#6366



#### PHILLIPS PETROLEUM COMPANY

191 APR 25 HM 9 25

LA GIVISION

ODESSA, TEXAS 79762 4001 PENBROOK

April 22, 1991

EXPLORATION AND PRODUCTION GROUP Permian Basin Region

East Vacuum Grayburg-San Andres Unit 1991 Plan of Development NMOCD Order Nos. R-5871, R-5897. R-6856 and R-6856-A Lea County, New Mexico

4/-29-9/
D- Unit lefter
The Reference of the Reference

State of New Mexico Commissioner of Public Lands Attention: Mr. Floyd O. Prando P. O. Box 1148 Santa Fe. New Mexico 87504-1148

New Mexico Oil Conservation Division Energy and Minerals Department Attention: Mr. Roy Johnson P. O. Box 2088 Santa Fe. New Mexico 87504-2088

Dear Sirs:

Phillips Petroleum Company as Unit Operator, submits the following 1991 Plan of Development for your consideration and approval for the East Vacuum Grayburg-San Andres Unit, Lea County, New Mexico:

#### 1. 1990 Activities:

The following occurred during 1990:

Tract 2913-Well 011 (Injection Well) Drilled & Completed: P & A: Tract 2913-Well 008 (Injection Well) Reactivation Tract 2622-Well 030 Tract 2801-Well 001 To Producing Tract 2631-Well 022 Tract 2913-Well 001 Status: Tract 2658-Well 001 Tract 2913-Well 010 Tract 2957-Well 001 Tract 2717-Well 001 Tract 2980-Well 004
Tract 3308-Well 004
Tract 3440-Well 002 Tract 2717-Well 002 Tract 2717-Well 004 Tract 2717-Well 006 Tract 3467-Well 001 Tract 2720-Well 001 Tract 2720-Well 002 Tract 3467-Well 121 Tract 2739-Well 006

East Vacuum Grayburg-San Andres Unit Plan of Development April 22, 1991 Page 2

#### 2. Current Status:

The East Vacuum Grayburg San Andres Unit contains 345 wells drilled on 20-acre spacing with limited areas drilled on 10-acre spacing. Currently, 197 wells are active producers, 55 are water injectors, 45 are Water-Alternating-CO2 injectors, 41 are currently inactive pending CO2 flood response or evaluation, and 1 is P&A'd. January, 1991 production from the Unit was 8,842 BOPD, 10,537 MCFD at a 61% CO2 cut, and 36,732 BWPD. The Unit is currently injecting approximately 29 MMCFD of purchased CO2 and non-saleable CO2-rich produced gas, and 38,500 BWPD.

#### 3. 1991 Planned Activities:

Continued emphasis will be placed on the optimization of the CO2 flood performance. Current projects to enhance this effort include project pattern balancing, reactivation of temporarily abandoned wells within the project area (estimated to be 17 reactivations in 1991), and the evaluation of CO2 foam injection for mobility control. An observation well (3332-003) has been drilled to monitor through logging programs the performance of the CO2-foam injection trial. This CO2 foam mobility project is in conjunction with the New Mexico Petroleum Recovery Research Center.

Workovers on producers and injectors will be performed within the Unit on an as needed basis. The primary workover emphasis will continue to be sulphate scale treating, acid treating, and remedial well work.

The fifth produced gas reinjection compressor has been approved by the EVGSAU Working Interest Owners and is scheduled for installation and start-up during the second half of 1991.

The East Vacuum Liquids Recovery Plant, utilizing the two-column Ryan Holmes technology, has been approved by the EVGSAU Working Interest Owners. The plant will recover marketable hydrocarbon liquids from the non-saleable CO2-rich produced gas stream at the EVGSAU and it is anticipated that on-site construction will commence in November, and plant start-up in April, 1992.

Additional infill drilling is being studied for the EVGSAU. A geological reservoir characterization study is underway with completion expected by year-end.

#### 4. Attachments:

Provided in the attachments are: (a) a map of the Unit; (b) graphs of production and injection history, and (c) a schematic of the East Vacuum Liquids Recovery Plant.

East Vacuum Grayburg-San Andres Unit Plan of Development April 22, 1991 Page 3

Please contact me at (915) 368-1203 or Laura Sugg at (915) 368-1413 should you have any questions regarding this Plan of Development.

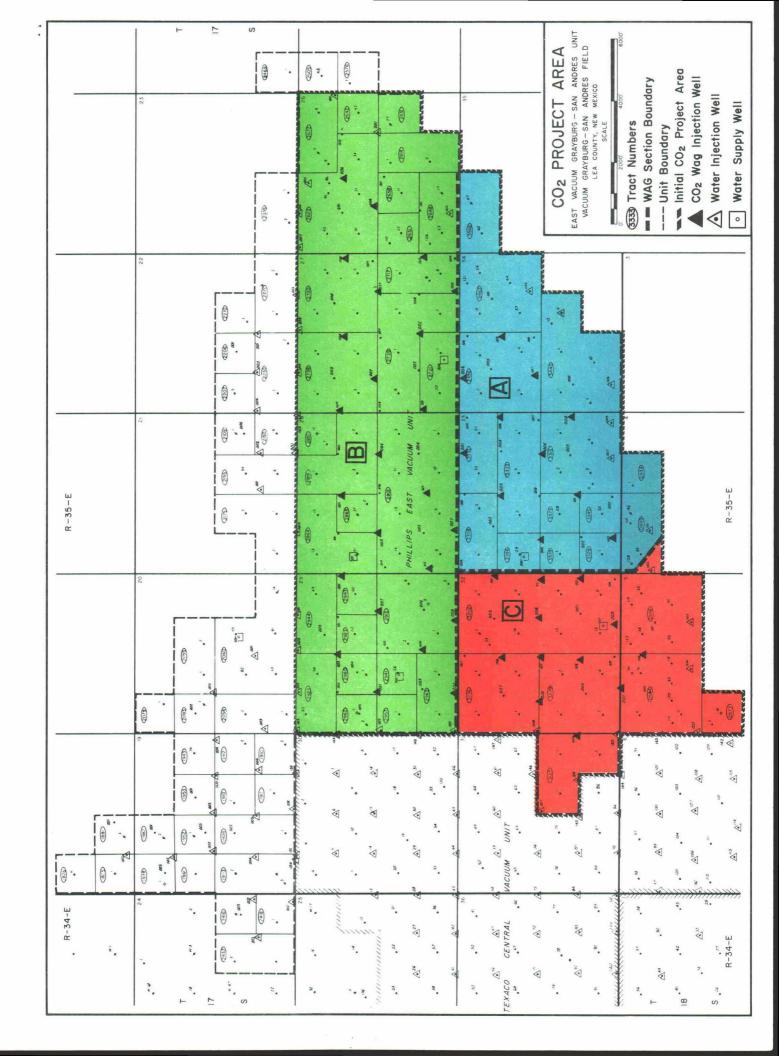
Very truly yours.

D. R. Wier, Director Reservoir Engineering

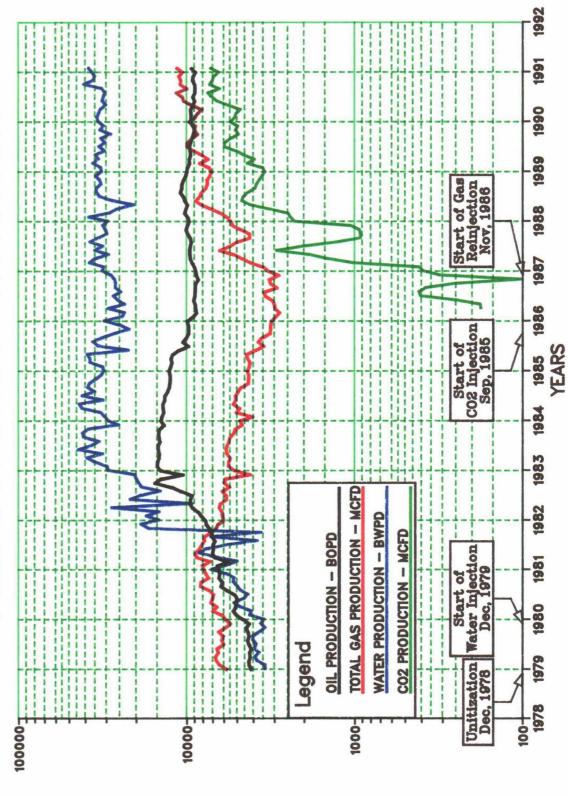
وس DRW:LAS:sdb

resv/lsugg/devplan

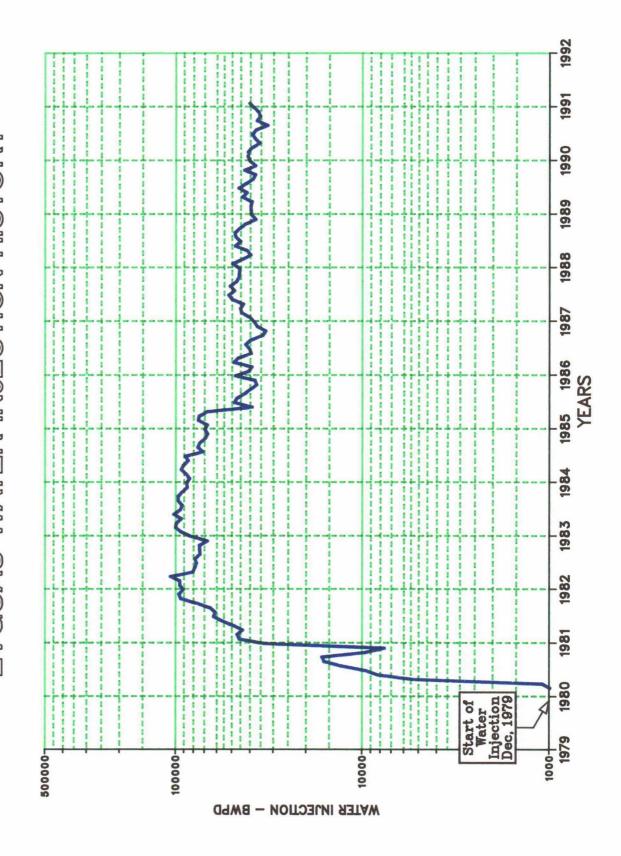
Attachments



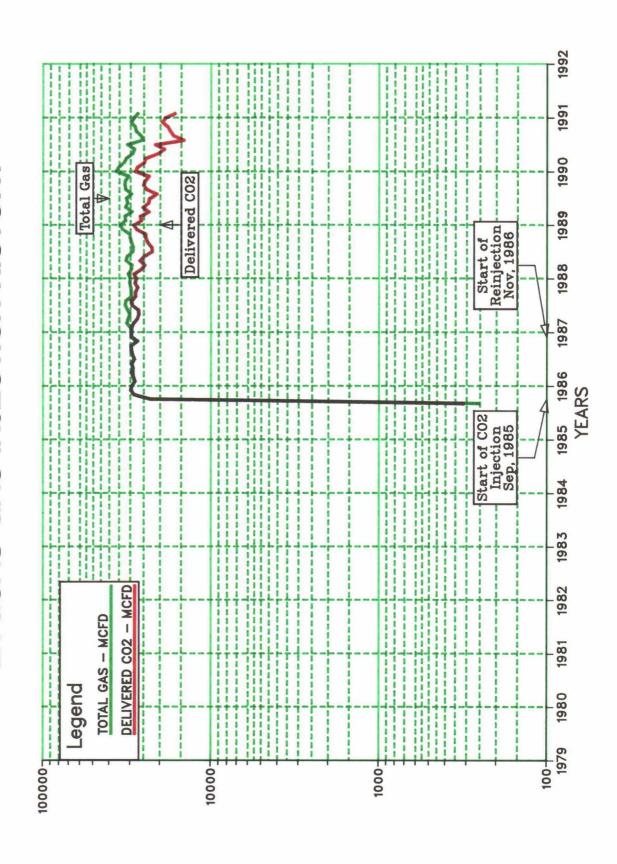
# PHILLIPS PETROLEUM COMPANY EVGSAU PRODUCTION HISTORY

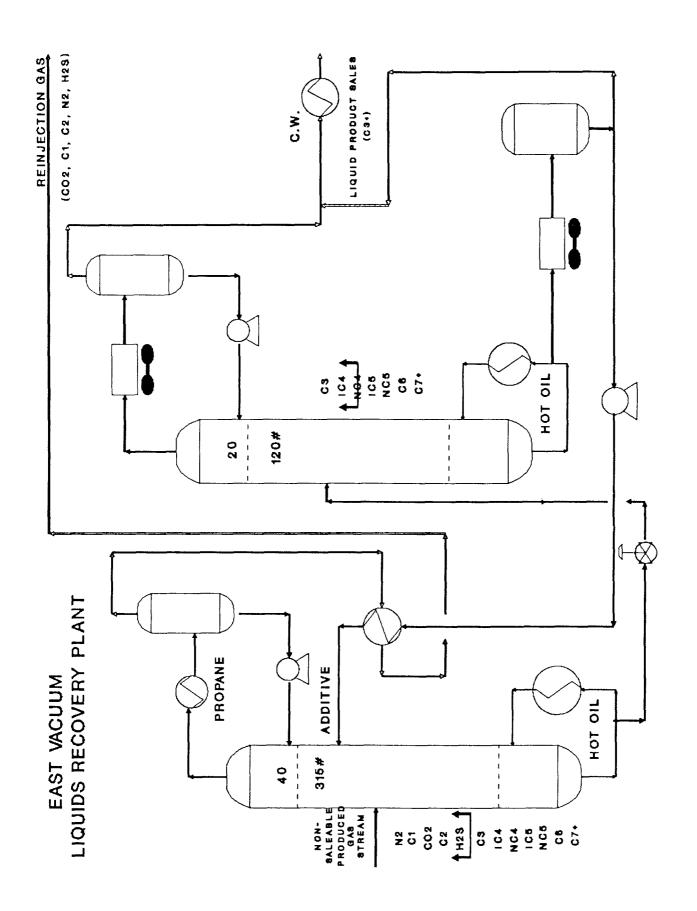


# EVGSAU WATER INJECTION HISTORY



# EVGSAU GAS INJECTION HISTORY





#### WORKING INTEREST OWNERS

#### EAST VACUUM GRAYBURG-SAN ANDRES UNIT

#### LEA COUNTY, NEW MEXICO

Amerada Hess Corporation Attn: Mr. R. W. Mullins P. O. Box 2040 Tulsa, OK 74102

Amoco Production Company Attn: Mr. Bruce A. Landis, Jr. P. O. Box 3092 Houston, TX 77001

Arapaho Petroleum, Inc. P. O. Box 1271 Breckenridge, TX 76024

Atlantic Richfield Company Attn: Mr. G. Thane Akins P. O. Box 1610 Midland, TX 79702

Atlantic Richfield Company
Attn: Mr. J. D. Henry
P. O. Box 2819
Dallas, TX 75221

H. M. Bettis, Inc. P. O. Box 1168 Graham, TX 76046

W. T. Boyle and Company
P. O. Box 57
Graham, TX 76046

Chevron U.S.A., Inc. Attn: Mr. E. E. Hagan P. O. Box 1660 Midland, TX 79702

Cities Service Company Attn: Mr. E. F. Motter P. O. Box 1919 Midland, TX 79702

Cities Service Company
Attn: Mr. K. D. Van Horn
P. O. Box 1919
Midland, TX 79702

Crown Central Petroleum Corp. (2)
Attn: Mr. L. E. Lott
1002 Wilco Building
Midland, TX 79701

Davoil, Inc.
P. O. Box 12507
Fort Worth, TX 76116

Millard Deck
P. O. Box 1047
Eunice, New Mexico 88231

Elk Oil Company
Attn: Mr. Joseph J. Kelly
P. O. Box 310
Roswell, N. W. 88201

Exxon Company, U.S.A. (2) Attn: Mr. J. M. Shepherd P. O. Box 1600 Midland, TX 79702

Getty Oil Company
Attn: Mr. Audra B. Cary
P. O. Box 1231
Midland, TX 79702

Getty Oil Company Attn: Mr. Joe King P. O. Box 1231 Midland, TX 79702

Great Western Drilling Co. Attn: Mr. F. L. Ballard P. O. Box 1659 Midland, TX 79702

Mr. Jack D. Hensley P. O. Box 1418 Pebble Beach, CA 93953

Mr. Larry O. Hulsey P. O. Box 1143 raham, TX 76046

Kokomo Oil Company P. O. Box 4188 Odessa, TX 79760

Mr. Boyd Laughlin P. O. Box 1540 Midland, TX 79702

Mr. T. W. Little
Suite 207
4925 Davis Boulevard
Fort Worth, TX 76118

Marathon Oil Company Attn: Mr. G. A. Naert P. O. Box 552 Midland, TX 79702

Mr. Hamilton E. McRae P. O. Box 1540 Midland, TX 79702

Mr. Kenneth Midkiff 2308 32nd Street Snyder, TX 79754

Mobil Oil Corporation (2)
Attn: Mr. E. R. Frazier
Three Greenway Plaza-East
Gouston, TX 77046

Mr. Davis Payne
P. O. Box 1749
Midland, TX 79702

Petrosearch, Inc.

P. O. Box 991

825 Petroleum Club Building

Denver, Colorado 80202

Houston, TX 77001

Pennzoil Company
Attn: Mr. J. C. Raney
P. O. Drawer 1828
Midland, TX 79702

Pennzoil Company
Attn: Mr. C. A. Brown
P. O. Drawer 1828
Midland, TX 79702

Penrose Production Company Attn: Mr. H. S. Winston 1205 Commerce Building Fort Worth, TX 76102 Phillips Petroleum Company Attn: Mr. J. E. Chrisman P. O. Box 1967 Houston, TX 77001

Phillips Petroleum Company Attn: Mr. J. E. Curzon 650 Frank Phillips Building Bartlesville, OK 74004

Phillips Petroleum Company Attn: Mr. J. W. Maharg 4001 Penbrook Odessa, TX 79762

Phillips Petroleum Company Attn: Mr. W. J. Mueller 4001 Penbrook Odessa, TX 79762

Polaris Production Corp. Attn: Mr. Davis Payne P. O. Box 1749 Midland, TX 79702

Mr. D. E. Radtke P.O. Box 1703 Midland, TX 79702

Mr. C. W. Seely 1907 Fort Worth Natl. Bank Bldg., Fort Worth, TX 76102

Shell Oil Company
Attn: Mr. W. E. Buck
P. O. Box 991
Houston, TX 77001

Sohio Petroleum Company Attn: Mr. H. P. Dreher 50 Penn Place, Suite 1100 Oklahoma City, OK 73118

Sohio Petroleum Company Attn:Mr. R. J. Broussard P. O. Box 3000 Midland, TX 79702

Mr. Norman D. Stovall, Jr. P. O. Box 10
Graham, TX 76046

S. B. Street & Company P. O. Box 206 Graham, TX 76046

Texaco, Inc.
Attn: Mr. D. T. McCreary
P. O. Box 3109
Midland, TX 79702

Texaco, Inc. Attn: District Engineer P. O. Box 728 Hobbs, New Mexico 88240

Turnco, Inc. P. O. Box 1168 Graham, TX 76046

Wainoco, Inc. 1100 Milam Plda - Suite 600 Houston, TX 77002

1st Nat'l. Bank of Fort Worth Executor, Neville G. Penrose Est. Fort Worth, TX 76101

Fort Worth Nation Bank Trustee No. 1979 P. O. Box 2050 Fort Worth, TX 76101

Mrs. Mary D. Walsh 1007 First Nat'l. Bank Bldg., Fort Worth, TX 76101

Mercantile-Safe Dept. & Tr. Co. Trs. U/D Donaldson Brown - A/C 1 Attn: Mr. Guy S. Tregoe, Jr. Mercantile Bank & Trust Bldg., S-1503 2 Hopkins Plaza Baltimore, Maryland 21201

Mercantile-Safe Dep. & Tr. Co. Trs. U/D Donaldson Brown-A/C 2 Attn: Mr. Guy S. Tregoe, Jr. Mercantile Bank & Trust Bldg., S-1503 2 Hopkins Plaza Baltimore, Maryland 21201 **EXPLORATION AND PRODUCTION GROUP** 

May 29, 1985

East Vacuum Grayburg-San Andres Unit Unit Participation Change Lea County, New Mexico

New Mexico Oil Conservation Division Post Office Box 2088 State Land Office Building Santa Fe, New Mexico 87501

#### Gentlemen:

Phillips Petroleum Company, as operator of the East Vacuum Grayburg-San Andres Unit, submits the following documents to reflect a change in unit participation:

- 1. Revised Page 7 of Exhibit B to the Unit Agreement.
- 2. Revised Exhibit C, Parts A & B, to the Unit Operating Agreement.

These are the changes necessary to confirm the conversion of Mobil's overriding royalty interest in Tract 2270 to a working interest.

It is requested that these revisions be accepted and filed with the NMOCD's true copies of the Unit Agreement and Unit Operating Agreement, with approved copies returned for distribution to the Working Interest Owners.

Sincerely,

G. R. Smith, Chairman

Working Interest Owners Committee

GRS:MHB:1sw

Attachments

PARTICIPATION FINAL	.27131	.66249	.37561	.10078	1.44414	2.38560	.12795	7.660.		.07150
% TRACT PA INITIAL	1	.91042	.08098	.07695	1,48641	1.65754	1	.00169		.03727
% W.I. IN TRACT	100.00	100.00	100.00	81.2500 3.1250 1.5625 1.5625	100.00	100.00	100.00	33.3333		35.000 28.4375 4.0625 4.0625 3.2500 4.0625 7.04165 7.04165
WORKING INT. OWNER	Shell Oil Co.	Shell Oil Co.	Phillips Petro- leum Company	Pennzoil Co. Jack D. Hensley Boyd Laughlin Hamilton McRae	Phillips Petro-	leum company Phillips Petro- leum Company	Phillips Petro- leum Company		Jonaldson Brown Tr. A/C 2 Mrs. Mary D. Walsh	Mobil Oil Corp. Petro Search, Inc. C. W. Seely Kokomo Oil Co. Kenneth Midkiff Arapaho Petroleum T. W. Little D. E. Radtke Davis Payne
OVERRIDING ROYALTY OWNER AND AMOUNT	None	None	None	Phillips Petro- leum Company .05468750	None	None	None	None		None
LESSEE OF RECORD	Shell Oil Co.	Shell Oil Co.	Phillips Petro- leum Company	Phillips Petro- leum Company	Phillips Petro-	leum company Phillips Petro- leum Company	Phillips Petro- leum Company	Nevill G. Pen- rose Est. and William Fleming		Mobil Oil Corp.
BASIC ROYALTY	.125	.125	.125	.125	.125	.125	.125	.125		.125
NEW MEXICO STATE LSE. NO.	B-2423-12	B-2423-12	B-2498	B-2498	8-2517	B-2519	B-2519	B-2531-7		B-2735
NO. OF ACRES	40.00	80.00	120.00	40.00	40.00	160.00	80.00	40.00		40.00
LEASE NAME AND LAND DESCRIPTION	State I SW1/4 NW1/4 Sec. 29 T-17-S R-35-F	State F S1/2 SW1/4 Sec. 29	Santa Fe W1/2 NW1/4&NE1/4 NW1/4 Sec. 28, T-17-5	N-33-L Phillips State SE1/4 NW1/4 Sec. 28 T-17-S, R-35-E	SW1/4 NW1/4 Sec. 33	1-1/-5, K-35-E Santa Fe NE1/4 Sec. 34	-1/-3, K-33-L   Santa Fe   N1/2 NW1/4 Sec. 35   T 17 C P 2E E	-1/-3, R-33-L   Southern State   SW1/4 SW1/4 Sec. 24   T-17-S, R-35-E		Mobil State NW1/4 SE1/4 Sec. 22 T-17-S, R-35-E
TRACT NO.		963	864	865	366	467	268	2469		2270

# EXHIBIT "C"--PART A TO UNIT OPERATING AGREEMENT EAST VACUUM GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

Revision No. 2 March 6, 1985 Page No. 1

#### TRACT SEQUENCE EFFECTIVE DECEMBER 1, 1978

Tract No.	Working Interest Owner	Working Interest in Tract, Percent	Unit Participation, Percent Final
0434	Marathon Oil Company	100.00000	.05966
0449	Phillips Petroleum Company	100.00000	1.61531
0524	Phillips Petroleum Company	100.00000	4.14654
0546	Phillips Petroleum Company	100.00000	4.84507
0577	Shell Oil Company	100.00000	.22541
1825	Mobil Oil Corporation	100.00000	.07567
1826	Mobil Oil Corporation	100.00000	.08909
1881	Elk Oil Company Joseph J. Kelly John M. Kelly Estate	45.00000 5.00000 50.00000	.04169 .00463 .04633
1903	Exxon Company, U.S.A.	100.00000	.62367
1904	Atlantic Richfield Company	100.00000	.58090
1910	H. M. Bettis, Inc. W. T. Boyle and Company Norman D. Stovall, Jr. Turnco, Inc. S. B. Street and Company Larry O. Hulsey	18.00000 18.00000 18.00000 18.00000 18.00000	.06498 .06498 .06498 .06498 .06498 .03609
1911	Shell Oil Company	100.00000	.25707
1912	Crown Central Petroleum Corp.	100.00000	.13261
1943	Phillips Petroleum Company	100.00000	.15124
1952	Marathon Oil Company	100.00000	.14278
1953	Marathon Oil Company Shell Oil Company	50.00000 50.00000	.09214 .09214
1961	Mobil Oil Corporation	100.00000	.08458
1978	Shell Oil Company	100.00000	.10264
1982	Elk Oil Company Joseph J. Kelly John M. Kelly Estate	45.00000 5.00000 50.00000	.05858 .00651 .06509
2054	H. M. Bettis, Inc. W. T. Boyle and Company Norman D. Stovall, Jr. Turnco, Inc. S. B. Street and Company Larry O. Hulsey	18.00000 18.00000 18.00000 18.00000 18.00000	.02095 .02095 .02095 .02094 .02094 .01164
2059	Millard Deck John R. Bryant L. O. Box	62.50000 12.50000 25.00000	.01019 .00204 .00408
2060	Phillips Petroleum Company	100.00000	.37941

Tract No.	Working Interest Owner	Working Interest in Tract, Percent	Unit Participation, Percent Final
2079	Crown Central Petroleum Corp.	100.00000	.07001
2083	Elk Oil Company Joseph J. Kelly John M. Kelly Estate	45.00000 5.00000 50.00000	.02307 .00256 .02563
2109	Shell Oil Company	100.00000	.05420
2150	Phillips Petroleum Company	100.00000	.13931
2155	Phillips Petroleum Company	100.00000	.16750
2175	Mobil Oil Corporation	100.00000	.23742
2206	Amerada Hess Corporation	100.00000	.08543
2207	Kokomo Oil Company T. W. Little D. E. Radtke Davis Payne	6.25000 31.25000 31.25000 31.25000	.00236 .01181 .01181 .01181
2230	Atlantic Richfield Company	100.00000	.30083
2270	Mobil Oil Corporation Petro-Search, Inc. C. W. Seely Kokomo Oil Company Kenneth Midkiff Arapaho Petroleum, Inc. T. W. Little D. E. Radtke Davis Payne	35.00000 28.43750 4.06250 4.06250 3.25000 4.06250 7.04165 7.04165 7.04170	.02502 .02033 .00291 .00291 .00232 .00291 .00503 .00503
2271	Mobil Oil Corporation	100.00000	.17975
2335	Sohio Petroleum Company Donaldson Brown Trust A/C 1 Donaldson Brown Trust A/C 2 Fort Worth National Bank Trustee No. 1979	33.33334 15.83333 .83333 50.00000	.08332 .03957 .00208
2416	Shell Oil Company	100.00000	.18642
2418	Atlantic Richfield Company	100.00000	.30137
2437	Atlantic Richfield Company	100.00000	.16590
2469	Neville G. Penrose Estate Donaldson Brown Trust A/C 1 Donaldson Brown Trust A/C 2 Mrs. Mary F. Fleming Walsh	33.33334 15.83333 .83333 50.00000	.03326 .01580 .00083 .04988
2505	Phillips Petroleum Company	100.00000	.22031
2576	Great Western Drilling Company Davoil, Inc. Amoco Production Company	32.23800 17.76200 50.00000	.02929 .01613 .04542
2614	Atlantic Richfield Company	100.00000	.42296
2622	Phillips Petroleum Company	100.00000	1.47884
2631	Phillips Petroleum Company	100.00000	.57020
2642	Phillips Petroleum Company	100.00000	.09621
2 <b>64</b> 8	Phillips Petroleum Company	100.00000	.54475

Tract No.	Working Interest Owners	Working Interest in Tract, Percent	Unit Participation, Percent Final
2 <b>6</b> 58	Phillips Petroleum Company	100.00000	.33494
2672	Mobil Oil Corporation	100.00000	.63057
2717	Shell Oil Company	100.00000	1.41489
2720	Cities Service Company	100.00000	1.01965
2721	Phillips Petroleum Company	100.00000	2.44676
2738	Chevron U.S.A., Inc.	100.00000	1.49111
2739	Chevron U.S.A., Inc.	100.00000	2.99166
2801	Exxon Company, U.S.A.	100.00000	5.34834
2819	Shell Oil Company	100.00000	.92386
2851	Pennzoil Company Jack D. Hensley Boyd Laughlin Hamilton E. McRae Wainoco Oil and Gas Company	81.25000 3.12500 1.56250 1.56250 12.50000	.25296 .00973 .00486 .00486 .03892
2864	Phillips Petroleum Company	100.00000	.37561
2865	Pennzoil Company Jack D. Hensley Boyd Laughlin Hamilton E. McRae Wainoco Oil and Gas Company	81.25000 3.12500 1.56250 1.56250 12.50000	.08188 .00315 .00158 .00158 .01259
2913	Atlantic Richfield Company	100.00000	2.00209
2923	Phillips Petroleum Company	100.00000	.40873
2941	Phillips Petroleum Company	100.00000	.36837
2944	Phillips Petroleum Company	100.00000	.28466
2947	Phillips Petroleum Company	100.00000	.37286
2957	Shell Oil Company	100.00000	.46592
2962	Shell Oil Company	100.00000	.27131
2963	Shell Oil Company	100.00000	.66249
2980	Phillips Petroleum Company	100.00000	.15587
3127	Mobil Oil Corporation	100.00000	4.57057
3202	Exxon Company, U.S.A.	100.00000	10.46326
3229	Atlantic Richfield Company	100.00000	7.01489
3236	Chevron U.S.A, Inc.	100.00000	3.56440
3308	Getty Oil Company	100.00000	1.28872
3315	Shell Oil Company	100.00000	4.13554
3328	Getty Oil Company	100.00000	1.77571
3332	Phillips Oil Company	100.00000	3.46424

Revision No. 2 March 6, 195 Page 4

Tract No.	Working Interest Owner	Working Interest in Tract, Percent	Unit Participation, Percent Final
3333	Marathon Oil Company	100.00000	4.14916
3345	Phillips Petroleum Company	100.00000	1.31282
3366	Phillips Petroleum Company	100.00000	1.44414
3373	Phillips Petroleum Company	100.00000	1.61649
3374	Mobil Oil Corporation	100.00000	1.54153
3440	Chevron U.S.A., Inc.	100.00000	3.06316
3456	Mobil Oil Corporation	100.00000	5.46508
3467	Phillips Petroleum Company	100.00000	2.38560
3568	Phillips Petroleum Company	100.00000	.12795
		GRAND TOTAL	100.00000

# EXHIBIT "C"--PART B TO UNIT OPERATING AGREEMENT EAST VACUUM GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

Revision No. 2 March 6, 1985 Page 1

#### OWNER SEQUENCE EFFECTIVE DECEMBER 1, 1978

Working Interest Owner	Tract No.	Unit Participation, Percent Final
Amerada Hess Corporation	2206	.08543
Amoco Production Company	2576	.04542
Arapaho Petroleum, Inc.	2270	.00291
Atlantic Richfield Company  OWNER TOTAL	1904 2230 2418 2437 2614 2913 3229	.58090 .30083 .30137 .16590 .42296 2.00209 7.01489 10.78894
H. M. Bettis, Inc.	1910	.06498
OWNER TOTAL	2054	.02095 .08593
L. O. Box	2059	.00408
W. T. Boyle and Company OWNER TOTAL	1910 2054	.06498 .02095 .08593
Donaldson Brown Trust A/C 1  OWNER TOTAL	2335 2469	.03957 .01580 .05537
Donaldson Brown Trust A/C 2  OWNER TOTAL	2335 2469	.00208 00083 00291
John R. Bryant	2059	.00204
Chevron U.S.A., Inc.  OWNER TOTAL	2738 2739 3236 3440	1.49111 2.99166 3.56440 3.06316 11.11033
Cities Service Company	2720	1.01965
Crown Central Petroleum Corp.  OWNER TOTAL	1912 2079	.13261 .07001 .20262
Davoil, Inc.	2576	.01613
Millard Deck	2059	.01019
Elk Oil Company OWNER TOTAL	1881 1982 2083	.04169 .05858 .02307 .12334
Exxon Company, U.S.A.  OWNER TOTAL	1903 2801 3202	.62367 5.34834 10.46326 16.43527
Fort Worth National Bank Trustee No. 1979	2335	.12497

Working Interest Owner	Tract No.	Unit Participation, Percent Final
Getty Oil Company OWNER TOTAL	3308 3328	$\frac{1.28872}{1.77571}$ $\overline{3.06443}$
Great Western Drilling Company	2576	.02929
Jack D. Hensley OWNER TOTAL	2851 2865	.00973 .00315 .01288
Larry O. Hulsey OWNER TOTAL	1910 2054 -	.03609 .01164 .04773
John M. Kelly Estate OWNER TOTAL	1881 1982 2083	.04633 .06509 .02563 .13705
Joseph J. Kelly OWNER TOTAL	1881 1982 2083	.00463 .00651 .00256 .01370
Kokomo Oil Company OWNER TOTAL	2207 2270	.00236 .00291 .00527
Boyd Laughlin OWNER TOTAL	2851 2865	.00486 .00158 .00644
T. W. Little OWNER TOTAL	2207 2270 -	.01181 00503 01684
Hamilton E. McRae OWNER TOTAL	2851 2865	.00486 .00158 .00644
Marathon Oil Company OWNER TOTAL	0434 1952 1953 3333	.05966 .14278 .09214 _4.14916 _4.44374
Kenneth Midkiff	2270	.00232
Mobil Oil Corporation	1825 1826 1961 2175 2270 2271 2672 3127 3374 3456	.07567 .08909 .08458 .23742 .02502 .17975 .63057 4.57057 1.54153 5.46508
OWNER TOTAL		12.89928
Davis Payne OWNER TOTAL	2207 2270	.01181 .00504 .01685
Pennzoil Company OWNER TOTAL	2851 28 <b>6</b> 5	.25296 .08188 .33484

Working Interest Owner	Tract No.	Unit Participation, Percent Final
Neville G. Penrose Estate	2469	.03326
Petro-Search, Inc.	2270	.02033
Phillips Petroleum Company	0449 0524 0546 1943 2060 2150 2155 2505	1.61531 4.14654 4.84507 .15124 .37941 .13931 .16750 .22031
	2622 2631 2642 2648 2658 2721	1.47884 .57020 .09621 .54475 .33494 2.44676
	2864 2923 2941 2944 2947 2980	.37561 .40873 .36837 .28466 .37286
	3332 3345 3366 3373 3467	.15588 3.46424 1.31282 1.44414 1.61649 2.38560
OWNER TOTAL	<b>356</b> 8	$\frac{.12795}{29.45373}$
D. E. Radtke OWNER TOTAL	2207 2270	.01181 .00503 .01684
C. W. Seely	2270	.00291
Shell Oil Company	0577 1911 1953 1978 2109 2416 2717 2819 2957 2962 2963 3315	.22541 .25707 .09214 .10264 .05420 .18642 1.41489 .92386 .46592 .27131 .66249 4.13554
OWNER TOTAL	0010	8.79189
Sohio Petroleum Company	2335	.08332
Norman D. Stovall, Jr. OWNER TOTAL	1910 2054	.06498 .02095 .08593
S. B. Street and Company OWNER TOTAL	1910 2054	.06498 .02094 .08592
Turnco, Inc. OWNER TOTAL	1910 2054	.06498 .02094 .08592

EXHIBIT "C"--PART B (OWNER SEQUENCE) EFFECTIVE DECEMBER 1, 1978 EAST VACUUM GRAYBURG-SAN ANDRES UNIT Revision No. 2 March 6, 1985 Page 4

Working Interest Owner	Tract No.	Unit Participation, Percent Final
Wainoco Oil and Gas Company	2851 2865	.03892 .01259
OWNER TOTAL	2000	.05151
Mrs. Mary D. Fleming Walsh	2469	.04988
GRAND TOTAL		100.00000



#### State of New Mexico Commissioner of Public Lands

#6366

W. R. Humphries COMMISSIONER

Advisory Board April 24, 1990

George Clark Chairman

Kristin Connitt

e Chairman Phillips Petroleum Company

Melvin Cordova

Odessa, Texas 79762

Joe Kelly Robert Portillos

Nancy Lynch Vigil

ATTN: D.A. Brown

Rex Wilson

RE: East Vacuum Grayburg San Andres Unit

1990 Plan of Development

Gentlemen:

The Commissioner of Public Lands has this date approved the 1990 Plan of Development for the East Vacuum Grayburg San Andres Unit. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the Unit may exist. You will be contacted at a later date regarding these possibilities.

Enclosed is an approved copy of the 1990 Plan of Development for your files. If we may be of further help, please do not hesitate to contact this office at (505) 827-5746.

Very truly yours,

W.R. HUMPHRIES,

COMMISSIONER OF PUBLIC LANDS

Floyde Mande

BY:

FLOYD O. PRANDO, Director Oil and Gas Division

(505) 827-5746

cc: OCD - Santa Fe, New Mexico

BLM

Unit Correspondence File

Unit P.O.D. File

WRH/FOP/SMH

#### State of New Mexico







SLO REF. NO. 0G-408

#### Commissioner of Public Lands

September 4, 1987

P.O. BOX 1148 SANTA FE, NEW MEXICO 87504-1148

Phillips Petroleum Company Attention: G. R. Smith 4001 Penbrook Odessa, Texas 79762

> Re: East Vacuum G/SA Unit 1987 Plan of Development Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development. Our approval is subject to like approval by all appropriate agencies.

If we may be of further help, please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES COMMISSIONER OF PUBLIC LANDS

BY: 7 Coples Now

FLOYD O. PRANDO, Director Oil & Gas Division (505) 827-5744

WRH/FOP/ams enclosure

cc:Bureau of Land Management Oil Conservation Division

fry on



ODESSA, TEXAS 79762 4001 PENBROOK

EXPLORATION AND PRODUCTION GROUP

East Vacuum Grayburg-San Andres Unit Carbon Dioxide Injection Project Lea County, New Mexico

June 9, 1986

New Mexico Oil Conservation Division Attn: Mr. Jerry Sexton P. O. Box 1980 Hobbs, New Mexico 82240

Dear Mr. Sexton:

As authorized by New Mexico Oil Conservation Divison Order No. R-6856, carbon dioxide injection is currently in progress at the East Vacuum Grayburg-San Andres Unit.

Recently, carbon dioxide injection was switched from WAG Area B to WAG Area C. Based on reservoir performance to date we are not injecting  ${\rm CO_2}$  in all the previously designated WAG Area C injectors. Currently,  ${\rm CO_2}$  is being injected into 12 of the 16 WAG Area C injectors and 8 of the 19 WAG Area B injectors. The remainder of the  ${\rm CO_2}$  injectors in WAG Area C will begin  ${\rm CO_2}$  injection some time within the four month cycle depending on reservoir performance.  ${\rm CO_2}$  injection into the WAG Area B wells will be discontinued as WAG Area C wells are added.

As in the previous WAG cycles, we are injecting CO<sub>2</sub> in the WAG Area C injectors at rates so as not to exceed the lesser of our bottom hole pressure limitation of 3150 psi (NMOCD Order No. R-6856) or the well's formation parting pressure. The formation parting pressures for 14 of the WAG Area C injectors were determined in a recent series of step-rate tests. The results and copies of these tests are attached. Note that none of the wells showed a parting pressure below the bottom hole pressure limitation of 3150 psi. However, the test on 0524-W006 was only run to a maximum BHP of 2741 psi due to water injection facility limits. Injection in this well will always be at rates lower than the maximum test rate of 12,816 BPD; therefore, we will be insuring a rate below the parting pressure.

Two injectors in WAG Area C (3127-W004 and 3202-W010) are currently shut-in pending remedial work. Tests will be conducted on these wells when injection recommences and the results will be forwarded to you at that time.

In order to verify our compliance with the 3150 psi bottom hole pressure limitation, we will run BHP surveys in the WAG Area C wells while injecting  ${\rm CO}_2$ . This data will be forwarded to you when available.

New Mexico Oil Conservation Division East Vacuum Grayburg-San Andres Unit Carbon Dioxide Injection Project June 9, 1986 Page 2

If you have any questions regarding these tests or if any further information is required, please contact Mike Brownlee or Laura Sugg in Odessa at (915) 367-1413 or (915) 367-1418, respectively.

Very truly yours,

G. R. Smith, Director Reservoir Engineering

LAS:jj

Attachments

cc: New Mexico Oil Conservation Division Attn: Mr. R. L. Stamets

P. O. Box 2088

Santa Fe, New Mexico 87501

#### EAST VACUUM GRAYBURG - SAN ANDRES UNIT Summary of Formation Parting Pressure Results for Wag Area C

Tract-Well	Depth of Top Perforation	Tubing Size	Bottom Hole Parting Pressure, PSI	Injection Rate at Parting Pressure, BPD
0524-W001	4400'	2-7/8"	3613*	12,384+
0524-W006	4482'	2-7/8"	2741*	12,816+
2913-W008	45041	2-7/8"	3675	1,800
2913-W009	45201	2-7/8"	3975	3,024
2941-W001	4492'	2-7/8"	4085	4,248
2963-W004	43951	2-7/8"	3463*	12,528+
3202-W008	43661	2-7/8"	3540	10,152
3202-W009	4395'	2-7/8"	3650	7,276
3202-W011	43541	2-7/8 <sup>H</sup>	4300	5,184
3202-W013	4390'	2-7/8"	3838*	12,384+
3229-W006	43651	2-7/8"	4000	8,712
3229-W007	4345'	2-7/8"	3732*	11,088+
3229-W008	4330'	2-7/8"	3710	5,904
3236-W006	4383'	2-7/8"	4171*	11,376+

<sup>\* -</sup> No identifiable parting pressure was observed; this is the maximum bottom hole pressure observed during the test.

LS/sdb RE6.2/evgsau.t16

<sup>+ -</sup> Where no identifiable parting pressure was observed, the maximum injection rate attained during the test is given.

#### EAST VACUUM GRAYBURG - SAN ANDRES UNIT

Tract 0524, Well No. W001

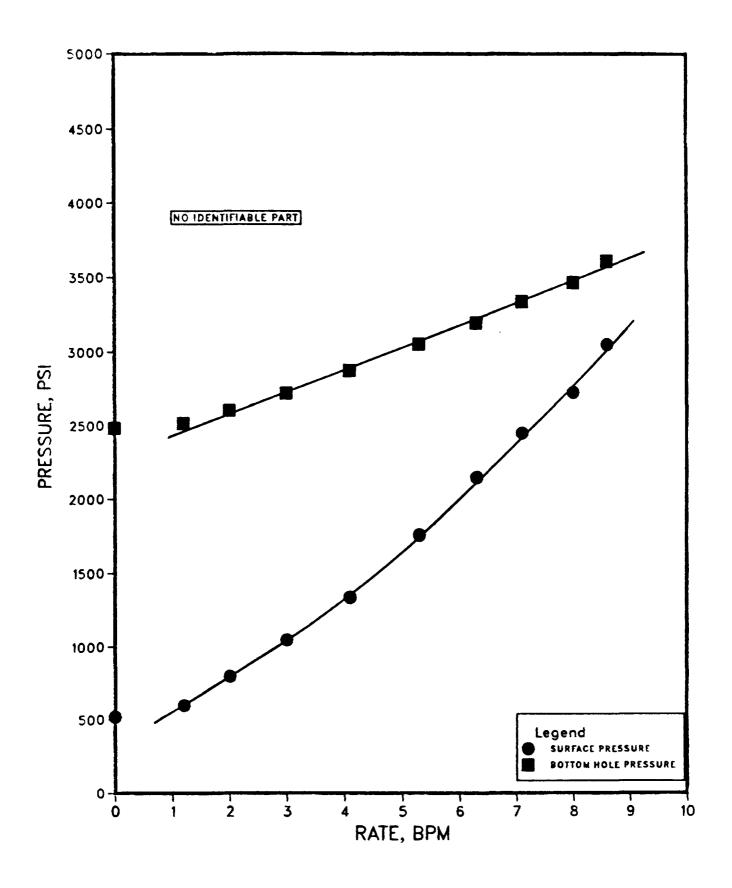
#### FORMATION PARTING PRESSURE TEST DATA

ION RATE	PRESSU	RE (PSI)
(BPD)	SURFACE	BOTTOM HOLE *
0	520	2482
1728	600	2515
2880	800	2604
4320	1050	2723
5904	1340	2878
7632	1760	3058
9072	2150	3201
10224	2450	3341
11520	2730	3469
12384	3055	3613
	(BPD)  0  1728  2880  4320  5904  7632  9072  10224  11520	(BPD)     SURFACE       0     520       1728     600       2880     800       4320     1050       5904     1340       7632     1760       9072     2150       10224     2450       11520     2730

RE6.2/evgsau.t

<sup>\*</sup>Measured at top perforation.

### EVGSAU FORMATION PARTING PRESSURE TEST TRACT 0524, WELL NO. W001



#### EAST VACUUM GRAYBURG - SAN ANDRES UNIT

Tract 0524, Well No. W006

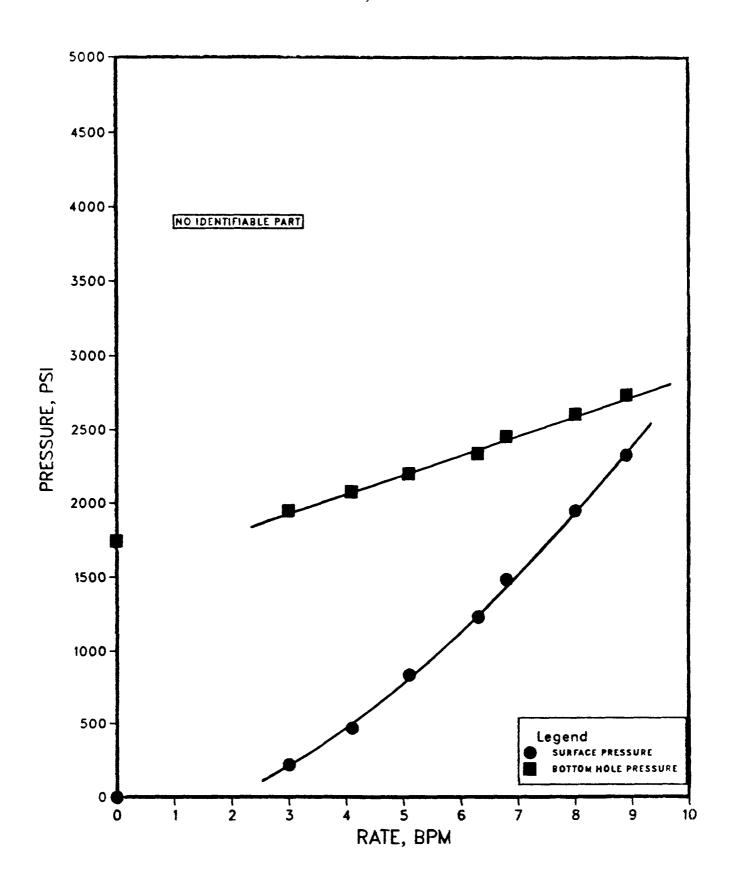
#### FORMATION PARTING PRESSURE TEST DATA

	(ON RATE		RE (PSI)
(BPM)	(BPD)	SURFACE	BOTTOM HOLE *
0.0	0	0	1744
1.5	2160	0	1780
2.1	3024	0	1848
3.0	4320	220	1948
4.1	5904	470	2079
5.1	7344	840	2204
6.3	9072	1235	2341
6.8	9792	1485	2457
8.0	11520	1950	2610
8.9	12816	2330	2741

RE6.2/evgsau.tl

<sup>\*</sup>Measured at top perforation.

## EVGSAU FORMATION PARTING PRESSURE TEST TRACT 0524, WELL NO. W006



#### EAST VACUUM GRAYBURG - SAN ANDRES UNIT

Tract 2913, Well No. W008

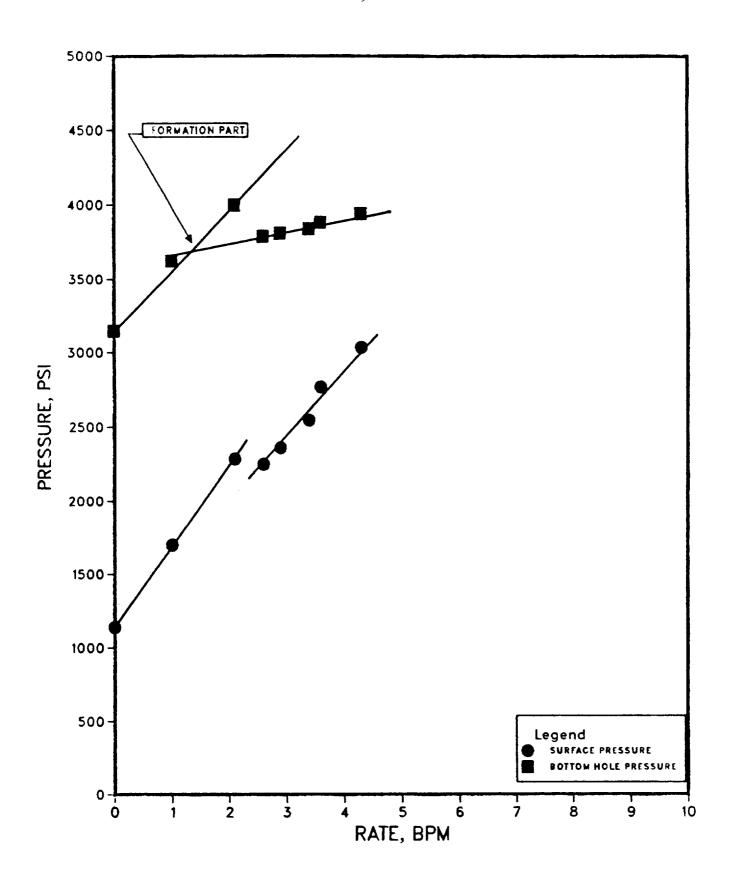
#### FORMATION PARTING PRESSURE TEST DATA

INJECTION RATE		PRESSURE (PSI)	
(BPM)	(BPD)	SURFACE	BOTTOM HOLE *
0	0	1140	3146
1.0	1440	1700	3625
2.1	3024	2285	4000
2.6	3744	2250	3793
2.9	4176	2360	3814
3.4	4896	2545	3844
3.6	5184	2770	3887
4.3	6192	3035	3945

RE6.2/evgsau.t3

<sup>\*</sup>Measured at top perforation.

# EVGSAU FORMATION PARTING PRESSURE TEST TRACT 2913, WELL NO. W008



#### EAST VACUUM GRAYBURG - SAN ANDRES UNIT

#### Tract 2913, Well No. W009

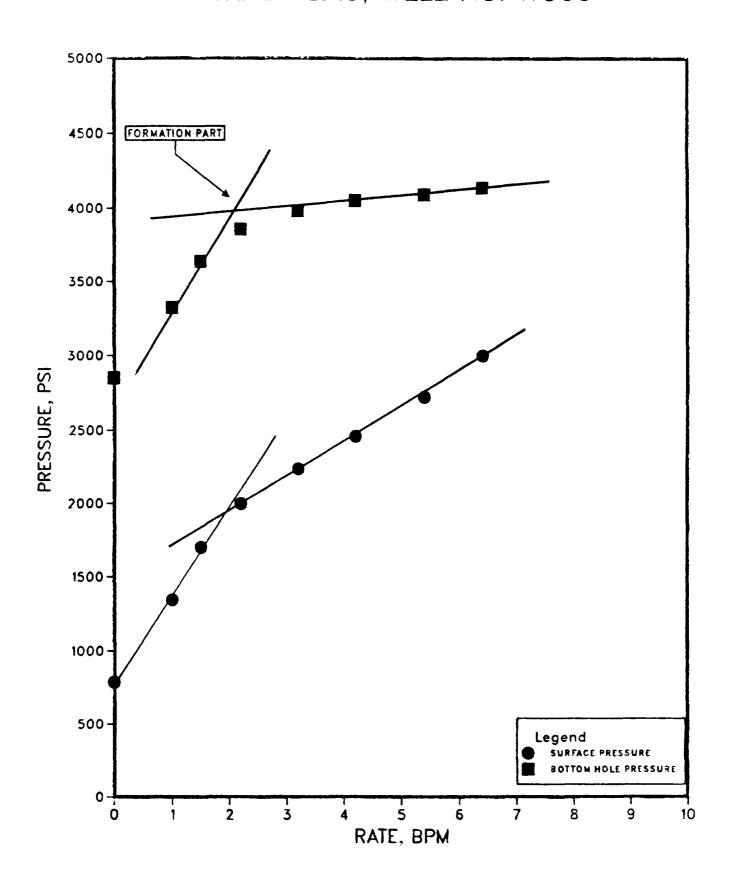
#### FORMATION PARTING PRESSURE TEST DATA

INJECTION RATE			PRESSURE (PSI)		
(BPM)	(BPD)	SURFACE	BOTTOM HOLE *		
0.0	0	790	2849		
1.0	1440	1345	3323		
1.5	2160	1700	3637		
2.2	3168	2000	3860		
3.2	4608	2240	3985		
4.2	6048	2460	4055		
5.4	7776	2725	4095		
6.4	9216	3000	4140		

RE6.2/evgsau.t4

<sup>\*</sup>Measured at top perforation.

# EVGSAU FORMATION PARTING PRESSURE TEST TRACT 2913, WELL NO. W009



#### EAST VACUUM GRAYBURG - SAN ANDRES UNIT

Tract 2941, Well No. W001

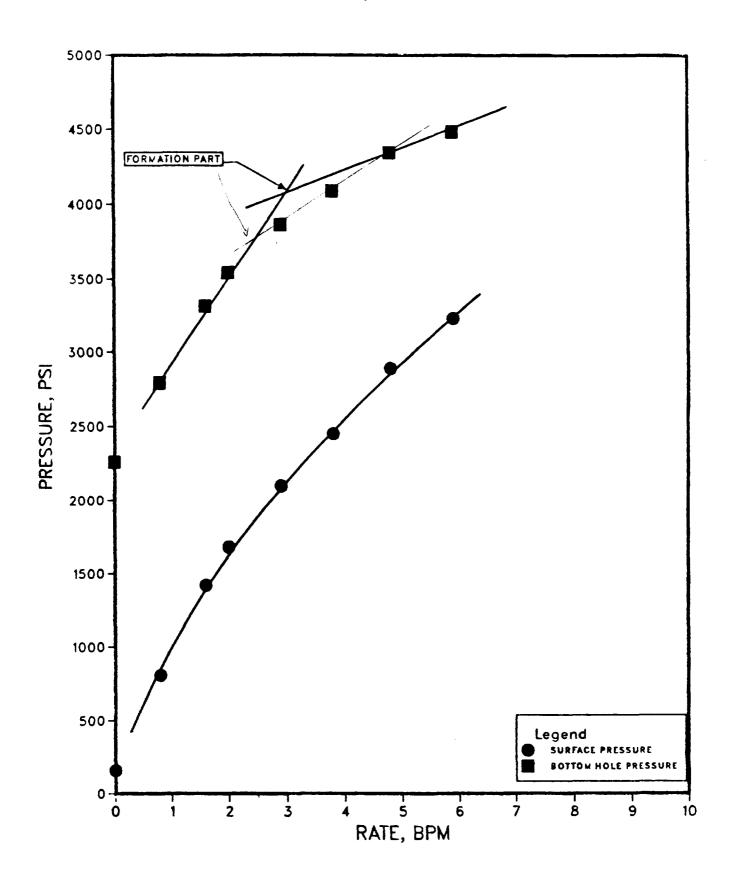
#### FORMATION PARTING PRESSURE TEST DATA

INJECTION RATE		PRESSURE (PSI)	
(BPM)	(BPD)	SURFACE	BOTTOM HOLE *
0.0	0	160	2259
0.8	1152	810	2790
1.6	2304	1420	3314
2.0	2880	1680	3543
2.9	4176	2100	3866
3.8	5472	2450	4088
4.8	6912	2890	4345
5.9	8496	3230	4485

RE6.2/evgsau.t5

<sup>\*</sup>Measured at top perforation.

## EVGSAU FORMATION PARTING PRESSURE TEST TRACT 2941, WELL NO. W001



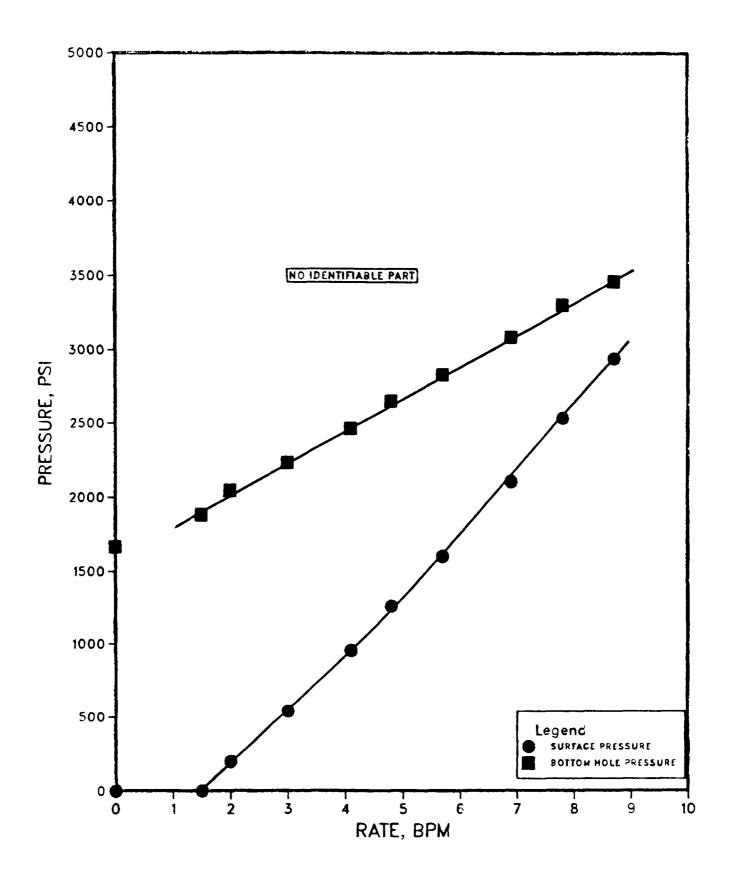
Tract 2963, Well No. W004
FORMATION PARTING PRESSURE TEST DATA

INJECTI (BPM)	ON RATE (BPD)	PRESSUR Surface	RE (PSI) BOTTOM HOLE *
0.0	0	0	1665
1.5	2160	0	1878
2.0	2880	200	2043
3.0	4320	540	2232
4.1	5904	955	2463
4.8	6912	1260	2649
5.7	8208	1600	2829
6.9	9936	2105	3088
7.8	11232	2535	3305
8.7	12528	2940	3463

RE6.2/evgsau.t6

<sup>\*</sup>Measured at top perforation.

### EVGSAU FORMATION PARTING PRESSURE TEST TRACT 2963, WELL NO. W004



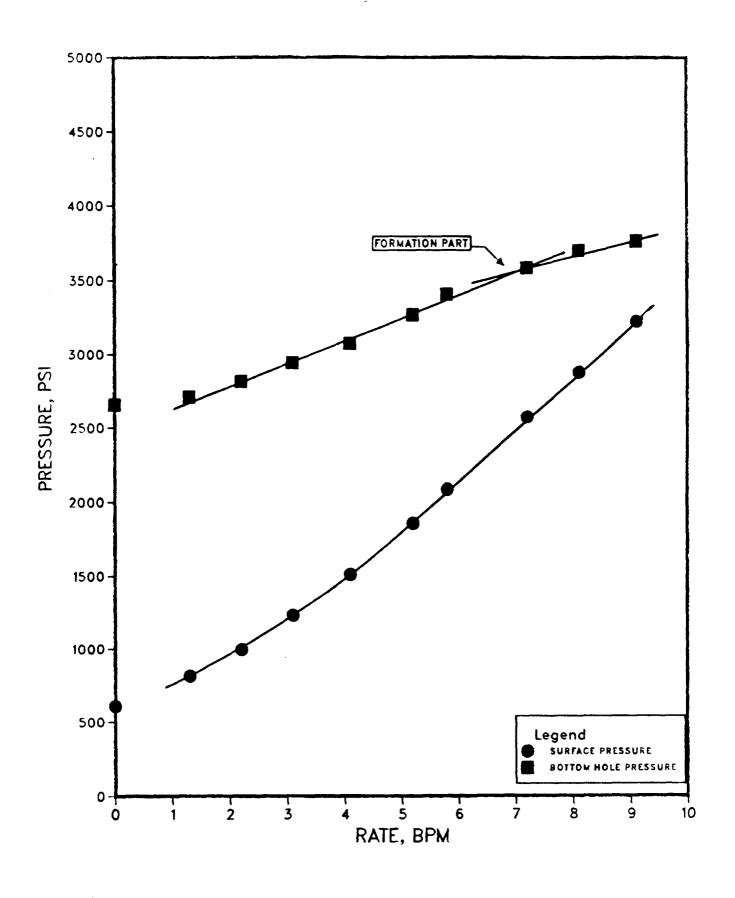
Tract 3202, Well No. W008
FORMATION PARTING PRESSURE TEST DATA

	ION RATE		RE (PSI)
(BPM)	(BPD)	SURFACE	BOTTOM HOLE *
0	0	610	2655
1.3	1872	815	2707
2.2	3168	995	2814
3.1	4464	1230	2942
4.1	5904	1510	3076
5.2	7 <b>4</b> 88	1855	3271
5.8	8352	2085	3409
7.2	10368	2570	3585
8.1	11664	2875	3701
9.1	13104	3225	3765

RE6.2/evgsau.t7

<sup>\*</sup>Measured at top perforation.

## EVGSAU FORMATION PARTING PRESSURE TEST TRACT 3202, WELL NO. W008



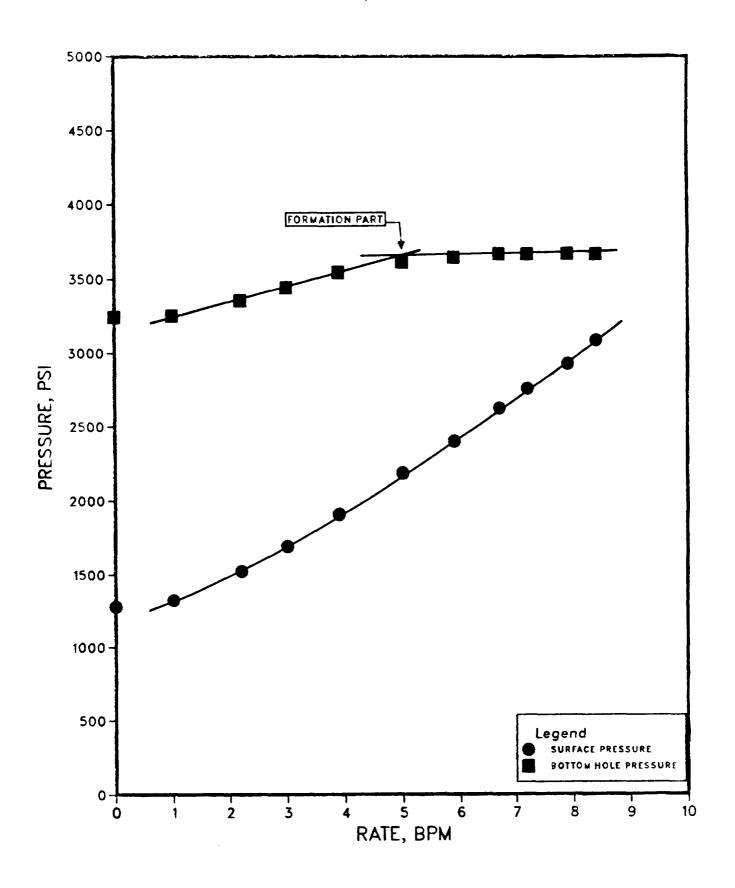
Tract 3202, Well No. W009
FORMATION PARTING PRESSURE TEST DATA

	ON RATE	PRESSUR	
(BPM)	(BPD)	SURFACE	BOTTOM HOLE *
0.0	0	1280	3247
1.0	1440	1325	3253
2.2	3168	1525	3357
3.0	4320	1695	3445
3.9	5616	1910	3546
5.0	7200	2185	3613
5.9	8496	2400	3646
6.7	9648	2625	3671
7.2	10368	2760	3671
7.9	11376	2930	3674
8.4	12096	3090	3671

RE6.2/evgsau.t8

<sup>\*</sup>Measured at top perforation.

### EVGSAU FORMATION PARTING PRESSURE TEST TRACT 3202, WELL NO. W009



Tract 3202, Well No. W011

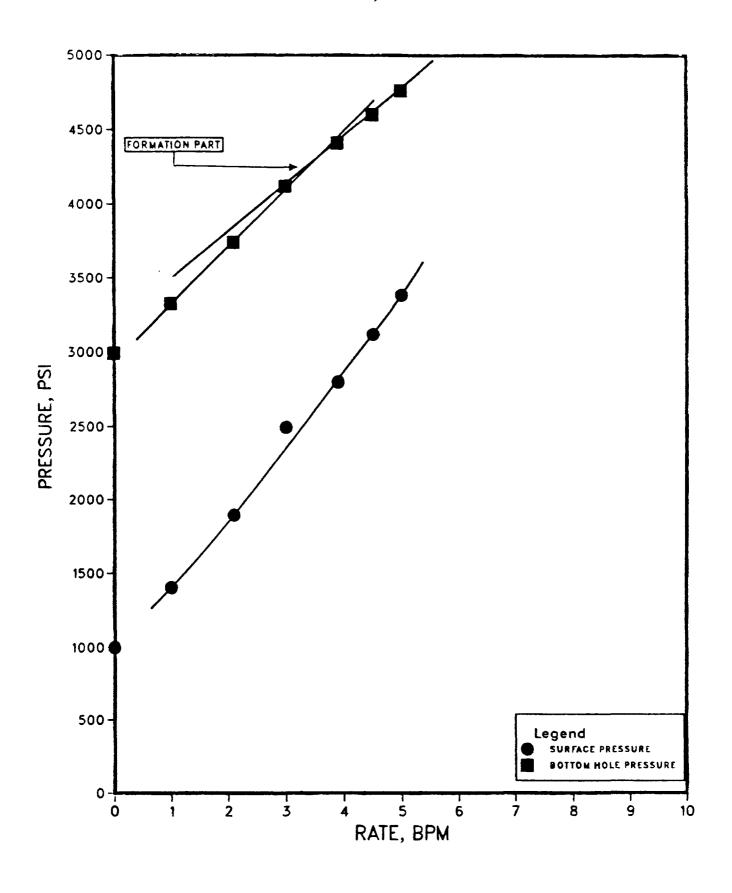
#### FORMATION PARTING PRESSURE TEST DATA

INJECTI	ON RATE	PRESSURE (PSI)	
(BPM)	(BPD)	SURFACE	BOTTOM HOLE *
0.0	0	1000	2991
1.0	1440	1405	3326
2.1	3024	1895	3744
3.0	4320	2495	4125
3.9	5616	2800	4415
4.5	6480	3120	4604
5.0	7200	3385	4765

RE6.2/evgsau.t10

<sup>\*</sup>Measured at top perforation.

### EVGSAU FORMATION PARTING PRESSURE TEST TRACT 3202, WELL NO. W011



Tract 3202, Well No. W013

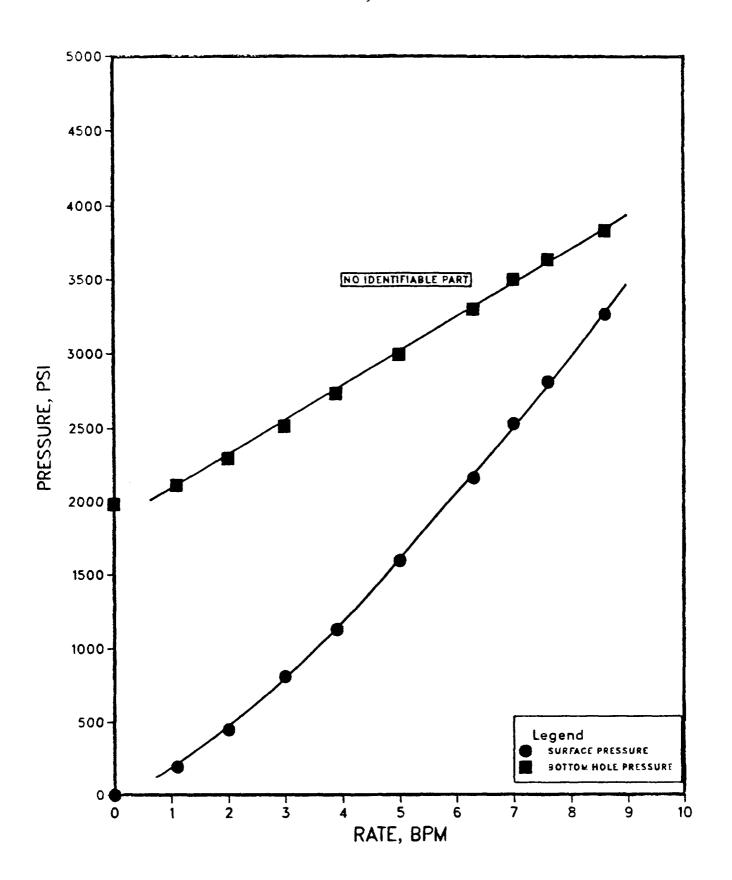
### FORMATION PARTING PRESSURE TEST DATA

	ION RATE	· · · · · · · · · · · · · · · · · · ·	
(BPM)	(BPD)	SURFACE	BOTTOM HOLE *
0.0	0.0	0	1982
1.1	1584	195	2113
2.0	2880	450	2296
3.0	4320	815	2515
3.9	5616	1130	2732
5.0	7200	1595	2994
6.3	9072	2165	3299
7.0	10080	2530	3503
7.6	10944	2810	3640
8.6	12384	3265	3838

\*Measured at top perforation.

RE6.2/evgsau.tll

### EVGSAU FORMATION PARTING PRESSURE TEST TRACT 3202, WELL NO. W013



Tract 3229, Well No. W006

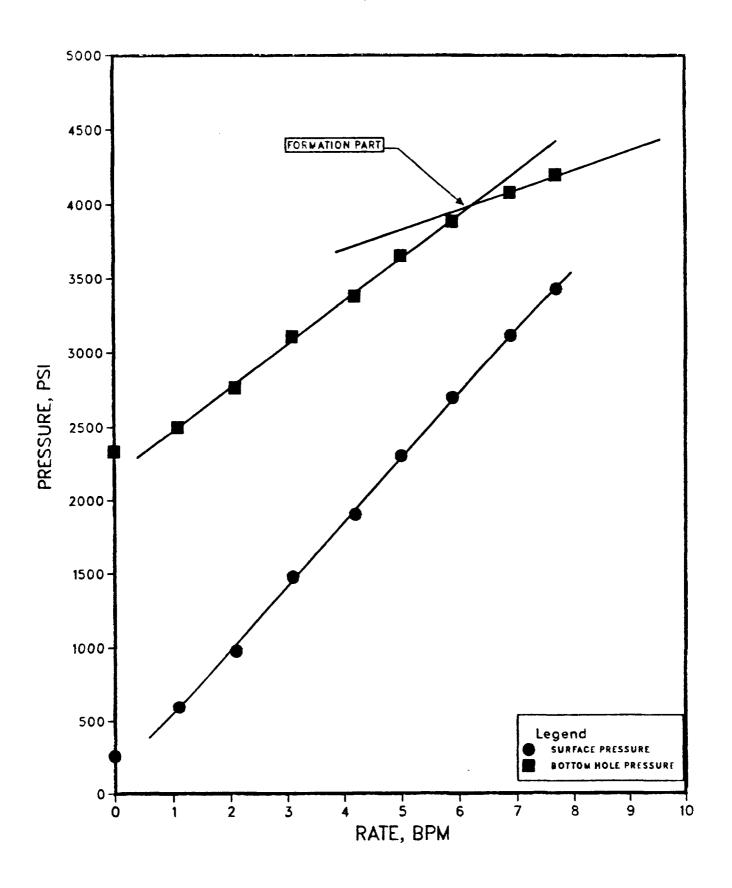
#### FORMATION PARTING PRESSURE TEST DATA

INJECTION RATE PRESSURE (PSI			
(BPM)	(BPD)	SURFACE	BOTTOM HOLE *
0.0	0	260	2334
1.1	1584	600	2499
2.1	3024	980	2764
3.1	4464	1480	3109
4.2	6048	1905	3380
5.0	7200	2305	3657
5.9	8496	2700	3892
6.9	9936	3115	4084
7.7	11088	3430	4203

RE6.2/evgsau.t12

<sup>\*</sup>Corrected to depth of top perforation.

### EVGSAU FORMATION PARTING PRESSURE TEST TRACT 3229, WELL NO. W006



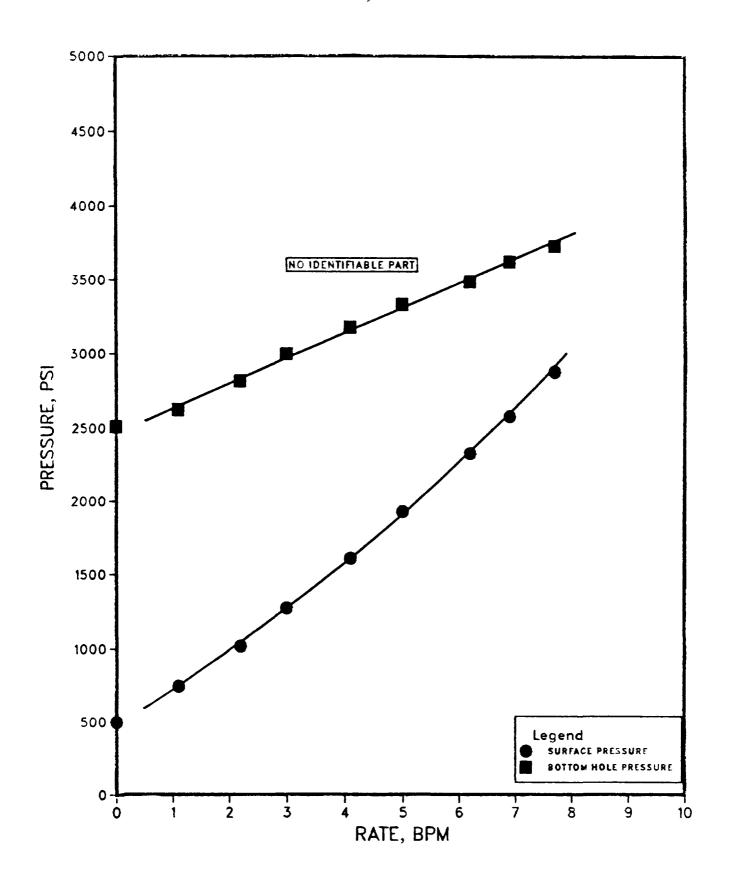
Tract 3229, Well No. W007
FORMATION PARTING PRESSURE TEST DATA

	ON RATE	PRESSU	RE (PSI)
(BPM)	(BPD)	SURFACE	BOTTOM HOLE *
0.0	0	500	2512
1.1	1584	750	2622
2.2	3168	1020	2817
3.0	4320	1275	2997
4.1	5904	1610	3177
5.0	7200	1930	3332
6.2	8928	2330	3488
6.9	9936	2580	3625
7.7	11088	2880	3732

RE6.2/evgsau.tl3

<sup>\*</sup>Measured at top perforation.

### EVGSAU FORMATION PARTING PRESSURE TEST TRACT 3229, WELL NO. W007



### Tract 3229, Well No. W008

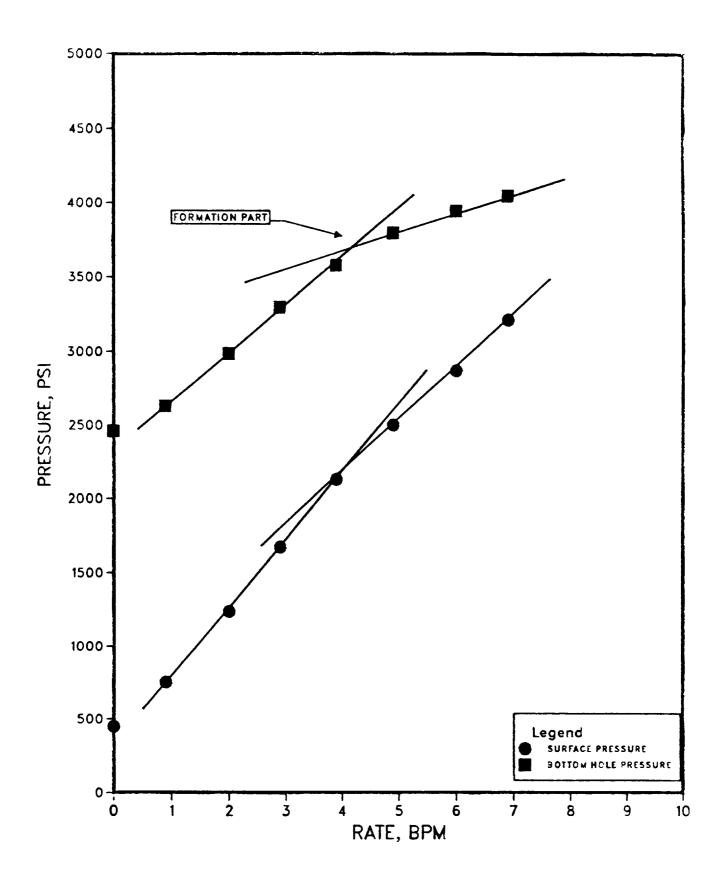
#### FORMATION PARTING PRESSURE TEST DATA

INJECTION RATE PRESSURE (PSI)		(PSI)	
(BPM) (BPI	<u>))                                   </u>	SURFACE B	OTTOM HOLE *
0.0	0	450	2459
0.9 129	6	755	2630
2.0 288	כ	1240	2987
2.9 417	5	1675	3298
3.9 561	6	2130	3581
4.9 705	6	2500	3798
6.0 864	0	2875	3947
6.9 993	5	3215	4051

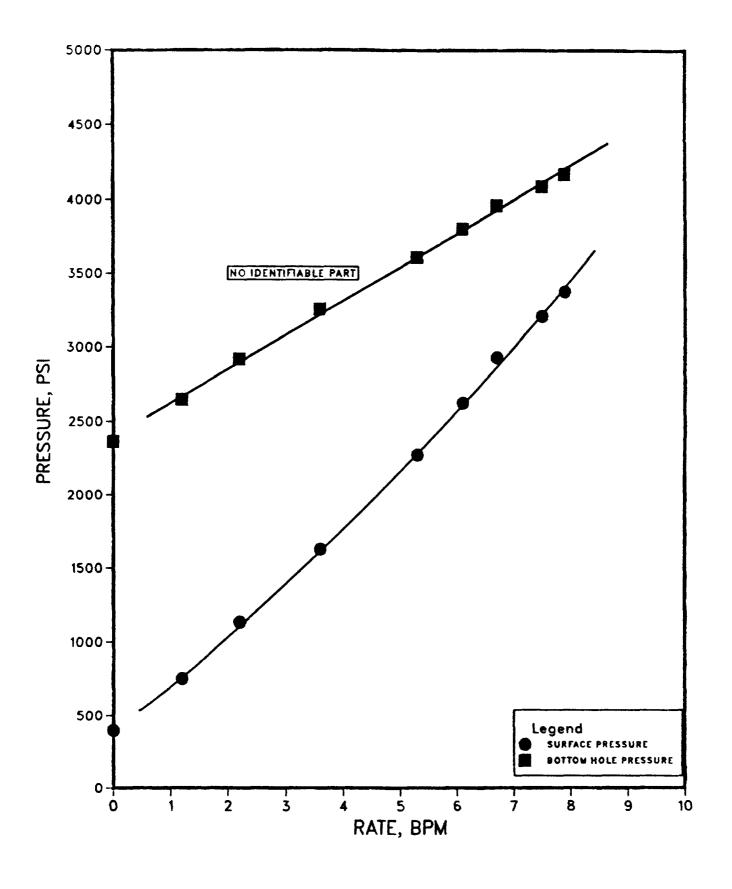
RE6.2/evgsau.tl4

<sup>\*</sup>Corrected to depth of top perforation.

### EVGSAU FORMATION PARTING PRESSURE TEST TRACT 3229, WELL NO. W008



### EVGSAU FORMATION PARTING PRESSURE TEST TRACT 3236, WELL NO. W006



Tract 3236, Well No. W006

#### FORMATION PARTING PRESSURE TEST DATA

INJECTION RATE		PRESSU	RE (PSI)
(BPM)	(BPD)	SURFACE	BOTTOM HOLE *
0.0	0	400	2363
1.2	1728	755	2646
2.2	3168	1135	2918
3.6	5184	1630	3256
5.3	7632	2275	3610
6.1	8784	2625	3805
6.7	9648	2930	3963
7.5	10800	3210	4091
7.9	11376	3375	4171

\*Measured at top perforation.

RE6.2/evgsau.t15

7

NATURAL RESOURCES GROUP Exploration and Production

June 19, 1979

REVISED EXHIBITS, Unit Agreement and Unit Operating Agreement, East Vacuum Grayburg-San Andres Unit, Lea County, New Mexico

Energy Minerals Department
State of New Mexico
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. Dan Nutter Chief Engineer

Gentlemen:

Effective May 1, 1979, Texaco Inc. assigned to Phillips Petroleum Company all of its 0.15587 percent working interest in the East Vacuum Grayburg-San Andres Unit, limited to the Grayburg-San Andres formation, under Tract No. 2980 (SE/4, NW/4, Section 29, T-17-S, R-33-E). Attached is Revised Page 9 of Exhibit "B" to the Unit Agreement. This page replaces the present Page 9.

Attached also is Revision No. 1 to Exhibit "C"--Part A (Tract Sequence) and Part B (Owner Sequence) of the Unit Operating Agreement. This revision is due to the above and the fact that there was a total overproduction of 1,216 barrels at the time of unitization. This overproduction, as defined by Article No. 15 of the Unit Agreement, was from various operators and results in a slight change in the "Composite" Unit Participation.

Very truly yours,

PHILLIPS PETROLEUM COMPANY

RJR:dva Attachments

cc: Mr. Jason W. Kellahin

P. O. Box 1769

Santa Fe, New Mexico 87501

Attachments

J. W. Maharg, Chairman

Working Interest Owners Committee

% TRACT PARTICIPATION NITIAL FINAL	.15587	.09265	.13018	.05126
% TRACT PA	1		ı	ı
% W.I. IN TRACT	100.00	45.00 5.00 50.00	45.00 5.00 50.00	45.00 5.00 50.00
WORKING INT.	Phillips Petro- leum Company	Elk Oil Co. Joseph J.Kelly John M.Kelly Est.	Elk Oil Co. Joseph J.Kelly John M.Kelly Est.	Elk Oil Co. Joseph J.Kelly John M.Kelly Est.
OVERRIDING ROYALTY OWNER AND AMOUNT	None	John M. Kelly Est075	John M. Kelly Est075	John M. Kelly Est075
LESSEE OF RECORD	Texaco, Inc.	Elk Oil Co.	Elk Oil Co.	Elk Oil Co.
BASIC	.125	.125	.125	.125
NEW MEXICO STATE LSE. NO.	E-7585	K-6023-1	K-6023-1	K-6023-1
NO. OF	40.00	40.00	40.00	40.00
LEASE NAME AND LAND DESCRIPTION	Crusader Texas State SE' NW' Sec. 29 T-17-S, R-35-E	Cities Service State 2 SE's SW'sec. 18, T-17-S, R-35-E	Cities Service State 2 NE% NW% Sec. 19, T-17-S, R-35-E	Cities Service State 1 SW\ NW\ Sec. 20, T-17-S, R-35-E
TRACT NO.	29 80	1881	1982	2083

# EXHIBIT "C"--PART A TO UNIT OPERATING AGREEMENT EAST VACUUM GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

### TRACT SEQUENCE EFFECTIVE DECEMBER 1, 1978

Tract		Working Interest		ticipation,	
No.	Working Interest Owner	in Tract, Percent	Initial	Final	Composite
0434	Marathon Oil Company	100.00000	.06395	.05966	.06043
0449	Phillips Petroleum Company	100.0000	1.82837	1.61531	1.65417
0524	Phillips Petroleum Company	<b>1</b> 00.00 <b>00</b>	5.88423	4.14654	4.46351
0546	Phillips Petroleum Company	100.00000	4.91331	4.84507	4.85751
0577	Shell Oil Company	190.00000	.60190	.22541	.29409
1825	Mobil Oil Corporation	100.00000	.12327	.07567	.08435
1826	Mobil Oil Corporation	100.00000	.24714	.08909	.11792
1881	Elk Oil Company	45.00000		.04169	.03409
	Joseph J. Kelly	5.00000		.00463	.00379
	John M. Kelly Estate	50.00 <b>00</b>		.04633	.03788
1903	Exxon Company, U.S.A.	100.00000		.62367	.50990
1904	Atlantic Richfield Company	100.00000	.06411	.58090	.48663
1910	H. M. Bettis, Inc.	18.00000	.02370	.06498	.05745
	W. T. Boyle and Company	18.00000	.02370	.06498	.05745
	Norman D. Stovall, Jr.	18.00000	.02370	.06498	.05745
	Turnco, Inc. S. B. Street and Company	18.00000 18.00000	.02370 .02370	.06498 .06498	.05746
	Larry O. Hulsey	10.00000	.02370	.03609	.05745
1911	Shell Oil Company	100.00000	.01510	.25707	.21017
1912	Crown Central Petroleum Corp.	100.0000	.01092	.13261	.11042
1943	Phillips Petroleum Company	100.00000	.03964	.15124	.13088
1952	Marathon Oil Company	100.00000	.03501	.14278	.11674
1953	Marathon Cil Company	50.00000		.09214	.07533
1773	Shell Oil Company	50.00000		.09214	.07534
1961	Mobil Oil Corporation	100.00000	.08302	.08458	.08428
1978	Shell Oil Company	100.00000		.10264	.08392
1982	Elk Oil Company	45.00000		.05858	.04789
	Joseph J. Kelly	5.00000		.00651	.00533
	John M. Kelly Estate	50.00 <b>00</b>		.06509	.05322
2054	H. M. Bettis, Inc.	18.00000	.00263	.02095	.01760
	W. T. Boyle and Company Norman D. Stovall, Jr.	18.00000	.00264	.02095	.01761
	Turnco, Inc.	18.00 <b>00</b> 18.000 <b>0</b>	.00264 .00264	.02095 .02094	.01761
	S. B. Street and Company	18.00000	.00264	.02094	.01761
	Larry O. Hulsey	10.00000	.00146	.01164	.00978
2059	Millard Deck	62.50000	.08831	.01019	.02444
200,	John R. Bryant	12.50000	.01766	.00204	.00489
	L. O. Box	25.00000	.03533	.00408	.00978
2060	Phillips Petroleum Company	100.00000	.43773	.37941	.39006
2079	Crown Central Petroleum Corp.	100.00000	.01082	.07001	.05921
2083	Elk Oil Company	45.00000		.02307	.01885
	Joseph J. Kelly	5.00000		.00256	.00210
	John M. Kelly Estate	50.00000	para 40/4	.02563	.02096
2109	Shell Oil Company	100.00000		.05420	በሉሉ፯ን

Tract No.	Wonwin, Interest Owner	Working Interest in Tract, Percent	Unit Par Initial	ticipation, Final	
	WOARDIN ALCOSESSE OWNER	In Hack, Fercent	Initial	FINAL	Composite
2150	Phillips Petroleam Company	100.00000	.02695	.13931	.11880
2155	Phillips Februleum Company	199.90000	.09904	.16750	.15502
2175	Mobil oul Componention	100.0000	.25813	.23742	.24120
2206	Amerada Heas Corporation	10).0000		.08543	.06984
2207	Kokomo (alla decemberty	5.250 <b>0</b> 0	.00549	.00236	.00294
	T. W. hattle D. E. Cadaka	31.25000 31.25000	.02742	.01181	.01466
	Devis Porto	S1.25000	.02742 .02742	.01181 .01181	.01466 .01466
2230	Atleat: / TalaMald Company	100.00000	.34300	.30083	.30852
2270	Petro-School, inc.	43.7500 <b>0</b>	.01630	.03128	.02855
	C. W. Scaly	6 <b>.</b> 25000	.00233	.00447	.00408
	Kokome Oth Tompacy	5.25000	.00233	.00447	.00408
	Kenneth Mackdan	5.00000	.00186	.00358	.00326
	Arapaho Patroleum, Inc. T. W. litela	6.25000 10.83330	.00233	.00447 .00774	.00407
	D. E. sedaka	10.83330	.00404	.00774	.00707
	Davis Parke	10.83340	.00404	.00775	.00707
2271	Mobil Oak Corporation	100.00000	.13155	.17975	.17095
2335	Sohio Percoleum Company	33.33334	.06713	.08332	,08037
2333	Donaldson Storm Trust A/C 1	15.83333	.03189	.03957	.03817
	Donaldson Shows Frust A/C 2	.83333	.00168	.00208	.00201
	Fort Worth National Bank Truscae No. 1979	50.00000	.10069	.12497	.12054
2416	Shell One Company	100.000 <b>00</b>		.18642	.15241
2418	Atlantus RichSteld Company	100.00000	.13176	.30137	.27043
2437	Atlantic Fichfield Company	100.00000	.87720	.16590	.29565
2469	Nevilla J. Pensone Estate	30.33334	.00056	.03326	.02729
	Donaldson Frown Prust A/C 1	15.83333	.00027	.01580	.01296
	Donaldsen Lubwn Trust A/C 2	. 83333	.00001	.00083	.00069
	Mrs. Mary D. Fleming Walsh	50.000 <b>00</b>	.00085	.04988	.04094
2505	Phillips Patroleam Company	100.00000	.29267	.22031	.23351
2576	Great Western Dualling Company		.02287	.02929	.02811
	Davoil, Inc. Amoco Fraduczion Company	17.76200 50.00000	.01260	.01613	.01550 .04360
	Amoco Franciscom Company	30.0000	.03547	.04342	.04300
2614	Atlantic Richtield Company	100.00000	.51529	.42296	.43980
2622	Phillips Felroleum Company	100.00000	3.96585	1.47884	1.93252
2631	Phillips Reutoleam Company	100.00000	.58700	.57020	.57323
2642	Phillips Ferroleum Company	100.00000	.15483	.09621	.10690
2648	Phillips Parroleum Company	100.00000	.44568	.54475	.52668
2658	Phillips hotholeam Company	100.00000	.24243	.33494	31806
2672	Mobil Olk Comparation	100.00000	.20862	.63057	.55361
2717	Shell Call Company	100.00000	1.59428	1.41489	1.44760
2720	Cities Service Company	100.00000	3.95617	1.01965	1.55530
2721	Phillips Fetroleum Company	100.00000	2.85287	2.44676	2.52085
2738	Chevron U.S.A., lnc.	100.00000	.85895	1.49111	1.37580
2739	Chevron U.S.A., Inc.	100.00000	3.57513	2.99166	3.09808
2801	Exxon Company, U.S.A.	100.00000	3.36943	5.34834	4.98736
2819	Shell Oil Company	100.00000	.91257	.92386	.92180

Tract		Working Interest	Unit Par	rticipation,	Percent
No.	Working Interest Owner	in Tract, Percent	Initial	Final	Composite
2851	Pennzoil Company Jack D. Hensley	81.25000 3.12500	.04720 .00181	.25296 .00973	.21541
	Boyd Laughlin	1.56250	.00091	.00486	.00414
	Hamilton E. McRae	1.56250	.00091	.00486	.00414
	Wainoco Oil and Gas Company	12.50000	.00726	.03892	.03315
2864	Phillips Petroleum Company	100.00000	.08098	.37561	.32187
2865	Pennzoil Company	81.25000	.06252	.08188	.07835
	Jack D. Hensley Boyd Laughlin	3.12500 1.56250	.00241 .00120	.00315	.00302
	Hamilton E. McRae	1.56250	.00120	.00158	.00150
	Wainoco Oil and Gas Company	12.50000	.00962	.01259	.01206
2913	Atlantic Richfield Company	100.00000	1.75146	2.00209	1.95638
2923	Phillips Petroleum Company	100.00000	.08595	.40873	.34985
2941	Phillips Petroleum Company	100.00000	.04540	.36837	.30945
2944	Phillips Petroleum Company	100.00000	.00902	.28466	.23438
2947	Phillips Petroleum Company	100.00000	-	.37286	.30485
2957	Shell Oil Company	100.00000	.20489	.46592	.41830
2962	Shell Oil Company	100.00000	dia Air	.27131	.22183
2963	Shell Oil Company	100.00000	.91042	.66249	.70770
2980	Phillips Petroleum Company	100.00000	W-0-0-0	.15587	.12745
3127	Mobil Oil Corporation	100.00000	4.43564	4.57057	4.54596
3202	Exxon Company, U.S.A.	100.00000	9.53857	10.46326	10.29458
3229	Atlantic Richfield Company	100.00000	5.74378	7.01489	6.78304
3236	Chevron U.S.A., Inc.	100.00000	4.81994	3.56440	3.79342
3308	Getty Oil Company	100.00000	2.05778	1.28872	1.42900
3315	Shell Oil Company	100.00000	4.72528	4.13554	4.24313
3328	Getty 011 Company	100.00000	1.51919	1.77571	1.72892
3332	Phillips Petroleum Company	100.00000	2.91244	3.46424	3.36357
3333	Marathon Oil Company	100.00000	2.90007	4.14916	3.92131
3345	Phillips Petroleum Company	100.00000	1.46480	1.31282	1.34055
3366	Phillips Petroleum Company	100.00000	1.48641	1.44414	1.45184
3373	Phillips Petroleum Company	100.00000	1.48621	1.61649	1.59273
3374	Mobil Oil Corporation	100.00000	1.52442	1.54153	1.53840
3440	Chevron U.S.A., Inc.	100.00000	4.17424	3.06316	3.26585
3456	Mobil Oil Corporation	100.00000	5.93605	5.46508	5.55098
3467	Phillips Petroleum Company	100.00000	1.65754	2.38560	2.25281
3568	Phillips Petroleum Company	100.00000		.12795	.10462
		GRAND TOTAL	100.00000	100.00000	100.00000

## EXHIBIT "C"--PART B TO UNIT OPERATING AGREEMENT EAST VACUUM GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

### OWNER SEQUENCE EFFECTIVE DECEMBER 1, 1978

	Tract	Unit Pa	rticipation,	Percent
Working Interest Owner	No.	Initial	Final	Composite
Amerada Hess Corporation	2206		.08543	.06984
Amoco Production Company	2576	.03547	.04542	,04360
Arapaho Petroleum, Inc.	<b>227</b> 0	.00233	.00447	.00407
Atlantic Richfield Company	1904 2230 2418 2437 2614 2913	.06411 .34300 .13176 .87720 .51529 1.75146	.58090 .30083 .30137 .16590 .42296 2.00209	.48663 .30852 .27043 .29565 .43980
OWNER TOTAL	3229	5.74378 9.42660	$\frac{7.01489}{10.78894}$	6.78304 10.54045
H. M. Bettis, Inc.	1910	.02370	.06498	.05745
OWNER TOTAL	2054	.00263	.02095	.01760
L. O. Box	2059	.03533	.00408	.00978
W. T. Boyle and Company OWNER TOTAL	1910 2054	.02370 .00264 .02634	.06498 .02095 .08593	.05745 .01761 .07506
Donaldson Brown Trust A/C 1	2335	.02034	.03957	.03817
OWNER TOTAL	2469	.00027	.01580 .05537	.01296
Donaldson Brown Trust A/C 2	2335	.00168	.00208	.00201
OWNER TOTAL	2469	.00001	.00083	.00069
John R. Bryant	2059	.01766	.00204	.00489
Chevron U.S.A., Inc.  OWNER TOTAL	2738 2739 3236 3440	.85895 3.57513 4.81994 4.17424 13.42826	1.49111 2.99166 3.56440 3.06316 11.11033	1.37580 3.09808 3.79342 3.26585 11.53315
Cities Service Company	2720	3.95617	1.01965	1.55530
Crown Central Petroleum Corp.  OWNER TOTAL	19 <b>1</b> 2 2079	.01092 .01082 .02174	.13261 .07001 .20262	.11042 .05921 .16963
Davoil, Inc.	2576	.01260	.01613	.01550
Millard Deck	2059	.08831	.01019	.02444
Elk Oil Company OWNER TOTAL	1881 1982 2083	  	.04169 .05858 .02307 .12334	.03409 .04789 .01885 .10083
Exxon Company, U.S.A.	1903 2801 3202	3.36943 9.53857	.62367 5.34834 10.46326	.50990 4.98736 10.29458
OWNER TOTAL		12.90800	16.43527	15.79184
Fort Worth National Bank Trustee No. 1979	2335	.10069	.12497	.12054
Getty Oil Company OWNER TOTAL	3308 3328	2.05778 1.51919 3.57697	1.28872 1.77571 3.06443	1.42900 1.72892 3.15792
Great Western Drilling Company	2576	.02287	.02929	.02811

		Tract	Unit Par	ticipation,	Percent
Working Interest Own	er	No.	Initial	Final	Composite
Jack D. Hensley		2851	001.01	00072	00020
Sack D. Hensley		2865	.00181 .00241	.00973 .00315	.00829
OWNER	TOTAL	2003	.00422	.01288	.01131
7 0 . 11 . 1		1010	0		
Larry O. Hulsey		1910 2054	.01318	.03609	.03191
OWNER	TOTAL	2004	.00146 .01464	.01164	.00978
		1003	*******		
John M. Kelly Estate		1881 1982		.04633	.03788
		2083		.06509 .02563	.05322 .02096
OWNER	TOTAL			.13705	.11206
Joseph J. Kelly		1881		.00463	.00379
-		1982		.00651	.00533
0		2083		.99256	.00210
OWNER	TOTAL			.01370	.01122
Kokomo Oil Company		2207	.00549	.00236	.00294
OI BYTTD	mom a r	2270	.00233	.00447	.00408
	TOTAL		.00782	.00683	.00702
Boyd Laughlin		2851	.00091	.00486	.00414
OLINED	TOTAL	2865	.00120	.00158	.00150
	TOTAL		.00211	.00644	.00564
T. W. Little		2207	.02742	.01181	.01466
OUNED	TOTAL	2270	.00404	.00774	.00707
	TOTAL	2051			.02173
Hamilton E. McRae		2851 2865	.00091 .00120	.00486 .00158	.00414 .00151
OWNER	TOTAL	2003	.00211	.00644	.00565
Marathon Oil Company		0434	.06395	.05966	.06043
		1952		.14278	.11674
		1953		.09214	.07533
		3333	2.90007	4.14916	3.92131
OWNER	TOTAL		2.96402	4.44374	4.17381
Kenneth Midkiff		2270	.00186	.00358	.00326
Mobil Oil Corporation		1825	.12327	.07567	.08435
		1826	.24714	.08909	.11792
		1961	.08302	.08458	.08428
		2175	.25813	.23742	.24120
		2271 2672	.13155 .20862	.17975 .63057	.17095
		3127	4.43564	4.57057	.55361 4.54596
		3374	1.52442	1.54153	1.53840
		3456	5.93605	5.46508	5.55098
OWNER	TOTAL		12.94784	12.87426	12.88765
Davis Payne		2207	.02742	.01181	.01466
		2270	00404	.00775	00707
OWNER	TOTAL		.03146	.01956	.02173
Pennzoil Company		2851	.04720	.25296	.21541
		2865	.06252	.08188	.07835
	TOTAL		.10972	.33484	.29376
Neville G. Penrose Esta	te	2469	.00056	.03326	.02729
Petro-Search, Inc.		2270	.01630	.03128	.02855
Phillips Petroleum Comp	any	0449	1.82837	1.61531	1.65417
		0524	5.88423	4.14654	4.46351
		0546	4.91331	4.84507	4.85751
		1943 2060	.03964	.15124	.13088
		2060 2 <b>1</b> 50	.43773 .02695	.37941 .13931	.39006 .11880
		2155	.09904	.16750	.15502
		2505	.29267	.22031	.23351

	Tract	Unit Pa	rticipation,	Percent
Working Interest Owner	No.	Initial	Final	Composite
No. 1114 - Dahmalaum Cammana				
Phillips Petroleum Company (Continued)	2622	2 06505	1 /700/	1 02252
(Continued)	2631	3.96585 .58700	1.47884 .57020	1.93252 .57323
	2642	.15483	.09621	.10690
	2648	.44568	.54475	.52668
	2658	. 24243	.33494	.31806
	2721	2.85287	2.44676	2.52085
	2864	.08098	.37561	.32187
	2923	.08595	.40873	.34985
	2941	.04540	.36837	.30945
	2944	.00902	.28466	.23438
	2947		.37286	.30485
	2980		.15588	.12745
	3332	2.91244	3.46424	3.36357
,	3345	1.46480	1.31282	1.34055
	3366	1.48641	1.44414	1.45184
	2373	1.48621	1.61649	1.59273
	3467	1.65754	2.38560	2.25281
	3568		.12795	.10462
OWNER TOTAL		30.99935	29.45373	29.73567
D. E. Radtke	2207	.02742	.01181	.01466
	2270	.00404	.00774	.00707
OWNER TOTAL		.03146	.01955	.02173
C. W. Seely	2270	.00233	.00447	.00408
Shell Oil Company	0577	.60190	.22541	.29409
	1911		.25707	.21017
	1953	44. 144	.09214	.07534
	1978	-71 AM	.10264	.08392
	2109		.05420	.04432
	2416 2717	1 50/00	.18642	.15241
	2819	1.59428	1.41489	1.44760
	2957	.9125 <b>7</b> .20489	.92386 .46592	.92180 .41830
	2962	.20469	.27131	.22183
	2963	.91042	.66249	.70770
	3315	4.72528	4.13554	4.24313
OWNER TOTAL	3313	8.94934	8.79189	8.82061
Sohio Petroleum Company	2335	.06713	.08332	.08037
Norman D. Stovall, Jr.	1910	.02370	.06498	.5745
	2054	.00264	.02095	.01761
OWNER TOTAL		.02634	.08593	.07506
S. B. Street and Company	1910	.02370	.06498	.05745
• •	2054	.00264	.02094	.01761
OWNER TOTAL		.02634	.08592	.07506
Turnco, Inc.	1910	.02370	.06498	.05746
	2054	00264	02094	.01761
OWNER TOTAL		.02634	.08592	.07507
Wainoco Oil and Gas Company	2851	.00726	.03892	.03315
OWNER TOTAL	2865	$\frac{.00962}{.01688}$	.01259	.01206
Mrs. Mary D. Fleming Walsh	2469	.00085	.04988	.04321
•			***************************************	
GRAND	TOTAL	100.00000	100.00000	100.00000

Unit Name EAST VACUUM(GRAYBURG-SAN ANDRES) UNIT

(WATERFLOOD)

Operator Phillips Petroleum Company

County Lea

Commissioner 11-22-78	DATE APPROVED
Commission 11-27-78	OCC CASE NO. 6366 OCC ORDER NO. R-5871
12-1-78	EFFECTIVE DATE
7,025.21	TOTAL ACREAGE
7,025.21	STATE
.0-	FEDERAL
-00-	INDIAN-FEE
Yes So Long As	SEGREGATION CLAUSE
ng As	TERM

# UNIT AREA

Section 24: TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM SE/4

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM Section 18: W/2SW/4, SE/4SW/4 Section 18:

Section 19: Section 20: W/2, S/2NE/4, SE/4

W/2NW/4, SE/4NW/4, SW/4, SW/4NE/4, W/2SE/4, SE/4SE/4 SW/4SW/4, E/2SW/4, SE/4 SW/4, W/2SE/4, SE/4SE/4

Section 21: Section 22: Section 23: Section 24: Section 25: Section 26: S/2SW/4

SW/4SW/4

W/2NW/4

N/2, SW/4, W/2SE/4, NE/4SE/4

28, 29:

Sections 27, Section: 31: Sections 32, N/2SE/4, SE/4SE/4

33, All

N/2, SW/4, NW/4SE/4 N/2NW/4

Section 34: Section 35:

Section 4: TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM N/2NW/4, NW/4NE/4 N/2, NW/4SW/4

Section 5:

STATUTORY UNITIZATION ALL ACREAGE COMMITTED

Unit Name
Operator
County

00 07
160,00
RATIFIED DATE

Unit Name FAST VACUUM (GRAYBURG-SAN ANDRES) UNIT (WATERFLOOD)
Operator Phillips Petroleum Company
County Lea

2335	0434	3333	3332	2631	2230	3229	3328	3127	1826	1825	0524	2923	2622	2721	2720	2819	STATE TRACT NO.
B-1713-5	B-1713-1	B-1713-1	B-1608	B-1608	B-1585-5	B-1576-3	B-1565-2	B-1527	B-1527	B01518	B-1502	B-1501 B-1501-2	B-1497	B-1497	B-1482-3	B-1423-1	LEASE NO.
C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	C.S.	INSTI- TUTION
23	4	33	ယ	26	22	32	သ	31	18	18	ъ	29 29	26	27	27	28	SEC.
17S	188	17S	17S	17S	17S	17S	17S	17S	17S	17S	18S	17S 17S	17S	17S	17S	178	TWP.
35E	35E	35E	35E	35E	35E	35E	35E	35E	35E	35E	35E	35E	35E	35E	35E	35E	RGE.
S/2SW/4	NW/4NE/4	SE/4NW/4, S/2NE/4	N/2NE/4	NW/4SW/4, NE/4SE/4	S/2SW/4	SW/4	SW/4SW/4	N/2SE/4, SE/4SE/4	(Lot 3) NW/4SW/4	(Lot 4) SW/4SW/4	NW / 4	SW/4NE/4, NE/4NW/4 NW/4NW/4	NW/4, SW/4NE/4	S/2SW/4	NE/4	W/2NE/4, SE/4NE/4	SUBSECTION
80.00	39.78	120.00	80.00	80.00	80.00	160.00	40.00	120.00	37.64	37,66	159.95	80.00 40.00	200.00	80.00	160.00	120.00	RATIFIED ACRES
												·					ACREAGE NOT RATIFIED
Sohio Petroleum Co.	Marathon Oil Company	Marathon Oil Company	Phillips Pet. Co.	Phillips Pet. Co.	Atlantic Richfield Co.	Atlantic Richfield Co.	Getty Oil Company	Mobil Oil Corporation	Mobil Oil Corporation	Mobil Oil Corporation	Phillips Pet. Co.	Phillips Pet. Co. Phillips Pet. Co.	Phillips Pet. Co.	Phillips Pet. Co.	Cities Service Company	Shell Oil Company	LESSEE

Unit Name <u>EAST VACUUM (GRAYBURG-SAN ANDRES)</u> UNIT (WATERFLOOD)
Operator <u>PHILLIPS PETROLEUM COMPANY</u>
County <u>LEA</u>

STATE TRACT NO.	LEASE NO.	INSTI- TUTION	SEC.	TWP.	RGE.	SUBSECTION	RATIFIED ACDATE ACRES	ACREAGE NOT RATIFIED LESSEE
3236	в-1838-1	C.S.	32	17S	35E	NW/4	160,00	Chevron USA Inc.
2437	B-1838-3	C.S.	24	17S	34E	W/2SE/4	80,00	Atlantic Richfield Co.
2738	B-1839-1	C.S.	27	17S	35E	NW/4	160,00	Chevron USA Inc.
2739	B-1840-1	C.S.	27	178	35E	N/2SW/4, W/2SE/4	160.00	Chevron USA Inc.
3440	B-1845-1	C.S.	34	17S	35E	SW/4, NW/4SE/4	200.00	Chevron USA Inc.
2941 .	B-1861	C.S.	29	178	35E	NE/4SW/4	40,00	Phillips Pet. Co.
2642	B-1861	C.S.	26	178	35E	SE/4NE/4	40.00	Phillips Pet. Co.
1943	B-2073	C.S.	19	17S	35E	SE/4NE/4	40,00	Phillips Pet. Co.
2944	в-2073	C.S.	29	17S	35E	N/2NE/4	80,00	Phillips Pet. Co.
3345	B-2073	C.S.	ယ ယ	17S	35E	SE/4SW/4	40.00	Phillips Petroleum Co.
0546	в-2073	C.S.	G	188	35E	NE/4	159.85	Phillips Petroleum Co.
2947	B-2131	C.S.	29	178	35E	SE/4NE/4	40.00	Phillips Petroleum Co.
2648	B-2131	C.S.	26	17S	35E	S/2SW/4	80,00	Phillips Petroleum Co.
0449	B-2131	C.S.	4	188	35E	N/2NW/4	79.70	Phillips Petroleum Co.
2150	B-2224	C.S.	21	178	35E	SE/4SE/4	40.00	Phillips Petroleum Co.
2851	B-2224	C.S.	28	178	35E	NE/4NE/4	40.00	Phillips Petroleum Co.
1952	B-2245	C.S.	19	17S	35E	SE/4NW/4	40,00	Marathon Oil Company
1953	B-2245	C S.	19	178	35E	SW/4NE/4	40.00	Marathon Oil Company & Shell Oil Co.

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Operator PHILLIPS PETROLEUM COMPANY EAST VACUUM (GRAYBURG-SAN ANDRES) UNIT (WATERFLOOD)

LEA

County

LEASE NO.	INSTI-	SEC.	TWP.	RGE.	SUBSECTION	RATIFIED · A. DATE ACRES R	CREAGE NOT ATIFIED	LESSEE
B-2264-1 B-2264-4	C.S.	21 21	17S 17S	35E 35E	SW/4SE/4 NW/4SE/4	40.00 40.00		Phillips Pet. Co. Phillips Pet. Co.
B-2273-2	c.s.	34	17S	35E	NW / 4	160,00		Mobil Oil Corp.
B-2284-2	C.S.	29	17S	35E	NW/4SW/4	40.00		Shell Oil Company
в-2360-1	C.S.	26	17S	35E	NE/4SW/4	40,00		Phillips Pet. Co.
B-2388	C.S.	20	17S	35E	SE/4NW/4, SW/4NE/4	80,00		Phillips Pet. Co.
В-2388 В-2388-2	C.S.	20 20	17S 17S	35E 35E	SE/4SE/4, SE/4SW/4, NW/4SE/4 NE/4SW/4, SW/4SE/4	120,00 80,00		Phillips Pet. Co. Phillips Pet. Co.
B-2423-4	C.S.	19	17S	35E	(Lot 2) SW/4NW/4	37.68		Mobil Oil Corporation
B-2423-12	C.S.	29	17S	35E	SW/4NW/4	40,00		Shell Oil Company
в-2423-12	C.S.	29	17S	35E	S/2SW/4	80,00		Shell Oil Company
B-2498	C.S.	28	17S	35E	W/2NW/4, NE/4NW/4	120,00		Phillips Pet. Co.
B-2498	C.S.	28	178	35E	SE/4NW/4	40,00		Phillips Pet. Co.
B-2517	C.S.	ယ္	17S	35E	SW/4NW/4	40,00		Phillips Pet. Co.
в-2519	C.S.	34	17S	35E	NE/4	160,00		Phillips Pet. Co.
B-2519	C.S.	35	17S	35E	N/2NW/4	80,00		Phillips Pet. Co.
B-2531-7	<b>P</b> B	24	178	35E	SW/4SW/4	40.00		Nevill G. Penrose Est. & William Fleming
B-2735	C.S.	22	17S	35E	NW/4SE/4	40.00		Mobil Oil Corporation
в-2735	C.S.	22	178	35E	S/2SE/4	80,00		Mobil Oil Corporation
	LEASE NO.  B-2264-1 B-2264-4 B-2264-4 B-2284-2 B-2388 B-2388-2 B-2423-12 B-2423-12 B-2423-12 B-2517 B-2519 B-2519 B-2531-7 B-2735 B-2735		INSTI- TUTION  INSTI- TUTION  C.S.  C.S.	INSTI- TUTION SEC.  INSTI- INS	INSTI-TUTION       SEC.       TWP.         1 C.S.       21       17S         2 C.S.       21       17S         2 C.S.       29       17S         2 C.S.       29       17S         2 C.S.       20       17S         3 C.S.       29       17S         4 C.S.       29       17S         5 C.S.       29       17S         6 C.S.       29       17S         7 C.S.       28       17S         8 C.S.       28       17S         9 C.S.       33       17S         17 C.S.       34       17S         17 C.S.       34       17S         17 C.S.       35       17S         17 C.S.       35       17S         17 C.S.       32       17S         17 C.S.       32       17S         17 C.S.       32       17S         17 C.S.       22       17S         18 C.S.       22       17S	INSTI- TUTION SEC. TWP. RGE.  1. C.S. 21 17S 35E SW/4SE/4 1. C.S. 21 17S 35E NW/4SE/4 1. C.S. 21 17S 35E NW/4SE/4 1. C.S. 29 17S 35E NW/4SW/4 1. C.S. 20 17S 35E NE/4SW/4 1. C.S. 20 17S 35E SE/4NW/4, 1. C.S. 20 17S 35E SE/4NW/4, 1. C.S. 29 17S 35E SE/4SW/4, 1. C.S. 29 17S 35E SW/4NW/4, 1. C.S. 29 17S 35E W/2NW/4, 1. C.S. 28 17S 35E W/2NW/4, 1. C.S. 33 17S 35E SE/4NW/4, 1. C.S. 35 17S 35E NE/4 1. C.S. 35E NE/4SW/4 1.	INSTI- TUTION SEC. TWP. RGE.  SUBSECTION  C.S. 21 17S 35E  W/48E/4  -2 C.S. 21 17S 35E  W/48E/4  -2 C.S. 29 17S 35E  C.S. 29 17S 35E  C.S. 20 17S 35E  SE/48W/4, SE/48W/4  C.S. 20 17S 35E  SE/48W/4, SE/48W/4  C.S. 29 17S 35E  C.S. 29 17S 35E  SE/48W/4, SE/48W/4  C.S. 29 17S 35E  C.S. 28 17S 35E  C.S. 28 17S 35E  C.S. 28 17S 35E  C.S. 33 17S 35E  C.S. 35 17S 35E  SE/48W/4  C.S. 35 17S 35E  SE/48W/4SE/4  C.S. 35 17S 35E  SE/48W/4  C.S. 35 17S 35E  SE/48W/4SE/4  C.S. 35 17S 35E  SE/48W/4  SE/48W/48E/4  SE/48W/4  SE/48W/4  SE/48W/4  SE/48W/4  SE/48W/4  SE/48W/48E/4  SE/48W/4  SE/48W/4  SE/48W/4  SE/48W/4  SE/48W/4  SE/48W/48E/4  SE/48W/4  SE/48	INSTI-

Unit Name EAST VACUUM (GRAYBURG-SAN ANDRES) UNIT (WATERFLOOD)
Operator PHILLIPS PETROLEUM COMPANY

County

Elk Oil Company		40.00	SW/4NW/4	35E	17S	20	C.S.	K-6023-1	2083
Elk Oil Company		40,00	NE/4NW/4	35E	17S	19	C.S.	K-6023-1	1982
Elk Oil Company		40.00	SE/4SW/4	35E	17S	18	C.S.	K-6023-1	1881
Texaco, Inc.		40.00	SE/4NW/4	35E	17S	29	C.S.	E-7585	2980
Crown Central Pet. Co.		40.00	NW/4NW/4	35E	17S	20	C.S.	E-7259-4	2079
Shell Oil Company		37.66	(Lot 1) NW/4NW/4	35E	17S	19	C.S.	E-7259	1978
Shell Oil Company		40,00	NW/4SW/4	35E	18S	G	C.S.	E-6504	0577
Great Western Drilling Company		40.00	SW/4NW/4	35E	17S	25	C.S.	B-7428-2	2576
Mobil Oil Corporation		120,00	NE/4SW/4, S/2SW/4	35E	17s	21	C.S.	в-2956	2175
Mobil Oil Corporation		40.00	NW/4SW/4	35E	17s	ယ္သ	C.S.	B-2863-1	3374
Phillips Pet. Co.		40.00	NE/4SW/4	35E	17S	ယ	C.S.	B-2862-3	3373
Mobil Oil Corporation		80.00	S/2SE/4	35E	17S	22	C.S.	B-2735	2672
LESSEE	ACREAGE NOT RATIFIED	RATIFIED DATE ACRES	SUBSECTION	RGE.	TWP.	SEC.	INSTI- TUTION	LEASE NO.	STATE TRACT NO.



NATURAL RESOURCES GROUP Exploration and Production

December 20, 1978

Re: East Vacuum Grayburg-San Andres

Jule 6366 Cases

Unit

Lea County, New Mexico

Mr. Dan Nutter
Energy & Minerals Dept.,
Oil Conservation Division
State of New Mexico
P. O. Box 2088
Santa Fe, N. M. 87501

Dear Dan:

Attached to complete your file are ratification forms signed in behalf of Getty Oil Company, Texaco Inc., and W. T. Boyle & Co. This brings the percentage of voluntary approval to:

Initial Phase 99.51620%

Final Phase 99.12954%

All major working interest owners other than Sohio, who owns less than one-tenth of one per cent, have now signed.

Much thanks for all your help. Hope the Holiday Season and all the days that follow are kind to you.

Yours very truly,

PHILLIPS PETROLEUM COMPANY

J. E. Chrisman

JEC:mb Attch.

cc: Jason W. Kellahin
P. O. Box 1769
Santa Fe, N. M. 87501

John Maharg Odessa Office

### RATIFICATION OF AGREEMENTS ENTITLED "UNIT AGREEMENT" AND "UNIT OPERATING AGREEMENT" EAST VACUUM (GRAYBURG-SAN ANDRES) UNIT LEA COUNTY, NEW MEXICO

KNOW ALL PERSONS BY THESE PRESENTS, THAT:

WHEREAS, each of the undersigned owners of a royalty interest or interests hereby acknowledges receipt of a true and correct copy of that certain agreement dated September 1, 1978, entitled "Unit Agreement, East Vacuum (Grayburg-San Andres) Unit, Lea County, New Mexico," which said agreement is hereinafter referred to as the Unit Agreement; and

WHEREAS, each of the undersigned owners of a working interest or interests hereby acknowledges receipt of a true and correct copy of said Unit Agreement, and a true and correct copy of that certain agreement dated September 1, 1978, entitled "Unit Operating Agreement, East Vacuum (Grayburg-San Andres) Unit, Lea County, New Mexico," which said agreement is hereinafter referred to as the Unit Operating Agreement; and

WHEREAS, Exhibits "A" and "B", attached to and made a part of said Unit Agreement, identify the separately owned tracts which will become a part of the Unit; and

WHEREAS, each of the undersigned represents that it is a Royalty Owner or Working Interest Owner, or both, as defined in said Unit Agreement, in one or more of the Tracts identified by said Exhibits; and

WHEREAS, each undersigned Royalty Owner, being familiar with the contents thereof, desires to ratify and confirm said Unit Agreement and each undersigned Working Interest Owner, being familiar with the contents thereof, desires to ratify and confirm said Unit Agreement and said Unit Operating Agreement.

NOW THEREFORE, each of the undersigned who is the owner of a royalty interest or interests only does hereby ratify and confirm said Unit Agreement, and each of the undersigned who is the owner of a working interest or interests only or the owner of both a working interest or interests and royalty interest or interests does hereby ratify and confirm said Unit Agreement and said Unit Operating Agreement, each owner with respect to all of its interests in all of the separately owned Tracts identified by said Exhibits, thereby becoming a party thereto.

IN WITNESS WHEREOF, each of the undersigned parties has executed this instrument on the date set forth below opposite its signature.

DATE:	11 / 22/78	RJames Stands
		ATTORNEY-IN-FACT
DATE:	/ /78	

### RATIFICATION OF AGREEMENTS ENTITLED "UNIT AGREEMENT" AND "UNIT OPERATING AGREEMENT" EAST VACUUM (GRAYBURG-SAN ANDRES) UNIT LEA COUNTY, NEW MEXICO

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WHEREAS, Exhibits "A" and "B", attached to and made a part of said Unit Agreement, identify the separately owned tracts which will become a part of the Unit; and

WHEREAS, each of the undersigned represents that it is a Royalty Owner or Working Interest Owner, or both, as defined in said Unit Agreement, in one or more of the Tracts identified by said Exhibits; and

WHEREAS, each undersigned Royalty Owner, being familiar with the contents thereof, desires to ratify and confirm said Unit Agreement and each undersigned Working Interest Owner, being familiar with the contents thereof, desires to ratify and confirm said Unit Agreement and said Unit Operating Agreement.

NOW THEREFORE, each of the undersigned who is the owner of a royalty interest or interests only does hereby ratify and confirm said Unit Agreement, and each of the undersigned who is the owner of a working interest or interests only or the owner of both a working interest or interests and royalty interest or interests does hereby ratify and confirm said Unit Agreement and said Unit Operating Agreement, each owner with respect to all of its interests in all of the separately owned Tracts identified by said Exhibits, thereby becoming a party thereto.

IN WITNESS WHEREOF, each of the undersigned parties has executed this instrument on the date set forth below opposite its signature.

DATE:	·////8	228 Eufle VC
DATE:	. / , /78	21.2/2 ay 4

#### SINGLE ACKNOWLEDGMENT

STATE OF	X	
COUNTY OF	X	
	Foregoing instrume	ent was acknowledged before me this
		Notary Public in and for Juny County, Security
My Commission Exp	ires:	
1 33	<u> </u>	•
	CORPORATE	ACKNOWLEDGMENT
STATE OF	χ	
COUNTY OF	X	
ጥbe f	oregoing instrume	ent was acknowledged before me this
day of		1978, BY UT Boyle.
		for WI Boule A Campany
a corporation, on	behalf of said o	corporation.
		Minetall
		Notary Public in and for County,
My Commission Exp	oires:	

#### RATIFICATION OF AGREEMENTS ENTITLED "UNIT AGREEMENT" AND "UNIT OPERATING AGREEMENT" EAST VACUUM (GRAYBURG-SAN ANDRES) UNIT LEA COUNTY, NEW MEXICO

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WHEREAS, each of the undersigned owners of a royalty interest or interests hereby acknowledges receipt of a true and correct copy of that certain agreement dated September 1, 1978, entitled "Unit Agreement, East Vacuum (Grayburg-San Andres) Unit, Lea County, New Mexico, " which said agreement is hereinafter referred to as the Unit Agreement; and

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WHEREAS, each of the undersigned represents that it is a Royalty Owner or Working Interest Owner, or both, as defined in said Unit Agreement, in one or more of the Tracts identified by said Exhibits; and

WHEREAS, each undersigned Royalty Owner, being familiar with the contents thereof, desires to ratify and confirm said Unit Agreement and each undersigned Working Interest Owner, being familiar with the contents thereof, desires to ratify and confirm said Unit Agreement and said Unit Operating Agreement.

NOW THEREFORE, each of the undersigned who is the owner of a royalty interest or interests only does hereby ratify and confirm said Unit Agreement, and each of the undersigned who is the owner of a working interest or interests only or the owner of both a working interest or interests and royalty interest or interests does hereby ratify and confirm said Unit Agreement and said Unit Operating Agreement, each owner with respect to all of its interests in all of the separately owned Tracts identified by said Exhibits, thereby becoming a party thereto.

IN WITNESS WHEREOF, each of the undersigned parties has executed this instrument on the date set forth below opposite its signature.

APPROVED AS TO:

DATE: 22/Nav/78

Contract out

Form

By Attorney-in-Fact

STATE OF TEXAS I COUNTY OF MIDLAND I

BEFORE ME, the undersigned authority, a Notary Public in and for said County and State, on this day personally appeared \_\_\_\_, Attorney-in-Fact for TEXACO INC., known to me to be the person whose name is subscribed to the foregoing instrument, who acknowledged to me that he executed the same as the act and deed of the said TEXACO INC., for the purposes and consideration and in the capacity therein stated.

Notary Public in and for Midland County, Texas



NATURAL RESOURCES GROUP Exploration and Production

January 25, 1979

Certificate of Effectiveness and Recording Information--East Vacuum Grayburg-San Andres Unit, Lea County, New Mexico

Jule 6366

Energy Minerals Department State of New Mexico Oil Conservation Division P. O. Box 2088 Santa Fe, New Mexico 87501

Attention: Mr. Dan Nutter

Chief Engineer

Gentlemen:

Attached are two copies of the Certificate of Effectiveness for the subject unit.

For your information, the following shows the recording information for the instruments filed to date in Lea County, New Mexico, pertaining to this unit:

- 1. Unit Agreement--Miscellaneous Records Book 356, Pages 86 through 107. Recorded as attachments to Unit Agreement:
  - a. Ratifications to Unit and Unit Operating Agreements--Miscellaneous Records Book 356, Pages 108 through 157.
  - b. Statutory Unitization Order--Miscellaneous Records Book 356, Pages 158 through 163.
- 2. Unit Operating Agreement--Miscellaneous Records Book 356, Pages 164 through 191.
- 3. New Mexico State Land Office, Certificate of Approval--Miscellaneous Records Book 356, Page 192.
- 4. Certificate of Effectiveness--Miscellaneous Records Book 356, Page 284.

Very truly yours,

PHILLIPS PETROLEUM COMPANY

RJR:dva Attachments

cc: Mr. Jason W. Kellahin

P. O. Box 1769

Santa Fe, New Mexico 87501

Attachment

J. W. Maharg, Chairman Working Interest Owners Committee Mise 356 FACE 284

CERTIFICATE OF EFFECTIVENESS

#### EAST VACUUM GRAYBURG-SAN ANDRES UNIT LEA COUNTY NEW MEXICO

WHEREAS, that certain Unit Agreement and Unit Operating Agreement, East Vacuum Grayburg-San Andres Unit, Lea County, New Mexico, dated September 1, 1978, have been executed or ratified by Working Interest Owners owning a combined Participation of at least seventy-five percent (75%) and a counterpart of said Unit Agreement has been filed in the Office of County Clerk of Lea County, New Mexico, in Volume 356, Page 86, of the Miscellaneous Records; and,

WHEREAS, the Oil Conservation Division of the State of New Mexico by Order No. R-5871, dated November 27, 1978, did approve statutory unitization, pursuant to the "Statutory Unitization Act", Sections 65-14-1 through 65-14-21, NMSA, 1953 Compilation; and,

WHEREAS, said Unit Agreement was approved by the Commissioner of Public Lands of the State of New Mexico on November 22, 1978, and said Unit Agreement provides in Section 25 thereof, that the agreement shall become effective as of 7:00 o'clock A.M. of the first day of the calendar month next following approval by the Commission; and,

WHEREAS, under the terms of said Section 25, Unit Operator is instructed, within thirty (30) days after the effective date of said agreement, to file for record a certificate to the effect that the agreement became effective according to its terms and stating further the effective date;

NOW THEREFORE, Phillips Petroleum Company, Unit Operator of the East Vacuum Grayburg-San Andres Unit, does hereby certify and declare that said unit became effective as of 7:00 o'clock A.M., December 1, 1978.

IN WITNESS WHEREOF, Phillips Petroleum Company has executed this certificate on this <u>18th</u> day of <u>December</u>, 1978.

PHILLIPS PETROLEUM COMPANY

Fred Forward, Attorney-in-Fact

STATE OF TEXAS
COUNTY OF ECTOR

The foregoing instrument was acknowledged before me this <u>18th</u> day of December, 1978, by <u>Fred Forward</u>, Attorney-in-Fact of Phillips Petroleum Company, a Delaware corporation, on behalf of said corporation.

STATE OF NEW MEXICO COUNTY OF LEA

Notary Public in and for Ector County, Texas

My commission expires the 30th day of June, 1980.

DEC 28 1978

and recorded in Book. 3.5 6
Page 284
Donna Benge, County Clark

N. N.

800 356 PACE 284

CERTIFICATE OF EFFECTIVENESS

#### EAST VACUUM GRAYBURG-SAN ANDRES UNIT LEA COUNTY NEW MEXICO

WHEREAS, that certain Unit Agreement and Unit Operating Agreement, East Vacuum Grayburg-San Andres Unit, Lea County, New Mexico, dated September 1, 1978, have been executed or ratified by Working Interest Owners owning a combined Participation of at least seventy-five percent (75%) and a counterpart of said Unit Agreement has been filed in the Office of County Clerk of Lea County, New Mexico, in Volume 356, Page 86, of the Miscellaneous Records; and,

WHEREAS, the Oil Conservation Division of the State of New Mexico by Order No. R-5871, dated November 27, 1978, did approve statutory unitization, pursuant to the "Statutory Unitization Act", Sections 65-14-1 through 65-14-21, NMSA, 1953 Compilation; and,

WHEREAS, said Unit Agreement was approved by the Commissioner of Public Lands of the State of New Mexico on November 22, 1978, and said Unit Agreement provides in Section 25 thereof, that the agreement shall become effective as of 7:00 o'clock A.M. of the first day of the calendar month next following approval by the Commission; and,

WHEREAS, under the terms of said Section 25, Unit Operator is instructed, within thirty (30) days after the effective date of said agreement, to file for record a certificate to the effect that the agreement became effective according to its terms and stating further the effective date;

NOW THEREFORE, Phillips Petroleum Company, Unit Operator of the East Vacuum Grayburg-San Andres Unit, does hereby certify and declare that said unit became effective as of 7:00 o'clock A.M., December 1, 1978.

IN WITNESS WHEREOF, Phillips Petroleum Company has executed this certificate on this 18th day of December , 1978.

PHILLIPS PETROLEUM COMPANY

Fred Forward, Attorney-in-Fact

STATE OF TEXAS COUNTY OF ECTOR

The foregoing instrument was acknowledged before me this of December, 1978, by Fred Forward , Attorney-in-Fact of Phillips Petroleum Company, a Delaware corporation, on behalf of said corporation.

> STATE OF NEW MEXICO COUNTY OF LEA FILED

Notary Public in and for Ector County, Texas

My commission expires the 30th day of June, 1980.

DEC 28 1978

nt 11:30 Mark 9 and recorded in Book 3.5
Page 284 Donna Benge, County Clerk

### JERRY APODACA GOVERNOR

**NICK FRANKLIN** 

SECRETARY

### STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501 (505) 827-2434

Re:	CASE NO. 6366 ORDER NO. R-5871
Mr. Jason Kellahin Kellahin & Fox Attorneys at Law Post Office Box 1769 Santa Te, New Mex <b>ico</b>	Applicant:
	Phillips Petroleum Company
Dear Sir:	
Enclosed herewith are two of Division order recently ent	copies of the above-referenced cered in the subject case.
Yours very truly,	
fold terney	
/JOE D. RAMEY Director	
•	
	•
JDR/fd	
Copy of order also sent to:	•
Hobbs OCC x Artesia OCC x Aztec OCC	
Other	