

FORM
2

Rev
02/20

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:

402440951

(RE-SUBMITTED)

Date Received:

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

TYPE OF WELL OIL GAS COALBED OTHER: _____

Refiling

ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES

Sidetrack

Well Name: Cottonwood Creek Well Number: 4-65 28-27 4DH

Name of Operator: CRESTONE PEAK RESOURCES OPERATING LLC COGCC Operator Number: 10633

Address: 1801 CALIFORNIA STREET #2500

City: DENVER State: CO Zip: 80202

Contact Name: Kathy Denzer Phone: (720)410-8519 Fax: ()

Email: kathy.denzer@crestonepr.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20160104

WELL LOCATION INFORMATION

QtrQtr: SWSW Sec: 28 Twp: 4S Rng: 65W Meridian: 6

Latitude: 39.671066 Longitude: -104.677118

Footage at Surface: 1331 Feet FNL/FSL FSL 422 Feet FEL/FWL FWL

Field Name: WILDCAT Field Number: 99999

Ground Elevation: 5695 County: ARAPAHOE

GPS Data: GPS Quality Value: 1.3 Type of GPS Quality Value: PDOP Date of Measurement: 04/20/2018

Instrument Operator's Name: Chad Meiers

If well is Directional Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone:	FNL/FSL	FEL/FWL	Bottom Hole:	FNL/FSL	FEL/FWL
<u>360</u>	<u>FSL</u> <u>330</u>	<u>FWL</u>	<u>360</u>	<u>FSL</u> <u>330</u>	<u>FEL</u>
Sec: <u>28</u>	Twp: <u>4S</u>	Rng: <u>65W</u>	Sec: <u>27</u>	Twp: <u>4S</u>	Rng: <u>65W</u>

LOCAL GOVERNMENT INFORMATION

County: ARAPAHOE Municipality: Aurora

Per § 34-60-106 (1)(f)(I)(A), the following questions pertain to the "local government with jurisdiction to approve the siting of the proposed oil and gas location."

The local government with jurisdiction is: Municipality

Does the local government with jurisdiction regulate the siting of Oil and Gas Locations, with respect to this location? If the local government does regulate the siting, but has waived its right to precede the COGCC in siting determination, indicate by selecting "YES" here and selecting "Waived" for the disposition below. 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 local government siting permit type is: Oil and Gas Permit

The local government siting permit was filed on: 10/10/2018

The disposition of the application filed with the local government is: Approved

Additional explanation of local process:

Permit was resubmitted 7/1/19 and then approved via Administrative approval on 11/1/2019. Case no. 2019-6005-04.

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: Fee State Federal Indian

The Surface Owner is: is the mineral owner beneath the location.

(check all that apply)

is committed to an Oil and Gas Lease.

has signed the Oil and Gas Lease.

is the applicant.

The Mineral Owner beneath this Oil and Gas Location is: Fee State Federal Indian

The Minerals beneath this Oil and Gas Location will be developed by this Well: Yes

The right to construct the Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: _____ Surface Surety ID: _____

LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

Please see attached mineral lease map.

Total Acres in Described Lease: 468 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # _____

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building:	<u>2694</u> Feet
Building Unit:	<u>2865</u> Feet
High Occupancy Building Unit:	<u>3916</u> Feet
Designated Outside Activity Area:	<u>5280</u> Feet
Public Road:	<u>3630</u> Feet
Above Ground Utility:	<u>2953</u> Feet
Railroad:	<u>5280</u> Feet
Property Line:	<u>278</u> Feet
School Facility:	<u>3920</u> Feet
School Property Line:	<u>1310</u> Feet
Child Care Center:	<u>5280</u> Feet

INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).
- 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, High Occupancy Building Unit, Designated Outside Activity Area, School Facility, and Child Care Center – as defined in 100 Series Rules.

DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a: Buffer Zone
 Exception Zone
 Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: _____

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: _____

SPACING and UNIT INFORMATION

Distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation: 473 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 330 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): _____ Unit Number: _____

SPACING & FORMATIONS COMMENTS

If this Form 2 is associated with a Drilling and Spacing Unit application, provide docket number: _____

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	535-1255	1280	Sections 27 & 28

DRILLING PROGRAM

Proposed Total Measured Depth: 18355 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: 978 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 Operations Plan)

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

GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Commercial Disposal

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Beneficial reuse or land application plan submitted? _____

Reuse Facility ID: _____ or Document Number: _____

CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	24	16	42	0	99	86	99	0
SURF	13+1/2	9+5/8	40	0	2328	1253	2328	0
1ST	8+1/2	5+1/2	20	0	18355	2671	18355	2328

Conductor Casing is NOT planned

DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

RULE 502.b VARIANCE REQUEST

- Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number _____

OTHER LOCATION EXCEPTIONS

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number _____
- Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

OPERATOR COMMENTS AND SUBMITTAL

Comments

The closest well permitted or completed in the same formation is the Cottonwood Creek 4-65 28-27 4BH well.

There closest well belonging to another Operator is the 1 Sun State, API 05-005-06575, operated by Bobcat Oil Co.

The distances were determined by using the Offset Well Evaluation and the 3D Anti Collission Report, attached with the Directional Plan.

A letter was sent to Adams-Araphoe School District 28 in August of 2019 in regard to the proximity to a school property line. No response was received. A copy of the letter is on record with the approved Form 2A.

A sundry for the 2A will be submitted to update disposal method to commercial disposal as opposed to reuse/recycle.

Crestone Peak is using the API number from the Abandoned Rush 4-65 29-30 3DH for this proposed well on the same pad being drilled in a new DSU. Everything regarding the wellbore has changed. Please use the original SUA that was submitted with the Rush 4-65 29-30 3DH. The location has been built and has 1 Producing well.

The mineral beneath the location will be developed. This does not match the approved 2A as it was submitted with wells only going west. A new DSU is now associated with the 2A that runs underneath the location.

This application is in a Comprehensive Drilling Plan No CDP #: _____

Location ID: 449806

Is this application being submitted with an Oil and Gas Location Assessment application? No

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

Signed: _____ Print Name: Andrea Gross

Title: Permit Agent Date: _____ Email: agross@upstreampm.com

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

05 005 07455 00

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>
Rejected	<p>REJECTION: This APD has been rejected per the COGCC Rejection Process (updated May 21, 2019).</p> <ol style="list-style-type: none"> 1) This APD must be a refile APD, as there are abandoned Permits on the pad, which have had API numbers assigned, and one of these API numbers must be used for this refile APD. 2) BHL location is given in an incorrect Section. 3) The mineral lease description incorrectly states the lease to be all of Sec. 28, in addition to saying "Please see attached mineral lease map". 4) The 3 check boxes addressing the Surface Owner's relationship to the minerals beneath the location are all blank, but the concomitant 2A (Doc. 402147964, Loc. ID 449806) shows them all checked. 5) The answer to "The minerals beneath this oil and gas location will be developed by this well" on the Surface & Minerals tab is 'yes', but on the concomitant 2A (Doc. 402147964, Loc. ID 449806), the answer is 'no'. 6) The spacing order number on the Spacing & Formations tab is incorrect. 7) The Submit tab lists the closest well in the same Formation as "Cottonwood Creek 4-65 28-27 4BH on the same pad", but no such well is planned, nor drilled and completed on this pad. <p>This entire form was reviewed by permitting staff.</p>
Drilling/Completion Operations	<ol style="list-style-type: none"> 1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU (spud notice) for the first well activity with a rig on the pad and provide 48 hour spud notice via Form 42 for all subsequent wells drilled on the pad. 2) Comply with Rule 317.j. and provide cement coverage from TD to a minimum of 200' above Niobrara. Verify coverage with cement bond log. 3) Oil-based drilling fluid is to be used only after all fresh water aquifers are covered.
Drilling/Completion Operations	<p>Operator acknowledges the proximity of the listed non-operated well: Operator agrees to: provide mitigation option 3 (per the DJ Basin Horizontal Offset Policy) to mitigate the situation, ensure all applicable documentation is submitted based on the selected mitigation option chosen, and submit a Form 42 ("OFFSET MITIGATION COMPLETED") for the remediated wells, referencing the API number of the proposed horizontal well(s) stating what appropriate mitigation occurred and that it has been completed, prior to the hydraulic stimulation of these wells.</p> <p>005-06575 Sun State 1</p>
Drilling/Completion Operations	<p>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:</p> <ol style="list-style-type: none"> 1) Within 60 days of rig release, prior to stimulation. If any pressure greater than 200 psi, must contact COGCC engineer prior to stimulation. 2) If a delayed completion, 6 months after rig release and prior to stimulation. If any pressure greater than 200 psi, must contact COGCC engineer prior to stimulation. 3) A post-production test within 60 days after first sales, as reported on the Form 10, Certificate of Clearance.

Best Management Practices

No	BMP/COA Type	Description
1	Drilling/Completion Operations	Prior to drilling operations, Crestone will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, the Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as constructed gyro survey will be submitted to COGCC with the Form 5.
2	Drilling/Completion Operations	Crestone will comply with the "COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012.
3	Drilling/Completion Operations	Alternative Logging Program: One of the first wells drilled on the pad will be logged with Open Hole Resistivity Log and Gamma Ray Log from the kick-off point to 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 measuredwhile- 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 openhole logs shall clearly state "Alternative Logging Program - No open-hole logs were run" and shall clearly identify (by API#, well name & number) the well in which openhole logs were run.
4	Drilling/Completion Operations	No drill stem tests will be performed.
5	Drilling/Completion Operations	Backup stabbing valves shall be required on well servicing operations during reverse circulation. Valves shall be pressure tested before each well servicing operation using both low-pressure air and high-pressure fluid.
6	Drilling/Completion Operations	Adequate blowout prevention equipment will be used on all well servicing operations.
7	Drilling/Completion Operations	Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections will be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results will be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.

Total: 7 comment(s)

Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.
http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf

Attachment Check List

Att Doc Num	Name
402440951	FORM 2 SUBMITTED
402491248	FORM 2 REJECTED
402495007	OffsetWellEvaluations Data
402495032	LEASE MAP
402495038	WELL LOCATION PLAT
402495040	DEVIATED DRILLING PLAN

Total Attach: 7 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Updated mineral lease descriptor per attached MINERAL LEASE MAP Doc. 402447445	09/15/2020
Permit	With Operator concurrence, corrected Spacing Order.	09/15/2020
Permit	Added OGLA & OGLA-181 tasks to this APD.	08/24/2020
LGD	<p>In response to this COGCC Form 2 application submitted by CRESTONE PEAK RESOURCES OPERATING LLC (Operator) for the development of oil and gas minerals at the COTTONWOOD CREEK 4-65 28-27 4DH well, the City of Aurora is pleased to submit the following comments:</p> <ol style="list-style-type: none"> 1) The Operator received local location approval from the City of Aurora on June 5, 2019. 2) The Aurora City Council approved the location following a Public Hearing. 3) The location was approved via an Operator Agreement between the City of Aurora and ConocoPhillips Company. The City has since approved the transfer of the well and Operator Agreement to Crestone Peak Resources. 4) The Operator Agreement requires the Operator to employ 49 Best Management Practices (BMPs) and many other provisions contained in the Operator Agreement during the construction, drilling, completion, production, and reclamation of this well. 5) The BMPs are designed to protect public health, safety, welfare, the environment, and wildlife resources. 6) The City of Aurora is in regular communication with staff at Crestone Peak Resources regarding their operations in general and their plans for this well specifically. 7) The Operator received approval (with conditions) from the City of Aurora for construction of this location on November 1, 2019. Case Number: 2017-6005-04, Rush South (Phase 2) - Oil and Gas Permit. 8) The City of Aurora reminds the Operator to submit any remaining technical items to the Planning Department to receive a Notice to Proceed (NTP). The NTP from the City is required before drilling of this well can begin. 9) The City of Aurora has received verification of the change of well name from the Operator. 10) The City of Aurora supports Operator communication with Arapahoe County regarding usage of County roads for access to this well and payment of any required fees. <p>Thank you for the opportunity to submit these comments.</p> <p>Jeffrey S. Moore, P.G.</p> <p>Manager - Oil and Gas Division - City of Aurora</p>	08/11/2020
Permit	Passed completeness.	07/22/2020

Total: 5 comment(s)

Public Comments

The following comments were provided by members of the public and were considered during the technical review of this application.

No. Comment

Comment Date

1	<p>I am a resident of Arapahoe County and ride my bike in the area of Cherry Creek Reservoir frequently. There are also many bike trails that are in the area including one that spans the distance between Aurora and Cherry Creek Reservoirs. I have learned that a major source of air pollution in Colorado is oil and gas. This area is very close to the highly residential part of Denver. Being allowed to frack in this area deteriorates the recreational activities in this area.</p> <p>I also feel this is a health issue with air pollution. Especially now that Covid-19 is such an issue, this would affect the ability to breathe clean air and the quality of life in Arapahoe County.</p> <p>I am asking that you do not issue these fracking permits.</p> <p>Thank You.</p> <p>Mary Sue Dickerson</p>	08/08/2020
---	---	------------

Total: 1 comment(s)