

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

TYPE OF WELL OIL <input checked="" type="checkbox"/> GAS <input 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: 02/19/2019

Well Name: K&H Ranches Well Number: 1-661-5701BH

Name of Operator: CAERUS WASHCO LLC COGCC Operator Number: 86610

Address: 1001 17TH STREET - STE #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: 20070099

WELL LOCATION INFORMATION

QtrQtr: SWSW Sec: 1 Twp: 6N Rng: 61W Meridian: 6

Latitude: 40.510288 Longitude: -104.162208

Footage at Surface: <u>100</u> Feet	FNL/FSL	FEL/FWL
<u>100</u> Feet	<u>FSL</u> <u>1234</u> Feet	<u>FWL</u>

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 4752 County: WELD

GPS Data:
Date of Measurement: 01/12/2016 PDOP Reading: 6.0 Instrument Operator's Name: James Kalmon

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

Footage at Top of Prod Zone: <u>460</u> Feet	FNL/FSL	FEL/FWL	Bottom Hole: <u>260</u> Feet	FNL/FSL	FEL/FWL
<u>460</u> Feet	<u>FSL</u> <u>659</u> Feet	<u>FWL</u>	<u>260</u> Feet	<u>FNL</u> <u>659</u> Feet	<u>FWL</u>

Sec: 1 Twp: 6N Rng: 61W Sec: 1 Twp: 6N Rng: 61W

LOCAL GOVERNMENT INFORMATION

County: WELD Municipality: N/A

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: County

Does the local government with jurisdiction regulate the siting of Oil and Gas Locations, with respect to this COGCC application? If the local government has waived its right to precede the COGCC in siting determination, indicate by selecting "NO" here and selecting "Waived" 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: _____

The local government siting permit was filed on: _____

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

Additional explanation of local process:

WELD COUNTY HAS WAIVED THE RIGHT TO PRECEDE COGCC IN SITING.

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.)

Sec. 1, T6N-R91W - Lots 1, 2, 3, 4, S2N2, S2 and Sec. 36, T7N-R61W - All.

Total Acres in Described Lease: 1278 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: 460 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 5280 Feet
Building Unit: 5280 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 4033 Feet
Above Ground Utility: 5280 Feet
Railroad: 5280 Feet
Property Line: 100 Feet
School Facility: 5280 Feet
School Property Line: 5280 Feet
Child Care Center: 5280 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 INFORMATIONDistance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation: 158 FeetDistance from Completed Portion of Wellbore to Nearest Unit Boundary 460 Feet (Enter 5280 for distance greater than 1 mile.)

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

SPACING & FORMATIONS COMMENTS

Sec. 1, - T6N, R61W; Sec. 36, T7N, R61W

1280 acre unit - 24 Nio and 4 Codell - 460' Unit Boundary and 100' Productive Boundary

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	407-1638	1280	S. 1 and 36: All

DRILLING PROGRAMProposed Total Measured Depth: 10913 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: 52 Feet No well belonging to another operator within 1,500 feetWill a closed-loop drilling system be used? YesIs 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? NoWill salt based (>15,000 ppm Cl) drilling fluids be used? NoWill oil based drilling fluids be used? NoBOP Equipment Type: Annular Preventor Double Ram Rotating Head None**GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING**Water well sampling required per Rule 318A**DRILLING WASTE MANAGEMENT PROGRAM**Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Commercial DisposalCuttings Disposal: ONSITE Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

It is anticipated drilling fluids will be recycled and re-used in future drilling operations. Production zone drill cuttings disposed Offsite at a Commercial Disposal facility. See Waste Management Plan attached to 2A #400891513.

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	52.8#	0	75	105	75	0
SURF	12+1/4	9+5/8	36#	0	1500	129	1500	0
1ST	8+3/4	7	26#	0	6628	560	6628	1000
1ST LINER	6+1/8	4+1/2	11.6#	5500	10913	272	10913	5500

 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 Nearest Offset Operated Producing/Plugged Well: Kirchof #1 operated by ST Dyer (API No. 05-123-05253).
Offset Evaluation plan has been revised, all other previously submitted documents are correct.
No changes have been made from the previously approved Form 2. This pad has a valid Form 2A.
The surface location of the proposed wellheads are staked within the property line safety setback requirement. Per SUA negotiations, this location was agreed to be located in the NW of Section 12 & SW of Section 1, T6N, R61W, overlapping parcel's 079501100009 & 079512200008 (detailed in Exhibit A of SUA), both owned by K & H Ranches.

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

Location ID: 449355

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: Michelle Molinar

Title: Drilling & Regulatory Tec Date: 2/19/2019 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, applicable orders, and SB 19-181 and is hereby approved.

COGCC Approved:  Director of COGCC Date: 6/19/2019

Expiration Date: 06/18/2021

API NUMBER 05 123 44289 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>
	If location is not built by 2A expiration 2/27/20, Operator must Refile Form 2A for approval prior to location construction.
	1) Submit Form 42 online 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) Provide cement coverage to a minimum of 200' above Niobrara. Verify coverage with cement bond log. Bradenhead Bradenhead tests shall be performed and reported according to the following schedule and Form 17 submitted within 10 days of each test.: 1) All: Within 60 days of rig release, prior to stimulation. If any pressure greater than 200 psi, must contact COGCC engineer prior to stimulation. 2) Delayed completion: 6 months after rig release, 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.
	Operator acknowledges the proximity of the listed offset well(s). Operator agrees to comply with the DJ Basin Horizontal Offset Policy to mitigate the situation, ensure all applicable documentation is submitted based on the selected mitigation option chosen, submit Form 42(s) ("OFFSET MITIGATION COMPLETED") for the mitigated well(s), stating that appropriate mitigation was completed prior to the hydraulic stimulation of this well. Offset wells to mitigate: 05-123-05245, KIRCHHOF 4. 05-123-05246, WISEMAN-KURCHOFF 3. 05-123-05247, GREASEWOOD D SAND UNIT 3. 05-123-05249, KIRCHHOF ET AL*FRANCIS J 5. 05-123-05250, KIRCHHOF 7. 05-123-05253, KIRCHHOF 1. 05-123-08173, STATE 1. 05-123-10125, KIRCHOFF 34-25. 05-123-10486, GREASEWOOD STATE 1. 05-123-10937, KIRCHOF 14X-1. 05-123-11442, KIRCHOF ESTATE ET AL 1. 05-123-17517, ITR-KIRCHOF 22-1A. 05-123-22592, FRANK STATE 15-3.

Best Management Practices

No BMP/COA Type	Description
1 Planning	<p>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 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 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 open-hole logs were run.</p> <p>Prior to drilling operations, Caerus Washco, LLC 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 well path with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottom hole 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.</p>
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

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

Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area.
<http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf>

Attachment Check List

Att Doc Num	Name
401814951	FORM 2 SUBMITTED
401944688	OffsetWellEvaluations Data
402080156	OFFSET WELL EVALUATION

Total Attach: 3 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	COGCC staff conducted its technical review of the this Form 2 Application for Permit to Drill (APD) and the previously approved Oil and Gas Location associated with this APD within the context of SB 19-181 and the required Director Objective Criteria. This APD did not meet any of the Director Objective Criteria and is compliant with all applicable COGCC rules.	06/11/2019
Permit	Operator provided local government siting permit status and school and childcare distances via the Local Government Information Google Form - information entered with operator concurrence.	06/07/2019
Permit	With operators concurrence added updated Open Hole Logging BMP. Added operator comment. Final Review Completed.	04/18/2019
Engineer	Contacted operator (Reed Haddock) regarding TOC on 4.5" liner. The TOC = TOL = 5500'.	04/16/2019
Engineer	Increased surface casing depth to 1500' due to base of Upper Pierre aquifer on resistivity log for offset well 05-123-05249. 2 water wells developed in this zone within 2 miles NE and SE.	04/02/2019
Permit	A task has been opened for an Oil & Gas Location Specialist to review the documents.	03/25/2019
Permit	Returned to draft: The captioned form was submitted on or after the effective date (February 14, 2019) of the school setback rules. The form has been updated to include the school data fields. The new fields must be completed prior to resubmitting. Corrected by operator. The open hole logging BMP must be updated per the guidance published February 19, 2019.	02/22/2019

Total: 7 comment(s)