

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

TYPE OF WELL OIL <input type="checkbox"/> GAS <input type="checkbox"/> COALBED <input type="checkbox"/> OTHER <u>Injection</u>	Refiling <input type="checkbox"/>
ZONE TYPE SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONES <input type="checkbox"/> COMMINGLE ZONES <input type="checkbox"/>	Sidetrack <input type="checkbox"/>

Date Received:
02/18/2016

Well Name: Savage Well Number: 8A-794-SWD

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

Address: 600 17TH STREET #1600N

City: DENVER State: CO Zip: 80202

Contact Name: Reed Haddock Phone: (720)880-6369 Fax: (303)565-4606

Email: rhaddock@caerusoilandgas.com

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: 20130021

WELL LOCATION INFORMATION

QtrQtr: NENE Sec: 8 Twp: 7S Rng: 94W Meridian: 6

Latitude: 39.458400 Longitude: -107.906350

Footage at Surface: <u>532</u> feet	FNL/FSL	FEL/FWL
<u>FNL</u> <u>1216</u> feet	<u>FEL</u>	

Field Name: RULISON Field Number: 75400

Ground Elevation: 6465.5 County: GARFIELD

GPS Data:
Date of Measurement: 01/14/2016 PDOP Reading: 1.3 Instrument Operator's Name: Richard A. Bullen, Jr.

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>354</u>	<u>FNL</u> <u>1344</u>	<u>FEL</u>	<u>354</u>	<u>FNL</u> <u>1344</u>	<u>FEL</u>
Sec: <u>8</u>	Twp: <u>7S</u>	Rng: <u>94W</u>	Sec: <u>8</u>	Twp: <u>7S</u>	Rng: <u>94W</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: No

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.)

Total Acres in Described Lease: _____ 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: _____ Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 2624 Feet
Building Unit: 2624 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 1486 Feet
Above Ground Utility: 1673 Feet
Railroad: 5280 Feet
Property Line: 1319 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: 5280 Feet

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

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

SPACING & FORMATIONS COMMENTS

Caerus proposes to inject into the Ohio Creek Formation.

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
OHIO CREEK	OHCRK			

DRILLING PROGRAM

Proposed Total Measured Depth: 5875 Feet

Distance from proposed wellbore to nearest existing or permitted wellbore belonging to another operator:

1579 Feet (Including plugged wells)

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:

See Waste Management Plan attached to Form 2A.

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	26	16	52.8#	0	60	110	60	0
SURF	13+1/2	9+5/8	36#	0	2500	420	2500	0
1ST	8+3/4	7	26#	0	5875	388	5875	2000

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 This well is a proposed Class II, disposal well. Caerus Piceance LLC proposes to inject into the Ohio Creek Formation. The Form 2A is approved and expires October 15, 2018.

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

Location ID: 413476

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: Reed Haddock

Title: Sr. Regulatory Specialist Date: 2/18/2016 Email: rhaddock@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: 3/16/2016

Expiration Date: 03/15/2018

API NUMBER
05 045 23079 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>1. Prior approval of Form 4 is required for step rate and injectivity tests. Operator is required to contact COGCC to discuss Step Rate Test or Injectivity Test criteria for Maximum Surface Injection Pressure determination.</p> <p>2. FOR ALL NEW DRILL AND CONVERTED UNDERGROUND INJECTION CONTROL WELLS a Cement Bond Log (CBL) IS REQUIRED on the cased portions of the hole from the bottom of the casing string to the top of the next shallower casing string for all casing strings other than the Surface Casing. Only a PDF, TIFF, or PDS visual image is required.</p> <p>3. Operator must provide all tops of formations encountered from surface to TD on the Form 5 when submitted.</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 (i.e. 1st String) to a minimum of 500 feet into the Surface Casing as specified in the Casing section of this permit application. Verify production casing cement coverage with a cement bond log.</p> <p>(4) Approval of this form does not authorize injection. Authorization to inject requires approval of Form 31 and Form 33.</p> <p>(5) Before stimulating the objective injection formation, collect water sample and analyze for Total Dissolved Solids.</p>

Best Management Practices

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

Applicable Policies and Notices to Operators

Policy
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
400850708	FORM 2 SUBMITTED
400899501	TOPO MAP
400973655	WELL LOCATION PLAT
400986059	DEVIATED DRILLING PLAN
400986060	DIRECTIONAL DATA
400992324	SURFACE AGRMT/SURETY

Total Attach: 6 Files

General Comments

User Group	Comment	Comment Date
Engineer	corrected distance from this proposed wellbore to nearest existing (or permitted) wellbore belonging to another operator. Well is (045-05059) WPX's Gross-Hahnewald 1-8-7S-94W well, 1579' away.	3/15/2016 4:21:47 PM
Permit	Final review complete.	3/14/2016 8:45:48 AM
UIC	After discussion with Operator and COGCC staff, COGCC will accept open hole logs from the adjacent - Savage #31B-8 - well (API: 045-18577) for use in UIC Application for this injection well Savage 8A-794-SWD. Based on Directional Survey plans the two wellbores will be about 340 feet apart at the top of the Ohio Creek Formation. Savage #31B-8 is deeper and has shallower surface casing so log coverage over injection zone and well should be excellent.	3/10/2016 9:30:06 AM
UIC	Modified 1st String Top of Cement requirement in Jay Krabacher COA to match proposed 500 foot cement coverage overlap between Surface Casing Shoe and Top of Cement for the 1st String.	3/10/2016 9:23:19 AM
Permit	Removed logging BMP as per operator in order to apply COA for underground injection control.	3/9/2016 9:05:46 AM
Permit	Corrected Right to Construct from Lease to SUA with operator approval. Corrected well location from NWNE to NENE QTR and notified operator. Removed related forms documents: 2A - 400853079; 31 - 400970835; & 33 - 400971086 with operator approval. Note: Description of lands covered in SUA is item #8 of SUA. Ready to pass after public comment on 3/11, pending review and approvals from Engineers and LGD.	3/1/2016 7:36:53 AM
Engineer	Evaluated existing offset oil and gas wells within 1,500 feet of this wellbore. No mitigation required. 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 300 feet.	2/24/2016 10:39:12 AM
Permit	Passed completeness.	2/19/2016 10:58:05 AM
OGLA	Corrected distance to Building to match distance to Building Unit since Building Unit is closer than Building; corrected distance to Public Road located to the southeast of well pad per COGCC Online GIS Map.	9/29/2015 2:12:25 PM

Total: 9 comment(s)