

FORM

2

Rev  
05/22

## State of Colorado

## Energy &amp; Carbon Management Commission

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

Document Number:

403758314

Date Received:

05/16/2024

## 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: LUSSING TRUST 4-64

Well Number: 19-20 1AH

Name of Operator: CRESTONE PEAK RESOURCES OPERATING LLC

ECMC Operator Number: 10633

Address: 555 17TH STREET SUITE 3700

City: DENVER

State: CO

Zip: 80202

Contact Name: Jeff Annable

Phone: (303)312-8529

Fax: ( )

Email: jannable@civiresources.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): 20160104

## 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: Lot 1 Sec: 19 Twp: 4S Rng: 64W Meridian: 6

Footage at Surface: 1281 Feet FNL/FSL 645 Feet FEL/FWL

Latitude: 39.692701 Longitude: -104.601089

GPS Data: GPS Quality Value: 1.6 Type of GPS Quality Value: PDOP

Date of Measurement: 12/03/2021

Ground Elevation: 5696

Field Name: DJ HORIZONTAL NIOBRARA

Field Number: 16950

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: 19 Twp: 4S Rng: 64W Footage at TPZ: 20 FNL 330 FWL  
 Measured Depth of TPZ: 8123 True Vertical Depth of TPZ: 7629 FNL/FSL FEL/FWL

**Base of Productive Zone (BPZ)**

Sec: 20 Twp: 4S Rng: 64W Footage at BPZ: 20 FNL 330 FEL  
Measured Depth of BPZ: 18267 True Vertical Depth of BPZ: 7629 FNL/FSL FEL/FWL

**Bottom Hole Location (BHL)**

Sec: 20 Twp: 4S Rng: 64W Footage at BHL: 20 FNL 330 FEL  
FNL/FSL FEL/FWL

**LOCAL GOVERNMENT PERMITTING INFORMATION**

County: ARAPAHOE Municipality: Aurora

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: Approved Date of Final Disposition: 07/19/2023

Comments: The City of Aurora has approved the local application.

**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 4 South Range 64 West  
Section 19: ALL

Total Acres in Described Lease: 662

Described Mineral Lease is: ☒ Fee ☐ State ☐ Federal ☐ Indian

Federal or State Lease # \_\_\_\_\_

## SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 1728 Feet  
Building Unit: 4984 Feet  
Public Road: 631 Feet  
Above Ground Utility: 675 Feet  
Railroad: 5280 Feet  
Property Line: 645 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           | 535-1479                | 329                           | T4SR64W: Sec. 17 & 18 - S2S2S2, Sec 19 & 20 - N2N2N2 |

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: 330 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: 0 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: 18267 Feet

TVD at Proposed Total Measured Depth 7629 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: 981 Feet ☐ No well belonging to another operator within 1,500 feet

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than

or 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? 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**

| <u>Casing Type</u> | <u>Size of Hole</u> | <u>Size of Casing</u> | <u>Grade</u> | <u>Wt/Ft</u> | <u>Csg/Liner Top</u> | <u>Setting Depth</u> | <u>Sacks Cmt</u> | <u>Cmt Btm</u> | <u>Cmt Top</u> |
|--------------------|---------------------|-----------------------|--------------|--------------|----------------------|----------------------|------------------|----------------|----------------|
| CONDUCTOR          | 26                  | 16                    | A53B         | 36.95        | 0                    | 80                   | 105              | 80             | 0              |
| SURF               | 13+1/2              | 9+5/8                 | J-55         | 36           | 0                    | 3269                 | 1331             | 3269           | 0              |
| 1ST                | 8+1/2               | 5+1/2                 | P-110        | 20           | 0                    | 18267                | 2876             | 18267          |                |

☐ Conductor Casing is NOT planned

**POTENTIAL FLOW AND CONFINING FORMATIONS**

| <u>Zone Type</u>  | <u>Formation /Hazard</u>  | <u>Top M.D.</u> | <u>Top T.V.D.</u> | <u>Bottom M.D.</u> | <u>Bottom T.V.D.</u> | <u>TDS (mg/L)</u> | <u>Data Source</u>       | <u>Comment</u>                      |
|-------------------|---------------------------|-----------------|-------------------|--------------------|----------------------|-------------------|--------------------------|-------------------------------------|
| Groundwater       | Denver Aquifer            | 24              | 24                | 642                | 639                  | 0-500             | Groundwater Atlas        | USGS HA-646 (Robson & Romero, 1981) |
| Groundwater       | Arapahoe Aquifer          | 642             | 639               | 1256               | 1239                 | 0-500             | Groundwater Atlas        | USGS HA-647 (Robson et al, 1981)    |
| Groundwater       | Laramie-Fox Hills         | 1256            | 1239              | 1994               | 1959                 | 0-500             | Groundwater Atlas        | USGS HA-650 (Robson et al, 1981)    |
| Confining Layer   | Pierre Formation          | 1994            | 1959              | 2496               | 2449                 |                   |                          |                                     |
| Groundwater       | Upper Pierre Aquifer      | 2496            | 2449              | 3172               | 3109                 | 1001-10000        | Electric Log Calculation | WATKINS 30-5-8H (05-005-07189-0000) |
| Confining Layer   | Base of Upper Pierre      | 3172            | 3109              | 4155               | 4069                 |                   |                          |                                     |
| Hydrocarbon       | Larimer-Parkman sandstone | 4155            | 4069              | 4288               | 4199                 |                   |                          | Not productive in this area         |
| Confining Layer   | Pierre Formation          | 4288            | 4199              | 5384               | 5269                 |                   |                          |                                     |
| Hydrocarbon       | Terry-Sussex sandstone    | 5384            | 5269              | 5558               | 5439                 |                   |                          | Not productive in this area         |
| Confining Layer   | Pierre Formation          | 5558            | 5439              | 6306               | 6169                 |                   |                          |                                     |
| Hydrocarbon       | Hygiene-Shannon sandstone | 6309            | 6169              | 6542               | 6399                 |                   |                          | Not productive in this area         |
| Confining Layer   | Pierre Formation          | 6542            | 6399              | 7751               | 7514                 |                   |                          |                                     |
| Subsurface Hazard | Sharon Springs Member     | 7751            | 7514              | 8123               | 7629                 |                   |                          | Sloughing shales                    |
| Hydrocarbon       | Niobrara Formation        | 8123            | 7629              | 18267              | 7629                 |                   |                          |                                     |

**OPERATOR COMMENTS AND SUBMITTAL**

Comments    The distance to the completed portion of the nearest well in the same unit on the "Spacing & Formations" tab is 0 since this is the only well within the unit. This distance is measured in 2-dimensional space.

                  The nearest well belonging to another operator is measured to the Houlihan 4-64 22A 22-1, API #05-005-07279. This distance is measured in 2-dimensional space.

This application is in a Comprehensive Area Plan      Yes      CAP #:    210700116

Oil and Gas Development Plan Name    Lussing Trust North OGD      OGD ID#:    485971

Location ID:    486500

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

Signed: \_\_\_\_\_ Print Name:    Jeff Annable

Title:    Manager, Permitting      Date:    5/16/2024      Email:    jannable@civiresources.com

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. (2019).~~ 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: 6/23/2024

Expiration Date: \_\_\_\_\_

**API NUMBER**

05 005 07568 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 | Operator will log one (1) additional well during the first rig occupation with open-hole resistivity log with gamma-ray log from the kick-off point into the surface casing for the stratigraphically deepest wells for a total of two wells logged.  |
| Drilling/Completion Operations | 1) Submit Form 42 electronically to COGCC 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.<br>2) Comply with Rule 408.j. and provide cement coverage from TD to a minimum of 500' above Niobrara. Verify coverage with a cement bond log.  |
| Drilling/Completion Operations | Per COGCC Order 1-232, Bradenhead tests shall be performed according to the following schedule and Form 17 submitted within 10 days of each test:<br>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 COGCC engineering for approval prior to stimulation.<br>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 COGCC engineering for approval prior to stimulation.<br>3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance. |

3 COAs

**Best Management Practices**

**No BMP/COA Type**

**Description**

|                                  |   |
|----------------------------------|---|
| 1 Drilling/Completion Operations | 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 | Anti-collision: Operator will perform an anti-collision evaluation of all active (producing, shut in, or temporarily abandoned) offset wellbores that have the potential of being within 150 feet of a proposed well prior to drilling operations for the proposed well. Notice shall be given to all offset operators prior to drilling.` |
|---|--------------------------------|--|

Total: 2 comment(s)

#### **ATTACHMENT LIST**

| <b><u>Att Doc Num</u></b> | <b><u>Name</u></b>         |
|---------------------------|----------------------------|
| 403758314                 | FORM 2 SUBMITTED           |
| 403758510                 | DEVIATED DRILLING PLAN     |
| 403758513                 | WELL LOCATION PLAT         |
| 403761651                 | OffsetWellEvaluations Data |
| 403793820                 | DIRECTIONAL DATA           |
| 403832762                 | OFFSET WELL EVALUATION     |

Total Attach: 6 Files

#### **General Comments**

| <b><u>User Group</u></b> | <b><u>Comment</u></b>   | <b><u>Comment Date</u></b> |
|--------------------------|---|----------------------------|
| Permit                   | Final Review Completed.   | 05/31/2024                 |
| Permit                   | Uploaded header info.<br>Permitting task Passed.  | 05/16/2024                 |
| Permit                   | Missing info on directional data excel sheet. Please upload a copy with said information.                                     | 05/16/2024                 |
| OGLA                     | The Commission approved OGDG #486500 on April 10, 2024 for the Oil and Gas Location related to this Form 2. OGLA task passed. | 04/23/2024                 |

Total: 4 comment(s)