

FORM
2

Rev
05/22

State of Colorado
Oil and Gas Conservation Commission

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



Document Number:

403296059

(SUBMITTED)

Date Received:

02/07/2023

APPLICATION FOR PERMIT TO

☒ Drill ☐ Deepen ☐ Re-enter ☐ Recomplete and Operate

Amend ☐

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER: _____

Refill ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☐

Well Name: SU 0680

Well Number: 2-4H

Name of Operator: FULCRUM ENERGY OPERATING LLC

COGCC 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

COGCC Financial Assurance

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

Surety ID Number (if applicable): 20220114

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: 9 Twp: 6N Rng: 80W Meridian: 6

FNL/FSL

FEL/FWL

Footage at Surface: 623 Feet FNL 1621 Feet FWL

Latitude: 40.510005

Longitude: -106.384683

GPS Data:

GPS Quality Value: 1.3

Type of GPS Quality Value: PDOP

Date of Measurement: 09/29/2022

Ground Elevation: 8267

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: 9 Twp: 6N Rng: 80W

Footage at TPZ: 117 FNL 687 FWL

Measured Depth of TPZ: 8004

True Vertical Depth of TPZ: 7500

FNL/FSL

FEL/FWL

Base of Productive Zone (BPZ)Sec: 4 Twp: 6N Rng: 80WFootage at BPZ: 100 FNL 30 FWLMeasured Depth of BPZ: 13438True Vertical Depth of BPZ: 7500 FNL/FSL FEL/FWL**Bottom Hole Location (BHL)**Sec: 4 Twp: 6N Rng: 80WFootage at BHL: 100 FNL 30 FWLFNL/FSLFEL/FWL**LOCAL GOVERNMENT PERMITTING INFORMATION**County: JACKSONMunicipality: 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: 05/23/2019Comments: 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 ☐ IndianMineral 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.)

Township 6 North, Range 80 West, 6th P.M.

Section 4: S2NW4, SW4

section 5: Lots 2, 3, SENW, E2SW4

Section 6: Lots 2 & 3

Section 8: SESE

Section 9: NW4, N2SW4, SESW

Section 17: NW4, W2NE4, NENE

Township 7 North, Range 80 West, 6th P.M.

Section 29: S2SW4

Section 31: NENE, S2NE4, N2SE4, SWSE

Section 32: NW4, N2SW4, NESE, S2SE4

Total Acres in Described Lease: 1804

Described Mineral Lease is: ☒ Fee

☐ State

☐ Federal

☐ Indian

Federal or State Lease #

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 4138 Feet

Building Unit: 4138 Feet

Public Road: 489 Feet

Above Ground Utility: 260 Feet

Railroad: 5280 Feet

Property Line: 1044 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	531-48	24248	

Federal or State Unit Name (if appl): Surprise Unit

Unit Number: 075017X

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: 303 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

The spacing order 531-48 only applies to the offsets to the unit boundaries. This well is located in the middle of the unit.
Unit also contains Federal Minerals: Lease COC76295, COC79846
Unit also contains State Minerals: OG 9476 08

DRILLING PROGRAM

Proposed Total Measured Depth: 13438 Feet

TVD at Proposed Total Measured Depth 7500 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: 960 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? _____

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	J55	75	0	120	120	120	0
SURF	13+1/2	9+5/8	L80	40	0	4500	2003	4500	0
1ST	8+1/2	5+1/2	P110	20	0	13438	1657	13438	3500

☐ 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	2117	2115	0-500	USGS	Site Name: SB00608003ABD1 TD@640' TDS@466
Confining Layer	Coalmont Shale	2117	2115	4189	4155			
Confining Layer	Upper Pierre	4189	4155	4964	4915			
Hydrocarbon	Sussex	4964	4915	5366	5310			
Confining Layer	Pierre	5366	5310	5468	5410			
Hydrocarbon	Shannon	5468	5410	5533	5475			
Confining Layer	Pierre	5533	5475	7036	6950			
Hydrocarbon	Niobrara	7036	6950	13438	7500			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.

This Form 2 is part of a plan to submit permits to fill 7 of the remaining 13 well slots of the 16-well location. The SU 0680 3-9H16 (API: 05-123-06551), SU 0680 6-4H (API: 05-123-06552), SU 0680 12-9H16 (API: 05-123-06611) are existing producing wells. The location has been constructed. There have been no new buildings constructed and no changes to the surrounding land use.

Nearest well in unit per 2-D calculation is the proposed SU 0680 3-4H @ 303.
Nearest outside-operated well per anti-collision is the Rich 21 (API: 05-057-05012) DA Status @ 960'.

This application is in a Comprehensive Area Plan No CAP #: _____

Oil and Gas Development Plan Name _____ OGDID ID#: _____

Location ID: 445005

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: 2/7/2023 Email: regulatory@ascentgeomatics.c

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	
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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 open-hole 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	Blowout Prevention Equipment ("BOPE"): A double ram annular preventer will be used during drilling.

Total: 2 comment(s)

Attachment List

Att Doc Num

Name

403312841	OffsetWellEvaluations Data
403312848	WELL LOCATION PLAT
403312851	DEVIATED DRILLING PLAN
403312855	DIRECTIONAL DATA

Total Attach: 4 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)