

# Mobil Exploration & Producing U.S. Inc.

RECEIVED

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P.O. BOX 633  
MIDLAND, TEXAS 79702-0633

MIDLAND SOUTH ASSET TEAM  
ENVIRONMENTAL, REGULATORY &  
LOSS PREVENTION

FACSIMILE (915) 688-1514

New Mexico Oil Division  
P.O. Box 2088  
Santa Fe, New Mexico 87501  
ATTN: Mr. William LeMay

**REF: Exception to Rule 303 (A)  
North Vacuum Abo Unit #165/  
Bridges State #165  
North Vacuum Abo & Penn Pools  
Lea County, New Mexico**

Dear Mr. LeMay:

Mobil Exploration & Producing U.S. Inc. as agent for Mobil Producing TX & NM Inc., is requesting administrative approval to downhole commingle oil production from the North Vacuum Abo and the Penn Pools, in the subject well(s), located in Unit D, Section 13, T-17-S, R-34-E, Lea County, New Mexico.

This wellbore is currently producing 26 BOPD in the Abo and 25 BOPD in the Penn zone.

The subject well(s) meets all prerequisites for commingling, as set out in Rule 303 (C). The ownership of these zones has joint interest. Approval by sufficient owners has been received to proceed with commingling. A copy of the letter and ballot are attached.

In support of this application, the following is submitted:

1. Location plat
2. Data sheet for both zones (Exhibit A)
3. Computation of relative values for hydrocarbons (Exhibit B)
4. Present and proposed wellbore sketches
5. Well test curve, plats and C-116 for the zones
6. History of the wellbore



**Environmental  
Awareness**

North Vacuum Abo/Penn Well #165  
NMOCD, Santa Fe

7. List of offset operators
8. Notice of application for Downhole Commingle

Although bottom hole pressure data is not available for these two zones, no crossflow is anticipated, since the common pump will keep fluid levels low. Potential test will be submitted with allocation of production shown as soon as approval is received.

All offset operators have been notified of this request by copy of this application.

In conclusion, MEPUS believes that approval of this request will result in a more efficient recovery of hydrocarbons and will extend the productive life of both zones, therefore preventing waste. If any further information is needed, please call me at 915- 688-2584.

Sincerely,



Kaye Pollock-Lyon  
Environmental & Regulatory Technician

Mobil Exploration & Producing US Inc.  
as agent for  
Mobil Producing TX & NM Inc.

KPL:s

Attachments

cc: NMOCD-Hobbs  
Offset Operators



**DATA SHEET**

**EXHIBIT A**

Application for exception to Rule 303 (a) New Mexico Oil Conservation Commission's Rules & Regulations allowing downhole commingling of dually completed oil wells by administrative procedure (Order No. R-3845)

- 1. Lease Name North Vacuum Abo Unit/Bridges State
- 2. Well Number 165/165
- 3. Well Location Unit D, 660 FNL & 860 FWL  
Sec. 13, Township 17S, Range 34E  
Lea County, New Mexico
- 4. Upper Zone North Vacuum Abo
- 5. Completion Interval: 8,493 to 8,553
- 6. Lower Zone Penn
- 7. Completion Interval: 10,393 to 10,427
- 8. Current Productivity Test Summary:

	Upper Zone <u>Abo</u>	Lower Zone <u>Penn</u>
Production Method	Pump	Pump
BOPD	26	25
MCFPD	10	20
BWPD	18	108
GOR	384	800
GOR Limit	2000/1	2000/1

- 9. Botom-hole pressure of Upper Zone Not Available
- 10. Bottom-hole pressure of Lower Zone Not Available
- 11. Fluid characteristics of Each Zone: Both zones produce intermediate crude and we expect no problems in producing the commingled waters

**DATA SHEET**

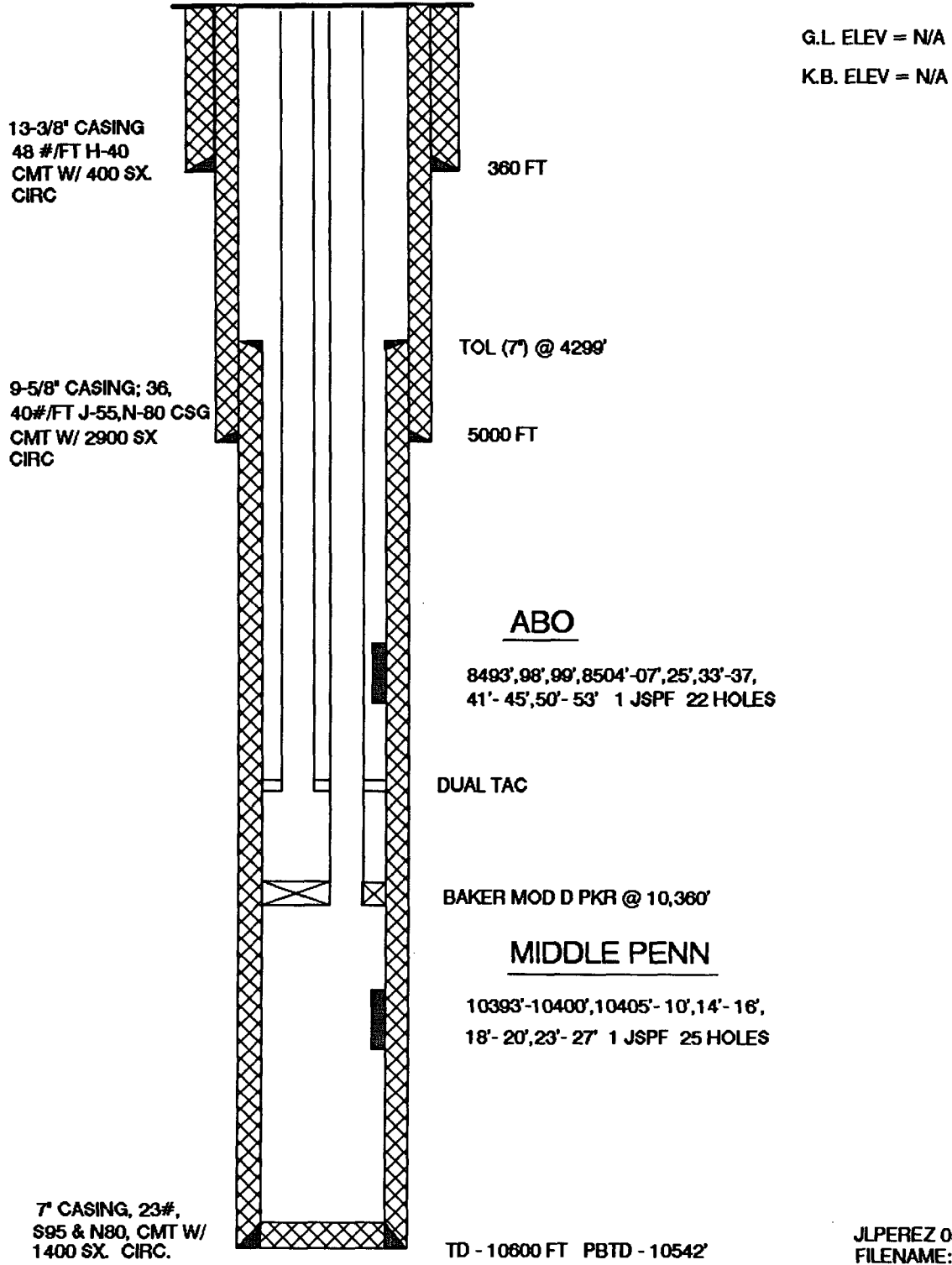
**EXHIBIT B**

**COMPUTATION OF RELATIVE VALUES  
OF THE HYDROCARBON PRODUCTION  
BEFORE & AFTER DOWNHOLE COMMINGLING  
(STATEWIDE RULE 303-C-2-H)**

Lease & Well Number	North Vacuum Abo Unit 165/Bridges State 165		
	<u>UPPER POOL</u> <u>ABO</u>	<u>LOWER POOL</u> <u>PENN</u>	<u>COMMINGLED</u>
Pool Name	North Vacuum	Bridges State	
Gravity, API 37.07	35.2	40.1	37.6
Selling Price/BO	16.75	16.75	16.75
Daily Production/BO	26	25	51
Daily Income	\$435.50	\$418.75	\$854.25
<b>TOTAL DAILY INCOME (POOLS SEPARATED)</b>	<b>\$854.25</b>		

Net difference from downhole commingling based upon current well tests = \$-0- /day gain

**BRIDGES STATE/NORTH VACUUM ABO UNIT #165  
 VACUUM (ABO, PENN) FIELDS  
 LEA COUNTY, NEW MEXICO  
 CURRENT COMPLETION**



G.L. ELEV = N/A  
 K.B. ELEV = N/A

13-3/8" CASING  
 48 #/FT H-40  
 CMT W/ 400 SX.  
 CIRC

360 FT

9-5/8" CASING; 36,  
 40#/FT J-55,N-80 CSG  
 CMT W/ 2900 SX  
 CIRC

TOL (7') @ 4299'

5000 FT

**ABO**

8493',98',99',8504'-07',25',33'-37,  
 41'-45',50'-53' 1 JSPF 22 HOLES

DUAL TAC

BAKER MOD D PKR @ 10,360'

**MIDDLE PENN**

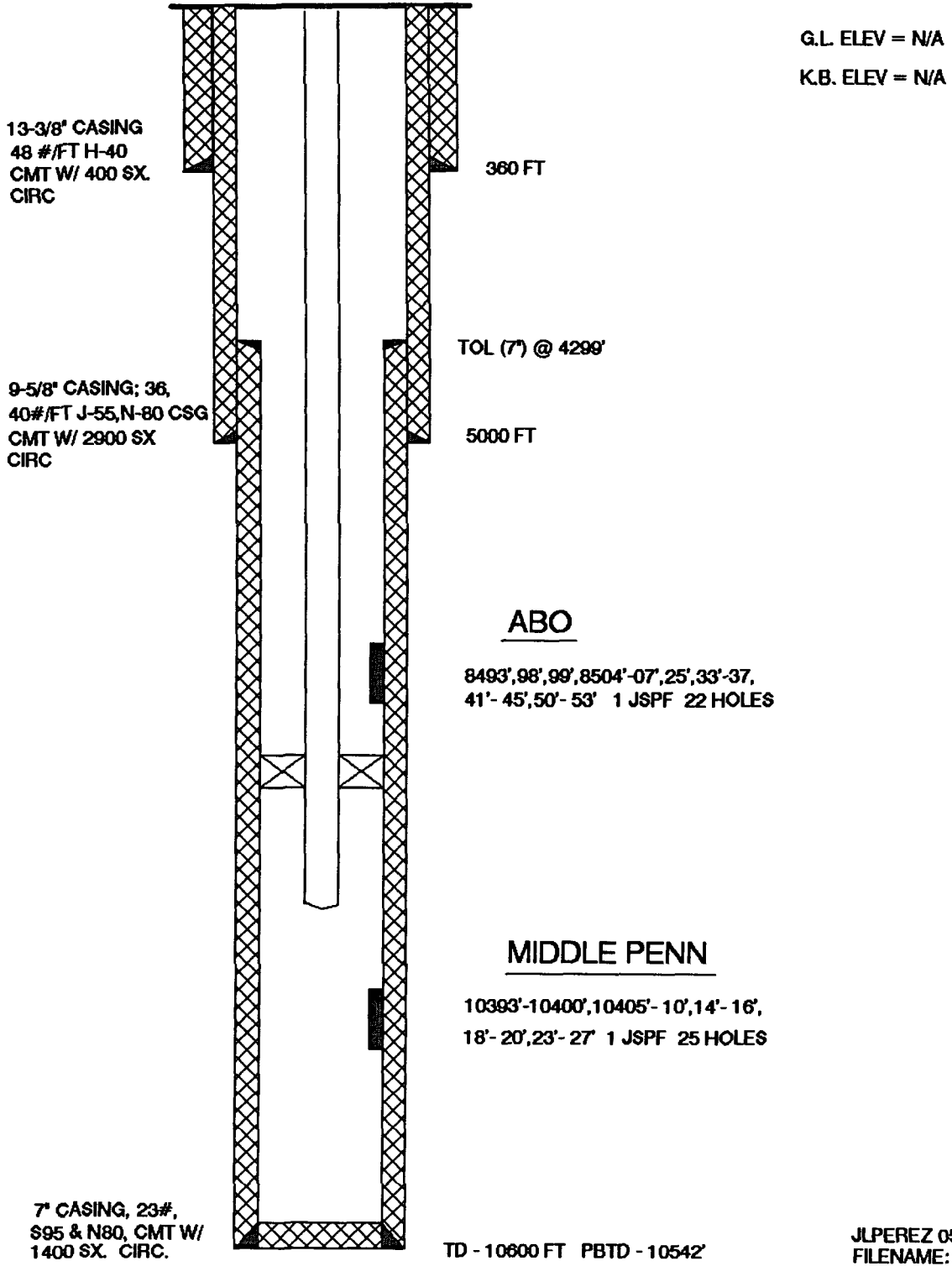
10393'-10400',10405'-10',14'-16',  
 18'-20',23'-27' 1 JSPF 25 HOLES

7" CASING, 23#,  
 S95 & N80, CMT W/  
 1400 SX. CIRC.

TD - 10600 FT PBTD - 10542'

JLPerez 05/24/94  
 FILENAME: NVAU165C

BRIDGES STATE/NORTH VACUUM ABO UNIT #165  
 VACUUM (ABO, PENN) FIELDS  
 LEA COUNTY, NEW MEXICO  
 PROPOSED COMPLETION



G.L. ELEV = N/A  
 K.B. ELEV = N/A

ABO

8493'-98', 99', 8504'-07', 25', 33'-37',  
 41'-45', 50'-53' 1 JSPF 22 HOLES

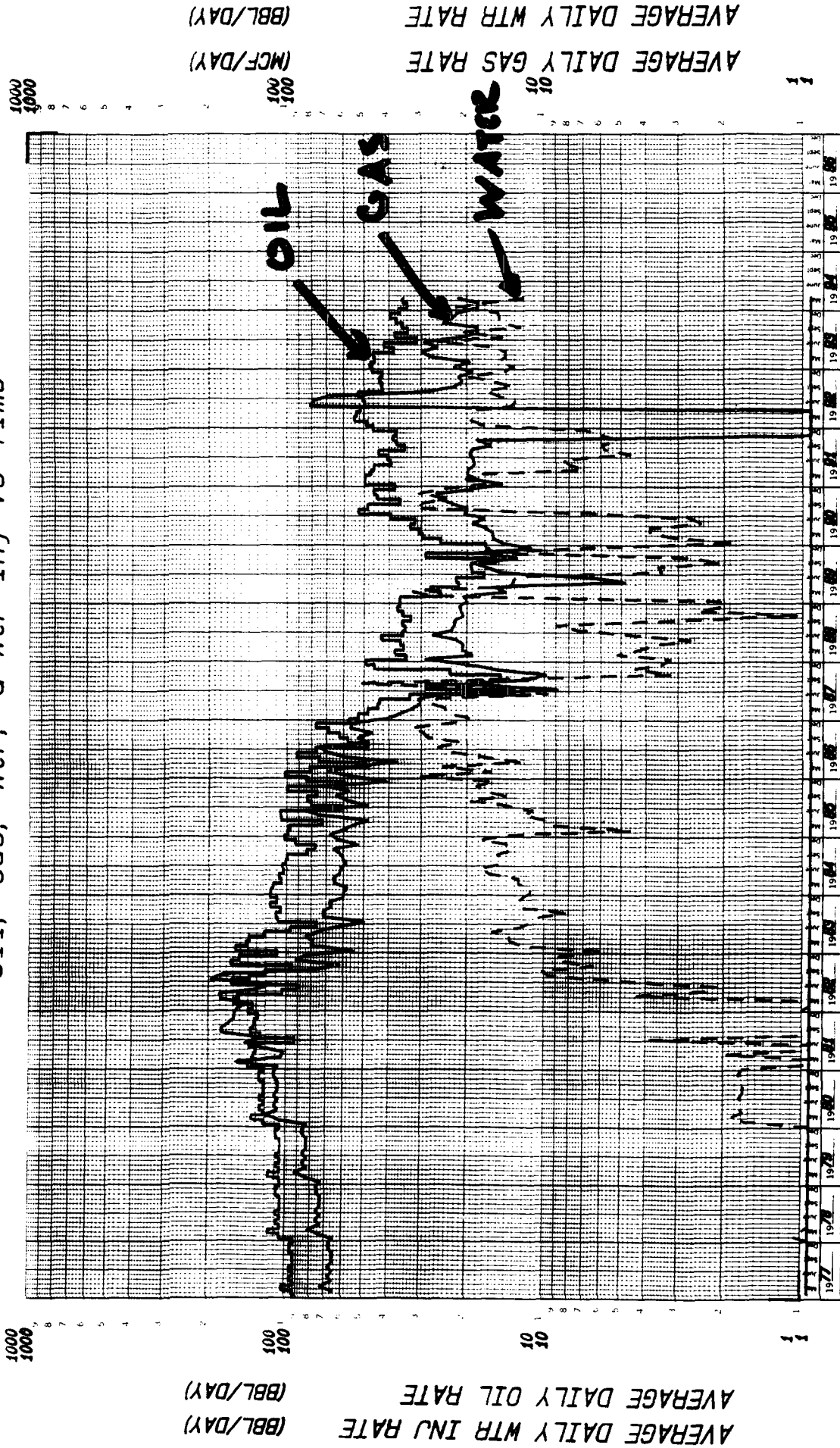
MIDDLE PENN

10393'-10400', 10405'-10', 14'-16',  
 18'-20', 23'-27' 1 JSPF 25 HOLES

TD - 10600 FT PBTD - 10542'

JLPEREZ 05/24/94  
 FILENAME: NVAU165C

# Oil, Gas, Wtr, & Wtr Inj vs Time



LEGEND	
—	OIL
—	GAS
—	MTR
—	MTR INJ

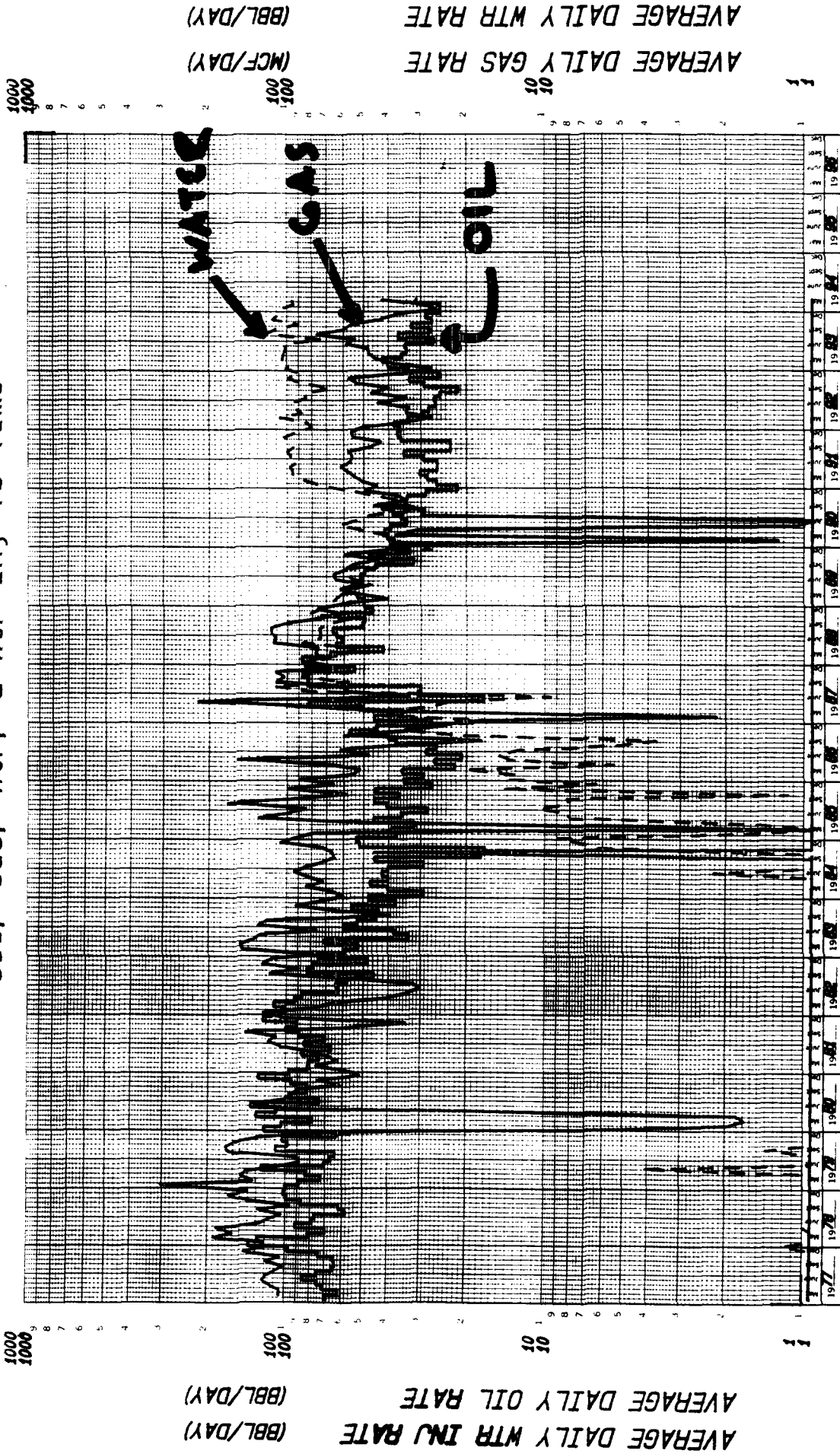
**Mobil Exploration & Producing U.S.**  
 Midland Division

Field: VACUIN/ABQ, NORTH  
 Lease: NORTH VACUIN ABQ UNIT 165  
 Operator: MOBIL OPERATED  
 County: State:

Current Date: 03-30-94 Code: 0620540056163



# Oil, Gas, Wtr. & Wtr Inj vs Time



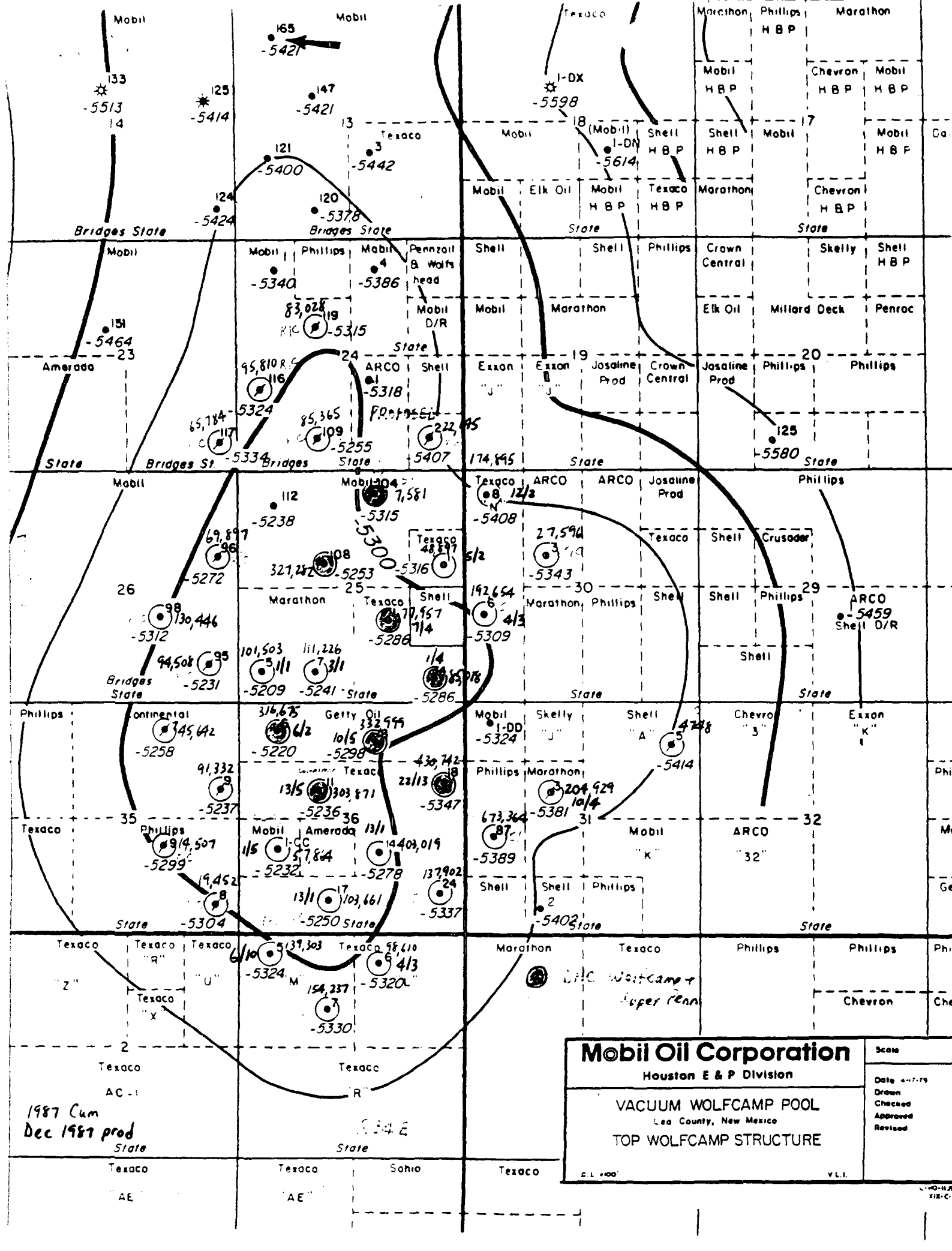
LEGEND	
—	OIL
—	GAS
—	WTR
—	WTR INJ

**Mobil Exploration & Producing U.S.**  
Midland Division

Field: **VACUN/MIDDLE PENN.**  
 Lease: **BRIDGES STATE**  
 Operator: **MOBIL OPERATED**  
 County:

165  
State:

Current Date: 09-30-94  
Code: 0620063056222



1987 Cum  
Dec 1987 prod  
State

<b>Mobil Oil Corporation</b>		Scale
Houston E & P Division		Date 4-7-79
VACUUM WOLFCAMP POOL Lea County, New Mexico		Drawn
TOP WOLFCAMP STRUCTURE		Checked
		Approved
		Revised
S.L. #00	V.L.I.	

State of New Mexico  
Energy, Minerals and Natural Resources Department  
**OIL CONSERVATION DIVISION**

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

Submit 2 copies to Appropriate District Office.  
DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240  
DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210  
DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

Form C-116  
Revised 1/1/89

**GAS - OIL RATIO TEST**

Operator		Pool		County		LEA							
MOBIL PRODUCING TX & NM INC.*		PENN											
Address		TYPE OF TEST - (X)		Completion		Special							
*MOBIL EXPLORATION & PRODUCING US INC.		S P		<input type="checkbox"/>		<input checked="" type="checkbox"/>							
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKESIZE	T.B.G. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT/BBL
		U	S	T						R	WATER BBL.	OIL BBL.	
BRIDGES STATE	165	D	13	17	34	04-09-94	P		24	108	25	20	800

**Instructions:**

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.  
Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 F.  
Specific gravity base will be 0.60.  
Report casing pressure in lieu of tubing pressure for any well producing through casing.

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

*Kaye Pollock-Lyon*  
Signature

KAYE POLLOCK-LYON

Printed name and title  
06-02-94

Date  
915-688-2584  
Telephone No.

(See Rule 301, Rule 1116 & appropriate pool rules.)

State of New Mexico  
Energy, Minerals and Natural Resources Department  
**OIL CONSERVATION DIVISION**

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

Form C-116  
Revised 1/1/89

Submit 2 copies to Appropriate District Office.  
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P.O. Drawer DD, Artesia, NM 88210  
DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

**GAS - OIL RATIO TEST**

Operator		Pool		County										
MOBIL PRODUCING TX & NM INC.*		NORTH VACUUM ABO		LEA										
Address				Completion		Special								
*MOBIL EXPLORATION & PRODUCING US INC as agent for MPTM P.O. Box 633, Midland, TX 79702				<input type="checkbox"/>		<input checked="" type="checkbox"/>								
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	TYPE OF TEST - (X)	DAILY ALLOWABLE	TBG. PRESS.	CHOKESIZE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT/BBL
		U	S	T							R	WATER BBL.	GRAV. OIL	
NORTH VACUUM ABO UNIT	104	B	25	17	34	04-08-94	P			24	68	60	30	500
NORTH VACUUM ABO UNIT	165	D	13	17	34	04-03-94	P			24	18	26	10	384

**Instructions:**

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.  
Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 F.  
Specific gravity base will be 0.60.  
Report casing pressure in lieu of tubing pressure for any well producing through casing.

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

*Kaye Pollock-Lyon*  
Signature

KAYE POLLOCK-LYON

Printed name and title

06-02-94

Date

915-688-2584

Telephone No.

(See Rule 301, Rule 1116 & appropriate pool rules.)

WELL HISTORY  
BRIDGES STATE/NORTH VACUUM ABO UNIT #165

04-17-71: Spud NVAU #165 and Bridges State #165

06-06-71: Perf Middle Penn 10,393'- 10,427'

06-07-71: Acidize M. Penn w/ 5,000 gals of 15% NE Acid

06-08-71: Perf Abo 8493'; 98'; 99'; 8504'-07'; 25'; 33'; 34'; 35'; 36'; 37';  
41'-45'; 50'- 53' w/ 1 jspf, total 22 holes.

06-09-71: Acidize Abo perms w/ 10500 gals of 15% NE Acid.

06-22-71: M. Penn: NMOCD Pote. F 364 BNO + 1 BSW + 611 MCF/ 24 hrs.

06-23-71: Abo: NMOCD Pote. P 358 BNO + 6 BSW + 677 MCF/ 24 hrs.

10-08-77: Repair M. Penn tubing leak.

10-01-84: Repair M. Penn tubing leak.

11-09-85: Acidize M. Penn w/ 10000 gals of 15% NEFE HCL

07-03-86: Replace M. Penn tubing.

06-26-87: Repaired Penn tbg leak. Acidize Penn w/ 10,000 gals 15% acid.

**NORTH VACUUM ABO #165/BRIDGES STATE #165  
NORTH VACUUM ABO and PENN FIELDS  
LEA COUNTY, NEW MEXICO**

**OFFSET OPREATORS**

**Section 12:** Mobil Producing TX & NM Inc. (NE 1/4, S 1/2)  
Sage Petroleum Co. (NW 1/4)

**Section 7:** MobilProducing TX & NM Inc.  
Marathon  
Phillips

**Section 18:** Mobil Producing TX & NM Inc.  
Phillips  
Shell  
Texaco

**Section 19:** Mobil Producing TX & NM Inc.  
EXXON  
ARCO  
Phillips  
Shell

**Section 24:** Mobil Producing TX & NM Inc.  
Texaco  
ARCO  
Shell

**Section 23:** Mobil Producing TX & NM Inc. (all by SW 1/4)  
Amerada (SW 1/4)

**Section 14:** Mobil Producing TX & NM Inc.

**Section 11:** Mobil Producing TX & NM Inc.

**MAILING ADDRESS:**

**Amerada Hess Corporation  
Entex Building  
1200 Milam Street  
Houston, TX 77002**

**ARCO  
P.O. Box 1610  
Midland, TX 79702**

**EXXON  
P.O. Box 1600  
Midland, TX 79702**

**Marathon  
P.O. Box 552  
Midland, TX 79702**

**Phillips Petroleum  
4001 Penbrook  
Odessa, TX 79762**

**Sage Petroleum Co.  
P.O. Box 1179  
Borger, TX 79007**

**Shell  
P.O. Box 831  
Houston, TX 77001**

**Texaco  
P.O. Box 3109  
Midland, TX 79702**

**Notice of Application for Downhole Commingle**

**APPLICANT:** Mobil Exploration & Producing US Inc.  
P.O. Box 633  
Midland, TX 79702-0633

**Telephone:** 915-688-2584  
**Contact:** Kaye Pollock-Lyon

**PURPOSE:** Downhole Commingle North Vacuum Abo/Penn. zones in the  
North Vacuum Abo Unit #165/Bridges State #165 wellbore.

**OPERATIONAL CHARACTERISTICS:**

Produce through one tubing string and use one rod pump.  
Formation fluids are commingled at the downhole pump.

Interested parties may file objections or request a hearing with the Oil Conservation Division,  
P.O. Box 2088, Santa Fe, New Mexico 87503, within 15 days of this notice.



# Mobil Exploration & Producing U.S. Inc.

APR 1994  
MOBIL AND BRIDGES STATE 79702-0633

March 31, 1994

MOBIL AND BRIDGES STATE ASSET TEAM

## **PROPOSED COMMINGLING OF PRODUCTION NORTH VACUUM (ABO) UNIT LEA COUNTY, NEW MEXICO C-4002; NM-569**

### Working Interest Owners:

Currently, Mobil has two (2) dual producing wells in the Vacuum Field area. One well is producing 45 BOPD from the Pennsylvanian/Wolfcamp formations and 67 BOPD from the Abo formation. This dual well is producing under the names of the Bridges State No. 104 (Mobil 100%) and the North Vacuum (Abo) Unit Well No. 104. This well is located in the "B" Unit, 520' FNL and 2120' FEL of Section 25-T17S-R34E.

The second well is producing 35 BOPD from the Pennsylvanian formation and 35 BOPD from the Abo formation. This dual well is producing under the names of the Bridges State No. 165 (Mobil 100%) and the North Vacuum (Abo) Unit Well No. 165, respectively. This well is located in the "D" Unit, 660' FNL and 860' FWL of Section 13-T17S-R34E.

From an operational standpoint, it makes good sense to commingle the production because it cuts the well downtime due to repairs when problems arise. Currently when the deeper zone needs repair, the unit part of the well has to be shut-in and vice versa. Secondly, there is the loss of production when these repairs have to be done. Thirdly, Mobil has to perform a Packer Leakage Test annually on the wells as mandated by the State of New Mexico. This again translates to well downtime and loss of production. The commingling of the production from the wells would eliminate these operational problems.

Mobil hereby proposes and recommends the commingling of production on these two (2) wells to facilitate operations, thus reducing costs, well downtime, and loss of production. Based on production from the Mobil-Bridges State Well No. 104/North Vacuum (Abo) Unit No. 104, Mobil recommends an allocation of 60% for the Unit well and 40% for the Mobil-Bridges State well. Operational expenses will be 47% for the Unit well and 53% for the Mobil-Bridges State well based on total fluids of 265 barrels. The commingled production from Well No. 104 will be brought into the Mobil-Bridges State 95 Tank Battery.


Based on production from the Mobil-Bridges State Well No. 165/North Vacuum (Abo) Unit No. 165, Mobil also recommends an allocation of 50% for the Unit Well No. 165 and 50% for the Mobil-Bridges State No. 165 Well. Operational expenses will be 27% for the Unit well and 73% for the Mobil-Bridges State well based on total fluids of 185 barrels. The commingled production from this well will be brought into the Mobil-Bridges State 120 Tank Battery.

Enclosed for your approval is Ballot Letter No. 1 and Ballot Letter No. 2 for the commingling of production for the two (2) wells mentioned above. Please signify your approval by signing and returning it in the enclosed self-addressed and postage-paid envelope.

Should you have any questions regarding this proposal, please call J. L. Perez at 915-688-2084 or the undersigned at 915-688-2112.

Very truly yours,

MOBIL EXPLORATION & PRODUCING U.S. INC.  
AS AGENT FOR  
MOBIL PRODUCING TEXAS & NEW MEXICO INC.



Danny Pequeno  
Land/Joint Interest Advisor

DP/kc

(REVISED)  
APPROVAL BALLOT NO. 1

COMMINGLING BRIDGES STATE WELL NO. 104 AND NORTH VACUUM (ABO)  
UNIT NO. 104 INTO THE MOBIL-BRIDGES STATE 95 TANK BATTERY

THE BASIS OF THE PRODUCTION AND EXPENSE FORMULAS:

<u>OIL PRODUCTION</u>		<u>TOTAL FLUIDS</u>
MOBIL 100% PART	= 45 BOPD	140 BBLs
NVAU PART	= <u>67 BOPD</u>	<u>125 BBLs</u>
TOTAL	= 112 BOPD	265 BBLs

FORMULA FOR ALLOCATION OF COMMINGLED PRODUCTION AND EXPENSES OF  
DUAL WELL NO. 104:

<u>OIL/GAS PRODUCTION FORMULA</u>		<u>EXPENSE FORMULA</u>	
NVAU	$\frac{67 \text{ BOPD}}{112 \text{ TOTAL BOPD}} = 60\%$	NVAU	$\frac{125 \text{ BBLs.}}{265 \text{ TOTAL FLUIDS}} = 47\%$
MOBIL	$\frac{45 \text{ BOPD}}{112 \text{ TOTAL BOPD}} = 40\%$	MOBIL	$\frac{140 \text{ BBLs.}}{265 \text{ TOTAL FLUIDS}} = 53\%$

APPROVAL OF THE ABOVE OUTLINED PROPOSAL IS GRANTED AND OPERATOR HAS  
THE APPROVAL OF NON-OPERATOR NAMED BELOW TO PERFORM THE WORK AND  
TO COMMINGLE THE PRODUCTION ON THE ABOVE DESCRIBED WELL

NON-OPERATOR:

\_\_\_\_\_ DATE: \_\_\_\_\_

(REVISED)  
APPROVAL BALLOT NO. 2

COMMINGLING BRIDGES STATE WELL NO. 165 AND NORTH VACUUM (ABO)  
UNIT NO. 165 INTO THE MOBIL-BRIDGES STATE 120 TANK BATTERY

THE BASIS OF THE PRODUCTION AND EXPENSE FORMULAS:

<u>OIL PRODUCTION</u>		<u>TOTAL FLUIDS</u>
MOBIL 100% PART	= 35 BOPD	135 BBLs
NVAU PART	= 35 BOPD	50 BBLs
TOTAL	= 70 BOPD	185 BBLs

FORMULA FOR ALLOCATION OF COMMINGLED PRODUCTION AND EXPENSES OF  
DUAL WELL NO. 165:

<u>OIL/GAS PRODUCTION FORMULA</u>		<u>EXPENSE FORMULA</u>	
NVAU	$\frac{35 \text{ BOPD}}{70 \text{ TOTAL BOPD}} = 50\%$	NVAU	$\frac{50 \text{ BBLs}}{185 \text{ TOTAL FLUIDS}} = 27\%$
MOBIL	$\frac{35 \text{ BOPD}}{70 \text{ TOTAL BOPD}} = 50\%$	MOBIL	$\frac{135 \text{ BBLs}}{185 \text{ TOTAL FLUIDS}} = 73\%$

APPROVAL OF THE ABOVE OUTLINED PROPOSAL IS GRANTED AND OPERATOR HAS  
THE APPROVAL OF NON-OPERATOR NAMED BELOW TO PERFORM THE WORK AND  
TO COMMINGLE THE PRODUCTION ON THE ABOVE DESCRIBED WELL

NON-OPERATOR:

\_\_\_\_\_ DATE: \_\_\_\_\_