

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>Gas Storage</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:
02/20/2019

Well Name: Wolf Creek Well Number: 9-D3

Name of Operator: ROCKY MTN NATURAL GAS LLC ADBA BLACK HILLS ENERGY COGCC Operator Number: 100321

Address: 1515 WYNKOOP STREET #500

City: DENVER State: CO Zip: 80202

Contact Name: Mark Arnold Phone: (720)899-6965 Fax: ()

Email: Mark.Arnold@blackhillscorp.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20070072

WELL LOCATION INFORMATION

QtrQtr: NESW Sec: 36 Twp: 8S Rng: 90W Meridian: 6

Latitude: 39.312871 Longitude: -107.395739

Footage at Surface: 1654 Feet FNL/FSL FSL 957 Feet FEL/FWL FWL

Field Name: WOLF CREEK Field Number: 94010

Ground Elevation: 10163 County: PITKIN

GPS Data:
Date of Measurement: 08/20/2018 PDOP Reading: 1.7 Instrument Operator's Name: Lauren Vance

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>747</u>	<u>FSL</u> <u>2508</u>	<u>FWL</u>	<u>747</u>	<u>FSL</u> <u>2508</u>	<u>FWL</u>
Sec: <u>36</u>	Twp: <u>8S</u>	Rng: <u>90W</u>	Sec: <u>36</u>	Twp: <u>8S</u>	Rng: <u>90W</u>

LOCAL GOVERNMENT INFORMATION

County: PITKIN 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: LAND USE APPLICATION

The local government siting permit was filed on: 02/19/2019

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

Additional explanation of local process:

Operator received the following statement from the Pitkin County LGD on June 14, 2019: "As we received no formal public objections or direction from BOCC for further consideration of the FONSI decision during the required 21 day period set forth in the Pitkin County Land Use Code, the FONSI decision regarding the replacement of Black Hills Natural Gas Storage Wells #9D-2 and #9D-3 in the Wolf Creek Storage Unit is effective as of today, June 14, 2019."

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: oil and gas lease

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.)

T8S R90W S36 ALL, S35 ALL, S26 ALL, S25 SW4, W2SE4, SESE

Total Acres in Described Lease: 2200 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # COC0007498

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 747 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: 1662 Feet
Above Ground Utility: 5280 Feet
Railroad: 5280 Feet
Property Line: 5280 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 INFORMATION

Distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation: 1006 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 4198 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): Wolf Creek GSA Unit Number: COC030114

SPACING & FORMATIONS COMMENTS

OBJECTIVE FORMATIONS

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

DRILLING PROGRAM

Proposed Total Measured Depth: 5609 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: 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	26	18	40.25	0	60	163	60	0
SURF	13+1/2	9+5/8	36	0	1200	299	1200	0
1ST	8+3/4	7	29	0	5608	374	5608	1000

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 will be drilled from an existing location, the Wolf Creek Unit 9 pad. The pad will require minimal new disturbance, approximately 0.012 acres outside of its current configuration. This will include expanding the graveled surface of the pad to allow for the drilling rig to drill these two wells on this single pad.

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

Location ID: 314168

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: Jessica Donahue

Title: Regulatory Supervisor Date: 2/20/2019 Email: Jessicadonahue@summiteng.n

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: 7/8/2019

Expiration Date: 07/07/2021

API NUMBER

05 097 06017 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>
	Alternative Logging Program: The Wolf Creek Unit #9 (API # 097-06003), the existing well on the pad, was logged with open-hole resistivity log from TD into the surface casing. This well will have a pulsed neutron and cement bond log with gamma-ray run in the production casing from TD into the surface casing. The Form 5, Drilling Completion Report, for this well will clearly state "Alternative Logging Program - No open-hole logs were run", will list all cased-hole logs run, and will have those logs attached. The Form 5 will state that an open-hole resistivity log was run in the Wolf Creek Unit #9 (API # 097-06003).
	Operator shall comply with Notice to Operators: Interim Reclamation Procedures for Delayed Operation (dated January 5, 2017).
	If conductors are preset, Operator shall comply with Notice to Operators: Procedures for Preset Conductors (dated September 1, 2016, revised October 6, 2016).
	<p>1) Operator shall comply with the most current revision of the Northwest Notification Policy.</p> <p>2) Operator shall provide cement coverage from the production casing shoe (7" FIRST STRING) to a minimum of 200' above the surface casing shoe to provide isolation of all Cretaceous oil, gas, and water-bearing sandstone and coalbed formations that are not otherwise covered by surface casing. Verify production casing cement coverage with a cement bond log.</p> <p>3) 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>

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Drilling/Completion Operations	Drilling of these replacement wells is to facilitate injection-withdrawal in an existing gas storage field. Past drilling in the field area indicated a high probability of loss circulation. Pressure gradients in the area are subnormal. Even if drilled conventionally to total depth, the mud weight differential pressure and loss of returns would make conventional logging a high risk method. To reduce risk, cased-hole drilling will be utilized above the Cozzette storage zone. Because of the of the cased-hole drilling method, logging will commence after casing is run.

Total: 1 comment(s)

Applicable Policies and Notices to Operators

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
401921472	FORM 2 SUBMITTED
401942996	DIRECTIONAL DATA
401942999	DEVIATED DRILLING PLAN
401943005	WELL LOCATION PLAT

Total Attach: 4 Files

General Comments

User Group	Comment	Comment Date
Permit	IN PROCESS. Operator provided logging information: the well will have a pulsed neutron and cement bond log with gamma-ray run in the production casing from TD into the surface casing. Added Alternative Logging Program COA; the existing well on the pad was logged with open-hole resistivity log from TD into the surface casing. Operator consented to COA.	07/05/2019
Permit	ON HOLD: Requested additional logging program information from operator.	07/03/2019
Permit	COGCC staff conducted its technical review of the Wolf Creek Unit 9 Pad Form 2A (Form 2A #401943016) within the context of SB 19-181 and the required Objective Criteria. The Form 2A permit application did not meet any of the Objective Criteria and is compliant with all applicable COGCC rules.	06/21/2019
Permit	-Added plugging bond number -Corrected distance from completed wellbore to nearest unit boundary from 5280 to 3968 -Corrected distances measured FEL to FWL which is the nearest section line. Used values on unsurveyed plat to calculate. -Checked boxes for is committed to oil and gas lease and signed oil and gas lease -Corrected total measured depth rounding error -Corrections made with operator concurrence. -Permit Final Review Complete -Corrections made with operator concurrence	06/20/2019
OGLA	06/19/2019 - per discussion with operator, revised cuttings disposal from onsite and cuttings trench to offsite and commercial disposal on the Form 2A and associated Form 2s; added the following statement to the 'Local Government Information' section: Operator received the following statement from the Pitkin County LGD on June 14, 2019: "As we received no formal public objections or direction from BOCC for further consideration of the FONSI decision during the required 21 day period set forth in the Pitkin County Land Use Code, the FONSI decision regarding the replacement of Black Hills Natural Gas Storage Wells #9D-2 and #9D-3 in the Wolf Creek Storage Unit is effective as of today, June 14, 2019."	06/19/2019
Permit	COGCC Staff has added the Local Government siting permit information and the School and Childcare Center distances provided by the operator.	06/17/2019
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 of 1200'. There are no permitted non-commercial water wells within one mile of this surface hole location. Water wells within one mile of this surface hole location are shallow wells drilled to investigate environmental impacts and are not used for water supply. Offset Well Evaluation: Offset wells within 1500 feet of this planned wellbore meet standards. No mitigation required.	03/12/2019
Permit	Passed completeness.	03/06/2019
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. The open hole logging BMP must be updated per the guidance published February 19, 2019.	02/22/2019

Total: 9 comment(s)