

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 _____	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:
01/13/2016

Well Name: Bower FD Well Number: 11-122HN

Name of Operator: GREAT WESTERN OPERATING COMPANY LLC COGCC Operator Number: 10110

Address: 1801 BROADWAY #500

City: DENVER State: CO Zip: 80202

Contact Name: Allison Linz Phone: (303)398 Fax: ()

Email: regulatorypermitting@gwogco.com

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: 20090080

WELL LOCATION INFORMATION

QtrQtr: NESE Sec: 10 Twp: 6N Rng: 67W Meridian: 6

Latitude: 40.500953 Longitude: -104.873779

Footage at Surface: <u>2467</u> feet	FNL/FSL	FEL/FWL
<u>FSL</u> <u>1018</u> feet	<u>FEL</u>	

Field Name: WATTENBERG Field Number: 90750

Ground Elevation: 4876.8 County: WELD

GPS Data:
Date of Measurement: 05/21/2015 PDOP Reading: 2.7 Instrument Operator's Name: Dana Sperling

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>1654</u> <u>FNL</u> <u>460</u> <u>FWL</u>	<u>1624</u> <u>FNL</u> <u>470</u> <u>FEL</u>				
Sec: <u>11</u> Twp: <u>6N</u> Rng: <u>67W</u>	Sec: <u>11</u> Twp: <u>6N</u> Rng: <u>67W</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.)

Irregular Lease Description Please see attached map.

Total Acres in Described Lease: 291 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: 0 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 1379 Feet

Building Unit: 1379 Feet

High Occupancy Building Unit: 2056 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 1004 Feet

Above Ground Utility: 231 Feet

Railroad: 5280 Feet

Property Line: 235 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: 0 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

Spacing Unit: N2 Section 11, 320 Acres

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		320	GWA

DRILLING PROGRAM

Proposed Total Measured Depth: 12155 Feet

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

166 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? Yes

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 318A

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? No

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	42	0	80	121	80	0
SURF	13+1/2	9+5/8	36	0	1500	582	1500	0
1ST	7+7/8	5+1/2	17	0	12155	1109	12155	0

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 proposed well will have a treated interval less than one hundred fifty (150) feet from the treated interval of another well and is subject to COGCC Rule 317.r. The well(s) belong to Great Western and will have treated intervals within one hundred fifty (150) feet of this proposed well:
Tailholt FD 11-379HN, Tailholt FD 11-35HN, and Tailholt FD 11-378HC are owned and operated by Great Western.

The Buderus 1 is an Abandoned well.

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: Allison Linz

Title: Regulatory Date: 1/13/2016 Email: regulatorypermitting@gwogco.c

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: Matthew Lee Director of COGCC Date: 2/11/2016

Expiration Date: 02/10/2018

API NUMBER

05 123 42751 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) Bradenhead test shall be performed within 30 days of rig release and prior to stimulation. Test results shall be submitted on Form 17 within 10 days of test.</p> <p>2) Bradenhead test shall be performed between 6 and 7 months after rig release and shall be submitted on Form 17 within 10 days of test.</p> <p>3) Bradenhead test shall be performed within 30 days of First Production as reported on Form 5A and shall be submitted on Form 17 within 10 days of test.</p>
	<p>1) Note surface casing setting depth change to 1500'. Increase cement coverage accordingly and cement to surface.</p> <p>2) Submit Form 42 (Spud Notice) electronically to COGCC 48 hours prior to MIRU for the first well activity with a rig on the pad.</p> <p>3) Submit Form 42 (Spud Notice) electronically to COGCC 48 hours prior to spud for each subsequent well drilled on the pad.</p> <p>4) Comply with Rule 317.j and provide cement coverage from TD to a minimum of 200' above the Niobrara. Verify coverage with cement bond log.</p> <p>5) Oil based drilling fluid is to be used only after all aquifers are covered.</p>

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	General Housekeeping	Prior to drilling operations, Operator 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 wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole 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.
2	Drilling/Completion Operations	General housekeeping will consist of neat and orderly storage of materials and fluids. Wastes will be temporarily stored in sealed containers and regularly collected and disposed of at offsite, suitable facilities. If spills occur prompt cleanup is required to minimize any commingling of waste materials with storm water runoff. Routine maintenance will be limited to fueling and lubrication of equipment. Drip pans will be used during routine fueling and maintenance to contain spills or leaks. Any waste product from maintenance will be containerized and transported offsite for disposal or recycling. There will be no major equipment overhauls conducted onsite. Equipment will be transported offsite for major overhauls. Cleanup will consist of patrolling the roadways, access areas, and other work areas to pick up trash, scrap debris, other discarded materials, and any contaminated soil. These materials will be disposed of properly and promptly.
3	Drilling/Completion Operations	GWOC will comply with the "COGCC Policy for Bradenhead Monitoring during Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012
4	Drilling/Completion Operations	One of the first wells drilled on the pad will be logged with open-hole Resistivity 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 id production liner is run) into the surface casing. The horizontal portion of every well will be logging with a measure-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 and number) the well in which open-hole logs were run.

Total: 4 comment(s)

Applicable Policies and Notices to Operators

Policy
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

<u>Att Doc Num</u>	<u>Name</u>
400852586	FORM 2 RESUBMITTED
400967606	FORM 2 SUBMITTED
400967607	FORM 2 REJECTED
400969135	WELL LOCATION PLAT
400969138	PROPOSED SPACING UNIT
400969142	DEVIATED DRILLING PLAN
400969144	DIRECTIONAL DATA
400969150	EXCEPTION LOC REQUEST
400970767	OffsetWellEvaluations Data
400970786	FORM 2 SUBMITTED
400973247	MINERAL LEASE MAP
400973249	SURFACE AGRMT/SURETY
400973250	EXCEPTION LOC WAIVERS
400973262	EXCEPTION LOC WAIVERS
400975670	FORM 2 RESUBMITTED

Total Attach: 15 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	2/11/2016 10:07:42 AM
Permit	Per operator changed comment about Rule 317.p. Permitting Review Complete.	2/10/2016 2:10:44 PM
Permit	Open Hole Logging BMP submitted by operator.	2/10/2016 2:10:43 PM
Permit	This form has passed completeness.	1/21/2016 12:10:48 PM
Permit	Returned to draft at operator's request.	1/18/2016 10:18:13 AM
Permit	REJECTION COMMENT: This APD is being rejected per the Rejection Process criteria that a pad of Form 2's requiring a total of four or more attachments to be added will be rejected. This pad requires a readable Surface Use Agreement to a total of 19 APD's. Operator and COGCC staff have been consulted.	1/8/2016 2:40:09 PM
Engineer	Offset wells evaluated.	12/24/2015 8:07:18 AM
Permit	10/22/2015: Surface Use Agreement Signatures Verified. Passes Completeness.	10/22/2015 4:15:02 PM
Permit	10/21/2015: Surface Use Agreement not signed by both parties. Returning to draft, requesting permitter to replace document via email.	10/22/2015 4:14:36 PM

Total: 9 comment(s)