

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:

403548723

(SUBMITTED)

Date Received:

11/17/2024

#### 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: Buckhorn

Well Number: 1

Name of Operator: ST CROIX OPERATING INC

ECMC Operator Number: 81490

Address: P O BOX 13799

City: DENVER

State: CO

Zip: 80201

Contact Name: Paul Melnychenko

Phone: (303)489-9298

Fax: ( )

Email: paul@stcroixexp.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): 20000108

##### 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: NWNE Sec: 8 Twp: 3S Rng: 52W Meridian: 6

FNL/FSL

FEL/FWL

Footage at Surface: 700 Feet FNL 2199 Feet FEL

Latitude: 39.812130

Longitude: -103.227060

GPS Data: GPS Quality Value: 2.2 Type of GPS Quality Value: PDOP

Date of Measurement: 01/18/2022

Ground Elevation: 4824

Field Name: WILDCAT

Field Number: 99999

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: \_\_\_\_\_ Twp: \_\_\_\_\_ Rng: \_\_\_\_\_

Footage at TPZ: \_\_\_\_\_

Measured Depth of TPZ: \_\_\_\_\_

True Vertical Depth of TPZ: \_\_\_\_\_ FNL/FSL \_\_\_\_\_ FEL/FWL \_\_\_\_\_

**Base of Productive Zone (BPZ)**

Sec: \_\_\_\_\_ Twp: \_\_\_\_\_ Rng: \_\_\_\_\_ Footage at BPZ: \_\_\_\_\_

Measured Depth of BPZ: \_\_\_\_\_ True Vertical Depth of BPZ: \_\_\_\_\_ FNL/FSL \_\_\_\_\_ FEL/FWL \_\_\_\_\_

**Bottom Hole Location (BHL)**

Sec: \_\_\_\_\_ Twp: \_\_\_\_\_ Rng: \_\_\_\_\_ Footage at BHL: \_\_\_\_\_

FNL/FSL \_\_\_\_\_ FEL/FWL \_\_\_\_\_

**LOCAL GOVERNMENT PERMITTING INFORMATION**County: WASHINGTON 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: \_\_\_\_\_ Date of Final Disposition: \_\_\_\_\_

Comments: \_\_\_\_\_

**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.)

N/2 Section 8 T3S R52W

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: 2464 Feet  
Building Unit: 2595 Feet  
Public Road: 675 Feet  
Above Ground Utility: 721 Feet  
Railroad: 5280 Feet  
Property Line: 700 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.)
J SAND	JSND	581-4	320	N/2 S8 T3S R52W

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: 700 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: 5280 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: 4750 FeetTVD at Proposed Total Measured Depth 4750 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: 1358 Feet ☐ No well belonging to another operator within 1,500 feetWill a closed-loop drilling system be used? YesIs H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater thanor equal to 100 ppm? No If yes, attach an H<sub>2</sub>S 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? NoWill salt sections be encountered during drilling? NoWill salt based (>15,000 ppm Cl) drilling fluids be used? NoWill oil based drilling fluids be used? NoBOP Equipment Type: ☒ Annular Preventor ☐ Double Ram ☐ Rotating Head ☐ NoneBeneficial 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
SURF	12+1/4	8+5/8	J-55	24	0	475	350	475	0
1ST	7+7/8	5+1/2	J-55	15.5	0	4750	240	4750	3250

☒ 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	Ogallala	0	0	160	160	0-500	Groundwater Atlas	TDS and groundwater sampling are from groundwater samples on ECMC site.
Hydrocarbon	Niobrara	3479	3479	3900	3900			
Confining Layer	Fort Hays	3900	3900	3950	3950			
Confining Layer	Carlile	3950	3950	4325	4325			
Confining Layer	Greenhorn	4075	4075	4125	4125			
Confining Layer	Graneros Shale	4125	4125	4325	4325			
Hydrocarbon	D Sand	4325	4325	4375	4375			
Confining Layer	Huntsman Shale	4375	4375	4425	4425			
Hydrocarbon	J Sand	4425	4425	4750	4750			

**OPERATOR COMMENTS AND SUBMITTAL**

Comments

This application is in a Comprehensive Area Plan No

CAP #: \_\_\_\_\_

Oil and Gas Development Plan Name BuckhornOGDP ID#: 487393Location ID: 488082

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

Signed: \_\_\_\_\_

Print Name: Jessica Donahue

Title: Compliance Specialist Date: 11/17/2024 Email: jdonahue@ardorenvironmental.

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	pen-hole resistivity log with gamma-ray log will be run from TD into the surface casing. A cement bond log with gamma-ray will be run on production casing, or on intermediate casing if a production liner is run. The Form 5, Completion Report, will list all logs run and have those logs attached.
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Total: 1 comment(s)

### **ATTACHMENT LIST**

**Att Doc Num**

**Name**

403997362	OffsetWellEvaluations Data
403997363	WELL LOCATION PLAT

Total Attach: 2 Files

### **General Comments**

**User Group**

**Comment**

**Comment Date**

Stamp Upon  
Approval

Total: 0 comment(s)