



**PHILLIPS PETROLEUM COMPANY**

ODESSA, TEXAS 79762  
4001 PENBROOK

NATURAL RESOURCES GROUP  
Exploration and Production

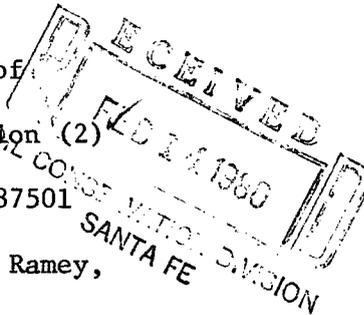
February 5, 1980

Application for Exception to Rule  
303-C--Eilliams Well No. 8, Maljamar  
(Grayburg-San Andres) and Corbin  
(Queen) Zones, Lea County, New Mexico

*DHC-309*  
*Duc-3/5/80*

New Mexico Department of  
Energy and Minerals  
Oil Conservation Division (2)  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Attention: Mr. Joe D. Ramey,  
Director



*Corbin Pool*  
*maljamar lb-SA*

Gentlemen:

Phillips Petroleum Company requests administrative approval to permit downhole commingling of production from the Maljamar (Grayburg-San Andres) and the Corbin (Queen) zones in the Eilliams Well No. 8, located in Unit H, Section 34, T-17-S, R-33-E, Lea County, New Mexico.

The well is currently a single completion in the Corbin (Queen), and the Maljamar (Grayburg-San Andres) is shut off under a retrievable bridge plug. The well was drilled in February, 1980, and is not now or never has been dually completed.

In support of this request and in accordance with Rule 303-C, the following exhibits and facts are submitted:

1. The attached plat shows the Eilliams Well No. 8 location.
2. A complete resume of the well's completion history.
3. Comparison economics of commingled production versus individual zone production.
4. A data sheet with information about the two completion zones.
5. Form C-116's showing current oil, water, and gas tests of each zone.
6. A schematic diagram showing the present completion and the proposed commingled completion.

Application for Exception to Rule 303-C--  
Eilliams Well No. 8  
February 5, 1980  
Page: 2

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7. The ownership of the two zones to be commingled is common in all respects.
8. Copies of this application have been furnished to the attached list of offset operators.

Regards,

PHILLIPS PETROLEUM COMPANY



G. R. Smith  
Reservoir Engineering Director

REW:skm  
Attachments

cc: Oil Conservation Division  
Box 1980  
Hobbs, New Mexico 88240

Attachments

OFFSET OPERATORS  
To  
Phillips Petroleum Company  
Elliams Well No. 8

Union Oil Company of California  
Attn: R. S. Cooke  
P. O. Box 3100  
Midland, Texas 79702

Harvey E. Yates Company, Inc.  
West Building  
Midland, Texas 79701

Target Production Company  
2400 S. Main  
Lovington, New Mexico 88260

Energy Reserves Group, Inc.  
Attn: R. L. Zimmermann  
1509 W. Wall  
Midland, Texas 79701

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102  
Supersedes C-128  
Effective 1-1-65

All distances must be from the outer boundaries of the Section

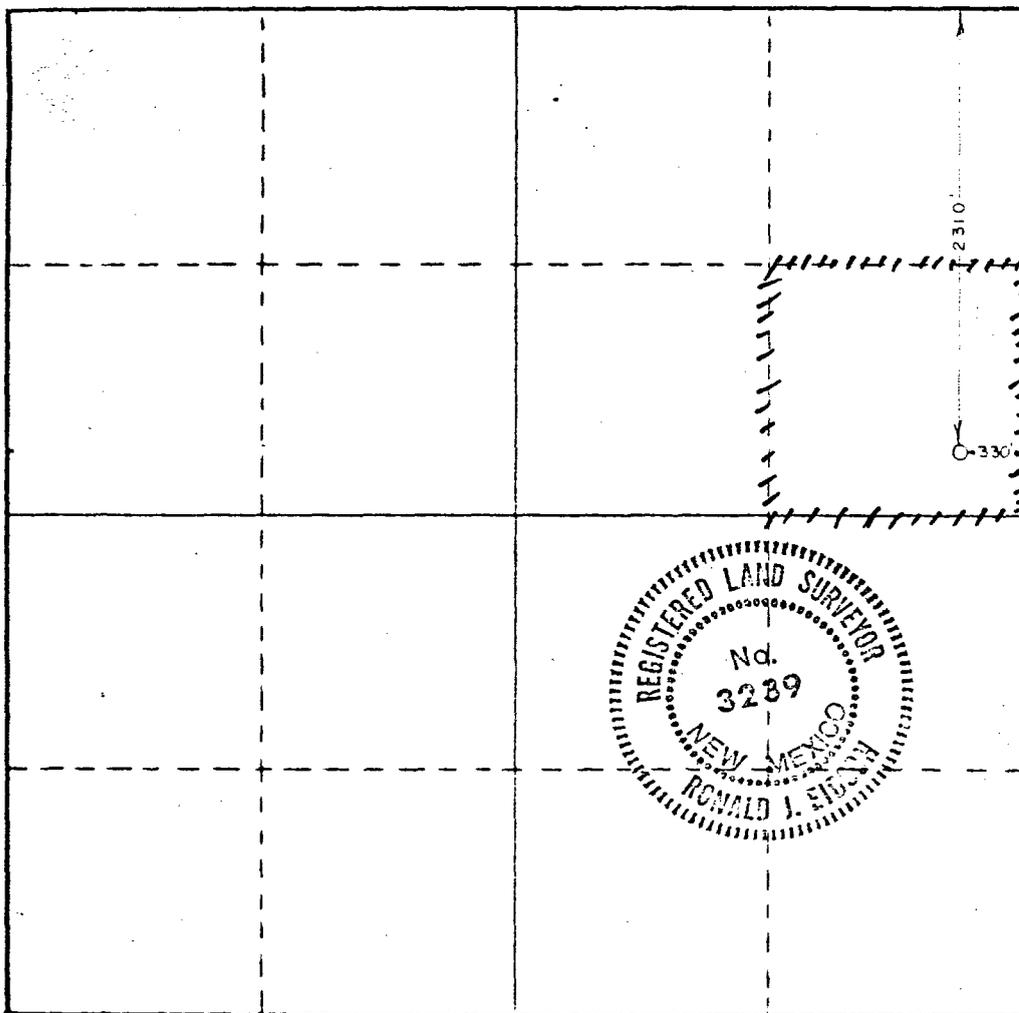
Operator <b>Phillips Petroleum Co.</b>		Lease <b>Elliams</b>			Well No. <b>8</b>
Unit Letter <b>E</b>	Section <b>34</b>	Township <b>17 South</b>	Range <b>33 East</b>	County <b>Lea</b>	
Actual Footage Location of Well: <b>2310</b> feet from the <b>North</b> line and <b>330</b> feet from the <b>East</b> line					
Ground Level Elev. <b>4138.3</b>	Producing Formation <b>San Andres + Queen</b>		Pool <b>Maljamar + Corbin</b>	Dedicated Acreage: <b>40</b> Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

Yes  No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

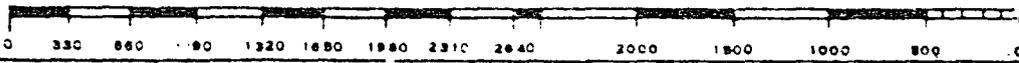
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name  
**Ralph Roper *Roger Roper***  
Position  
**Senior Reservoir Engineer**  
Company  
**Phillips Petroleum Company**  
Date  
**December 7, 1978**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed  
**December 1, 1978**  
Registered Professional Engineer and/or Land Surveyor

*Ronald J. Eidson*  
Certificate No. **John W. West 676**  
**Ronald J. Eidson 3239**



## EILLIAMS-8 WELL HISTORY

March 12, 1979

The well was drilled to a total depth of 4800' originally completed in the Maljamar (Grayburg-San Andres) from 4629-4709' with 44 perforated holes. That zone was treated with 7,500 gallons of 28% NE HCl and 4,500 gallons of 3% HCl in three stages. Production tests determined this zone to be uneconomical.

April 12, 1979

The perforations 4629-4709' were squeezed with 50 sacks of API Class C cement and held to 1000 psi. The zone 4552-4596' was perforated with 72 holes. The zone 4552-4596' was fracture-treated with 25,000 gallons of refined oil and 45,000 pounds of 10/20 mesh sand in three equal stages. Production tests determined this zone to be uneconomical.

June 12, 1979

The perforations 4552-4596' were squeezed with 100 sacks of API Class C cement and held to 2000 psi. The Grayburg was perforated from 4472-4482' with 20 holes. That zone was then acidized with 250 gallons of super hydrofluoric acid and subsequently fractured with 10,000 gallons of refined oil and 16,500 pounds of 10/20 mesh sand. The state potential from that zone was taken July 6, 1979, and tested 12 barrels of oil per day, 0 barrels of water per day, and a GOR of 426.

August 30, 1979

A retrievable bridge plug was set in the casing at 3950', sealing off the Grayburg perforations. The Corbin (Queen) was perforated from 3854-3870' with 32 holes. The perforations were treated with 250 gallons of super hydrofluoric acid and fractured with 12,000 gallons of refined oil and 21,000 pounds

of 10/20 mesh sand in two stages. The state potential for the Queen Zone was taken September 28, 1979, and tested 17 barrels of oil per day, 7 barrels of water per day, and no gas.

Subsequent 20-30 day retests on both zones showed the Grayburg-San Andres produced 5 BO, 10 BW, with a GOR of 1600. The Queen produced 8 BO, 4 BW, and no gas. Commingled production should be allocated 50 percent to the Grayburg-San Andres and 50 percent to the Queen.

The possibility of a dual completion is unfavorable due to the small size (4-1/2" OD) of the production casing. The following computation indicates the increased value of commingling the production between the Queen and the Grayburg-San Andres reservoirs. It consists of a comparison of the present values of incoming cash flows for two cases:

Case 1: Commingled Production of Queen and Grayburg-San Andres.

Case 2: Individual Production of Queen then Grayburg-San Andres.

Using a present value of 10% interest, the forecasts show an increase in value of \$78,285 for Case 1 over Case 2. Case 2 approximates dual completion economics since each zone would have individual lifting costs.

	Gh-SA	5 BO <sup>38</sup>	-	all gas
	Queen	<u>8 BO<sup>62</sup></u>		no gas
		13		

Bottom of 4596', max prod 20 BOpd

Case 1: Commingled Production of Queen and Grayburg.

Assume the life of the commingled reservoirs is 13 years. Cumulative production would be 36,282 BO at an initial rate of 20 BOPD.

<u>YEAR</u>	<u>PRODUCTION SCHEDULE</u>		<u>DISCOUNTED CASH FLOW @ 10%</u>
	<u>OIL (BBLs)</u>	<u>GAS (MCF)</u>	
1	6618	3309	\$187,562
2	5523	2762	147,197
3	4611	2306	115,447
4	3869	1935	91,432
5	3212	1606	77,530
6	2701	1351	65,564
7	2227	1114	54,174
8	1862	931	45,212
9	1570	785	37,986
10	1314	657	31,684
11	1095	548	26,348
12	913	457	20,974
13	767	384	16,821
<b>Total</b>	<b>36282 Bbl</b>	<b>18145 Mcf</b>	<b>\$917,931</b>

Case 2: Individual Production of Queen then Grayburg.

Assume the life of each reservoir is 10 years if they are produced independently. Cumulative production from each reservoir is 17,500 BO at an initial production rate of 10 BOPD. Assume the Corbin (Queen) is produced to depletion, then the Maljamar (Grayburg-San Andres) is produced to depletion.

<u>YEAR</u>	<u>PRODUCTION SCHEDULE</u>		<u>DISCOUNTED CASH FLOW @ 10%</u>
	<u>OIL (BBLs)</u>	<u>GAS (MCF)</u>	
1	3314	1657	\$ 93,923
2	2805	1403	74,758
3	2374	1187	59,438
4	2009	1005	47,477
5	1700	850	41,034
6	1439	720	34,931
7	1218	609	29,629
8	1031	516	25,035
9	872	436	21,098
10	738	369	17,795
11	3314	1657	79,741
12	2805	1403	64,435
13	2374	1187	52,063
14	2009	1005	42,028
15	1700	850	33,952
16	1439	720	27,439
17	1218	609	22,165
18	1031	516	17,918
19	872	436	14,457
20	<u>738</u>	<u>369</u>	<u>11,677</u>
<b>Total</b>	<b>35000 Bbl</b>	<b>17504 Mcf</b>	<b>\$810,993</b>

EXHIBIT "A"  
DATA SHEET

PHILLIPS PETROLEUM COMPANY  
4001 PENBROOK STREET  
ODESSA, TEXAS 79762

APPLICATION FOR EXCEPTION TO RULE 303(a) OF NEW MEXICO OIL CONSERVATION COMMISSION'S RULES & REGULATIONS ALLOWING DOWNHOLE COMMINGLING OF DUALY COMPLETED OIL WELLS BY ADMINISTRATIVE PROCEDURE (ORDER NO. R-3845)

1. Lease Name: Eilliams
2. Well No.: 8
3. Well Location: Unit H, 2310 feet from North line, 330 feet from East line of Section 34, Township 17-S Range 33-E,  
Lea County, New Mexico
4. Upper Zone: Corbin (Queen)
5. Completion Interval: 3854-3870
6. Lower Zone: Maljamar (Grayburg-San Andres)
7. Completion Interval: 4472-4482
8. Dual Completion Authorized by Commission Order No. Not Dually completed  
Lower Zone SI under RBP
9. Current Productivity Test Summary (Form C-116 attached)

	<u>Corbin Queen (Upper Zone)</u>	<u>Maljamar Gb-SA (Lower Zone)</u>
Producing Method	<u>Pump</u>	<u>Shut-in</u>
Oil Bbls/day	<u>8</u>	<u>5</u>
Gas Mcf/day	<u>TSTM</u>	<u>8</u>
Water Bbls/day	<u>4</u>	<u>10</u>
GOR	<u>0</u>	<u>1600</u>
GOR Limit	<u>2000</u>	<u>2000</u>

10. Bottom-hole Pressure of Upper Zone: Not Available
11. Bottom-hole Pressure of Lower Zone: Not Available
12. Fluid Characteristics of Each Zone: Both zones produce a compatible intermediate crude. Expect no problems from untreatable precipitates resulting from commingled formation water.

By: R. E. Williams

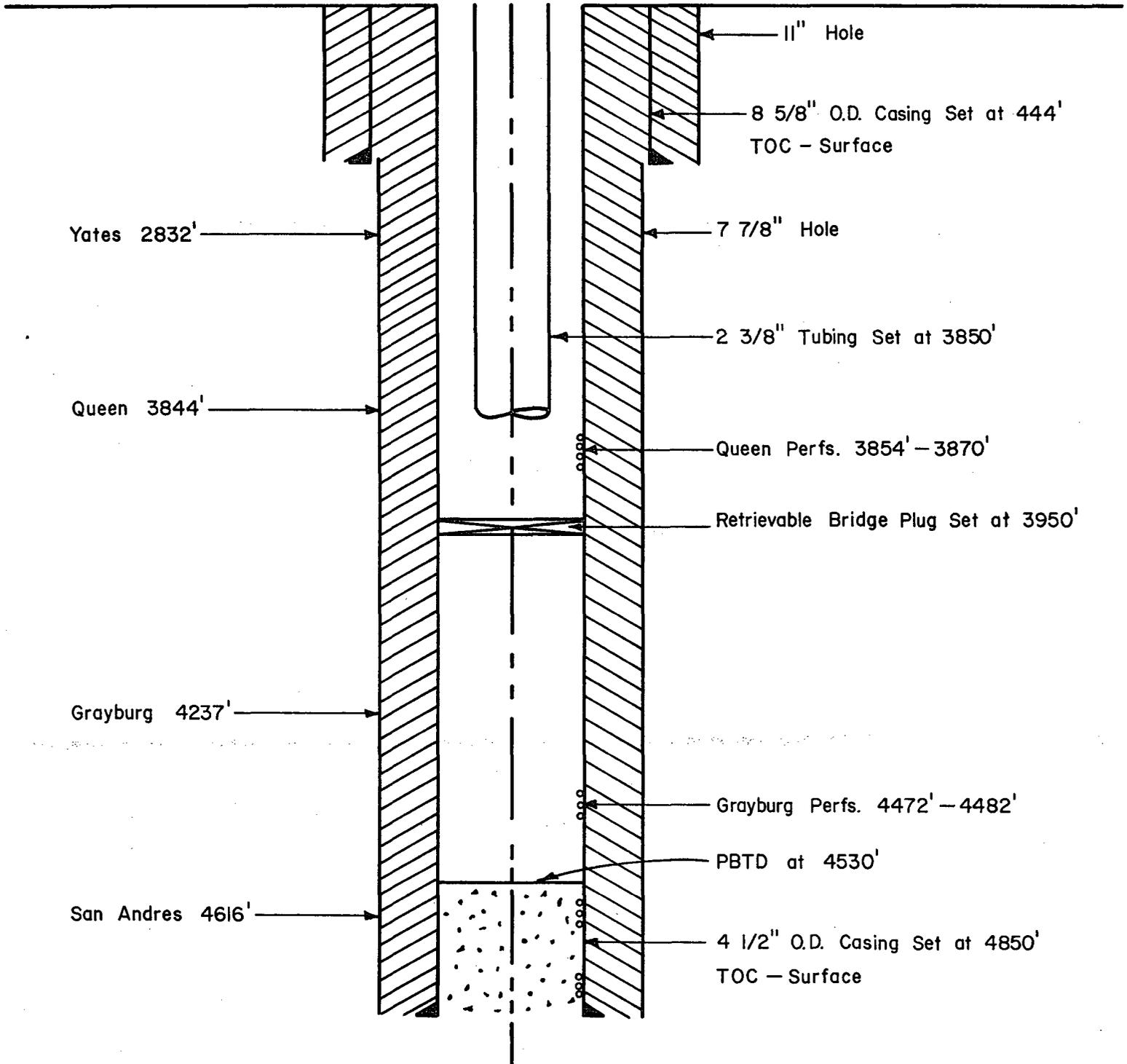
Date: January 4, 1980

PHILLIPS PETROLEUM COMPANY  
EILLIAMS WELL NO. 8

APPLICATION FOR EXCEPTION  
TO RULE 303 (a)

WELLBORE SKETCH

(Commingled Sketch Will Exclude Bridge Plug)



NEW MEXICO OIL CONSERVATION COMMISSION  
GAS-OIL RATIO TESTS

CG-1167  
Revised 1-1-73

Operator Phillips Petroleum Company		County Lea										
Address Room 401, 4001 Penbrook, Odessa, Texas 79762		Corbin (Queen)										
LEASE NAME Williams	WELL NO. 8	LOCATION U S T R H 34 17-S 33-E	DATE OF TEST 11-5-79	TYPE OF TEST - (X) P	CHOKED SIZE ---	WEG. PRESS. ---	DAILY ALLOW-ABLE 17	LENGTH OF TEST HOURS 24	PROD. DURING TEST			GAS-OIL RATIO CU FT/BBL
									WATER BELLS	GRAV. OIL BELLS	GAS MCF/BBL	
									4	34.6	8	TSTM

No well will be assigned an allowable greater than the amount of oil produced on the official test.  
 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 allowable when authorized by the Commission.  
 Gas volume 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.  
 Mail original and one copy of this report to the District Office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

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

November 9, 1979  
  
 W. J. Mueller  
 Senior Engineering Specialist

NEW MEXICO OIL CONSERVATION COMMISSION  
GAS-OIL RATIO TESTS

G-116  
Revised 1-1-65

Operator		Lea		Quantity												
Phillips Petroleum Company		Maljamar Gb-SA		20-30 day												
Address		Completion		Scheduled												
4001 Penbrook St., Odessa, Texas 79762		20-30 day		Completion <input checked="" type="checkbox"/>												
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	TYPE OF TEST - (X)	CHOKES SIZE	TED. PRESS.	DAILY ALLOW. RATE	LENGTH OF TEST IN HOURS	PROD. DURING TEST				GAS - OIL RATIO CU.FT./BBL.	
		U	S	T							R	WATER BBLG.	CRAY. OIL BBLG.	OIL BBLG.		GAS M.C.F.
Williams	8	H	34	17	33	8-17-79	P	---	12	24	24	10	34.5	5	8	1600

No well will be assigned an allowable greater than the amount of oil produced on the official test.  
 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 Commission.  
 Gas volumes must be reported in MCF measured at a pressure base of 14.7 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.  
 Well original and one copy of this report to the District Office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

I hereby certify that the above information is true and complete to the best of my knowledge and belief.  
 Date: 8-23-79

*Ralph J. Roper*  
 (Signature)  
 Senior Reservoir Engineer

OIL CONSERVATION DIVISION  
DISTRICT I

OIL CONSERVATION DIVISION  
P. O. BOX 2088  
SANTA FE, NEW MEXICO 87501

RECEIVED  
FEB 19 1980  
OIL CONSERVATION DIVISION  
SANTA FE

DATE February 13, 1980

RE: Proposed MC \_\_\_\_\_  
Proposed DHC X \_\_\_\_\_  
Proposed NSL \_\_\_\_\_  
Proposed NSP \_\_\_\_\_  
Proposed SWD \_\_\_\_\_  
Proposed WFX \_\_\_\_\_  
Proposed PMX \_\_\_\_\_

Gentlemen:

I have examined the application for the:

Phillips Pet. Co.	Elliams	No. 8-H	34-17-33
Operator	Lease and Well No.	Unit, S - T - R	

and my recommendations are as follows:

O.K.-----J.S.

\_\_\_\_\_

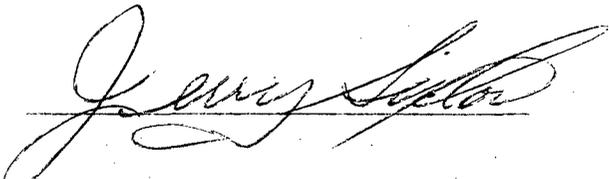
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\_\_\_\_\_

Yours very truly,

  
/s/ J.S.