



Mobil Oil Company

A Division of Socony Mobil Oil Company, Inc.
P. O. BOX 2406, HOBBS, NEW MEXICO

May 16, 1963

A. L. Porter, Jr., Secretary-Director
New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

ADMINISTRATIVE APPROVAL,
WATER FLOOD EXPANSION,
SOCONY MOBIL VACUUM WATER
FLOOD, LEA COUNTY, NEW
MEXICO.

Dear Mr. Porter:

This is to request your administrative approval of our expansion of the Vacuum Water Flood under the provisions of R-1244 and Rule 701.E.5 which provide for such expansion.

The Vacuum Water Flood was started in December, 1958, by Magnolia Petroleum Co. as a double five-spot pattern on its State-Bridges Lease in the Vacuum (Grayburg-San Andres) Pool. Injection into the six injection wells has been essentially continuous since that time. Socony Mobil Oil Company, Inc. is now prepared to expand the initial project area by the conversion of three producing wells to water injection.

In compliance with Rule 701.E.5, the attached material is submitted for your consideration of our request. The following comments on this attached material are furnished by way of clarification.

1. Plat of water flood area - This map of a portion of the Vacuum Field shows the existing project area and the proposed expansion area. The map also shows that there are no offset operators to any of the three proposed injection wells.
2. Forms C-116 - Compilation of test data from three wells on Form C-116. These wells, State-Bridges Nos. 34, 55 and 67, are situated next to existing injection wells and have exhibited substantial response to the initial injection. As shown on the tabulations Nos. 34 and 67 offer a most definite response. State-Bridges No. 55 is believed to lack this classical response because of its exposed end position.

Since No. 55 is not backed up by injection on its other sides, the injection volumes have been dissipated.

3. Graphic History of Vacuum Pilot Flood Project - This is offered as supplementary data on the performance of all wells in the project area.
4. Graphic History of Daily Production - These three graphs show the daily production of the three wells mentioned before. These are offered as a supplementary display of essentially the same information as shown on the Forms C-116.

We propose to convert three wells, State-Bridges Nos. 31, 62 and 82, to water injection. This conversion would expand the project area by adding both these three wells and their offsets, State-Bridges Nos. 10, 57 and 68. The description of the proposed additional project area is as follows:

1. E/2, SE/4 Section 15, T-17S, R-34E
2. NE/4, NE/4, Section 22, T-17S, R-34E
3. N/2 and SE/4, NW/4, Section 23, T-17S, R-34E

This expansion would create two additional five-spot patterns for a total of four five-spots, continuing the established forty acre spacing. This is believed to be the most efficient pattern and plan.

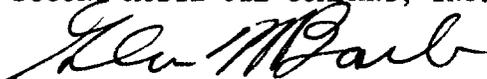
Conversion work on the proposed injection wells will consist essentially of the removal of existing production equipment and tubing with subsequent installation of coated or lined tubing and packers. Adequate tests of all casing strings will be made to insure that all surface waters and other formations will not be exposed to injection water in the event of tubing or packer leaks.

Additional water supply for the proposed injection wells is to be secured by the drilling of water supply wells. These supply wells will supplement the existing water supply well and will be completed in the same shallow water formation at approximately 200 feet.

Since there are no offset operators and it is believed that all conditions prerequisite to administrative approval have been satisfied, it is hoped that receipt of the required waiver of objection from the State Engineer will permit your immediate approval of the proposed conversion. We would sincerely appreciate your earliest possible handling of our request.

Yours very truly,

SOCONY MOBIL OIL COMPANY, INC.


Glen W. Barb
Producing Superintendent

JCGordon/jlh
Attachments - 8

cc:
A. L. Porter, Jr., NMOCC (2)
S. E. Reynolds, State Engineer
J. D. Ramey, NMOCC

NEW MEXICO OIL CONSERVATION COMMISSION

Compilation of all tests on subject well. Submitted in conjunction with request for administrative approval of flood expansion.

GAS-OIL RATIO REPORT

OPERATOR...SOCONY MOBIL OIL COMPANY, INC..... POOL...Vacuum.....
 ADDRESS...P.O. Box 2406, Hobbs, New Mexico..... MONTH OF..... -, 19.....
 SCHEDULED TEST..... COMPLETION TEST..... SPECIAL TEST..... (Check One)
 (See Instructions on Reverse Side)

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
State Bridges	34	2-60	(C-116)				0	3		3400
		2-3-60		0	4	13.6				
		3-60		0	3					
		4-60		0	3					
		5-60		0	4					
		6-60		0	4					
		7-60		0	4					
		8-60		0	4					
		9-60		0	4					
		10-60		0	4					
		11-60		0	4					
		12-60		0	4					
		1-61	0	4						
		1-12-61	0	4	27.0	6750				
		2-61	0	5						
		3-61	0	4						
		4-61	0	4						
		5-61	0	12						
		6-61	6	12						
		7-61	6	11						
		8-61	12	9						
		9-61	2	33						
		10-61	0	11						
		11-61	0	11						
		12-61	0	9						
		1-62	30	9						
		2-62	20	4	5.4	675				
		2-28-62	17	8						
		3-62	14	8						
		4-62	16	4						
		5-62	30	7						
		6-62	20	6						
		7-62	25	7						
		8-62	30	8						
		9-62	32	5						
		10-62	39	8						
11-62	39	5								
12-62	45	8								
1-63	35	8								
2-63	45	8								
3-8-63	40	8	TSTM	TSTM						
3-63	43	8								
4-63	36	8								

NEW MEXICO OIL CONSERVATION COMMISSION

Compilation of all tests on subject well. Submitted in conjunction with request for administrative approval of flood expansion.

GAS-OIL RATIO REPORT

OPERATOR SOCONY MOBIL OIL COMPANY, INC. POOL Vacuum

ADDRESS P. O. Box 2406, Hobbs, New Mexico MONTH OF -, 19-

SCHEDULED TEST..... COMPLETION TEST..... SPECIAL TEST..... (Check One)
(See Instructions on Reverse Side)

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.								
							Water Bbls.	Oil Bbls.	Gas MCF									
State Bridges	55	9-60	(C-116)		24	3	0	3	20.1	6700								
		10-60					0	3										
		11-60					0	3										
		12-60					0	3										
		1-61					0	3										
		2-61					0	3										
		2-11-60					0	3										
		3-61					0	3										
		4-61					3	3										
		5-61					0	3										
		6-61					0	3										
		7-61					0	3										
		8-61					0	2										
		9-61					0	2										
		10-61					0	3										
		11-61					0	3										
		12-61					0	2										
		1-62					0	2										
							55	1-13-61			(C-116)		24	3	0	3	36.6	12200
		2-62						1							2			
		3-62						0							3			
		4-62						1							3			
		5-62						0							3			
		6-62						0							3			
		7-62						3							0			
		8-62						3							0			
9-62	2	0																
10-62	0	3																
11-62	0	3																
12-62	0	3																
1-63	0	3																
2-63	0	3																
3-63	0	3																
	55	3-1-63	(C-116)		24	3	0	3	17.2	5733								
4-63		0					3											

NEW MEXICO OIL CONSERVATION COMMISSION

Compilation of all tests on subject well. Submitted in conjunction with request for administrative approval of flood expansion.

GAS-OIL RATIO REPORT

OPERATOR SOCONY MOBIL OIL COMPANY, INC. POOL Vacuum

ADDRESS P. O. Box 2406, Hobbs, New Mexico MONTH OF _____, 19____

SCHEDULED TEST _____ COMPLETION TEST _____ SPECIAL TEST _____ (Check One)

(See Instructions on Reverse Side)

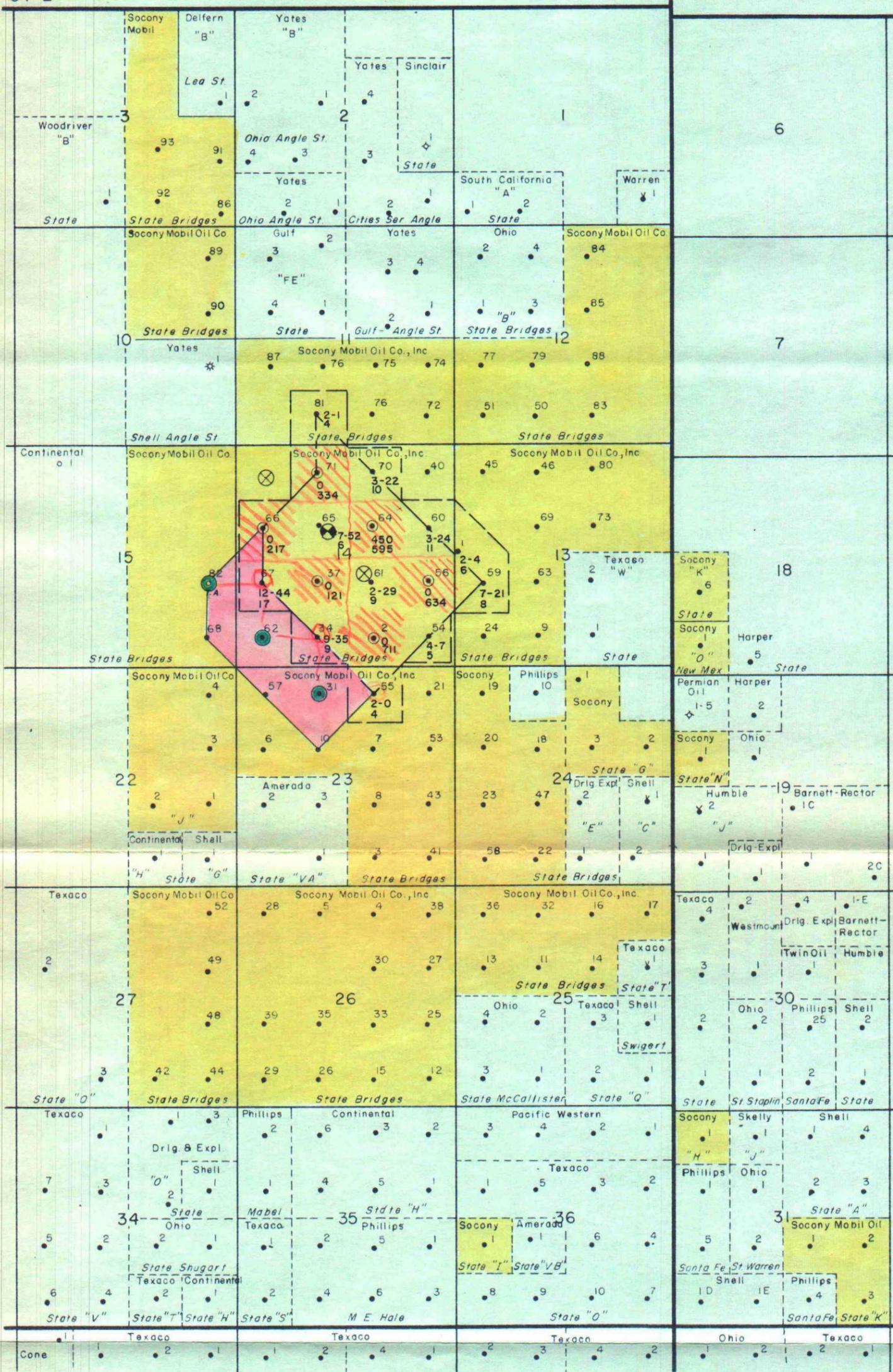
Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.	
							Water Bbls.	Oil Bbls.	Gas MCF		
State Bridges	67	2-60	(C-116)		24	9	0	10	5.8	644	
		2/10/60					0	9			
		3-60					0	9			
		4-60					0	9			
		5-60					0	9			
		6-60					0	9			
		7-60					0	7			
		8-60					0	9			
		9-60					0	9			
		10-60					0	9			
		11-60					0	9			
		12-60					0	9			
	61	(C-116)	1-61	(C-116)		24	12	0	12	43.0	3583
			1-19-61					0	12		
			2-61					0	12		
			3-61					0	12		
			4-61					0	11		
			5-61					0	19		
			6-61					6	17		
			7-61					6	15		
			8-61					1	12		
			9-61					3	17		
			10-61					0	17		
			11-61					0	16		
	12-61	0	14								
	62	(C-116)	1-62	(C-116)		24		10	14	14.7	1225
			2-62					25	13		
			3-62					21	13		
			3-2-62					22	12		
			4-62					30	15		
			5-62					31	9		
			6-62					30	10		
7-62			29					10			
8-62			33					12			
9-62			30					9			
10-62			44					12			
11-62			44					17			
12-62	48	12									
63	(C-116)	1-63	(C-116)		24	12	18	4	5.4	600	
		2-63					44	12			
		3-63					49	11			
		3-6-63					48	9			
4-63	40	9									

R 34 E

R 35 E

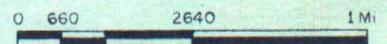
T 17 S

T 17 S



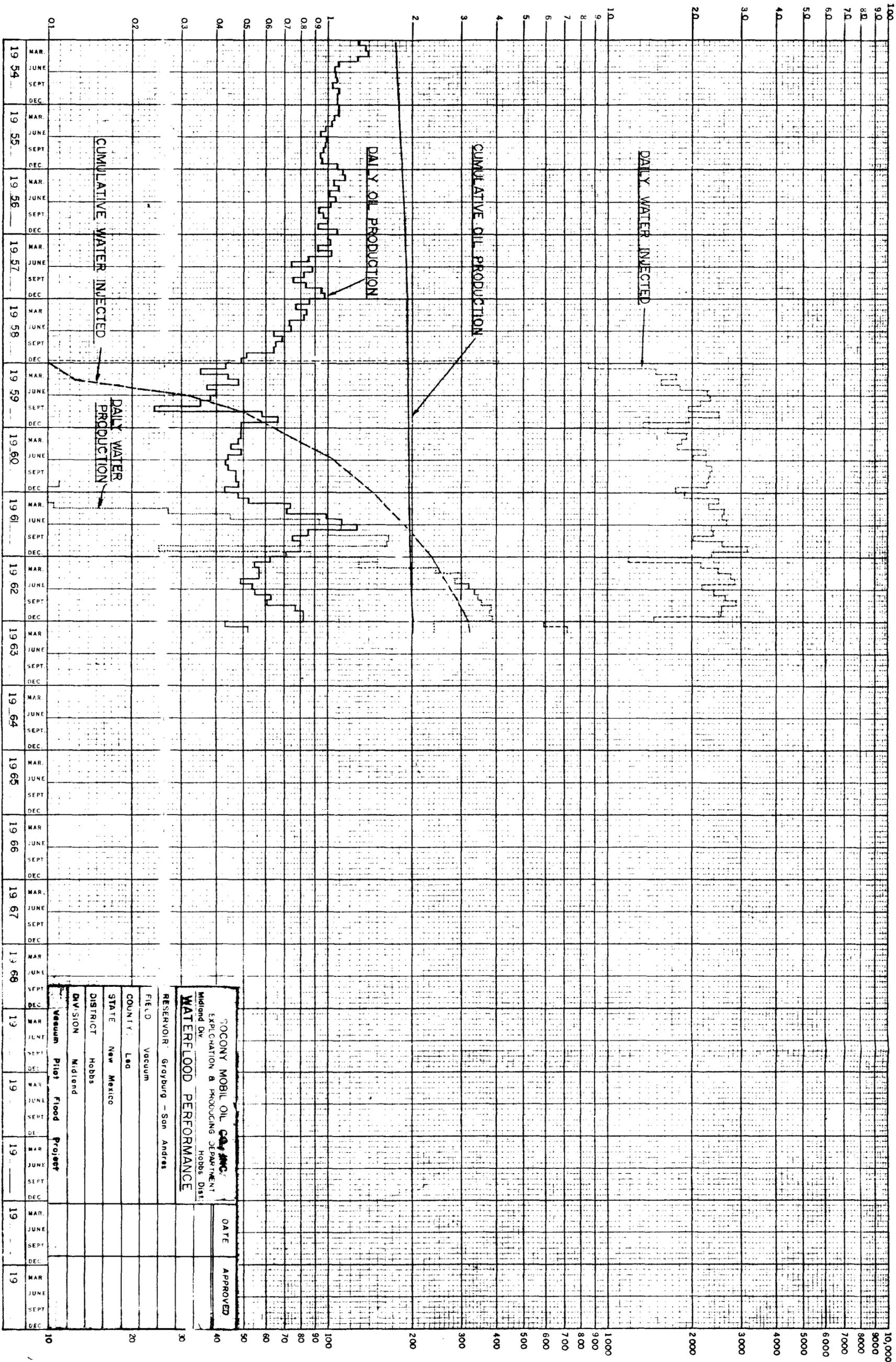
LEGEND

- Queen Gas Well
- Daily Average Water Injection 3-1-63
Cumulative Water Injected 3-1-63, M bbls.
- Daily Average Production, oil/water 3-1-63
Cumulative Oil Production M Bbls., since Injection
- Primary Unit Area 660 Ac. at 3-1-63
- Secondary Affected Area 440 Ac. at 3-1-63
- Water Supply Well
- Water Supply Well Proposed
- Injector Well Proposed
- Extension Proposed



A PORTION OF VACUUM FIELD Pilot Water Injection Project		
Lea Co.		New Mexico
SOCONY MOBIL OIL CO., INC		
DRAWN J.V.N	DATE 2-2-59	B-103-R&R
CHECKED	APPROVED	
REV 6-14-62	REV. 4-18-63	

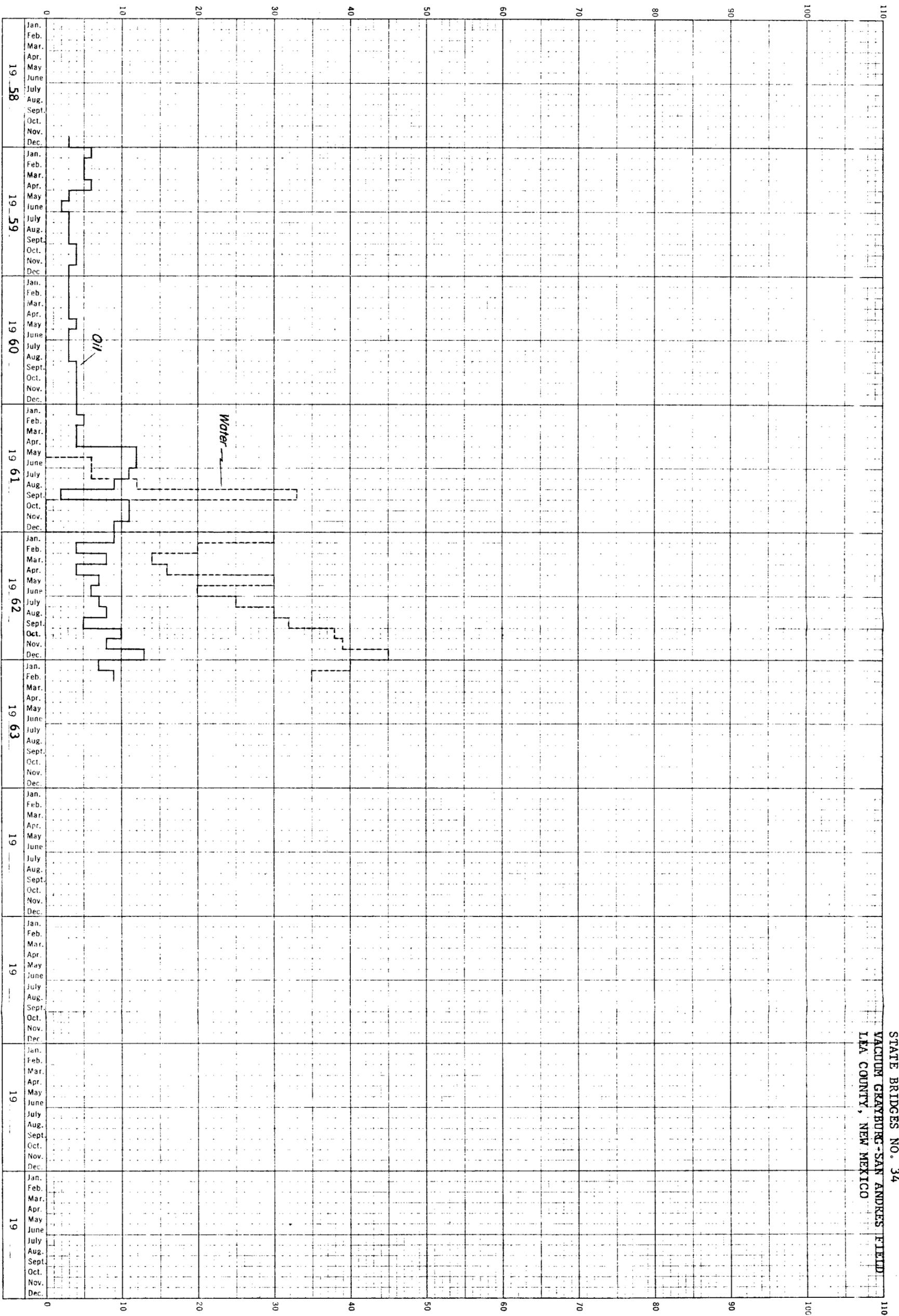
CUMULATIVE—OIL PRODUCTION, WATER PRODUCTION, WATER INJECTED, MMBBLS.



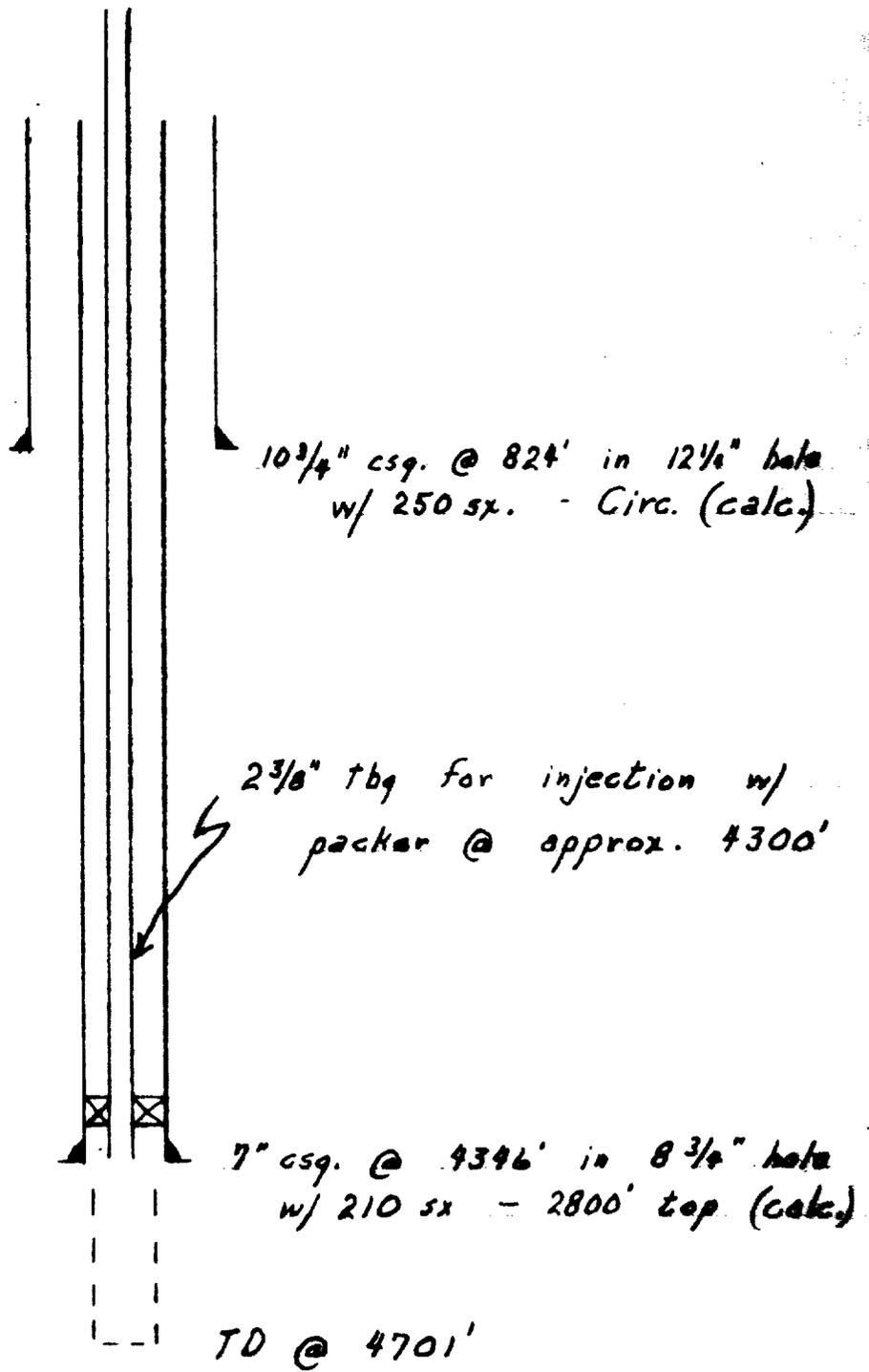
DAILY AVERAGE—OIL PRODUCTION, WATER PRODUCTION, WATER INJECTED BBL./DAY

COCONY MOBIL OIL CO. INC. EXPLORATION & PRODUCING DEPARTMENT Midland Div. Hobbs Dist.	
WATERFLOOD PERFORMANCE	
RESERVOIR	Grayburg - San Andres
FIELD	Vacuum
COUNTY	Lea
STATE	New Mexico
DISTRICT	Hobbs
DIVISION	Midland
Vacuum Pilot Flood Project	
DATE	APPROVED

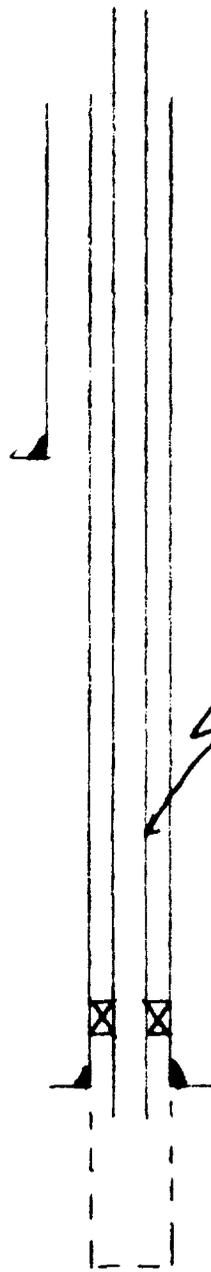
Daily Average Oil and Water Production - Barrels per Day



DAILY PRODUCTION VS. TIME
 VACUUM PILOT WATER FLOOD
 STATE BRIDGES NO. 34
 VACUUM GRAYBORG-SAN ANDRES FIELD
 LEA COUNTY, NEW MEXICO



STATE BRIDGES No. 31
 Proposed W/W
 Expansion - Vacuum Water
 Flood - Socany Mobil Oil
 J.C. Gordon, Jr.



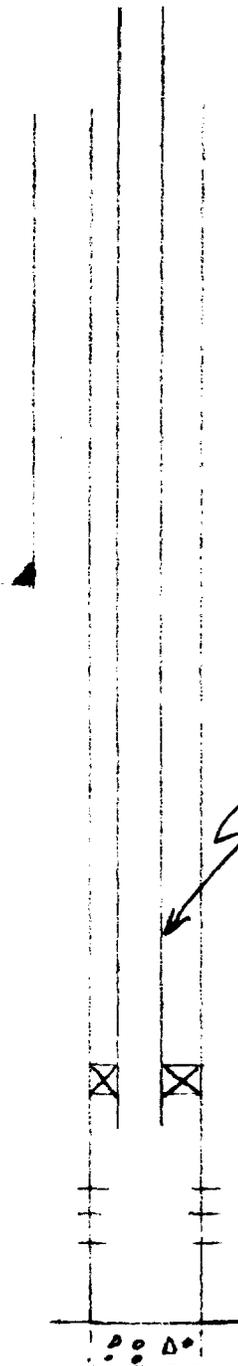
10³/₄" csq @ 818' in 12¹/₄" hole
w/ 250 sx - Circ.

2³/₈" tbg for injection w/
packer @ approx. 4300'

7" csq @ 4367' in 8³/₄" hole
w/ 220 sx - 2700' top (coker)

T.D @ 4700'

STATE-BRIDGES No. 11
PROPOSED W/LW
Expansion - Vacuum
Elev - Survey



8⁵/₈" csq @ 1666' in 12¹/₈" hole
w/ 900 sx - Circ. (calc.)

2³/₈" tbq for injection
w/ packer @ approx 4400'

Perforations

5¹/₂" csq @ 4648' in 7" hole
w/ 1765 sx - 1970' top-temp. surv.

STATE-BRIDGES No. 82
Proposed W/W
Expansion - Vacuum Water
Flood Project - Socony Mobil
J.C. Gordon, Jr. 5-17-63



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

May 17, 1963

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, N. M.

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Mobil Oil Company submitted May 16, 1963 which seeks administrative approval for water flood expansion, Socony Mobil Vacuum Water Flood, Lea County, New Mexico. The wells involved are:

Socony Mobil State Bridges No. 31
Socony Mobil State Bridges No. 62
Socony Mobil State Bridges No. 82

Your attention is directed to the third from the last paragraph in the application which states as follows:

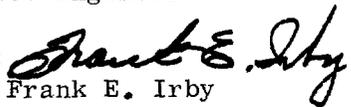
"Conversion work on the proposed injection wells will consist essentially of the removal of existing production equipment and tubing with subsequent installation of coated or lined tubing and packers. Adequate tests of all casing strings will be made to insure that all surface waters and other formations will not be exposed to injection water in the event of tubing or packer leaks."

This office offers no objection to the granting of this application provided the plan in the above paragraph is followed and provided the packer is set well below the top of the cement which surrounds the casing in which the packer will be set.

Yours truly,

S. E. Reynolds
State Engineer

FEI/ma
cc-Mobil Oil Co.
F. H. Hennighausen

By: 
Frank E. Irby
Chief
Water Rights Division