

OIL CONSERVATION DIVISION  
RECEIVED

'92 DEC 15 AM 1 09

5847 San Felipe Suite 3600  
Houston, Texas 77057  
Telephone: (713) 780-5000  
Fax (713) 780-5273  
Telex 9108813603

December 15, 1992



State of New Mexico  
Oil Conservation Division  
P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

Re: Unorthodox Location  
Administrative Approval Request  
Puffer State "A" #1  
NE/SW Section 24, Township 8 South, Range 27 East  
Chaves County, New Mexico

Gentlemen:

BHP Petroleum (Americas) Inc. respectfully requests administrative approval to allow the Puffer State "A" #1 to be drilled 1980' from the South line and 1250' from the West line of Section 24, Township 8 South, Range 27 E in Chaves County, New Mexico.

The unorthodox location is being requested due to geological reasons. Puffer Field produces gas from the Ordovician Montoya Dolomite in a southward plunging anticline located on the upthrown side of two wrench faults forming the field's north and east boundaries. The structure, initially identified by seismic shot in 1990, was discovered by the Puffer State #1 Well drilled in February, 1991.

Pressure buildup tests in September, 1992 indicated the reservoir was larger than originally estimated. As a result, to maximize reservoir recovery, BHPP (Americas) proposes to drill the Puffer State "A" #1 Well, a development stepout well, on the nose of the structure south of the Puffer #1 Well in a 320 acre offset. The wrench fault bounding the east side of Puffer Field is a large north-south regional fault separating the field from the downthrown Rault Petroleum #1 Union State dry hole. The vertical throw on the fault at the well exceeds 200 feet. Area seismic confirms the regional extent of the fault north of the field and places it near the Rault well in the vicinity of the field. However, to the south, the next point of seismic control is approximately one mile away. The strike of the fault from the Rault Well to this point is interpreted as undeviating north-south; however there is a risk that any easterly bend in the strike could fault out the Montoya in the proposed Puffer State "A" #1 well if drilled in an orthodox location. Because of this geologic risk, a location further west of the fault is more desirable.

December 15, 1992

Page 2

BHP has notified all operators of offsetting proration units. A list of the offset operators is attached for your convenience.

Also attached is a structure map showing the proposed location in relation to the regional fault mentioned above.

Should you have any questions, please do not hesitate to contact me at (713) 780 - 5301.

Sincerely yours,

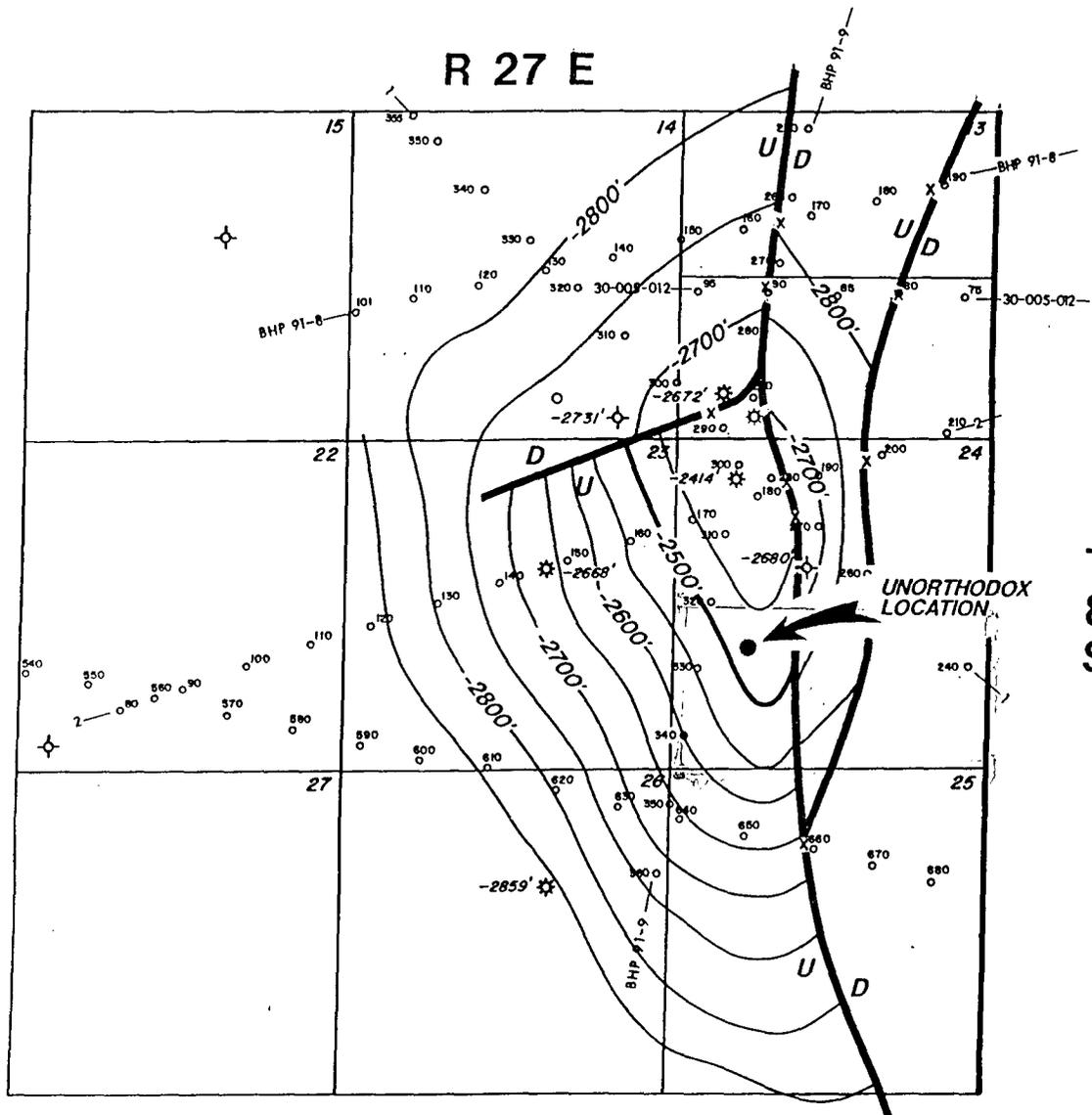


C. Carl Kolbe

Regulatory Affairs Representative

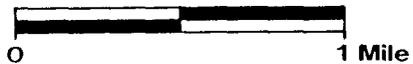
Offset Operators

1. Elk Oil Company  
500 North Main  
P.O. Box 310  
Roswell, New Mexico 88202
2. Yates Petroleum Corporation  
105 South Fourth Street  
Artesia, New Mexico 88210
3. Manzano Oil Corporation  
1717 West Second Street  
Roswell, New Mexico 88201
4. McBride Oil and Gas  
P.O. Box 1515  
Roswell, New Mexico 88202-1515
5. Branex Resources, Inc.  
401 North Pennsylvania  
P.O. Box 2328  
Roswell, New Mexico 88202



T 8 S

SCALE : MILES



x - SEISMIC FAULT CUTS



**PUFFER PROSPECT**  
*Chaves County, New Mexico*

**T/MONTOYA DOLOMITE**

SCALE:	1" = 2000'	C.I. = 50'	FILE NO.:
INTERPRETED BY:	B. MORRIS	DATE:	7-2-92
REVISED BY:	A. CHERNE	DATE:	6-1-92
DRAWN BY:	D. CARTER	DATE:	7-2-92
			5014 C-4

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 10489  
ORDER NO. R-9721

APPLICATION OF YATES PETROLEUM CORPORATION  
FOR AN UNORTHODOX GAS WELL LOCATION, CHAVES  
COUNTY, NEW MEXICO

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 11, 1992, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 16th day of September, 1992 the Division Director, having considered the testimony, the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Yates Petroleum Corporation, seeks approval of an unorthodox gas well location 330 feet from the South line and 1225 feet from the West line (Unit M) of Section 13, Township 8 South, Range 27 East, NMPM, Chaves County, New Mexico. The projected total depth of approximately 6900 feet for said well will penetrate Precambrian basement with the primary objective being the Siluro-Ordovician dolomite. The S/2 of said Section 13 is to be dedicated to the well forming a standard 320-acre gas spacing and proration unit.

(3) At the time of the hearing BHP Petroleum (Americas), Inc., a direct offset lease-hold owner to the south and southwest of the subject acreage and operator of the standard 320-acre gas spacing and proration unit comprising the N/2 of Section 24, Township 8 South, Range 27 East, NMPM, Chaves Undesignated Group 4-A gas producing interval (as reported in the official Division production records), Chaves

County, New Mexico, said unit currently dedicated to the Puffer State Well No. 1 located at a previously approved unorthodox gas well location (Division Administrative Order NSL-2942, dated November 19, 1990) 660 feet from the North line and 990 feet from the West line (Unit D) of said Section 24, appeared at these proceedings in objection to this application and tendered witnesses and offered evidence in support of its protest.

(4) Geological data presented by both parties indicates that the aforementioned Puffer State Well No. 1 is producing gas from a reservoir of limited extent. Both sides presented testimony that was in substantial agreement as to the geometry and the geology of the reservoir, differing in their interpretations of the down dip extent to the south and west and of the reservoir driving mechanism.

(5) This geologic evidence presented by both parties shows that the reservoir's northeastern boundary formed by faulting extends into the southern half of the SW/4 of said Section 13.

(6) Testimony presented by both parties indicates that the BHP Puffer State well could by itself adequately and sufficiently drain the entire reservoir of hydrocarbons.

(7) A well drilled at the proposed unorthodox gas well location should provide Yates a more favorable position structurally than would a well drilled at the nearest orthodox gas well location within said proration unit, thereby increasing the likelihood of obtaining commercial production within this rather small reservoir.

(8) Evidence indicates that drainage is occurring from underneath the Yates acreage making the drilling of the proposed well at the unorthodox gas well location necessary in order to offset said drainage caused by the Puffer State Well No. 1 within the limited confines of this reservoir.

(9) A penalty in this instance is not required or recommended since the unorthodox location will not affect drainage of production from the BHP acreage but instead will serve to capture production being drained by the Puffer State Well.

(10) *In such instances where a reservoir has limited horizontal extent, that can reasonably be defined, and encompasses two or more leases, voluntary unitization should be encouraged as a prudent oil and gas conservation practice. Such voluntary unitization could serve to deter the drilling of additional wells which may not be needed, thereby preventing the possibility of waste.*

**FINDING:** In the absence of unitization in this area it is necessary that Yates be allowed to drill a second well into the reservoir, even though this would constitute the drilling of an unnecessary well in the subject reservoir, in order to protect correlative rights by preventing the drainage of hydrocarbons underlying its acreage.

(11) The application of Yates Petroleum Corporation in this instance for an unorthodox gas well location to be drilled 330 feet from the South line and 1225 feet from the West line (Unit M) of said Section 13 should be approved. Further, no penalty or limitation on production from the Siluro-Ordovician zone in this well should be established at this time.

(12) Sufficient information was presented by both parties in this case on the geology of the Siluro-Ordovician horizon underlying the immediate area of said Section 13 that the Artesia District Office of the Division should create, classify, and designate a gas pool for the production from BHP's Puffer State Well No. 1. Said designation should be included pursuant to Division General Rule 5 on the next available docket for hearing before an Examiner.

**IT IS THEREFORE ORDERED THAT:**

(1) The application of Yates Petroleum Corporation for an unorthodox gas well location to be drilled to a projected total depth of approximately 6900 feet to test the Siluro-Ordovician formation is hereby approved for a well to be located 330 feet from the South line and 1225 feet from the West line (Unit M) of Section 13, Township 8 South, Range 27 East, NMPM, Chaves County, New Mexico.

(2) The S/2 of said Section 13 shall be dedicated to the above-described well forming a standard 320-acre gas spacing and proration unit.

(3) No limitation or penalty on any gas production from the Siluro-Ordovician formation by this well shall be imposed at this time; however, should it become necessary to prevent waste or protect correlative rights the Division Director may take any appropriate action.

(4) A new pool for gas production from the BHP Petroleum (Americas), Inc. Puffer State Well No. 1 located in Unit D of Section 24, Township 8 South, Range 27 East, NMPM, Chaves County, New Mexico, shall, in a timely manner, be created and defined pursuant to Division General Rule 5.

(5) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

Case No. 10489  
Order No. R-9721  
Page No. 4

---

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY  
Director

SEAL