feet FEL (FEL/FWL)

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 [X] 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 (FNL/FSL) 2144 FWL (FEL/FWL)

Measured Depth of TPZ: 9688 True Vertical Depth of TPZ: 8565

Base of Productive Zone (BPZ)

Sec: 9 Twp: 7N Rng: 80W Footage at BPZ: 100 FSL 2144 FWL

FNL/FSL FEL/FWL

Measured Depth of BPZ: 20529 True Vertical Depth of BPZ: 8565

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. 5: Lots 1-4, SE/4

Total Acres in Described Lease: 320 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	221200353	2096	T8N R80W S21: SW¼; S28: W½; S32: Portion of the SE¼SW¼; S33: W½; T7N R80W S4: W½; S5: Portions of the NE¼NE¼; S9: W½; S16: W½; S21: W½

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 H_2S 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 OGDP OGDP 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

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:

Expiration Date:

API NUMBER

05

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
0 COA	

Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Alternative Logging Program: One of the first wells drilled on the pad will be logged with open-hole resistivity log with gamma-ray log from the kick-off point into the surface casing. 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 openhole logs shall state "Alternative Logging Program - No open-hole logs were run", and shall 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

Att Doc Num	Name
403856585	WELL LOCATION PLAT

403856588	DEVIATED DRILLING PLAN
403856589	DIRECTIONAL DATA
403856720	OffsetWellEvaluations Data

Total Attach: 4 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)