



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

November 17, 2004

Mark E. Fesmire, P.E.

Director

Oil Conservation Division

BP America Production Company
P. O. Box 3092
Houston, Texas 77253-3092

Attention: Mary Corley
corleym@bp.com

Administrative Order NSL-831-A

Dear Ms. Corley:

Reference is made to the following: (a) your application (*administrative application reference No. pSEM0-430933628*) submitted to the New Mexico Oil Conservation Division ("Division") on November 3, 2004; and (b) the Division's records in Santa Fe and Aztec, including the files on: (i) Division Orders No. R-46, R-60, R-1169, R1170, R-1390, and R-4002; (ii) Division Administrative Orders NSL-831 and DHC-1689-AZ; and (iii) the well records for BP America Production Company's ("BP") Pritchard Well No. 4 (API No. 30-045-07643): all concerning BP's request for an unorthodox gas well location in the Pictured Cliffs formation for the existing Pritchard Well No. 4-A (API No. 30-045-22497), located 1830 feet from the North line and 1705 feet from the West line (Lot 8/Unit F) of Irregular Section 31, Township 29 North, Range 8 West, NMPM, San Juan County, New Mexico. Lots 5, 6, 7, and 8 (NW/4 equivalent) of Irregular Section 31 is to be dedicated to this well in order to form a 120.49-acre gas spacing unit within the Blanco-Pictured Cliffs Pool (72359).

This application has been duly filed under the provisions of Division Rule 104.F, revised by Division Order No. R-11231, issued by the New Mexico Oil Conservation Commission in Case No. 12119 on August 12, 1999.

By Division Administrative Order NSL-831, dated March 28, 1977, Tenneco Oil Company received authorization to drill to and complete the above-described Pritchard Well No. 4-A in the Blanco-Mesaverde Pool (72319) at an unorthodox infill gas well location within a non-standard 375.09-acre stand-up gas spacing and proration unit comprising Lots 3 and 4 and the E/2 SW/4 (SW/4 equivalent) of Section 30 and Lots 5 through 12 (W/2 equivalent) of Section 31, which unit was the subject of Division Orders No. R-60, issued in Case No. 258 on March 21, 1951, and R-1390, issued in Case No. 1642 on May 7, 1959. According to Division records, BP became the operator of this well on December 31, 2001.

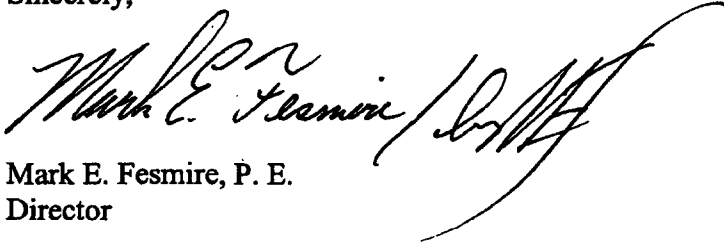
It is the Division's understanding that BP now intends to perforate the Pictured Cliffs interval and recomplete the well such that gas production from both the Mesaverde and Pictured Cliffs formations will be downhole commingled (as referenced by Division Administrative Order DHC-1689-AZ issued by the Aztec district office of the Division on November 5, 2004).

The location of this well within the Blanco-Pictured Cliffs Pool is also considered to be unorthodox pursuant to Division Rule 104.C (3), as revised.

By the authority granted me under the provisions of Division Rule 104.F (2), as revised, the above-described unorthodox Pictured Cliffs gas well location for BP's Pritchard Well No. 4-A within the proposed 120.49-acre gas spacing unit comprising the NW/4 equivalent of Section 31 is hereby approved.

Further, the provisions of Division Order NSL-831 shall remain in full force and affect until further notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark E. Fesmire", followed by a large, stylized flourish or scribble.

Mark E. Fesmire, P. E.
Director

MEF/ms

cc: New Mexico Oil Conservation Division – Aztec
U. S. Bureau of Land Management – Farmington
File: NSL-831

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

March 28, 1977

Tenneco Oil Company
Lincoln Tower Building
Suite 1200
Denver, Colorado 80203

Attention: D. D. Myers

Administrative Order NSL-831

Gentlemen:

Reference is made to your application for approval of a non-standard location for your Pritchard Well No. 4-A located 1830 feet from the North line and 1705 feet from the West line of Section 31, Township 29 North, Range 8 West, NMPM, Blanco-Mesaverde Pool, San Juan County, New Mexico.

By authority granted me under the provisions of Rule 104 F of the Commission Rules and Regulations, the above-described unorthodox location is hereby approved.

Very truly yours,

JOE D. RAMEY,
Secretary-Director

JDR/JEK/dr

cc: Oil Conservation Commission - Aztec
Oil & Gas Engineering Committee - Hobbs

DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



2004 DEC 21 PM 12 22

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☒ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply

- [A]** ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B]** ☐ Offset Operators, Leaseholders or Surface Owner
- [C]** ☐ Application is One Which Requires Published Legal Notice
- [D]** ☒ Notification and/or Concurrent Approval by BLM or SLO
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E]** ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F]** ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] CERTIFICATION: I hereby certify that the information submitted with this application for administrative approval is **accurate and complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Mary Corley
 Print or Type Name

Mary Corley
 Signature

Sr. Regulatory Analyst **12/10/2004**
 Title Date
corleyml@bp.com
 e-mail Address

District I
1625 N. French Drive, Hobbs, NM 88240
2000
District II
811 South First Street, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
Pools
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107A
Revised May 15,

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, New Mexico 87505

APPLICATION TYPE
☒ Single Well
☐ Establish Pre-Approved

APPLICATION FOR DOWNHOLE COMMINGLING

EXISTING WELLBORE
☒ Yes ☐ No

BP America Production Company P. O. Box 3092 Houston, TX 77253

Operator Address
Pritchard 4A Unit F Section 31 T29N, R08W San Juan
Lease Well No. Unit Letter-Section-Township-Range County
OGRID No. 000778 Property Code 000959 API No. 30-045-22497 Lease Type: ☒ Federal ☐ State ☐ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Blanco Pictured Cliffs	Otero Chacra	Blanco Mesaverde
Pool Code	72359	82329	72319
Top & Bottom of Pay Section (Perforated or Open-Hole Interval)	To Be Determined	To Be Determined	4119' - 4921'
Method of Production (Flowing or Artificial Lift)	Artificial Lift	Artificial Lift	Artificial Lift
Bottomhole Pressure	425	430	590
Oil Gravity or Gas BTU (Degree API or Gas BTU)	1164	1210	1226
Producing, Shut-In or New Zone	New Zone	New Zone	Producing
Date and Oil/Gas/Water Rates of Last Production.	Date: Rates:	Date: Rates:	Date: Rates:
Fixed Allocation Percentage	Oil % Gas %	Oil % Gas %	Oil % Gas %

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones? Yes ☒ No ☐
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail? Yes ☐ No ☐
Are all produced fluids from all commingled zones compatible with each other? Yes ☒ No ☐
Will commingling decrease the value of production? Yes ☐ No ☒
If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application? Yes ☒ No ☐
NMOCD Reference Case No. applicable to this well: _____

Attachments:
C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
Production curve for each zone for at least one year. (If not available, attach explanation.)
For zones with no production history, estimated production rates and supporting data.
Data to support allocation method or formula.
Notification list of working, royalty and overriding royalty interests for uncommon interest cases.
Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

List of other orders approving downhole commingling within the proposed Pre-Approved Pools
List of all operators within the proposed Pre-Approved Pools
Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.
Bottomhole pressure data.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Mary Corley TITLE Sr. Regulatory Analyst DATE 12/07/2004
TYPE OR PRINT NAME Mary Corley TELEPHONE NO. (281) 366-4491

Allocation Method
Pritchard 4A

BP America Production Company request permission to complete the subject well into both the Blanco Pictured Cliffs and Otero Chacra Pools and tricomingle production downhole with the existing Blanco Mesaverde Pool as per the attached procedure.

The interest owners are identical between these three Pools, therefore, no additional notification is required prior to downhole commingling approval.

Production is proposed to be allocated based on a fixed percentage. It is our intent to isolate the Mesaverde, complete into the Chacra, flow back well to stabilize production and perform deliverability test then isolate the Chacra complete into the Pictured Cliffs, flow back well to stabilize production and perform deliverability test. A combined stream test will then be performed to determine the flow rate for production from the Mesaverde Pool.

Commingling Production Downhole in the subject well from the proposed pools with not reduce the value of the total remaining production.

Application has also been submitted to BLM on Form 3160-5, Federal Lease No. SF – 077123

Pre Approved Pools:

Blanco-Mesaverde (72319) & Blanco Pictured Cliffs (72359) Pools

Blanco-Mesaverde (72319) & Otero-Chacra (82329) Pools

Blanco Pictured Cliffs (72359) & Otero-Chacra (82329) Pools

Pritchard 4A API #: 30-045-22497
Complete Into the Pictured Cliffs & Chacra Formations & Downhole Commingle
Production with the Existing Mesaverde Formation
November 17, 2004

Procedure:

1. Check anchors. Check ID wellhead, if earth pit is required have One Call made 48 hours prior to digging.
2. Check and record tubing, casing, and bradenhead pressures. Ensure production casing has double casing valves installed. Double valve all casing strings.
3. RU slickline unit or wireline unit. RIH and set two barriers (CIBP, tbg collar stop w/plug, or plug set in nipple) for isolation.
4. MIRU workover rig.
5. Blow down well. Kill with 2% KCL water ONLY if necessary. Check all casing strings to ensure no pressure exist on any annulus.
6. Nipple down Wellhead. NU BOPs and diversion spool with 3" outlets and 3" pipe to the blow tank. Pressure test BOPs to 200 psi above BHP. Monitor flowing casing pressure with gauge (with casing flowing to blow tank) throughout workover.
7. Pull tubing hanger and shut pipe rams and install stripping rubber.
8. TOH with 2-3/8" production tubing currently set at 4,822' using approved "Under Balance Well Control Tripping Procedure".

Contingency: *If the tubing is in poor condition, replace entire tubing string.*

9. TIH with bit and scraper for 4-1/2" casing to PBTD at 5,020' with approved barriers. Check the distance between the top of the blind ram and the length of the bottom hole assembly that is being run. If the BHA is too long then the well has to be top killed and monitored prior to opening blind rams.
10. Set CIBP at +/- 4,100' to isolate Mesaverde. Ensure BP is not set in casing collar.
11. Load hole w/ 2% KCl and pressure test casing to 2,500 psi w/ rig pumps
12. RU E-line and run CBL from PBTD' to surface. Confirm that top of cement is at liner top and above 2,000' – if not, contact engineer to discuss cement squeeze. RIH with 3-1/8" casing guns (Lubricator required).
13. Perforate Chacra formation (correlate to GR log). RDWL and lubricator.
Chacra perforations, 4 spf (15 shots/ 60 holes):

14. NU Wellhead Isolation tool Spearhead 500 gal 15% HCL, establish injection rate, and proceed with fracture stimulation according to Schlumberger schedule. Maintain surface pressures ≤ 3000 psi during frac job. Flush frac with foam. Fill out GWSI scorecard.

15. Remove Isolation Tool, Flowback frac immediately. Flow well through the 3" line and into the choke manifold until well dies or stabilizes.
16. Rig up air package/unit, pressure test all lines (Testing procedure to be supplied from air company), TIH with tubing and bit. Cleanout fill to top of CIBP and flow test well for minimum of 12 hours. Report flow test data on DIMS report.
17. TIH with bit and scraper for 7" casing to 2,800' with approved barriers. Check the distance between the top of the blind ram and the length of the bottom hole assembly that is being run. If the BHA is too long then the well has to be top killed and monitored prior to opening blind rams.
18. Set retrievable bridge plug w/ 10' of sand at +/- 2,700' to isolate Mesaverde and liner top. Ensure BP is not set in casing collar.
19. RIH with 3-1/8" casing guns (Lubricator required). Perforate Pictured Cliffs formation (correlate to GR log). RDWL and lubricator.

Pictured Cliffs perforations, 4 spf (15 shots/ 60 holes):

20. NU Wellhead Isolation tool Spearhead 500 gal 15% HCL, establish injection rate, and proceed with fracture stimulation according to Schlumberger schedule. Maintain surface pressures ≤ 3000 psi during frac job. Flush frac with foam. Fill out GWSI scorecard.
21. Remove Isolation Tool, Flowback frac immediately. Flow well through the 3" line and into the choke manifold until well dies or stabilizes.
22. Rig up air package/unit, pressure test all lines (Testing procedure to be supplied from air company), TIH with tubing and bit. Cleanout fill and pull bridge plug set at 2,700'.
23. TIH w/ tubing and bit for 4-1/2" casing. Drill out CIBP at 4,100' and cleanout fill to PBTD at 5,020'. Blow well dry at PBTD. Reference Under Balanced Well Control Tripping Procedure.
24. Rabbit tubing and RIH with 2-3/8" production tubing (with muleshoe, F-nipple with plug, 4 ft pup, X-nipple with plug).
25. Land 2-3/8" production tubing with hanger, lock down hanger at +/-4,875'.
26. Pressure test tubing to 500 psi with air unit, make sure tubing spool valves are open. Check all casing string for pressure.
27. ND BOP's. NU WH. Test well for air. Return well to production and downhole co-mingle Chacra, and Mesaverde.
28. RU WL unit. Run gauge ring for 2-3/8" tubing. Pull plugs and set tubing stop for plunger. RD slickline unit.

Pritchard 4 A

Sec 31, T29N, R8W

API # 30-045-22497

GL: 6011'

History:

Completed in MV in 7/77

9-5/8" 36# @ 225'

225 sxs cmt

circulated cement to surface

TOC unknown

TOL at 2817'

7" 28# @ 2949'

350 sxs cmt

TOC unknown

Tubing: 2-3/8" @ 4822'

4-1/2" @ 5075'

225 sxs cmt

PBTD: 5020'

TD: 5075'

Mesaverde Perforations

4119' - 4545' w/ 86,750 #'s sand

4665' - 4921' w/ 100,000 #'s sand

Formation tops: Pictured Cliffs 2450
 Lewis Shale 2580
 Cliff House 4116
 Menefee 4218
 Point Lookout 4662

updated: 8/25/04 CFR

District I
1625 N. French Dr., Hobbs, NM 88240

District II
811 South First, Artesia, NM 88210

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised August 15, 2000

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-22497	² Pool Code 82329	³ Pool Name Otero Chacra
⁴ Property Code 000959	⁵ Property Name Pritchard	⁶ Well Number 4A
⁷ OGRID No. 000778	⁸ Operator Name BP America Production Company	⁹ Elevation 6011' GR

¹⁰ Surface Location

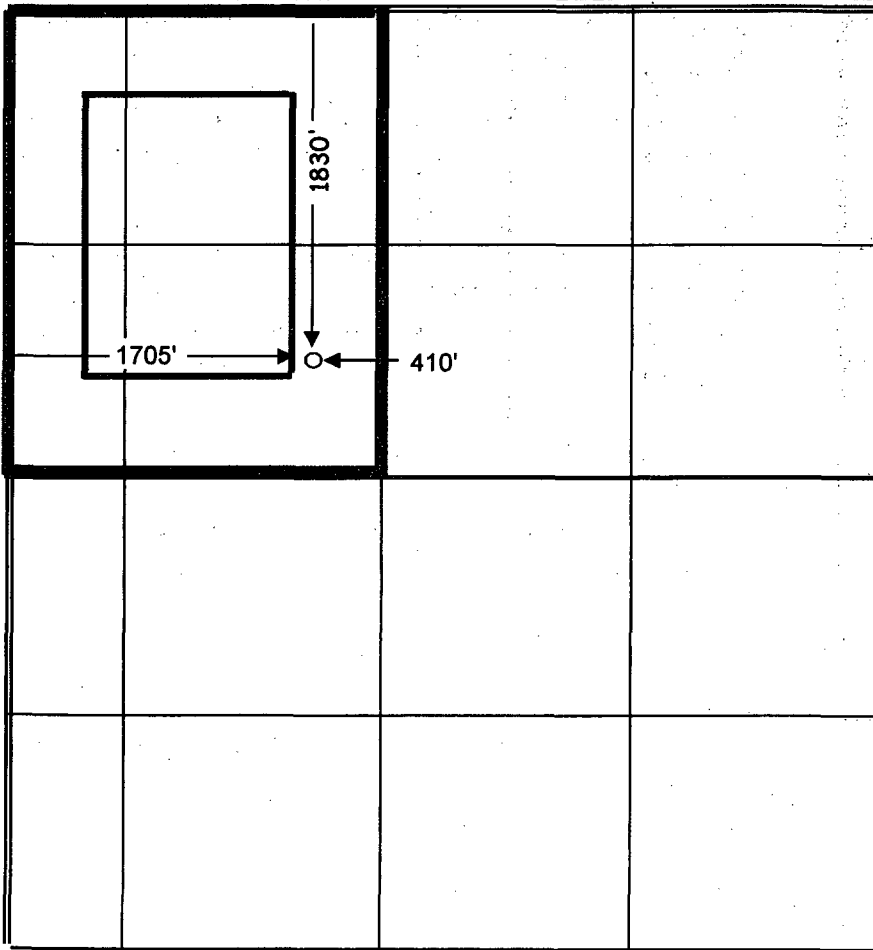
UL or lot no. Unit F	Section 31	Township 29N	Range 08W	Lot Idn	Feet from 1830	North/South North	Feet from 1705	East/West West	County San Juan
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from	North/South	Feet	East/West	County
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¹² Dedicated Acres 120.49	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. <i>Mary Corley</i> Signature Mary Corley Printed Name Sr. Regulatory Analyst Title 12/02/2004 Date
	¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 2/6/1977 Date of Survey Signature and Seal of Professional Surveyor: James P Leese 1463 Certificate Number