

DATE IN 8-2-04	SUSPENSE 8/17/04	ENGINEER Jones	LOGGED IN 8204	TYPE SWD	APP NO. BEM0421553088
ABOVE THIS LINE FOR DIVISION USE ONLY				937	147

**NEW MEXICO OIL CONSERVATION DIVISION**  
**- Engineering Bureau -**  
 1220 South St. Francis Drive, Santa Fe, NM 87505



**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]  
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
 [EOR-Quallified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

**[1] TYPE OF APPLICATION - Check Those Which Apply for [A]**

[A] Location - Spacing Unit - Simultaneous Dedication  
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement  
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify \_\_\_\_\_

**[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply**

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☐ Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☐ Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached

**[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

**[4] CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note:** Statement must be completed by an individual with managerial and/or supervisory capacity.

Print or Type Name _____	Signature _____	Title _____	Date _____
e-mail Address _____			

RECEIVED

**APPLICATION FOR AUTHORIZATION TO INJECT**

I. PURPOSE :   X     DIVISION   Secondary Recovery            Pressure Maintenance            Disposal            Storage  
Application qualifies for administrative approval?   X   Yes            No

II. OPERATOR:   CONOCOPHILLIPS  

ADDRESS :   4001 PENBROOK ST ODESSA, TX 79762  

CONTACT PARTY :   KAY MADDOX (432) 368-1207   PHONE :                     

III. WELL DATA: Complete the data required on the reverse side of this form for each well processed for injection.  
Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project?   X   Yes            No  
If yes, give the Division order number authorizing the project   NMOCD # 10020  

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

\*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

\*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)

\*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the 'Proof of Notice' section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME:   KAY MADDOX   TITLE:   REGULATORY AGENT  

SIGNATURE:   *Kay Maddox*   DATE:   7/29/04  

E-MAIL ADDRESS:   *Mary.K.Maddox@ConocoPhillips.com*  

\* If the information required under Sections VI, VII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstance of the earlier submittal:   12/1/1993

Case 10845/10846

6835-6235'  
UNITIZED

On Dec. 1 1993, Phillips became operator of the newly formed Vacuum Glorieta East Unit (NMOCD order No. R-10017). This is a 4240 acre unit formed for the purpose of conducting enhanced oil recovery operations from the east portion of the Vacuum Glorieta field. Phillips received approval from the state of New Mexico (NMCCD Order no. 10020) to commence water flood operations in the "Unit Water flood Project Area".

Due to economical reasons the water flood project was not completed.  
CONOCOPHILLIPS now purposes a test flood with the VGEU Well #38-03.

(33 new inj  
3 old wells  
48 inj wells)  
Total Development  
1994 → 1996 in 3 Stages

- 1) This well was not identified in R-10020  
as a prospective injector (waterflood  
Approval)
- 2) THIS well is not near any of the  
inadequately cemented wells
- 3) The AOR LOOKS OK: (15 TOTAL  
○ PLUGGED)
- 4) The one year period has EXPIRED  
°° This is an SWD well

**C-108**  
**APPLICATION FOR AUTHORIZATION TO INJECT**  
**VACUUM GLORIETA**

**WELL DATA**

The following sheets describe the proposed water injection well for which  
CONOCOPHILLIPS is submitting this application

# INJECTION WELL DATA SHEET

OPERATOR: CONOCOPHILLIPS PETROLEUM COMPANY

WELL NAME & NUMBER: VGEU 38-03

WELL LOCATION: 1130' FSL & 1405' FWL N 29 17S 35E

FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

## WELLBORE SCHEMATIC

(See Attachment)

## WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 12-1/4" Casing Size: 8-5/8" 24 #/ft

Cemented with: 850 sx. or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: SURFACE Method Determined: CIRCULATED  
Intermediate Casing

Hole Size: N/A Casing Size: \_\_\_\_\_

Cemented with: \_\_\_\_\_ sx. or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: \_\_\_\_\_ Method Determined: \_\_\_\_\_  
Production Casing

Hole Size: 7-7/8" Casing Size: 5-1/2" 15.5 #/ft

Cemented with: 1540 sx. or \_\_\_\_\_ ft<sup>3</sup>

Top of Cement: SURFACE Method Determined: CIRCULATED

Total Depth: 6,300 ft

Injection Interval

PERFORATED 2 SPF 6086 feet to 6168'

## INJECTION WELL DATA SHEET

VGEU #38-03W

Tubing Size: 2-7/8" 6.5 #/ft Lining Material: INTERNALLY PLASTIC COATED WITH TK-99

Type of Packer: LOK-SET TYPE PACKER WITH ON-OFF TOOL

Packer Setting Depth: 6050 ft

Other Type of Tubing/ Casing Seal (if applicable): N/A

### Additional Data

1. Is this a new well drilled for injection? Yes X No

If no, for what purpose was the well originally drilled? Drilled in 1994 as Injector was never used as injector was produced.

2. Name of the Injection Formation: GLORIETA

3. Name of Field or Pool (if applicable): VACUUM GLORIETA

4. Has the well ever been perforated in any other zone( s)? List all such perforated intervals and give plugging detail, i. e. sacks of cement or plug( s) used. NO

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: SAN ANDRES @ 4500'  
DRINKARD @ 7600' ABO @ 8000'

6. ConocoPhillips respectfully requests an injection pressure of 2000 psig max/1550 av and an injection volume of 2,000 BWPD max/1,000 BWPD av

*( This is based on ChevronTexaco's Vacuum Glorieta West Unit  
which borders our VGEU )*

**CONOCOPHILLIPS  
WELLBORE DIAGRAM  
VACUUM GLORIETA EAST UNIT #38- 03**

RKB @ 3984'  
GL @ 3973'

Date: Febr. 5, 2004

Lease and Well No.: VGEU #38-03

Location: 1130' FSL & 1405' FWL  
Sec. 29, T17S-R35E

County/State: Lea County, New Mexico

Field: Vacuum Glorieta Unit

RKB: 3984'

GL: 3973'

Producing Formations: Glorieta

Spud Date: 3/11/1994

Completion Date: 6/17/1994

API Number: 30-025-32368

Status: Shut In Producer

12-1/4" Hole  
8-5/8", 24# K-55 ST&C  
Set @ 1627'  
Cmt w/ 850 sx cmt.  
Circ. 120 sx  
TOC @ Surface

CASING DETAIL									
Size	Depth	Wt.	Grade	Conn.	Drift ID	Burst (psi)	Collapse (psi)	Tension	Rated By
8-5/8"	1627'	24#	K-55	8rd	7.972	2950	1370	263	API
						2760	1290	176	PPCo
5-1/2"	4837'	15.5#	K-55	8rd	4.825"	4810	4040	222	API
						4510	3810	131	PPCo

STIMULATION HISTORY								
Date	Interval	Type	Gals	Diver	MaxP	Avg P	ISIP	Down

WELL HISTORY	
Date	Event

7-7/8" Hole  
5-1/2" 15.5# K-55 LT&C  
Set @ 6300'  
Cemented With:  
1st Stage:  
415 sxs  
TOC @ 5200'  
Circ. 100 sxs off DV Tool

2nd Stage:  
1225 sxs  
TOC @ Surface  
Circ. 80 sxs. to Surface

5200' - DV Tool

2-7/8" , J-55, 6.5 #/ft, TK-99 IPC Injection Tubing

6050' - Approx. Setting Depth of Lok-Set Injection Packer

GLORIETA PERFORATIONS

6086'- 6098' - 2 SPF / 26 Holes  
6114' - 6132' - 2 SPF / 38 Holes  
6142'- 6146' - 2 SPF / 10 Holes  
6152'- 6168' - 2 SPF / 34 Holes  
TOTAL: 108 Holes

PBTD: 6252' (Float Collar)  
T.D.: 6300'



January 28, 2004

## ConocoPhillips Buckeye Field Water Compatibility Study

Waters were analyzed from the following locations:

EVGSAU 2864-SO-2 Fresh Water	Baseline only
EVGSAU 3366-SO-6 Fresh Water	Baseline only
EVGSAU IPD	
VGEU East Battery	
VGEU West Battery	
Vac Abo 2 Battery	
Vac Abo 3 Battery	
Vac Abo 4 Battery	

These waters were analyzed for scaling tendencies separately and then mixed for additional scaling tendencies.

The results are as follows:

	Calcium Carbonate		Calcium Sulfate	
	SI	ME	SI	ME
EVGSAU 100%	2.04	.052	1.6	290
VGE Unit 100%	.554	-.0125	1.09	127
Vac Abo 100%	1.78	.0182	1.87	223
EVGSAU 50%	1.99	.0227	1.5	.0178
Vac Abo 50%				
EVGSAU 50%	1.5	.0178	1.65	306
VGW Unit 50%				
VGW Unit 50%	.0283	-.0021	315	403
Vac Abo 50%				
EVGSAU 33%	1.23	.00789	1.53	260



VGW Unit	33%				
Vac Abo	33%				
EVGSAU	80%	1.77	.0285	1.62	286
VGW Unit	10%				
Vac Abo	10%				

Sixteen separate scales are analyzed for this report however the two main scales in this area are Calcium Carbonate and Calcium Sulfate. The way to interpret this data is (SI) stands for Saturation Index. This measures the supersaturation for each scale independently. A value of 1.0 represents a condition of equilibrium where scale will neither dissolve nor precipitate. Values less than 1.0 are undersaturated and values over 1.0 are supersaturated.

Momentary Excess (ME) is the amount of scale that would have to precipitate to bring the system back to non-scaling condition. This is measured by pounds per 1,000 barrels water.

In general the analysis indicates most water mixtures are acceptable.

One red flag is the mixing of the VGW Unit and the Vac Abo at a 50-50 mix. These waters would need scale inhibitors to be mixed.

If you have any further questions please contact me at 505 393-7751.

Jay Brown

Lab Test #	Location	Sample Date	Specific Gravity	Ionic Strength	TDS	pH	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	Fe (mg/L)	Ba (mg/L)	Sr (mg/L)	Mn (mg/L)	HCO3 (mg/L)	SO4 (mg/L)	Cl (mg/L)	CO2 (mg/L)	H2S (mg/L)
2004200687	#62) EVGSAU 2864-SO-2	1/26/2004	1.00	0.00	434.94	6.87	65.00	12.00	20.00	0.27	0.08	0.57	0.02	183.00	65.00	89.00	10.00	0.00
2004200688	#59) EVGSAU 3366-SO-6	1/26/2004	1.00	0.01	605.14	6.89	80.00	20.00	46.00	0.32	0.13	0.67	0.02	219.00	84.00	155.00	10.00	0.00
2004200689	EVGSAU IPD	1/26/2004	1.07	1.64	98924.43	6.00	2821.00	784.00	36534.00	4.21	0.95	56.00	0.27	1574.00	2850.00	54300.00	240.00	88.00
2004200690	VGEU E Battery Water Tank	1/26/2004	1.13	3.49	202851.62	5.95	2589.00	710.00	85225.00	24.00	1.05	64.00	0.57	488.00	2350.00	111400.00	80.00	142.00
2004200691	VGEU West Btly T-Pump Discharge	1/26/2004	1.10	2.46	145582.58	6.56	2362.00	578.00	57810.00	119.00	0.96	48.00	0.62	464.00	3200.00	81000.00	70.00	212.00
2004200692	Vacuum ABO Battery 2 IPD	1/26/2004	1.08	2.15	129497.70	6.56	5289.00	1113.00	45343.00	62.00	1.17	167.00	0.53	512.00	2200.00	74800.00	130.00	336.00
2004200693	Vacuum ABO Battery 3 IPD	1/26/2004	1.07	1.79	104895.29	6.65	5256.00	637.00	44576.00	69.00	0.84	80.00	0.45	476.00	3000.00	50800.00	180.00	460.00
2004200694	Vacuum ABO Battery 4 IPD	1/26/2004	1.05	1.17	71606.01	6.72	2283.00	480.00	25829.00	4.12	0.70	57.00	0.19	952.00	3200.00	38800.00	250.00	743.00

## **MAPS OF AREA OF REVIEW**

The following maps identify all wells located within two miles of the proposed injection well with a half-mile radius drawn around area of review. The second map illustrates, in greater detail, the wells that are located within the area of review, including the proposed injection well.

EXACD  
VACUUM GLORIETA  
WEST UNIT

TEXACO CENTRAL  
ACUM T

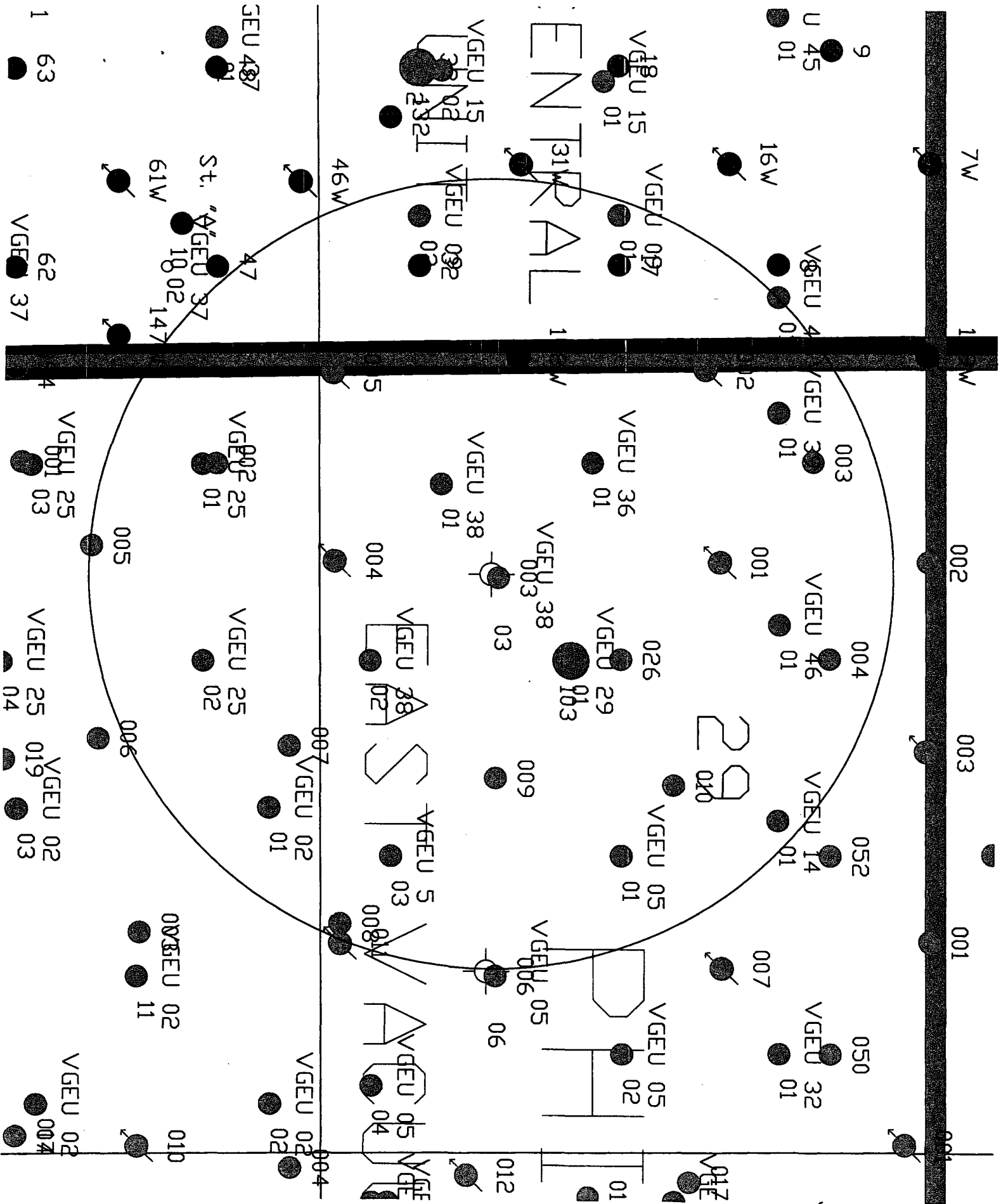
[illegible]

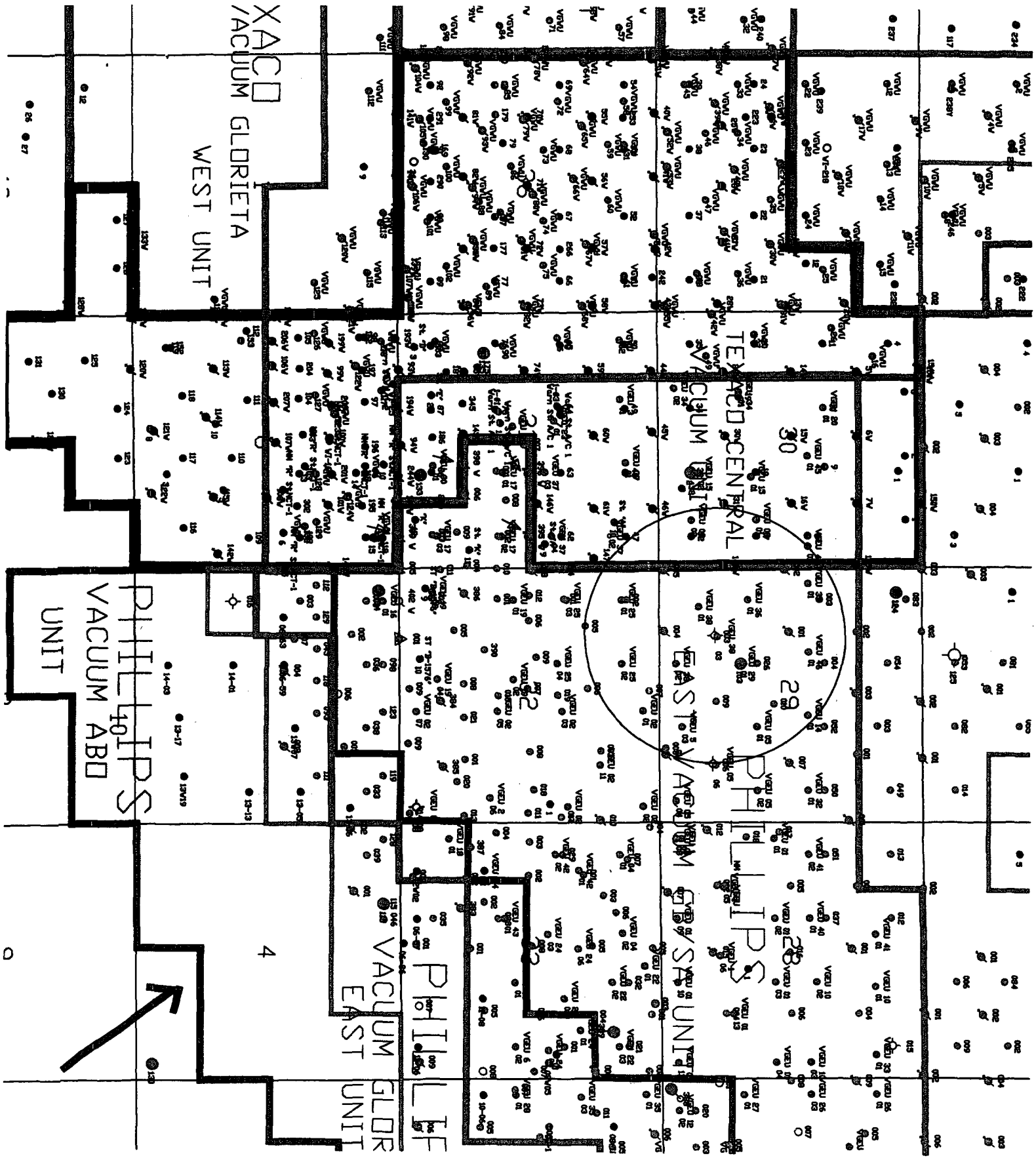
PHILIPS  
VACUUM  
EAST  
GLORIE  
UNIT

PHILEAS  
VACUUM ABD  
UNIT

4







**C-108**

**WELLS WITHIN THE ½ MILE AREA OF REVIEW**

The following table presents data for all wells that are located within the area of review and which penetrate the proposed injection zone. Well schematics are attached, for each well, to illustrate the record of completion and construction.

# WELLS WITHIN 1/2 MILE AREA OF REVIEW WHICH PENETRATE PROPOSED INJECTION ZONE

Lease Name	Well No.	Operator	API		TOC	Construction		Record of Completion		Depth	Unit	Location
			Number	Type		See Schematic	Drilled	See Schematic	Completion			
VGEU	02-01	COP	3002520720	PROD			6/9/1964			6225		32 17S 35E 330 FNL 2306 FEL
VGEU	05-01	COP	3002520828	PROD			4/18/1964			10300		29 17S 35E 1980 FSL 1980 FEL
VGEU	05-02	COP	3002520886	PROD			8/24/1964			6300		32 17S 35E 760 FNL 1980 FWL
VGEU	05-03	COP	3002520829	PROD			6/7/1964			6301		29 17S 35E 460FSL 1980 FEL
VGEU	09-01	COP	3002520821	PROD			3/9/1964			7100		30 17S 35E 1980 FSL 860 FEL
VGEU	09-02	COP	3002520822	PROD			8/26/1964			6200		30 17S 35 E 660 FSL 990 FEL
VGEU	14-01	COP	3002520802	PROD			11/7/1964			6250		29 17S 35E 2323 FNL 2213 FEL
VGEU	25-01	COP	3002521012	PROD			9/9/1964			6277		32 17S 35E 760 FNL 660 FWL
VGEU	25-02	COP	3002520886	PROD			8/24/1964			6250		32 17S 36E 760 FNL 1980 FWL
VGEU	29-01	COP	3002520797	PROD			9/2/1964			6225		29 17S 35E 1655 FSL 1980 FWL
VGEU	36-01	COP	3002520826	PROD			7/13/1964			6250		29 17S 35E 1800 FSL 660 FWL
VGEU	38-01	COP	3002520824	PROD			5/9/1964			6222		29 17S 35 E 800 FSL 800 FWL
VGEU	38-02	COP	3002520825	PROD			6/28/1964			6250		29 17S 35E 330 FSL 1980 FWL
VGEU	39-01	COP	3002502938	PROD			7/28/1960			6387		29 17S 35 E 2310 FNL 330 FWL
VGEU	46-01	COP	3002520957	PROD			7/27/1964			6252		29 17S 35E 2310 FNL 1750 FWL



EXXON  
STATE K NO. 30  
API# 3002520720  
(VGEU 02-01)

0 - 1579' CEMENT 750 sx

0 - 1579' 8.625" OD SURF CSG

0 - 1579' 12.25 " OD HOLE

2701 - 6223' CEMENT 900 sx

0 - 6223' 4.5" OD PROD CSG

330 FNL & 2306 FEL  
SEC 32 , TWN 17 S, RANGE 35 E  
SPUD DATE: 06-09-64  
COMPLETION DATE: 07-01-64  
COMPLETION INTERVAL: 6164 - 6172

6164 - 6172' PERFS

5954 - 6149' PERFS

0 - 6223' 7.875 " OD HOLE

KB ELEV: 3977'

PBTD: 6213'

TD: 6225'

SHELL  
STATE M NO. 1  
API# 3002520828  
(VGEU 05-01)

0 - 356' 13.375" OD SURF CSG

0 - 356' 17.5 " OD HOLE

0 - 356' CEMENT 350 sx

0 - 3014' CEMENT 400 sx

0 - 3014' 9.625" OD INT CSG

356 - 3014' 12.25 " OD HOLE

3978 - 6306' CEMENT 900 sx

0 - 6306' 4.5" OD PROD CSG

6130 - 6200' PERFS

6273 - 6500' CEMENT PLUG

8050 - 8150' CEMENT PLUG

9450 - 9750' CEMENT PLUG

10200 - 10300' CEMENT PLUG

1980 FSL & 1980 FEL  
SEC 29 , TWN 17 S, RANGE 35 E  
ELEVATION: 3975 ES  
SPUD DATE: 04-18-64  
COMPLETION DATE: 06-01-64  
COMPLETION INTERVAL: 6130 - 6200 (PDCK)

3014 - 10300' 8.5 " OD HOLE

KB ELEV: 3975'

PBTD: 6273'

TD: 10300'

SHELL  
STATE M NO. 3  
API# 3002520830  
(VGEU 05-02)

0 - 1647' CEMENT 800 sx

0 - 1647' 8.625" OD SURF CSG

0 - 1662' 12.25" OD HOLE

4750 - 6300' CEMENT 700 sx

0 - 6300' 4.5" OD PROD CSG

1980 FSL & 660 FEL  
SEC 29 , TWN 17 S, RANGE 35 E  
ELEVATION: 3968 ES  
SPUD DATE: 07-26-64  
COMPLETION DATE: 08-11-64  
COMPLETION INTERVAL: 6112 - 6148 (PDCK)

6112 - 6148' PERFS

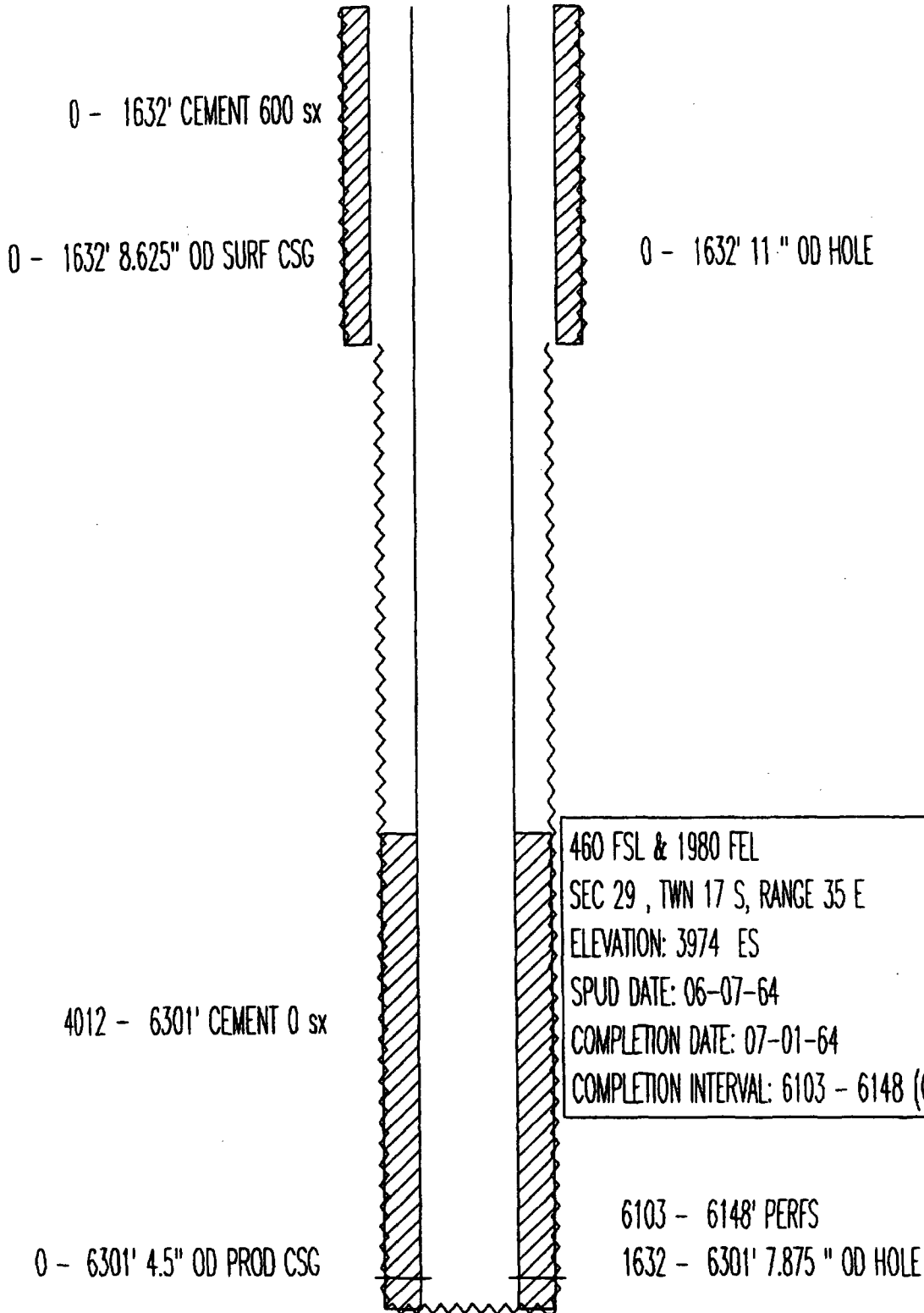
1662 - 6300' 7.875" OD HOLE

KB ELEV: 3968'

PBTD: 6263'

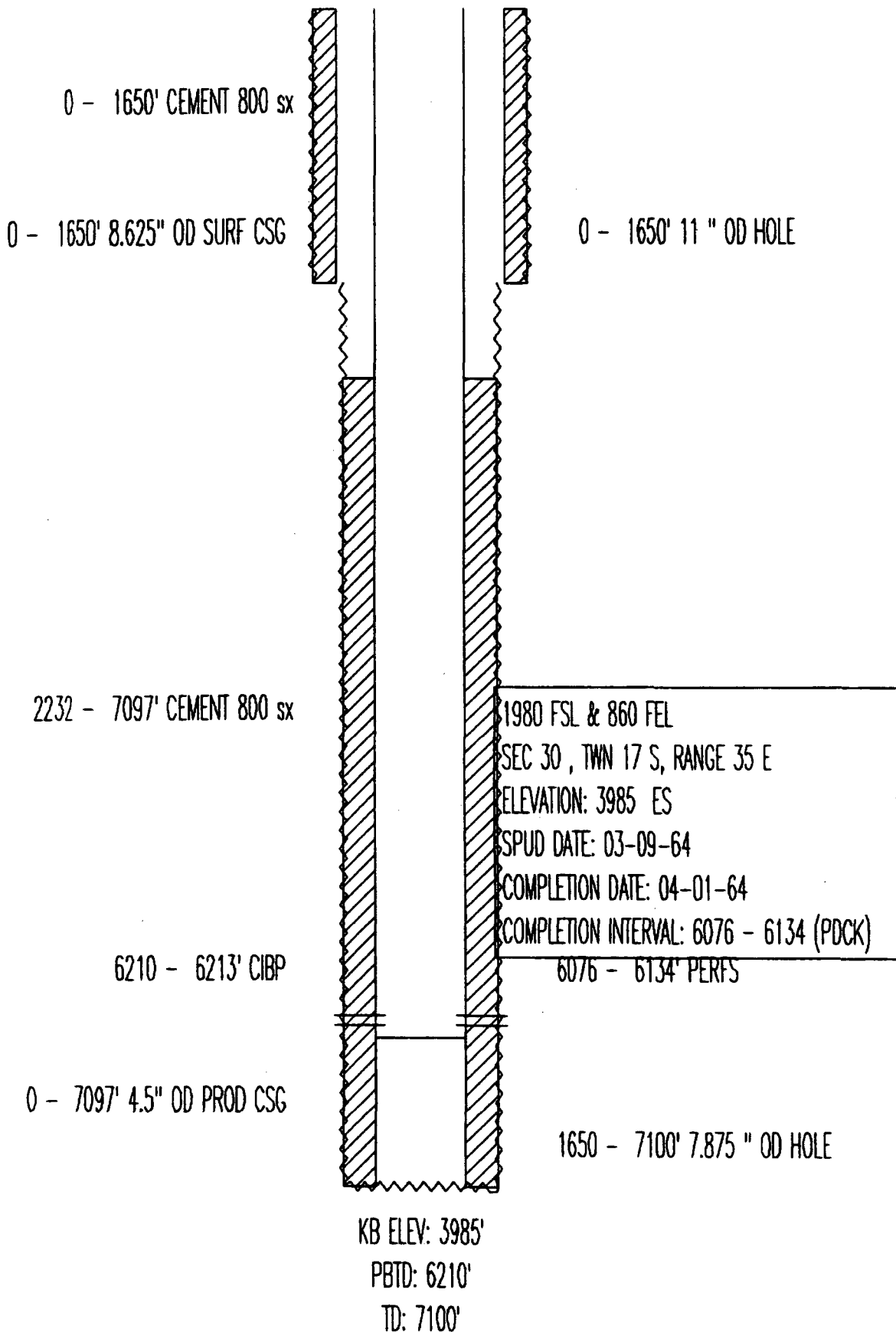
TD: 6300'

SHELL  
STATE M NO. 2  
API# 3002520829  
(VGEU 05-03)

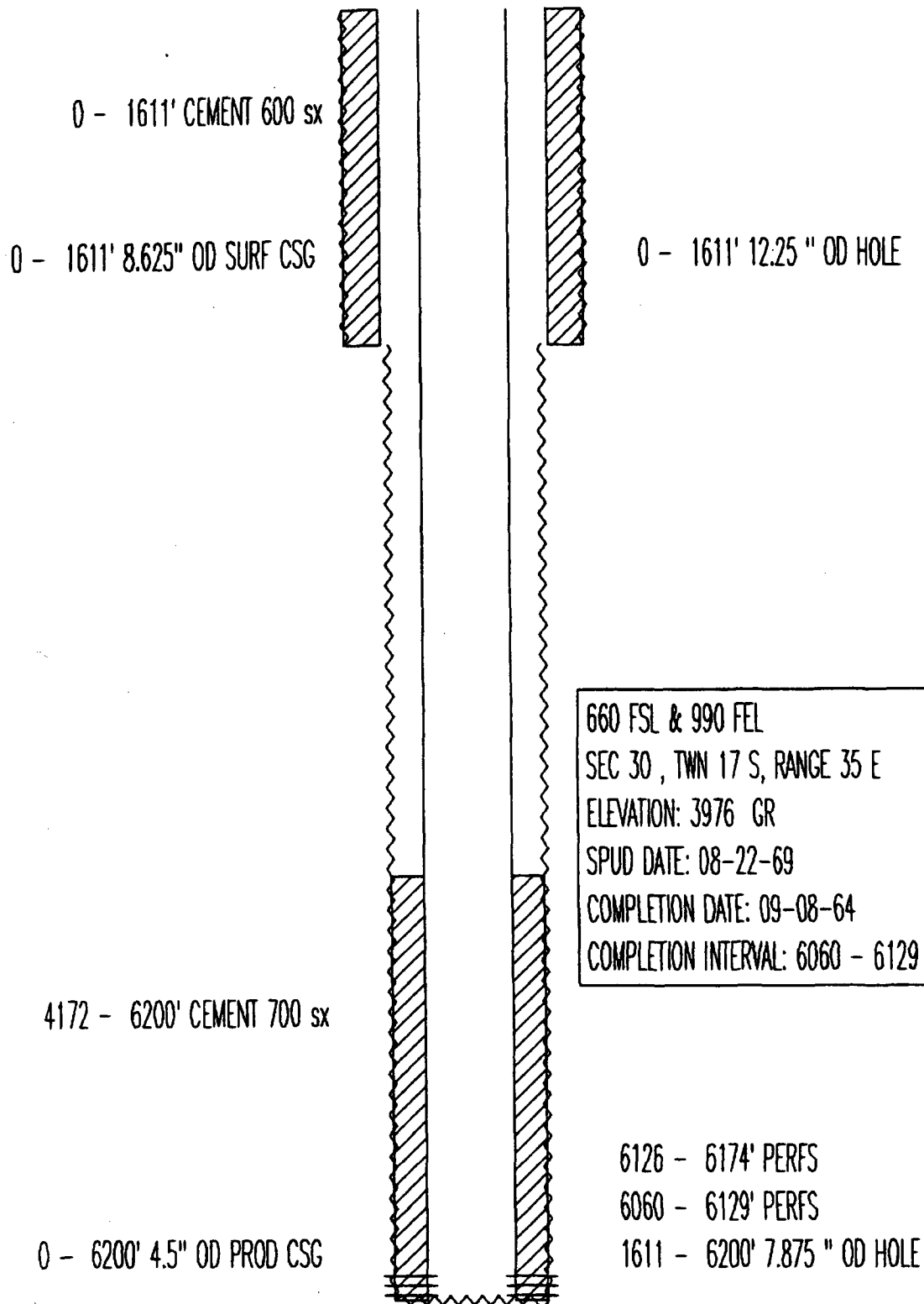


KB ELEV: 3974'  
PBTD: 6267'  
TD: 6301'

SHELL  
STATE B NO. 3  
API# 3002520821  
(VGEU 09-01)



SHELL  
STATE B NO. 4  
API# 3002520822  
(VGEU 09-02)



660 FSL & 990 FEL  
SEC 30 , TWN 17 S, RANGE 35 E  
ELEVATION: 3976 GR  
SPUD DATE: 08-22-69  
COMPLETION DATE: 09-08-64  
COMPLETION INTERVAL: 6060 - 6129 (GLRT)

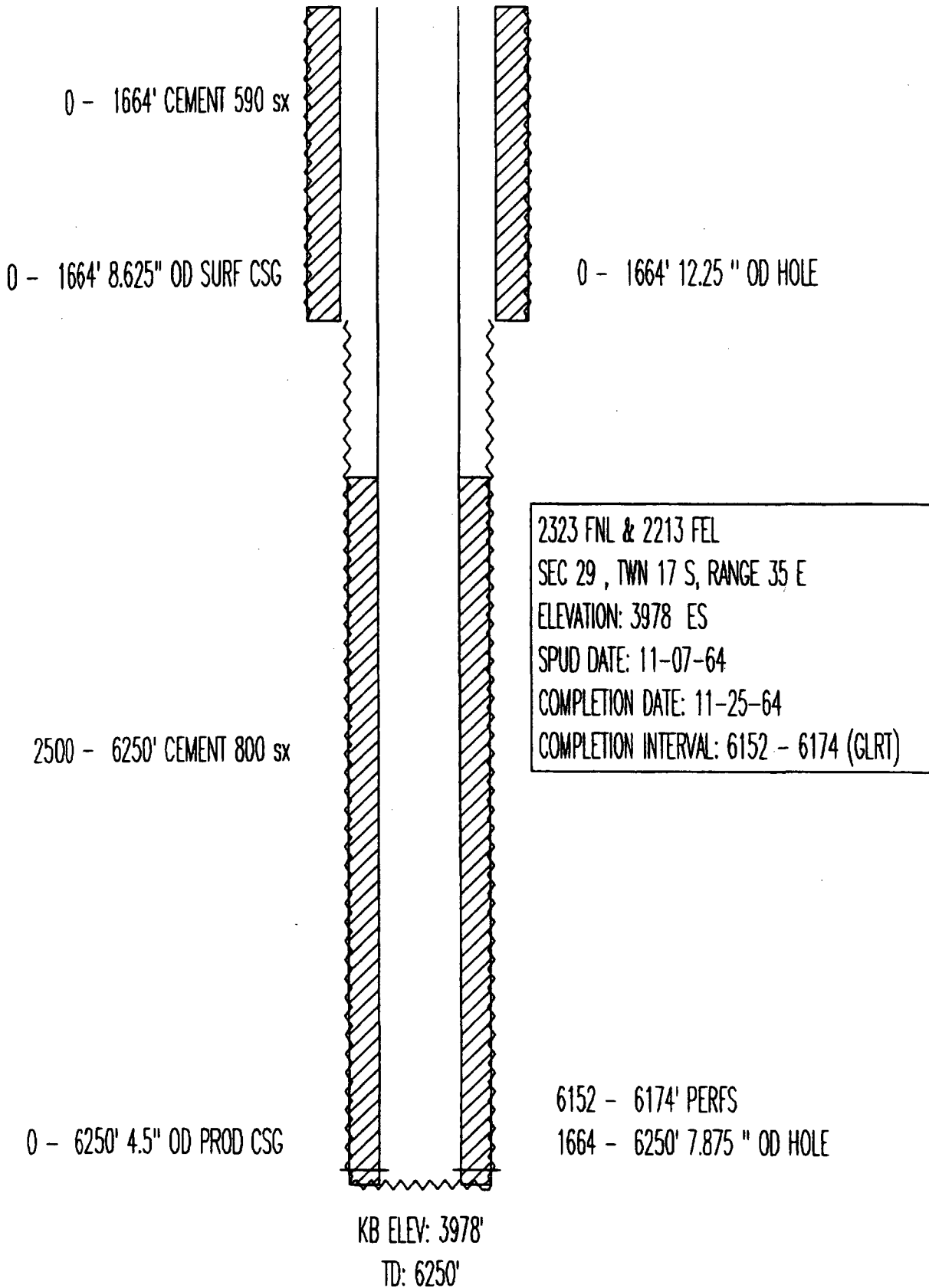
4172 - 6200' CEMENT 700 sx

0 - 6200' 4.5" OD PROD CSG

6126 - 6174' PERFS  
6060 - 6129' PERFS  
1611 - 6200' 7.875" OD HOLE

KB ELEV: 3897'  
PBD: 6175'  
TD: 6200'

PHILLIPS PET  
SANTA FE NO. 109  
API# 3002520802  
(VGEU 14-01)



CHEVRON  
STATE 3-32 NO. 8  
API# 3002521012  
(VGEU 25-01)

0 - 30' CEMENT 26 sx  
0 - 30' 13.375" OD SURF CSG

0 - 30' 17" OD HOLE

0 - 1604' CEMENT 150 sx

0 - 1604' 8.625" OD INT CSG

0 - 1604' 12.25" OD HOLE

1750 - 6265' CEMENT 300 sx

0 - 6265' 4.5" OD PROD CSG

760 FNL & 660 FWL  
SEC 32 , TWN 17 S, RANGE 35 E  
SPUD DATE: 09-09-64  
COMPLETION DATE: 10-05-64  
COMPLETION INTERVAL: 6056 - 6101

6120 - 6197' PERFS

6056 - 6101' PERFS

0 - 6276' 7.875" OD HOLE

KB ELEV: 3979'

PBTD: 6224'

TD: 6277'



CHEVRON  
STATE 3-32 NO. 7  
API# 3002520886  
(VGEU 25-02)

0 - 1597' CEMENT 1050 sx

0 - 1597' 8.625" OD SURF CSG

0 - 1597' 12.25 " OD HOLE

760 FNL & 1980 FWL  
SEC 32 , TWN 17 S, RANGE 35 E  
SPUD DATE: 08-24-64  
COMPLETION DATE: 09-15-64  
COMPLETION INTERVAL: 6080 - 6158

2550 - 6250' CEMENT 870 sx

0 - 6250' 4.5" OD PROD CSG

6080 - 6158' PERFS  
0 - 6250' 7.875 " OD HOLE

KB ELEV: 3976'

PBTD: 6209'

TD: 6250'

PHILLIPS PET  
SANTA FE NO. 103  
API# 3002520797  
(VGEU 29-01)

0 - 1667' CEMENT 640 sx

0 - 1667' 8.625" OD SURF CSG

0 - 1667' 12.25 " OD HOLE

2250 - 6225' CEMENT 750 sx

6185 - 6188' CIBP  
0 - 6225' 4.5" OD PROD CSG

1655 FSL & 1980 FWL

SEC 29 , TWN 17 S, RANGE 35 E

ELEVATION: 3982 ES

SPUD DATE: 09-03-64

COMPLETION DATE: 09-21-64

COMPLETION INTERVAL: 6104 - 6135 (GLRT)

\*\*\*\*

COMPLETION DATE: 08-24-81

COMPLETION INTERVAL: 6101 - 6135 (GLRT)

6104 - 6135' PERFS

1667 - 6225' 7.875 " OD HOLE

KB ELEV: 3971'

TD: 6225'

SHELL  
STATE H NO. 2  
API# 3002520826  
(VGEU 36-01)

0 - 1613' CEMENT 800 sx

0 - 1613' 8.625" OD SURF CSG

0 - 1613' 11 " OD HOLE

2800 - 6250' CEMENT 750 sx

1800 FSL & 660 FWL  
SEC 29 , TWN 17 S, RANGE 35 E  
ELEVATION: 3980 ES  
SPUD DATE: 07-13-64  
COMPLETION DATE: 08-01-64  
COMPLETION INTERVAL: 6102 - 6133 (PDCK)

6210 - 6210' RETAINER  
0 - 6250' 4.5" OD PROD CSG

6102 - 6133' PERFS  
1613 - 6250' 7.875 " OD HOLE

KB ELEV: 3980'

PBTD: 6210'

TD: 6250'

SHELL  
STATE F NO. 3  
API# 3002520824  
(VGEU 38-01)

0 - 1657' CEMENT 600 sx

0 - 1657' 8.625" OD SURF CSG

0 - 1657' 11 " OD HOLE

0 - 6219' CEMENT 866 sx

0 - 6219' 4.5" OD PROD CSG

800 FSL & 800 FWL  
SEC 29 , TWN 17 S, RANGE 35 E  
ELEVATION: 3979 ES  
SPUD DATE: 05-09-64  
COMPLETION DATE: 05-24-64  
COMPLETION INTERVAL: 6072 - 6121 (PDCK)

6105 - 6154' PERFS

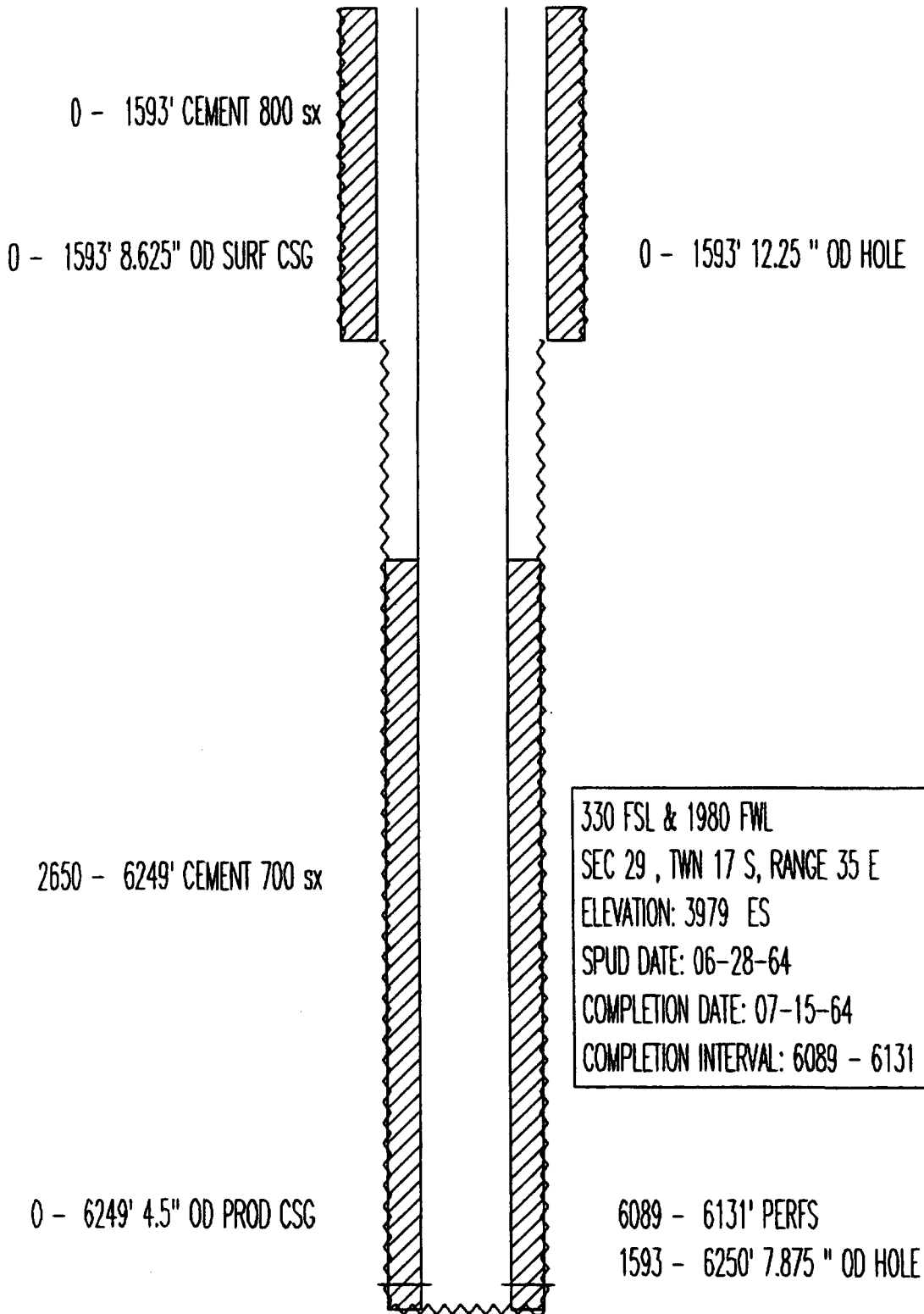
6072 - 6121' PERFS

1657 - 6222' 7.875 " OD HOLE

KB ELEV: 3979'

TD: 6222'

SHELL  
STATE F NO. 4  
API# 3002520825  
(VGEU 38-02)



KB ELEV: 3979'  
PBTD: 6215'  
TD: 6250'

SHELL  
STATE I NO. 2  
API# 3002502938  
(VGEU 39-01)

0 - 307' CEMENT 250 sx  
0 - 307' 8.625" OD SURF CSG

0 - 307' 11 " OD HOLE

2266 - 4726' CEMENT 250 sx

0 - 4726' 5.5" OD INT CSG

4335 - 6387' CEMENT 170 sx

4335 - 6387' 3.5" OD LINER

2310 FNL & 330 FWL

SEC 29 , TWN 17 S, RANGE 35 E

ELEVATION: 3976 KB

SPUD DATE: 07-28-60

COMPLETION DATE: 02-07-64

COMPLETION INTERVAL: 6111 - 6146 (PDCK)

4408 - 4570' PERFS

307 - 4726' 7.875 " OD HOLE

6111 - 6146' PERFS

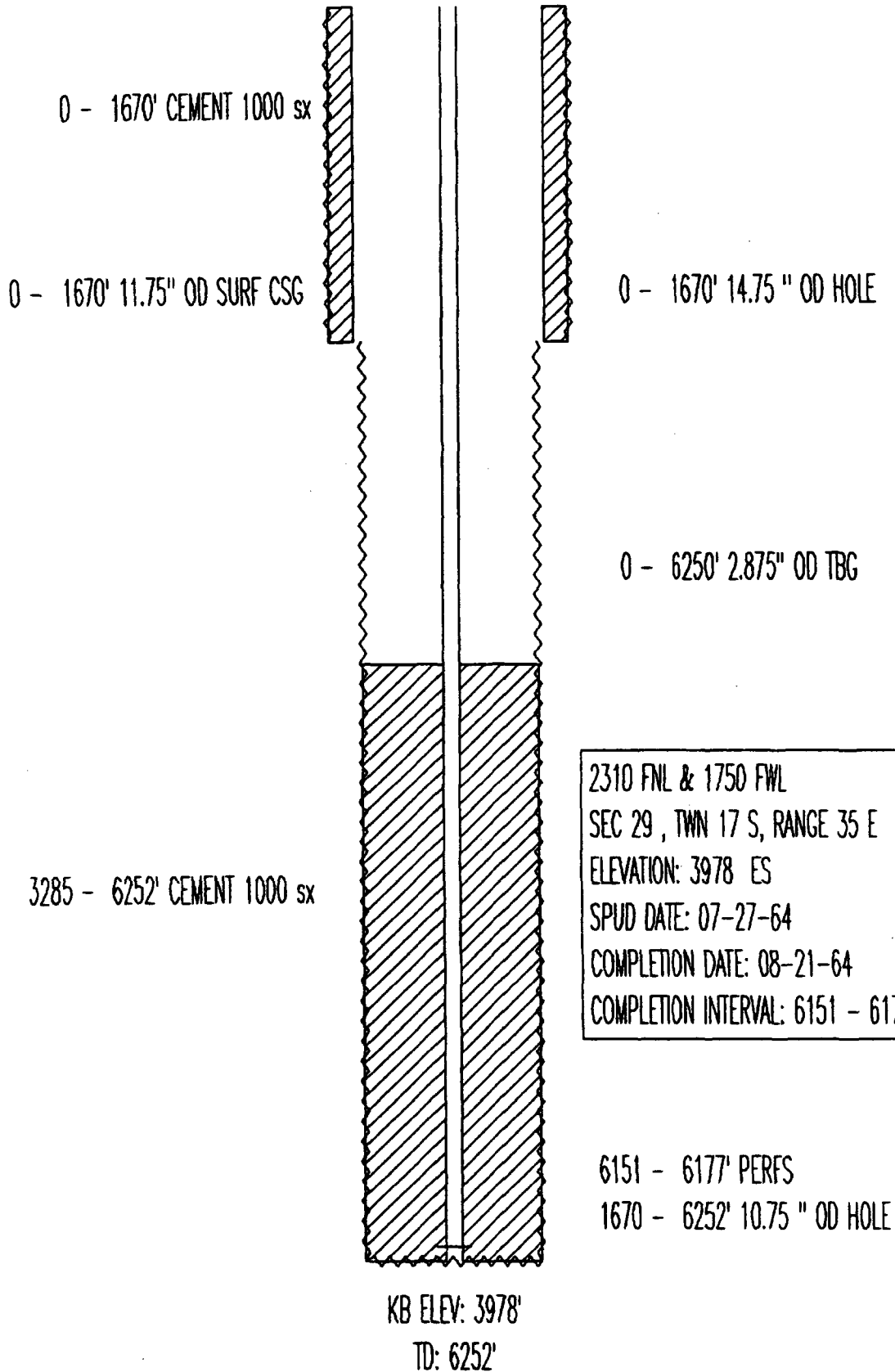
4726 - 6387' 4.75 " OD HOLE

KB ELEV: 3976'

PBTD: 6385'

TD: 6387'

TEXACO EXPL & PROD  
STATE CG NCT2 NO. 1  
API# 3002520957  
(VGEU 46-01)



**Notification of Offset Operators:**

ConocoPhillips is the leasehold Operator of the Vacuum Grayburg East Unit and the VGEU Well# 38-03 ½ mile radius falls within the boundaries of that unit. Therefore no notification to offset operators is required.

**Notification to Surface Owner:**

State of New Mexico  
Commissioner of Public Lands  
PO Box 1148  
Santa Fe, NM 87501-1148

A copy of this application has been sent to the above listed party on this the 29 day of July, 2004.

  
\_\_\_\_\_  
Kay Maddox  
Regulatory Agent



AFFIDAVIT OF PUBLICATION

State of New Mexico,  
County of Lea.

I, KENNETH NORRIS

Advertising Manager

of the Hobbs News-Sun, a news-  
paper published at Hobbs, New  
Mexico, do solemnly swear that  
the clipping attached hereto was  
published once a week in the reg-  
ular and entire issue of said paper,  
and not a supplement thereof for a  
period

of \_\_\_\_\_

1 issues(s).  
Beginning with the issue dated

July 6, 2004  
and ending with the issue dated

July 6, 2004

Kenneth Norris  
Advertising Manager  
Sworn and subscribed to before

me this 12th day of

July, 2004

Joseph Stewas  
Notary Public.

My Commission expires  
November 27, 2004  
(Seal)



This newspaper is duly qualified to  
publish legal notices or advertise-  
ments within the meaning of  
Section 3, Chapter 167, Laws of  
1937, and payment of fees for said  
publication has been made.

LEGAL NOTICE  
July 6, 2004

PHILLIPS PETROLEUM COMPANY, 4001 Penbrook  
Street, Odessa, Texas 79762, has filed NMOCD Form C-  
108 (Application for Authorization to Inject) with the New  
Mexico Oil Conservation Division, seeking administrative  
approval for the purpose of injecting water for secondary re-  
covery. The well is the Vacuum Glorieta East Unit #38-03,  
located 1130' FSL & 1405' FWL, Section 29, T-17-S, R-35-  
E, Lea County, New Mexico.

The volumes will be injected into the Glorieta formation at a  
depth of 6086-6098', a maximum surface pressure of 2000  
psig and a maximum rate of 2000 BWPD.

All interested parties opposing the action must file objec-  
tions or requests for hearing with the Oil Conservation Divi-  
sion, 1220 S. Saint Francis Drive, Santa Fe, New Mexico  
87505, within 15 days. Additional information can be ob-  
tained by contacting Celeste Dale, Regulatory Analyst Con-  
ocoPhillips, at 4001 Penbrook Street, Odessa, Texas  
79762, or (915)368-1667.  
#20777

01102332000 67523343  
Phillips Petroleum Company/ODE  
4001 Penbrook  
ODESSA, TX 79762

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

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

**CASE NO. 10846  
Order No. R-10020**

**APPLICATION OF PHILLIPS PETROLEUM  
COMPANY FOR APPROVAL OF A WATERFLOOD  
PROJECT, AND TO QUALIFY SAID PROJECT  
FOR THE RECOVERED OIL TAX RATE PURSUANT  
TO THE "NEW MEXICO ENHANCED OIL RECOVERY  
ACT", LEA COUNTY, NEW MEXICO.**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This cause came on for hearing at 8:15 a.m. on October 7, 1993, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 23rd day of November, 1993, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

**FINDS THAT:**

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

(2) Division Case Nos. 10845 and 10846 were consolidated at the time of the hearing for the purpose of testimony.

(3) The applicant, Phillips Petroleum Company (Phillips), seeks authority to institute a waterflood project in its Vacuum Glorieta East Unit by the injection of water into the Glorieta and Paddock formations, Vacuum-Glorieta Pool, Lea County, New Mexico, through the gross perforated and/or open hole interval from approximately 5,983 feet to 6,202 feet in nine existing and thirty-nine wells to be drilled at orthodox and unorthodox locations as shown on Exhibit "A" attached hereto.

(4) By Order No. R-10017 issued in Case No. 10845 on November 16, 1993, the Division, upon application of Phillips, approved the Vacuum Glorieta East Unit which comprises some 4,239.80 acres, more or less, in Townships 17 and 18 South, Range 35 East, NMPM, Lea County, New Mexico, described as follows:

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM

Section 26: N/2 NW/4, SW/4 NW/4, NW/4 SW/4  
Section 27: All  
Section 28: E/2, SW/4, S/2 NW/4, NE/4 NW/4  
Section 29: S/2, S/2 N/2  
Section 30: SE/4, S/2 NE/4, E/2 SW/4, SE/4 NW/4  
Section 31: E/2, E/2 W/2  
Section 32: All  
Section 33: N/2, N/2 S/2, SW/4 SW/4  
Section 34: W/2 NW/4, NE/4 NW/4, NW/4 SW/4

TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM

Section 5: N/2 N/2 (Lots 1, 2, 3 and 4), SW/4 NW/4

(5) The western boundary of the Vacuum Glorieta East Unit is contiguous with the eastern boundary of the Texaco Exploration & Production Inc. Vacuum Glorieta West Unit and Waterflood Project which were approved by Division Order Nos. R-9714 and R-9710, respectively.

(6) The vast majority of wells located within the applicant's Vacuum Glorieta East Unit Area are in an advanced state of depletion and should properly be classified as "stripper wells".

(7) The proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(8) Applicant estimates that secondary recovery operations within the Vacuum Glorieta East Unit Area will result in the recovery of an additional 16.4 million barrels of oil.

(9) The Vacuum Glorieta East Unit Waterflood Project will be developed on a 40-acre five spot injection pattern which will involve drilling eight new producing wells, thirty-three new injection wells, the conversion of fifteen existing wells to injection, and the reactivation of nine shut-in producing wells.

(10) The applicant should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(11) The injection of water into each of the wells shown on Exhibit "A" should be accomplished through internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforation or casing shoe; the casing-tubing annulus should be filled with an inert fluid and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(12) Prior to commencing injection operations into the wells shown on Exhibit "A", the casing in each well should be pressure tested throughout the interval from the surface down to the proposed packer setting depth to assure the integrity of such casing.

(13) The injection wells or pressurization system should be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 1200 psi.

(14) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described in Finding No. (13) above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(15) There are six wells, shown on Exhibit "B" attached hereto, which are located within the "area of review" which may not be cemented in a manner adequate to confine the injected fluid to the proposed injection interval.

(16) Prior to initiating injection operations within one-half mile of any of the wells shown on Exhibit "B", the applicant should be required to either demonstrate to the supervisor of the Division's Hobbs district office that the subject wells are completed and cemented adequately to confine the injected fluid to the injection zone, or perform remedial cement operations in a manner acceptable to the Division.

(17) Prior to commencing injection operations into the proposed Vacuum Glorieta East Unit Well Nos. 03W02, 08W02, 16W04, 20W02, 23W03, and 30W02, the applicant should be required to submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement.

(18) The operator should give advance notification to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment, the conductance of any remedial cement operations, and of the mechanical integrity pressure tests in order that the same may be witnessed.

(19) The application should be approved and the project should be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(20) At the time of the hearing, the applicant requested that the subject waterflood be certified by the Division as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(21) The evidence presented indicates that the subject waterflood meets all the criteria for certification.

(22) Implementation of secondary recovery operations within the Vacuum Glorieta East Unit will occur in three phases. Phase I is to be implemented in 1994, Phase II in 1995 and Phase III in 1996.

(23) The certified "project area" should initially comprise the area within the Vacuum Glorieta East Unit, described in Finding No. (4) above, provided however, the "project area" and/or the producing wells eligible for the recovered oil tax rate may be contracted and reduced dependent upon the evidence presented by the applicant in its demonstration of the occurrence of a positive production response.

(24) To be eligible for the EOR credit, the operator should advise the Division when water injection commences within Phase I, II and III and, at such time, request the Division certify such phases or areas to the New Mexico Taxation and Revenue Department.

(25) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, Phillips Petroleum Company, is hereby authorized to institute a waterflood project in its Vacuum Glorieta East Unit by the injection of water into the Glorieta and Paddock formations, Vacuum-Glorieta Pool, Lea County, New Mexico, through the gross perforated and/or open hole interval from approximately 5,983 feet to 6,202 feet in nine existing and thirty-nine wells to be drilled at orthodox and unorthodox locations as shown on Exhibit "A" attached hereto.

(2) The applicant shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(3) Injection into the wells shown on Exhibit "A" shall be accomplished through plastic-lined tubing installed in a packer set approximately within 100 feet of the uppermost injection perforation or casing shoe; the casing-tubing annulus shall be filled with an inert fluid and a gauge or approved leak-detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(4) The injection wells or pressurization system shall be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 1200 psi.

(5) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(6) Prior to commencing injection operations into the wells shown on Exhibit "A", the casing in each well shall be pressure-tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(7) Prior to initiating injection operations within one-half mile of any of the wells shown on Exhibit "B", the applicant shall either demonstrate to the supervisor of the Division's Hobbs district office that the subject wells are completed and cemented adequately to confine the injected fluid to the injection zone, or perform remedial cement operations in a manner acceptable to the Division.

(8) Prior to commencing injection operations into the proposed Vacuum Glorieta East Unit Well Nos. 03W02, 08W02, 16W04, 20W02, 23W03, and 30W02, the applicant shall submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement.

(9) The operator shall give advance notification to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment, the conductance of remedial cement operations, and of the mechanical integrity pressure tests, in order that the same may be witnessed.

(10) The applicant shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing, casing or packer in any of the injection wells, the leakage of water or oil from or around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area, and shall take such steps as may be timely and necessary to correct such failure or leakage.

(11) The subject waterflood is hereby designated the Vacuum Glorieta East Unit Waterflood Project and shall be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(12) Monthly progress reports of the waterflood project herein authorized shall be submitted to the Division in accordance with Rule Nos. 706 and 1115 of the Division Rules and Regulations.

(13) The applicant shall be required to obtain Division approval, subsequent to the entry of this order, to drill any injection well located at an unorthodox location closer than 330 feet from the outer boundary of the Vacuum Glorieta East Unit.

(14) The subject waterflood is hereby certified as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(15) The certified "project area" shall initially coincide with the Vacuum Glorieta East Unit Area, described in Finding No. (4) above, provided however, the "project area" and/or the producing wells eligible for the recovered oil tax rate may be contracted and reduced dependent upon the evidence presented by the applicant in its demonstration of the occurrence of a positive production response.

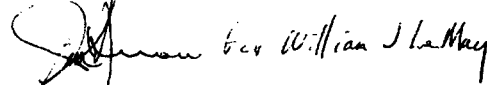
(16) To be eligible for the EOR credit, the operator shall advise the Division when water injection commences within Phase I, II and III and at such time, request the Division certify such phases or areas to the New Mexico Taxation and Revenue Department.

(17) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

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

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

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

A handwritten signature in dark ink, appearing to read "William J. LeMay", is written over a horizontal line.

**WILLIAM J. LeMAY**  
Director

S E A L



**Exhibit "A"**  
**Case No. 10846**  
**Division Order No. R-10020**  
**Vacuum Gorieta East Unit**  
**Approved Injection Wells**  
**Existing Wells**

Operator	Lease Name & Well No.	Location	Unit	STR	VGEU Well No.
Exxon Company USA	N.M. "K" State No. 34	1286' FSL - 1333' FWL	N	28-17S-35E	01-05
Exxon Company USA	N.M. "K" State No. 35	1195' FSL - 2518' FEL	O	28-17S-35E	01-06
Shell Western E & P, Inc.	State "T" No. 10	2310' FSL - 1980' FEL	J	33-17S-35E	06-01
Phillips Petroleum Company	Santa Fe No. 109	2323' FNL - 2213' FEL	G	29-17S-35E	14-01
Marathon Oil Company	Warn State AC 3 No. 8	1650' FNL - 990' FEL	H	33-17S-35E	24-01
Chevron USA, Inc.	State 4-27 No. 10	1650' FSL - 330' FWL	L	27-17S-35E	27-01
Phillips Petroleum Company	Santa Fe No. 106	2323' FNL - 660' FEL	H	29-17S-35E	32-01
Phillips Petroleum Company	Santa Fe No. 105	2322' FNL - 660' FWL	E	28-17S-35E	41-02
Phillips Petroleum Company	Santa Fe No. 92	2105' FSL - 1980' FWL	K	33-17S-35E	43-01

Exhibit "A"  
Case No. 10846  
Division Order No. R-10020  
Vacuum Glorieta East Unit  
Approved Injection Wells  
New Wells

Infill Producing Wells Converted to Injection Wells

Lease Name & Well No.	Location	Unit	STR	VGEU Well No.
New Mexico K State	1320' FSL - 1320' FEL		28-17S-35E	01-13
New Mexico K State	1200' FNL - 1320' FEL		32-17S-35E	02-11
State M	1330' FSL - 1330' FEL	J	29-17S-35E	05-06
Warn State AC 3	1330' FNL - 2640' FWL		33-17S-35E	24-06
State 5 27	1500' FNL - 1320' FWL		27-17S-35E	26-06
Santa Fe	1320' FSL - 1330' FWL		29-17S-35E	29-02
Infill Injection Wells				
New Mexico State K	1320' FSL - 100' FWL		28-17S-35E	01W12
New Mexico State K	100' FSL - 1320' FWL		28-17S-35E	01W14
New Mexico State K	100' FSL - 1320' FEL		28-17S-35E	01W15
New Mexico State K	1320' FNL - 2650' FWL		32-17S-35E	02W09
New Mexico State K	2640' FNL - 1320' FEL		32-17S-35E	02W12

Lease Name & Well No.	Location	Unit	STR	VGEU Well No.
Skelly J State	50' FNL - 1370' FWL	C	31-17S-35E	03W02
Skelly P State	1200' FNL - 100' FWL	D	33-17S-35E	04W03
Skelly P State	1310' FNL - 1320' FWL		33-17S-35E	04W04
State M	1320' FSL - 2650' FWL		29-17S-35E	05W05
State M	100' FSL - 2650' FWL	O	29-17S-35E	05W07
State M	100' FSL - 1320' FEL		29-17S-35E	05W08
State F	50' FSL - 1370' FWL	N	31-17S-35E	08W02
State B	1320' FSL - 1310' FEL		30-17S-35E	09W03
State B	100' FSL - 1310' FEL	P	30-17S-35E	09W04
State N	1500' FNL - 1320' FEL		28-17S-35E	10W04
State N	2630' FNL - 2650' FWL	G	28-17S-35E	10W05
State N	2630' FNL - 1320' FEL		28-17S-35E	10W06
Santa Fe	2650' FNL - 2650' FWL	J	30-17S-35E	15W03
Santa Fe	1320' FSL - 2650' FWL		30-17S-35E	15W04
Santa Fe	100' FSL - 2650' FWL	O	30-17S-35E	15W05
Santa Fe	660' FNL - 50' FWL	D	5-18S-35E	16W04
State B 1578	2510' FSL - 1370' FWL	K	30-17S-35E	20W02
Warn State AC1	2640' FNL - 1370' FWL		31-17S-35E	23W03

Lease Name & Well No.	Location	Unit	STR	VGEU Well No.
State 3-32	1320' FNL - 1320' FWL		32-17S-35E	25W06
State 5-27	2630' FNL - 1320' FWL		27-17S-35E	26W07
Santa Fe	50' FSL - 1370' FEL	O	31-17S-35E	30W02
State H	1330' FSL - 100' FWL	L	29-17S-35E	36W02
State F	100' FSL - 100' FWL	M	29-17S-35E	38W03
State F	100' FSL - 1320' FWL		29-17S-35E	38W04
Santa Fe	2640' FNL - 100' FWL		33-17S-35E	42W03
State L DE	1330' FNL - 2650' FWL	G	30-17S-35E	45W02
State CG NCT-2	1980' FNL - 1980' FWL	F	29-17S-35E	46W01
State CG NCT-1	1980' FNL - 660' FEL	H	30-17S-35E	47W01

Exhibit "B"  
Case No. 10846  
Division Order No. R- 10020  
Inadequately Cemented Wells

Well Name & No.	Location	Unit	S-T-R
Vacuum Abo Unit Tract 14 No. 3	660' FSL - 1980' FWL	N	5-18S-35E
Vacuum Abo Unit Tract 14 No. 2	660' FSL - 660' FWL	M	5-18S-35E
Vacuum Abo Unit Tract 9 No. 5	2310' FNL - 330' FEL	H	33-17S-35E
Santa Fe No. 125	660' FSL - 1820' FWL	N	20-17S-35E
NM "AB" State No. 4	1650' FSL - 660' FEL	I	6-18S-35E
State "E" No. 2	660' FSL - 1700' FWL	N	31-17S-35E