

FORM  
2  
Rev  
08/13

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:  
400508333

APPLICATION FOR PERMIT TO:

Drill       Deepen       Re-enter       Recomplete and Operate

Date Received:  
11/13/2013

TYPE OF WELL    OIL     GAS     COALBED     OTHER \_\_\_\_\_  
ZONE TYPE      SINGLE ZONE     MULTIPLE ZONES     COMMINGLE ZONES

Refilling   
Sidetrack

Well Name: BW Musser      Well Number: 48  
Name of Operator: WEXPRO COMPANY      COGCC Operator Number: 95960  
Address: P O BOX 45003  
City: SALT LAKE CITY      State: UT      Zip: 84145-0601  
Contact Name: Tammy Fredrickson      Phone: (307)352-7514      Fax: (307)352-7575  
Email: Tammy.Fredrickson@Questar.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: \_\_\_\_\_

WELL LOCATION INFORMATION

QtrQtr: NENW      Sec: 9      Twp: 11N      Rng: 97W      Meridian: 6  
Latitude: 40.933389      Longitude: -108.298900

Footage at Surface: 599 feet      FNL/FSL      FNL 1990 feet      FEL/FWL      FWL

Field Name: POWDER WASH      Field Number: 69800

Ground Elevation: 6700      County: MOFFAT

GPS Data:  
Date of Measurement: 08/30/2010      PDOP Reading: 1.1      Instrument Operator's Name: D. Kay

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  
1094      FNL      1740      FWL      1094      FNL      1740      FWL  
Sec: 9      Twp: 11N      Rng: 97W      Sec: 9      Twp: 11N      Rng: 97W

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: 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.)

See Attached Plat.

Total Acres in Described Lease: 1895 Described Mineral Lease is:  Fee  State  Federal  Indian

Federal or State Lease # COD0038749B

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 1094 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: 5280 Feet

Above Ground Utility: 5280 Feet

Railroad: 5280 Feet

Property Line: 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, 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 Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 875 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 3507 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): Powder Wash Unit Number: COC047671A

**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.)
FORT UNION	FTUN			
WASATCH	WSTC			

**DRILLING PROGRAM**

Proposed Total Measured Depth: 9287 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 559 Feet (Including plugged wells)

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:     ONSITE          Drilling Fluids Disposal Methods:     Recycle/reuse    

Cuttings Disposal:     ONSITE          Cuttings Disposal Method:     Drilling pit    

Other Disposal Description:

Drilling fluids are recycled/reused on a multi-well pad. After the last well on the pad is drilled the remaining drilling fluids are disposed of at an approved commercial site or injection well.

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	20+0/0	16+0/0	42	0	80	155	80	0
SURF	12+3/4	9+5/8	36	0	1500	834	1500	0
1ST	7+7/8	4+1/2	13.5	0	9287	1332	9287	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 well will be directionally drilled and there will be four additional well bores located on the pad to minimize surface disturbance. This pad is covered under the BW Musser 41 pad surface use plan dated 9/8/2011  
New drawings have been attached to reflect new setback rules since original APD was approved.  
There have been no changes to the location since the original APD.  
The pad has not been built.  
The pit has not been constructed.  
There will be no additional surface disturbance from what was originally approved.  
The location does not require a variance from any of the rules listed in Rule 306.d.(1).(A).(ii).  
The location is not within a wildlife Restricted Surface Occupancy Area.

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

Location ID: 426271

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: Jimmy L Druce

Title: General Manager Date: 11/13/2013 Email: Jimmy.Druce@Questar.com

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: 7/11/2014

Expiration Date: 07/10/2016

**API NUMBER**  
05 081 07698 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>
	Open hole resistivity and gamma logs shall be run to describe the stratigraphy of the entire well bore and to adequately verify the setting depth of surface casing and aquifer coverage. On a multi-well pad, these open hole logs are only required on one of the first wells drilled on the pad and the Drilling Completion Report - Form 5 for every well on the pad shall identify which well was logged.
	<p>(1) COMPLIANCE WITH THE MOST CURRENT REVISION OF THE NORTHWEST COLORADO NOTIFICATION POLICY IS REQUIRED.</p> <p>(2) CEMENT ON PRODUCTION CASING (4-1/2" FIRST STRING) MUST EXTEND INTO THE SURFACE CASING (MINIMUM 200' LAP ABOVE SURFACE CASING SHOE) TO PROVIDE ISOLATION OF ALL TERTIARY (INCLUDING FORT UNION FORMATION AND WASATCH FORMATION) OIL, GAS, AND WATER-BEARING SANDSTONE AND COALBED FORMATIONS THAT ARE NOT OTHERWISE COVERED BY SURFACE CASING. VERIFY PRODUCTION CASING CEMENT COVERAGE WITH A CBL.</p> <p>(3) OFFSET WELL MITIGATION PRESSURE MONITORING OF MUSSER, BW #15 SHALL BE CONTINUOUS DURING THE PROPOSED WELL STIMULATION OPERATIONS. OPERATOR SHALL ALSO MONITOR THE MUSSER, BW #15 BRADENHEAD PRESSURE DURING THE SAME MONITORING PERIOD. OPERATOR SHALL NOTIFY COGCC ENGINEERING STAFF IF ANOMALOUS PRESSURES ARE OBSERVED IN THE MUSSER, BW #15 WELL DURING THE MONITORING PERIOD.</p>

## Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Storm Water/Erosion Control	Storm water and erosion control methods will be utilized from the start of construction until stabilization of the site.
2	Material Handling and Spill Prevention	The tanks will be surrounded by a containment that is capable of containing 110% of the largest tank during the production phase of the well pad.
3	Drilling/Completion Operations	The location well be bermed in all areas where a fill slope is present to contain all fluids on the location.

Total: 3 comment(s)

## Applicable Policies and Notices to Operators

NW Colorado Notification Policy.

Notice Concerning Operating Requirements for Wildlife Protection.

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
400508333	FORM 2 SUBMITTED
400508374	FED. DRILLING PERMIT
400508380	DEVIATED DRILLING PLAN
400508382	DRILLING PLAN
400508384	PLAT
400508387	LEASE MAP
400508389	TOPO MAP
400511917	DIRECTIONAL DATA

Total Attach: 8 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Engineer	Offset Well Evaluation: COGCC Engineering contacted operator on 2/3/2014, concerned about potential for this proposed well to communicate with an offset well during stimulation. Existing Offset Producing Well of Concern: MUSSER, BW #15 (05-081-06141), TD AT 6804', PRIMARY TOC 2704' (SOME UNCEMENTED WSTC POSSIBLE), SURFACE CASING SET AT 237', WSTC COMPLETIONS SQUEEZED, FTUN PRODUCER. Operator responded on 3/17/2014, confirming that communication is possible based on the expected primary hydraulic fracture direction, which is oriented toward the offset well. OPERATOR AGREES TO MITIGATE by performing the following at MUSSER, BW #15 during stimulation of the proposed well: 1) Shut the well in, 2) Hook the well up to an open top flow back tank off the T/C annulus, 3) monitor pressure on the well during the frac operations on BW Musser 48, and 4) If pressures are observed to increase, open the well to the flow back tank to relieve the pressures on MUSSER, BW #15.	2/2/2014 10:12:19 PM
Permit	Final review completed. No LGD comments.	1/27/2014 1:44:26 PM
Permit	Operator requested the addition of refile statements and verified the cultural setback footages to all be 5280'.	1/27/2014 1:41:43 PM
Permit	Requested review of refile statements and all cultural setbacks are stated as 5280'.	1/27/2014 1:05:52 PM
Agency	THE PROPOSED SURFACE CASING IS MORE THAN 50' BELOW THE DEPTH OF THE DEEPEST WATER WELL WITHIN 1-MILE OF THE SURFACE LOCATION WHEN CORRECTED FOR ELEVATION DIFFERENCES. THE DEEPEST WATER WELL WITHIN 1-MILE IS 680 FEET DEEP.	11/27/2013 1:41:34 PM
Agency	PROPOSED SURFACE CASING OF 1,500 FEET WILL NOT PROVIDE FULL COVERAGE OF WASATCH FORMATION, BASED ON FORT UNION REPORTED LOG TOPS IN OFFSET WELLS.	11/27/2013 1:41:25 PM
Permit	Form passes completeness.	11/14/2013 12:58:40 PM

Total: 7 comment(s)