

3/28/08	SUSPENSE	Brooks	3/25/08	NSL	PKU0808339696
DATE		ENGINEER	LOGGED IN	TYPE	APP NO

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



Apache Corp.

Bright Federal #5

ADMINISTRATIVE APPLICATION CHECKLIST

5819

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.

James Bruce
 P.O. Box 1056
 Santa Fe, New Mexico 87504

James Bruce
 Signature

Attorney for Applicant
 Title Date

jamesbruc@aol.com
 e-mail Address

3/24/08

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JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
(505) 660-6612 (Cell)
(505) 982-2151 (Fax)

jamesbruc@aol.com

March 24, 2008

Hand Delivered

Mark E. Fesmire, P.E.
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Mr. Fesmire:

Pursuant to Division Rule 104.F(2), Apache Corporation applies for administrative approval of an unorthodox gas well location for the following well:

<u>Well Name:</u>	Bright Federal Well No. 5
<u>Well Location:</u>	<u>Surface:</u> 460 feet FSL & 660 FWL <u>Bottom Hole:</u> 660 feet FSL & 660 FWL
<u>Well Unit:</u>	All of Section 21, Township 21 South, Range 23 East, N.M.P.M., Eddy County, New Mexico

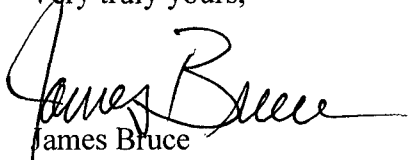
The well will test the Upper Pennsylvanian formation (Indian Basin-Upper Pennsylvanian Gas Pool). Under Order No. R-8170, as amended, the pool has 640 acre spacing, and wells to be located no closer than 1650 feet to the outer boundary of a section or closer than 330 feet to a quarter-quarter section line.

The application is based on geologic and engineering reasons. A complete discussion, with exhibits, is attached as Exhibit A. The well data shows that wells in the Upper Pennsylvanian drain less than 640 acres. Therefore, the proposed location will recover undrained reserves.

Applicant operates offsetting Sections 20 and 28, so the other working interest owners in those sections have been notified of this application. Marathon Oil Company operates offsetting Section 29, and it too has been notified of this application. Exhibit B.

Please call me if you need any further information on this matter.

Very truly yours,

A handwritten signature in cursive script, appearing to read "James Bruce". The signature is written in black ink and is positioned above the printed name "James Bruce".

James Bruce

Attorney for Apache Corporation

**Application of Apache Corporation for administrative
approval of an unorthodox well location:**

640 Acres - SL 460' FSL & 660' FWL
BHL 660' FSL & 660' FWL
Section 21, Township 21 South, Range 23 East, NMPM
Eddy County, New Mexico

PRIMARY OBJECTIVE: Upper Pennsylvanian

In support:

1. Apache Corporation (Apache) is the operator of the proposed **Bright Federal #5** well (**EXHIBIT 1**).
2. The proposed unorthodox location encroaches toward Upper Pennsylvanian wells in Sections 20, 28, and 29. Production from all wells in the contiguous sections is displayed on **EXHIBIT 2** and detailed production from wells in Sections 20, 21, 28, and 29 is in the table below. **EXHIBIT 2** displays only those wells with TD greater than 6000', sufficient to penetrate at least part of the Upper Pennsylvanian reservoir.

API	Op.	Well	Loc	Pool	Cum O/G/W	Daily O/G/W
30015						
31079	Apache Corp	W Indian Basin Un #5	20-B	Indian Basin Up Penn (79040)	3/349/610	0/0/0
10282	Yates Pet.	W Indian Basin Un #2	20-G	Indian Basin Up Penn (79040)	202/31059/85	0/0/0
10386	Apache Corp	Bright Federal #1	21-G	Indian Basin Up Penn (79040)	41/45573/130	0/30/0
28556	Apache Corp	Bright Federal #2	21-F	Indian Basin Up Penn (79040)	0/168/132	0/0/0
28899	Apache Corp	Bright Federal #3	21-F	Indian Basin Up Penn (79040)	0/75/43	0/0/0
31674	Apache Corp	Bright Federal #4	21-F	Indian Basin Up Penn (79040)	3/2718/602	5/665/0
10621	Apache Corp	Federal 28 #1	28-G	Indian Basin Up Penn (79040)	273/54203/42	0/0/0
31180	Apache Corp	Federal 28 #2	28-K	Indian Basin Up Penn (79040)	6/3656/1408	3/445/0
33256	Apache Corp	Federal 28 #3	28-J	Indian Basin Up Penn (79040)	3/404/213	2/218/0
33402	Apache Corp	Federal 28 #4	28-G	Indian Basin Up Penn (79040)	9/2176/134	4/1366/0
10788	Marathon Oil	Fed IBC Gas Com #1	29-J	Indian Basin Up Penn (79040)	176/33548/1149	0/247/526
31396	Marathon Oil	Fed IBC Gas Com #2	29-J	Indian Basin Up Penn (79040)	1/612/1130	0/156/501

MBO
MMCFG
MBW

BOPD
MCFGPD
BWPD

3. The proposed **Bright Federal #5** surface location of 460' from south line and 660' from west was necessitated by topographic considerations and the bottom hole location of 660' from south line and 660' from west line is based upon geological considerations.

a. Geology

The Upper Pennsylvanian (Cisco-Canyon) was deposited as agal limestone banks and bars along the shelf edge. Later diagenesis converted the limestone to dolomite, rearranging the pore system. The

EXHIBIT

A

dominant hydrocarbon storage is now in large and only occasionally connected vugs. Preserved primary intergranular and secondary intercrystalline porosity as well as solution enhanced fractures are most important for permeability. The dolomite lithology and vugular nature of porosity creates the likelihood of compartmentalized reservoirs. Older wireline logs do not accurately reflect vugular porosity because of the physics of the acoustic wave and even modern litho-density/neutron logs can miss porosity if it is not near the wellbore.

EXHIBIT 3 is the Upper Pennsylvanian net pay, using 3%-5% porosity and 50 APIU gamma ray as cutoffs. The varying porosity cutoff was necessitated because of the differing vintages of wireline logs and differing physics controlling the porosity measurement. Apache expects over 100' of pay in **Bright Federal #5** using those criteria, realizing this estimate may be conservative because of the limitations of the logging tools.

EXHIBIT 4 is a four well cross section including West Indian Basin Unit #2, Bright Federal #2, Bright Federal #4, and Federal #1. It demonstrates the compartmentalization of the Upper Pennsylvanian reservoir. Porosity is spread over an interval of more than 400'. It is developed at different levels in the different wells, sometimes even in essentially twin wells. Additionally, the wells have perforated different intervals and have not perforated all apparent porosity. Even gamma ray markers used for correlation are not consistent from well to well. There is a strong likelihood that **Bright Federal #5** will encounter different reservoirs than other wells in Section 21 and in offsetting sections. Volumetric analysis is misleading because of both logging tool responses and compartmentalized reservoirs.

b. Drainage

Apache Corporation planned the bottom hole location at 660' from south line and 660' from west line to be in W/2 where there is no current production, in SW/4 where no previous wells have been drilled, and (**EXHIBIT 2**) "on trend" with the high production in Apache Federal 28 #1 (§28-G) and Yates West Indian Basin #2 (§20-G). Moving north and east to a standard location would be moving off trend of the best production and toward thinner pay.

The volume of hydrocarbons contained by the Upper Pennsylvanian is evidenced by high cumulative production from multiple wells in small areas. For example see Marathon North Indian Basin Unit #4, #9, and #36 in Section 16 and Marathon Federal IBA Gas Com #1 and #32 in Section 15, which have cumulative production of 84 BCFG from less than 640 A (**EXHIBIT 2**). Apache Federal 28 #1 and #4, both in Unit G, Section 28, have cumulative production of 56 BCFG and the #4 well is still producing 1366 MCFPD (**EXHIBIT 2**).

The proposed **Bright Federal #5** bottom hole location of 660' from south line and 660' from west line is not expected to adversely impact any current or future well in offsetting sections.

4. Notice

BRIGHT FEDERAL #5 encroaches towards Sections 20, 28, and 29. Apache operates Section 20 and 28. Other operators and working interest that will be notified are:

Occidental Petroleum Ltd.
Attn: Oxy Permian Joint Interest
P.O. Box 4294
Houston, TX 77210-4294

Yates Petroleum Corporation
Attn: Secretary – Land Department
105 S. Fourth Street
Artesia, NM 88210

J. Hiram Moore, Ltd.
310 West Wall, Suite 404
Midland, TX 79701

Marathon Oil Company
Attn: Wyn Emerson
5555 San Felipe Road
Houston, TX 77056

Jalapeno Corporation
P.O. Box 1608
Albuquerque, NM 87103

Sharbro Oil Ltd. Co.
P.O. Box 840
Artesia, NM 88211-2323

Yates Energy Corporation
P.O. Box 2323
Roswell, NM 88202-2323

Harvey E. Yates Company
P.O. Box 1933
Roswell, NM 88202-1933

John A. Yates
P.O. Box 900
Artesia, NM 88211-0900

Trust Q u/w/o Peggy A. Yates
P.O. Box 900
Artesia, NM 88211-0900

Sacramento Partners LP
105 S. Fourth Street
Artesia, NM 88210-2177

5. Approval of this application will afford the interest owners in this spacing unit an opportunity to recover oil and gas which would not otherwise be recovered and to do so without violating correlative rights.

DISTRICT I

1825 N. FRENCH DR., HOBBS, NM 88240

State of New Mexico
Energy, Minerals and Natural Resources Department

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name <i>Indian Basin-Upper Penn Tex</i>
Property Code	Property Name BRIGHT FEDERAL	Well Number 5
OGRID No.	Operator Name APACHE CORPORATION	Elevation 4000'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	21	21-S	23-E		460	SOUTH	660	WEST	EDDY

Bottom Hole Location If Different From Surface

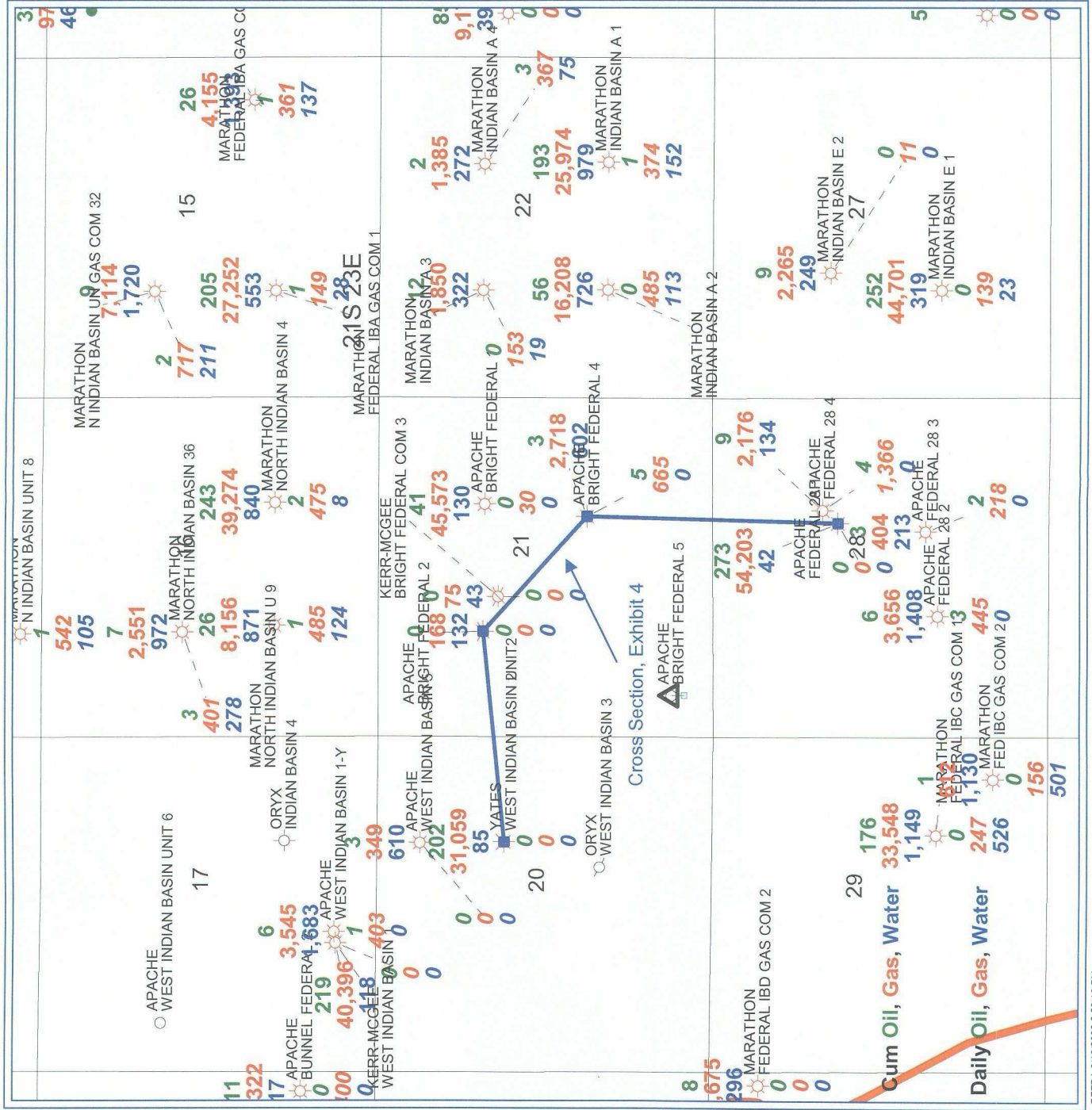
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	21	21-S	23-E		660	SOUTH	660	WEST	EDDY
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						

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

<p>DETAIL</p>		<p>GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=530485.7 N X=413685.1 E</p> <p>LAT.=32.458107° N LONG.=104.613173° W</p> <p>LAT.=32°27'29.18" N LONG.=104°36'47.42" W</p> <p>BOTTOM HOLE LOCATION Y=530685.6 N X=413684.9 E</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p>
		<p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>JANUARY 21 2008</p> <p>Date Surveyed: 2/13/08 REV. 2/13/08 AR</p> <p>Signature & Seal of Professional Surveyor</p> <p>3239</p> <p>08.13.0226</p> <p>Certificate No. GARY EIDSON 12641 RONALD J. EIDSON 3239</p>	

EXHIBIT 2

Well Data



JAMES BRUCE
ATTORNEY AT LAW

POST OFFICE BOX 1056
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)
(505) 660-6612 (Cell)
(505) 982-2151 (Fax)

jamesbruc@aol.com

March 24, 2008

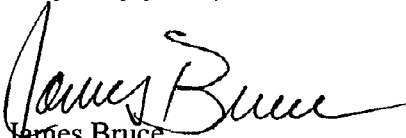
CERTIFIED MAIL – RETURN RECEIPT REQUESTED

To: Persons on Exhibit A

Ladies and gentlemen:

Apache Corporation has filed an application with the New Mexico Oil Conservation Division seeking an unorthodox gas well location in the Upper Pennsylvanian formation Section 21, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico. A copy of the application is enclosed. If you object to the application, you must notify the Division in writing no later than Monday, April 14, 2008 (the Division's address is 1220 South St. Francis Drive, Santa Fe, New Mexico 87505). Failure to object will preclude you from contesting this matter at a latter date.

Very truly yours,


James Bruce

Attorney for Apache Corporation

EXHIBIT 

EXHIBIT A

Occidental Petroleum Ltd.
Attn: Oxy Permian Joint Interest
P.O. Box 4294
Houston, TX 77210-4294

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