

FORM
2

Rev
10/24

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:

404370916

(SUBMITTED)

Date Received:

10/02/2025

APPLICATION FOR PERMIT TO

Drill Deepen Re-enter Recomplete and Operate Amend

TYPE OF WELL OIL GAS COALBE GEOTHERMAL OTHER: _____

Refile

ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES

Sidetrack

Well Name: State Wetterhorn 5-64 Well Number: 20-19 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: dlockiespermitting@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): 20240061

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: NWSW Sec: 21 Twp: 5S Rng: 64W Meridian: 6

Footage at Surface: 2407 Feet FSL 771 Feet FWL

Latitude: 39.600779 Longitude: -104.564260

GPS Data: GPS Quality Value: 1.6 Type of GPS Quality Value: PDOP Date of Measurement: 06/06/2024

Ground Elevation: 5986

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: 20 Twp: 5S Rng: 64W Footage at TPZ: 380 FNL 150 FEL

Measured Depth of TPZ: 8624 True Vertical Depth of TPZ: 7873 FNL/FSL FEL/FWL

Base of Productive Zone (BPZ)

Sec: 19 Twp: 5S Rng: 64W Footage at BPZ: 380 FNL 150 FWL
Measured Depth of BPZ: 18816 True Vertical Depth of BPZ: 7873 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 19 Twp: 5S Rng: 64W Footage at BHL: 380 FNL 150 FWL
FNL/FSL FEL/FWL

LOCAL GOVERNMENT PERMITTING INFORMATION

County: ARAPAHOE 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 and §37-90.5-107(2)(b)(I) C.R.S, the following questions pertain to the Relevant Local Government approval of the siting of the proposed Oil and Gas or Deep Geothermal Locations.

The Energy and Carbon Management Act and the Geothermal Resources Act provide 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.

Does the Relevant Local Government regulate the siting of Oil and Gas and Deep Geothermal 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: In Process Date of Final Disposition: 09/05/2024

Comments: The Arapahoe County permit is in process.

GEOTHERMAL

Well Overview

The following questions determine informational requirements based on Well type:

Which type of Geothermal Well is this? Select one of the following:

Will this well be constructed using cementing methodologies other than those listed in Rule 408.f?

If Yes, what method will be used:

Please describe the cementing method to be used in detail:

Geothermal Resource Units

Fill out the information below to submit an application for a Geothermal Resource Unit (GRU) as part of the current permit application. This may also be completed later using a Form 4 Sundry.

Will this Well be in an existing GRU?

Are you submitting your application for a new GRU as part of the current application?

SURFACE AND MINERAL OWNERSHIP AT WELL'S OIL & GAS OR DEEP GEOTHERMAL LOCATION

Surface Owner of the land at this Well's Oil and Gas Or Deep Geothermal Location: Fee State Federal Indian

Mineral Owner beneath this Well's Oil and Gas Or Deep Geothermal 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.)

Please see attached - Updated lease listed on ECMC

Total Acres in Described Lease: 21109 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # 1960.12

SAFETY SETBACK INFORMATION

Distance from Well to nearest:

Building: 5280 Feet
Building Unit: 5280 Feet
Public Road: 5280 Feet
Above Ground Utility: 5280 Feet
Railroad: 5280 Feet
Property Line: 771 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	535-1548	1280	T5S-R64W: Section 19 & 20: All

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: 150 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: 641 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: 18816 Feet

TVD at Proposed Total Measured Depth 7873 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: 660 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	A53B	36.95	0	80	105	80	0
SURF	13+1/2	9+5/8	J55	36	0	3664	1492	3664	0
1ST	8+1/2	5+1/2	P110	20	0	18816	2962	18816	0

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	Denver	24	24	1146	1123	0-500	Groundwater Atlas	USGS HA-646 (Robson & Romero, 1981)
Groundwater	Arapahoe	1146	1123	1808	1748	0-500	Groundwater Atlas	USGS HA-647 (Robson et al, 1981)
Groundwater	Laramie-Fox Hills	1808	1748	2332	2243	0-500	Groundwater Atlas	USGS HA-650 (Robson et al, 1981)
Confining Layer	Pierre Formation	2332	2243	2926	2803			
Groundwater	Upper Pierre Aquifer	2926	2803	3636	3473	1001-10000	Electric Log Calculation	
Confining Layer	Base of Upper Pierre	3636	3473	4547	4333			
Hydrocarbon	Larimer ("Parkman") Sand	4547	4333	4653	4433			
Confining Layer	Pierre Formation	4653	4433	5755	5473			
Hydrocarbon	Terry ("Sussex") Sand	5755	5473	5999	5703			
Confining Layer	Pierre Formation	5999	5703	6634	6303			
Confining Layer	Hygiene ("Shannon") Sand	6634	6303	7026	6673			
Confining Layer	Pierre Formation	7026	6673	7779	7383			
Subsurface Hazard	Sharon Springs Member	7779	7383	8624	7873			
Hydrocarbon	Niobrara Formation	8624	7873	18816	7873			

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 measured to the proposed State Wetterhorn 5-64 20-19 1BH Submitted. This distance is measured in 2-dimensional space.

The distance to the nearest well belonging to another operator on the "Drilling Plans" tab was measured to the Citadel 5-64 15-16-1CHZ (API #05-005-07266).

Crestone Peak Resources Operating, LLC certifies that there are no unleashed mineral owners within the drilling and spacing unit, and therefore a pooling order is not required to comply with C.R.S. § 34-60- 116(7)(e).

OGDP Name is too long for the field and creates an error when adding the number in the OGDP Number Field. This well is part of State Harvard/Yale and State Wetterhorn/Handies OGDP, Plan ID #489636, Expiration 7/1/2028

This application is in a Comprehensive Area Plan Yes CAP #: 221000282

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

Location ID: 490837

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

Signed: _____ Print Name: Miracle Pfister

Title: Sr Regulatory Contractor Date: 10/2/2025 Email: mpfister@civiresources.com

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	
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Operator 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	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

Att Doc Num **Name**

404370917	DIRECTIONAL DATA
404370918	DEVIATED DRILLING PLAN
404370919	WELL LOCATION PLAT
404370920	OIL & GAS LEASE

Total Attach: 5 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)

