

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

Date Received:
10/12/2017

TYPE OF WELL OIL GAS COALBED OTHER Pilot _____
ZONE TYPE SINGLE ZONE MULTIPLE ZONES COMMINGLE ZONES

Refiling
Sidetrack

Well Name: Kerrigan 32-6-2 Well Number: 3
Name of Operator: BP AMERICA PRODUCTION COMPANY COGCC Operator Number: 10000
Address: 380 AIRPORT RD
City: DURANGO State: CO Zip: 81303
Contact Name: Naomi Azulai Phone: (970)3757511 Fax: ()
Email: naomi.azulai@bp.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20010158

WELL LOCATION INFORMATION

QtrQtr: SESW Sec: 2 Twp: 32N Rng: 6W Meridian: N
Latitude: 37.042452 Longitude: -107.473706
Footage at Surface: 1178 Feet FNL/FSL FSL 1439 Feet FEL/FWL FWL
Field Name: IGNACIO BLANCO Field Number: 38300
Ground Elevation: 6392 County: ARCHULETA
GPS Data:
Date of Measurement: 09/29/2017 PDOP Reading: 1.8 Instrument Operator's Name: KENNETH E. REA
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
1025 FSL 1251 FWL 1514 FSL 1257 FWL
Sec: 2 Twp: 32N Rng: 6W Sec: 2 Twp: 32N Rng: 6W

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.)

TOWNSHIP 32 NORTH, RANGE 6 WEST, N.M.P.M.

Section 2: SW1/4 less and excepting a tract of land lying and being in the SE1/4SW1/4, and being more fully described as follows: Beginning at the SW Corner of said tract, being a point on the North boundary line of the County Road, whence the SW Corner of said Section 2 bears S88o28'59"W., 1708.59 feet; thence running from said point of beginning N.02o12'E., 235.19 feet; thence N.44o56'30"E., 534.86 feet; thence S.74o46'30"E., 95.08 feet; thence S.01o33'39"E., 585.95 feet to the said North boundary line of the County Road; thence along said North Boundary Line, S.89o39'46"W., 494.56 feet, to the point of beginning.

Total Acres in Described Lease: 155 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: 865 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 361 Feet
Building Unit: 361 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 1165 Feet
Above Ground Utility: 1114 Feet
Railroad: 5280 Feet
Property Line: 241 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: 08/11/2017

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: 216 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 1257 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	112-215	320	W/2

DRILLING PROGRAM

Proposed Total Measured Depth: 3596 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 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	350	246	350	0
1ST	7+7/8	5+1/2	15.5	0	3596	381	3596	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 application is in a Comprehensive Drilling Plan No CDP #: _____

Location ID: 320867

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: Naomi Azulai

Title: Well Permitting Analyst Date: 10/12/2017 Email: naomi.azulai@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: 12/9/2017

Expiration Date: 12/08/2019

API NUMBER
05 007 06326 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) The two closest water wells within 1/4 mile radius of the proposed bottom hole shall be sampled (Cause 112 Orders 156-157, 180-181 and rule 608 if not done previously.</p> <p>2) If borehole problems occur while drilling and an unplanned sidetrack is required, the following shall apply:</p> <p>a.) Before proceeding, contact the COGCC Regional Engineer for SW Colorado for verbal approval and 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 – Regional Engineer-SW Colorado 970-259-4587 off 970-749-0624 cell mark.weems@state.co.us</p> <p>b.) Adhere to the instructions provided in the “UNPLANNED Sidetrack While Drilling: Approval and Reporting Process – Southwestern Colorado San Juan Basing ONLY” that can be found on the COGCC website at:</p> <p>Go to COGCC Web Site for more details if necessary Forms Form 2-Permit to Drill Instructions</p> <p>3) Contact COGCC Regional Engineer – Mark Weems when encountering kicks requiring a mud weight increase of 0.5 ppg to control the kick, unexpected water flows, and unexpected Hydrogen Sulfide.</p>
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Best Management Practices

No BMP/COA Type

Description

1	Drilling/Completion Operations	Open-hole resistivity and gamma-ray logs will be run from TD to the surface casing shoe and a Cement Bond Log will be run on production casing.
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Total: 1 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

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1857860	SELECTED ITEMS REPORT
2108284	SURFACE USE AGREEMENT
401374579	FORM 2 SUBMITTED
401425180	DIRECTIONAL DATA
401425189	DEVIATED DRILLING PLAN
401425191	OTHER
401425936	MINERAL LEASE MAP

401428229	WELL LOCATION PLAT
401428244	WELLBORE DIAGRAM

Total Attach: 9 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed. No LGD or public comment received.	12/07/2017
Engineer	<p>There are no PA or conventional gas wells within a 1/4 mile of this planned well.</p> <p>Spacing & Formations Tab: Distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted completed in the same formation is 216 ft (BP KERRIGAN 32-6-2 #1 API #067-06148).</p> <p>Drilling and Waste Plans Tab: The nearest distance being reported by BP as greater than 1500' for this proposed well bore to a well bore operated by another company, including PA wells, is acceptable.</p>	12/06/2017
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 800'. 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 282' (includes a 50' margin of additional protection). The operator proposed a depth of 350' which is 68' deeper than the minimal requirement. 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> <p>There are no logs run shallow enough in offset gas wells within a 1500' radius to assist in determining the deepest fresh water aquifers.</p>	12/06/2017
Permit	Passed completeness.	10/20/2017

Total: 4 comment(s)