

FORM

2

Rev  
08/16

## 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:

400894695

## APPLICATION FOR PERMIT TO:

☒ Drill
 ☐ Deepen
 ☐ Re-enter
 ☐ Recomplete and Operate

Date Received:

10/25/2016

TYPE OF WELL OIL ☒ GAS ☐ COALBED ☐ OTHER \_\_\_\_\_Refilling ☐ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐Sidetrack ☐

Well Name: K&amp;H Ranches

Well Number: 1-661-6004XCDH

Name of Operator: CAERUS WASHCO LLC

COGCC Operator Number: 86610

Address: 1001 17TH STREET - STE #1600

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: 20070099

## WELL LOCATION INFORMATION

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

Latitude: 40.510291

Longitude: -104.161723

Footage at Surface: 100 Feet FNL/FSL FSL 1369 Feet FEL/FWL FWL

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: FNL/FSL FEL/FWL Bottom Hole: FNL/FSL FEL/FWL

 460 FSL 2086 FWL 460 FNL 2086 FWL  
 Sec: 1 Twp: 6N Rng: 61W Sec: 36 Twp: 7N Rng: 61W

## LOCATION SURFACE &amp; MINERALS &amp; RIGHT TO CONSTRUCT

Surface Ownership: ☒ Fee ☐ State ☐ Federal ☐ IndianThe 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-R61W - 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: 3898 Feet

Above Ground Utility: 5280 Feet

Railroad: 5280 Feet

Property Line: 100 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: 158 Feet

Distance 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.)
CODELL	CODL	407-1638	1280	S. 1, 36: All

## DRILLING PROGRAM

Proposed Total Measured Depth: 16161 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: 102 Feet ☐ No well belonging to another operator within 1,500 feet

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No (If Yes, attach an H<sub>2</sub>S 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: OFFSITE Drilling Fluids Disposal Methods: Commercial Disposal

Cuttings 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	1000	129	1000	0
1ST	8+3/4	7	26#	0	6811	576	6811	1000
1ST LINER	6+1/8	4+1/2	11.6#	5500	16161	536	16161	4434

☐ 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: Greasewood-State #1 operated by Impact Energy (API No. 05-123-10486).

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: \_\_\_\_\_

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: Reed Haddock

Title: Sr. Regulatory Specialist Date: 10/25/2016 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: 2/27/2017

Expiration Date: 02/26/2019

### API NUMBER

05 123 44294 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>Provide offset well mitigation per the DJ Basin Horizontal Offset Policy for the following offset well(s) of concern:</p> <p>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.</p> <p>Ensure all applicable documentation is submitted based on the selected mitigation option chosen, and submit Form 42(s) ("OFFSET MITIGATION COMPLETED") for the remediated well(s), 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 this well.</p>
	<p>Bradenhead tests shall be performed and reported according to the following schedule and Form 17 submitted within 10 days of each test.:</p> <p>1) All: Within 60 days of rig release, prior to stimulation. 2) Delayed completion: 6 months after rig release, prior to stimulation. 3) All: Within 30 days of first production, as reported on Form 5A.</p>
	<p>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) Provide cement coverage to a minimum of 200' above Niobrara and from 1500' to 50' above base of surface casing. Verify coverage with cement bond log. (Water wells within 2 miles developed in Upper Pierre zone visible on offset logs.)</p>

## Best Management Practices

<b>No</b>	<b>BMP/COA Type</b>	<b>Description</b>
1	Planning	<p>Rule 317.p - 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 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 "No open-hole logs were run" and shall clearly identify (by API#, well name &amp; 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 ottom 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

Policy
Notice Concerning Operating Requirements for Wildlife Protection. <a href="http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf">http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf</a>
Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area. <a href="http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf">http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf</a>

## Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
400894695	FORM 2 SUBMITTED
400992869	WELL LOCATION PLAT
401001474	DEVIATED DRILLING PLAN
401001475	DIRECTIONAL DATA
401005138	OffsetWellEvaluations Data
401136873	EXCEPTION LOC REQUEST
401142116	SURFACE AGRMT/SURETY
401142117	EXCEPTION LOC REQUEST
401219629	OFFSET WELL EVALUATION

Total Attach: 9 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Complete.	02/27/2017
Permit	Corrected "minerals beneath location will be developed by this well" to YES. Added waste management comment for cuttings disposal placed on related 2A. Corrected field name to Wattenberg.	02/26/2017
Engineer	Evaluated existing wells within 1500' of proposed directional.	01/31/2017
Permit	Passed completeness.	11/07/2016
Permit	Added Operator's Wellbore Integrity Contact Email with Operator's permission.	11/07/2016
Permit	Returned to Draft: * Need Exception Location Request Letter 603.a(2). * Need Complete SUA (with a note made on the submit tab) or a separate property line setback waiver attached in the Attachments Tab. * Need the Box for the Property Line Setback 603.a(2) checked in the Exceptions Tab. * Need email address for Operator's wellbore integrity contact instead of phone number. * Correct QTR/QTR designation, needs to be full QTR/QTR instead of N2NW4, S2SW4 for example.	11/02/2016

Total: 6 comment(s)