

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:

403295945

(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: _____

Refile

ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES

Sidetrack

Well Name: SU 0680 Well Number: 1-4H5
 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

Footage at Surface: 642 Feet FNL 1630 Feet FWL

Latitude: 40.509954 Longitude: -106.384654

GPS Data: GPS Quality Value: 1.2 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: 4 Twp: 6N Rng: 80W Footage at TPZ: 63 FSL 375 FWL

Measured Depth of TPZ: 7830 True Vertical Depth of TPZ: 7306 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 5 Twp: 6N Rng: 80W Footage at BPZ: 100 FNL 273 FEL
Measured Depth of BPZ: 13081 True Vertical Depth of BPZ: 7306 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 5 Twp: 6N Rng: 80W Footage at BHL: 100 FNL 273 FEL
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.)

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: 4136 Feet
 Building Unit: 4136 Feet
 Public Road: 489 Feet
 Above Ground Utility: 280 Feet
 Railroad: 5280 Feet
 Property Line: 1036 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: 13081 Feet TVD at Proposed Total Measured Depth 7306 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: 1005 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	5400	2014	5400	0
1ST	8+1/2	5+1/2	P110	20	0	13081	1591	13081	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	2085	2065	0-500	USGS	Site Name: SB00608003ABD1 TD@640' TDS@466
Confining Layer	Coalmont Shale	2085	2065	4165	4105			
Confining Layer	Upper Pierre	4165	4105	4937	4865			
Hydrocarbon	Sussex	4937	4865	5340	5260			
Confining Layer	Pierre	5340	5260	5440	5360			
Hydrocarbon	Shannon	5440	5360	5507	5425			
Confining Layer	Pierre	5507	5425	7016	6900			
Hydrocarbon	Niobrara	7016	6900	13081	7306			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 2-4H @ 366.
Nearest outside-operated well per anti-collision is the Rich 21 (API: 05-057-05012) DA Status @ 1005'.

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

Oil and Gas Development Plan Name _____ OGDP 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.

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

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 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

<u>Att Doc Num</u>	<u>Name</u>
403312783	OffsetWellEvaluations Data
403312790	WELL LOCATION PLAT
403312793	DEVIATED DRILLING PLAN
403312795	DIRECTIONAL DATA

Total Attach: 4 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)