



## 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.)

S/2 NW/4, E/2 SW/4 Sec 4, T33N, R8W N.M.P.M.

Total Acres in Described Lease: 160 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: 228 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 609 Feet

Building Unit: 609 Feet

High Occupancy Building Unit: 5280 Feet

Designated Outside Activity Area: 5280 Feet

Public Road: 940 Feet

Above Ground Utility: 232 Feet

Railroad: 5280 Feet

Property Line: 196 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: 08/12/2015

## SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 984 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 926 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): \_\_\_\_\_ Unit Number: \_\_\_\_\_

## 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.)
FRUITLAND COAL	FRLDC	112-190	320	S/2

## DRILLING PROGRAM

Proposed Total Measured Depth: 3153 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 984 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 608

### DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Recycle/reuse

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
SURF	12+1/4	8+5/8	24	0	454	255	454	0
1ST	7+7/8	5+1/2	15.5	0	3153	365	3153	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

Buffer zone setback notifications were sent 8/12/15. The BMPs for the Buffer Zone/Exception Zone can be found on the associated Form 2A.

This well was permitted in 2010 but was not drilled. A sundry was filed in 2012 to change the bottom hole from directional to vertical. The current well is the vertical well. Per COGCC request, the APD was abandoned in 2013, but the 2A was kept active through the expiration date. The 2A has expired and is being refiled. The location of the well has moved slightly to meet the current COGCC setback from the utility line

A separate DPW letter has not been sent, the DPW notification is covered by the BP San Juan Basin Colorado Wildlife Mitigation Plan (MWP) dated March 2011.

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

Location ID: 418255

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: Patti Campbell

Title: Regulatory Analyst Date: 9/17/2015 Email: patricia.campbell@bp.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: 10/21/2015

Expiration Date: 10/20/2017

**API NUMBER**

05 067 09826 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.

### COA Type

### Description

	<p>1) Sample and test two closest water wells within a 1/4 mile of that portion of the wellbore pathway that cuts through the Fruitland Coal (Horizontal dimension – Top to bottom of pay) (Rule 608) (see Policy-Ignacio Blanco Field – Notice to Operators 7/10/2009 and revised on 2/17/2011).</p> <p>2) If borehole problems occur while drilling and an unplanned sidetrack is required, the following shall apply:</p> <p>Receive after the fact approval to start the sidetrack from the COGCC SW Regional Engineer, Mark Weems and only during normal business hours (when practicable &amp; do not delay drilling if mishap occurs during nighttime or off time hours). Only during normal business hours is it necessary for a company representative to subsequently provide an explanation as to what happened to the original borehole and what the plan is for the sidetrack.</p> <p>Contact Information:  Mark Weems  970-259-4587 off  970-749-0624 cell  mark.weems@state.co.us</p> <p>3) Contact COGCC Regional Engineer – Mark Weems when encountering a well control issue, unexpected water flows, and unexpected Hydrogen Sulfide.</p>
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## Best Management Practices

### No BMP/COA Type

### Description

1	Drilling/Completion Operations	<p>317.p BMP</p> <p>One of the first wells drilled on the pad will be logged with an open-hole resistivity log with gamma-ray from TD to into the surface casing. All wells on the pad will have a cement bond log with gamma-ray run on the production casing (or intermediate casing if production liner is run). All wells on the pad will have the horizontal portion of the wellbore logged with a measured-while-drilling log with gamma-ray. 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.” The Form 5 for a well without open-hole logs shall clearly identify (by API#, well name &amp; number) the well in which open-hole logs were run.</p>
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Total: 1 comment(s)

## Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.

## Attachment Check List

### Att Doc Num

### Name

1857657	SELECTED ITEMS REPORT
400893832	FORM 2 SUBMITTED
400900431	OTHER
400900432	WELL LOCATION PLAT

Total Attach: 4 Files

**General Comments**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
Permit	Final Review Completed. No LGD or public comment received.	10/21/2015 8:43:41 AM
Engineer	<p>The proposed gas well is located within an area where unconfined fresh water aquifers are mostly developed in bedrock formations consisting mainly of shale with intermittent sandstone stringers with limited areal extent or having pockets of isolated water reservoirs. Water wells found in these locations can vary in depth from 100' to 650'. These aquifers are commonly identified as the Animas formation.</p> <p>Respective to the proposed gas well, a one (1) mile radius of investigation of all offsetting fresh water wells has determined that the deepest surface casing required to protect the aquifers is a depth of 454' (includes a 50' margin of additional protection). The operator proposed a depth of 425' which is 29' less than the minimal requirement; so, the surface casing has been deepened to 454'. The surface casing on the proposed well will be cemented from total depth to surface. The production casing on the proposed gas well will also be cemented from total depth to surface. This will serve two purposes (1) it will isolate and confine all hydrocarbon and brackish waters to their respective zones and (2) it will provide double protection for the fresh water aquifers which includes two concentric (2) steel casing strings and two concentric external (2) cement sheaths extending from total depth to surface (see attached SELECTED ITEMS REPORT).</p>	10/12/2015 4:14:47 PM
Engineer	<p>This is a re-file application for permit to drill. The last one included an S-shape directional well with a subsequent form 4 changing it to a vertical one. This APD is also a vertical well and the surface location as been modified to account for buffer zone set back requirements.</p> <p>There are no other gas wells within 1500'; so, fracture stimulation impacts on offset wells are not a factor.</p> <p>There are no PA or conventional wells within 1/4 mile to take into consideration.</p>	10/12/2015 4:07:44 PM
Permit	Corrected distance to nearest well measurements to 984', per operator request.	9/23/2015 8:53:47 AM
Permit	Passed Completeness	9/22/2015 1:59:22 PM

Total: 5 comment(s)