

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

TYPE OF WELL OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> COALBED <input type="checkbox"/> OTHER _____ ZONE TYPE SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONES <input type="checkbox"/> COMMINGLE ZONES <input type="checkbox"/>	Refiling <input checked="" type="checkbox"/> Sidetrack <input type="checkbox"/>
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Date Received: 01/10/2018

Well Name: Battlement Mesa Well Number: 44A-26-795

Name of Operator: CAERUS PICEANCE LLC COGCC Operator Number: 10456

Address: 1001 17TH STREET #1600

City: DENVER State: CO Zip: 80202

Contact Name: Michelle Molinar Phone: (720)880-6347 Fax: (303)565-4606

Email: mmolinar@caerusoilandgas.com

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: 20130021

WELL LOCATION INFORMATION

QtrQtr: SESW Sec: 26 Twp: 7S Rng: 95W Meridian: 6

Latitude: 39.404360 Longitude: -107.967097

Footage at Surface: <u>1267</u> Feet	FNL/FSL	FEL/FWL
<u>FSL</u> <u>1966</u> Feet	<u>FSL</u> <u>1966</u> Feet	<u>FWL</u>

Field Name: RULISON Field Number: 75400

Ground Elevation: 8965 County: GARFIELD

GPS Data:
Date of Measurement: 10/13/2015 PDOP Reading: 1.8 Instrument Operator's Name: Robert Wood

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>1315</u> <u>FSL</u> <u>674</u> <u>FEL</u>	<u>1315</u> <u>FSL</u> <u>674</u> <u>FEL</u>		
Sec: <u>26</u> Twp: <u>7S</u> Rng: <u>95W</u>	Sec: <u>26</u> Twp: <u>7S</u> Rng: <u>95W</u>		

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: applicant is owner

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.)

Sec. 26, T7S, R95W: N2S2, SWNE, S2NW, S2S2, Lot 4 (483.68-acres) more or less

Total Acres in Described Lease: 484 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: 674 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 5013 Feet

Building Unit: 5280 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 4603 Feet

Above Ground Utility: 5155 Feet

Railroad: 5280 Feet

Property Line: 2343 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, and Designated Outside Activity Area - 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: 286 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 674 Feet (Enter 5280 for distance greater than 1 mile.)

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

SPACING & FORMATIONS COMMENTS

Sec. 26 - T7S-R95W

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
WILLIAMS FORK	WMFK	139-53	640	All - Sec. 26

DRILLING PROGRAM

Proposed Total Measured Depth: 10506 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: _____ 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? No

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: ONSITE Drilling Fluids Disposal Methods: Recycle/reuse

Cuttings Disposal: ONSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Waste Management Plan has been previously submitted.

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	30	20	52.8#	0	100	218	100	0
SURF	14+3/4	9+5/8	36#	0	2500	623	2500	0
1ST	8+3/4	4+1/2	11.6#	0	10506	995	10506	5676

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 There have been no changes to the location. I certify that there have been no changes on land use, lease description. The pad has been built. No pit required. There will be no additional surface disturbance. The location does not require a variance from any of the rules listed in Rule 306.d.(1).(A).(ii). The location is not within a wildlife Restricted Surface Occupancy Area. The approved Form 2A expires on 1/15/2019.

This application is in a Comprehensive Drilling Plan _____ CDP #: _____

Location ID: 334128

Is this application being submitted with an Oil and Gas Location Assessment application? Yes

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

Signed: _____ Print Name: Michelle Molinar

Title: Drilling Regulatory Tech Date: 1/10/2018 Email: mmolinar@caerusoilandgas.co

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 COGCC Rules and applicable orders and is hereby approved.

COGCC Approved:  Director of COGCC Date: 6/9/2018

Expiration Date: 06/08/2020

API NUMBER
05 045 23067 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>
	<p>Operator shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operations (dated January 5, 2017).</p>
	<p>1) Operator shall comply with the most current revision of the Northwest Notification Policy.</p> <p>2) Operator shall comply with the most current revision of the Garfield County Rulison Field Notice to Operators, with the following exception: All field notice requirements specified in that Notice to Operators are superseded by the requirements of the most current revision of the Northwest Colorado Notification Policy (see Condition of Approval #1).</p> <p>3) Operator shall provide cement coverage from the production casing shoe (4+1/2" FIRST STRING) to a minimum of 200' above the Lower Wasatch (as defined by COGCC in the report "Casing and Cement Standards for Geologic Isolation Piceance Basin Bradenhead Monitoring Area and Nearby Fields," dated April 18, 2016, COGCC Document No. 2056199, Appendix A Field Scout Cards and Annotated Type Logs) to provide isolation of the Lower Wasatch, all Mesaverde Group formations including the Ohio Creek Formation, and underlying formations, if penetrated. Verify production casing cement coverage with a cement bond log.</p> <p>4) In lieu of the standard Form 42 spud notice required by the Northwest Notification Policy, submit Form 42 Rulison SAP - Spud Notice, specifying the bottom hole location sector and tier.</p> <p>5) Operator shall comply with all provisions of the most recent COGCC-approved revision of the Rulison Sampling and Analysis Plan.</p> <p>6) Operator shall provide complete well-specific emergency contact information to COGCC via email prior to spudding this well. Rulison.Submittal@state.co.us</p> <p>7) Perform a high-accuracy gyroscopic directional wellbore survey upon reaching total depth of the well. Submit a copy of the survey with a Form 4, Sundry Notice, requesting approval to DNR_Rulison.Submittal@state.co.us and Barbara.Westerdale@state.co.us. The directional drilling survey report shall include a map view and a vertical profile view showing wellbore trajectory and distance from the 1/2-mile radius from Project Rulison. The operator shall obtain approval from COGCC permitting staff prior to commencing casing perforating and other completion operations.</p> <p>8) The Operator shall monitor the bradenhead pressure of the proposed well and all offset wells under Operator's control which penetrate the stimulated formation and have a treated interval separation of 300 feet or less. Monitoring shall occur from 24 hours prior to stimulation and shall continue until 24 hours after stimulation is complete. Recording shall be at a frequency of at least once per 24 hours with the capability of recording the maximum pressure observed during each 24 hour period. Operator shall notify COGCC Engineering staff if bradenhead pressures increase by more than 200 psig.</p> <p>9) Operator agrees to coordinate with Department of Energy Legacy Management for open hole logging and downhole microseismic fracture mapping for wells having bottom hole locations near the 1/2-mile Rulison boundary. All open hole logs shall be submitted to the COGCC per Rule 308A.b(2)B and Rule 317.p. The downhole microseismic data will be used to assess the extent of the hydraulic fractures into the 1/2-mile boundary and to verify fracture extents used in the Rulison model.</p>

Best Management Practices

No	BMP/COA Type	Description
1	Planning	In compliance with Rule 317.p the first well that is operationally feasible on the Battlement Mesa 26K-795 pad will be logged with an open-hole Resistivity Log and Gamma Ray Log from TD into the surface casing. All wells on the pad will have a Cement Bond Log with cased-hole Gamma Ray run on the production casing. The Form 5 Completion Report will list all the logs run in the subject well and identify the well that was logged with the open-hole Resistivity Log.
2	Drilling/Completion Operations	Caerus Operating LLC will adhere to the COGCC Policy for Bradenhead Monitoring effective May 29, 2012.

Total: 2 comment(s)

Applicable Policies and Notices to Operators

Piceance Rulison Field - Notice to Operators.

<http://cogcc.state.co.us/documents/reg/Policies/NoticeToOp-20060623-2.pdf>

NW Colorado Notification Policy.

http://cogcc.state.co.us/documents/reg/Policies/nw_notification_procedures.pdf

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
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401479456	FORM 2 SUBMITTED
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Total Attach: 1 Files

General Comments

User Group	Comment	Comment Date
Permit	DOE consultation completed with COA's added as requested. Final Review complete.	05/30/2018
Permit	Placed On Hold for additional DOE consultation.	02/28/2018
Permit	Corrected Drilling Fluids Disposal from Offsite to Onsite to agree with approved 2A. Operator concurs. Preliminary review complete.	02/16/2018
Permit	Requested approval from DOE. Checking with operator regarding change in drilling & waste management from original form 2.	02/08/2018
LGD	pass	01/25/2018
Engineer	Offset water well check: COGCC evaluated offset water wells within one mile of this proposed well's surface hole location. This information was used in addition to locally-available geophysical logs and hydrogeologic information to evaluate the adequacy of the operator's proposed surface casing setting depth. The deepest water well within one mile is 78 feet. Offset Well Evaluation: Existing offset oil and gas wells within 1,500 feet of the wellbores on this pad meet standards. No mitigation required.	01/22/2018
Permit	Passed Completeness.	01/16/2018

Total: 7 comment(s)