

FORM
2
Rev
10/24

State of Colorado Energy & Carbon Management Commission

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Document Number:

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Date Received:

09/25/2025

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 Harvard 5-64 Well Number: 8-7-12 2BH
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: NESE Sec: 8 Twp: 5S Rng: 64W Meridian: 6

Footage at Surface: 2550 Feet ^{FNL/FSL} FSL 897 Feet ^{FEL/FWL} FEL

Latitude: 39.630311 Longitude: -104.569703

GPS Data: GPS Quality Value: 1.4 Type of GPS Quality Value: PDOP Date of Measurement: 06/06/2024

Ground Elevation: 5925

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: 8 Twp: 5S Rng: 64W Footage at TPZ: 2060 ^{FNL} 150 ^{FEL}
Measured Depth of TPZ: 8320 True Vertical Depth of TPZ: 7824 ^{FNL/FSL} ^{FEL/FWL}

Base of Productive Zone (BPZ)

Sec: 12 Twp: 5S Rng: 65W Footage at BPZ: 2500 FNL 2476 FEL
Measured Depth of BPZ: 21219 True Vertical Depth of BPZ: 7824 FNL/FSL FEL/FWL

Bottom Hole Location (BHL)

Sec: 12 Twp: 5S Rng: 65W Footage at BHL: 2500 FNL 2476 FEL
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: Approved Date of Final Disposition: 09/18/2025

Comments: The Arapahoe County permit approved; AEUSR; Case # AE24-002

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

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: 3124 Feet
Building Unit: 3124 Feet
Public Road: 2741 Feet
Above Ground Utility: 719 Feet
Railroad: 5280 Feet
Property Line: 897 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	1600	T5S-R64W: Section 7 & 8: All; T5S-R65W: Section 12: E/2

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: 581 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: 21219 Feet

TVD at Proposed Total Measured Depth 7824 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: 763 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	ASTM A53B	36.95	0	80	105	80	0
SURF	13+1/2	9+5/8	J55	36	0	3286	1338	3286	0
1ST	8+1/2	5+1/2	P110	20	0	21219	3298	21219	

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	1114	1109	0-500	Groundwater Atlas	USGS HA-646 (Robson & Romero, 1981)
Groundwater	Arapahoe	1114	1109	1627	1609	0-500	Groundwater Atlas	USGS HA-647 (Robson et al, 1981)
Groundwater	Laramie-Fox Hills	1627	1609	2243	2209	0-500	Groundwater Atlas	USGS HA-650 (Robson et al, 1981)
Confining Layer	Pierre Formation	2243	2209	2787	2739			
Groundwater	Upper Pierre Aquifer	2787	2739	3526	3459	1001-10000	Electric Log Calculation	
Confining Layer	Base of Upper Pierre	3526	3459	4338	4249			
Hydrocarbon	Larimer ("Parkman") Sand	4338	4249	4481	4389			
Confining Layer	Pierre Formation	4481	4389	5529	5409			
Hydrocarbon	Terry ("Sussex") Sand	5529	5409	5837	5709			
Confining Layer	Pierre Formation	5837	5709	6376	6234			
Confining Layer	Hygiene ("Shannon") Sand	6376	6234	6750	6599			
Confining Layer	Pierre Formation	6750	6599	7436	7269			
Subsurface Hazard	Sharon Springs Member	7436	7269	8320	7824			
Hydrocarbon	Niobrara Formation	8320	7824	21219	7824			

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 Harvard 5-64 8-7-12 3AH. This distance was measured in 2-dimensional space.

The distance to the nearest well belonging to another operator on the "Drilling Plan" tab was measured to Texaco-Chandler St. of Co. AB 2, (API #05-005-06662).

Crestone Peak Resources Operating, LLC certifies that there are no unleased 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).

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

Oil and Gas Development Plan Name State Harvard/Yale and State OGDP ID#: 489636

Location ID: 490838

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: 9/25/2025 Email: mpfister@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. (2011).

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: 11/24/2025

Expiration Date: 07/01/2028

API NUMBER 05 005 07597 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.

<u>COA Type</u>	<u>Description</u>
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 on each side of the pad for a total of two (2) wells logged.
Interim Reclamation	In the event delayed operations are to occur, Operator shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operations (dated January 5, 2017).
Drilling/Completion Operations	1) Submit Form 42 electronically to ECMC 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. 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	Operator acknowledges the proximity of the listed wells. Operator assures that this offset list will be remediated per the Offset Well Evaluation and Hydraulic Fracturing Operator Guidance Document Operator using Option 3. Operator will submit a Form 42 ("OFFSET MITIGATION COMPLETED") stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of this well. 005-06407 State 12-9 Husky Oil Co 005-06590 Airline State Road 15-12 Chandler and Associates 005-06642 State of Colorado Z 1 Texaco E&P 005-06662 Texaco-Chandler State of Colorado AB 2 Texaco E&P 005-06772 Burlington Northern State #1 Summit Oil Co 005-06988 State Eagle 17-1 KPK
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: 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. 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. 3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.

5 COAs

Operator Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
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

<u>Att Doc Num</u>	<u>Name</u>
404211019	FORM 2 SUBMITTED
404283954	OIL & GAS LEASE
404288860	WELL LOCATION PLAT
404291246	DIRECTIONAL DATA
404291247	DEVIATED DRILLING PLAN
404361857	OffsetWellEvaluations Data
404449221	OFFSET WELL EVALUATION

Total Attach: 7 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Complete.	11/14/2025
Permit	Emailed the SLB to notify them of this pending application. SLB has no concerns with this application.	11/10/2025
OGLA	The Commission approved OGDG #489636 on July 2, 2025 for the Oil and Gas Location related to this Form 2. OGLA task passed.	11/04/2025

Total: 3 comment(s)