

### NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
BETTY RIVERA
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 9, 2002

Phillips Petroleum Company c/o Mr. W. Thomas Kellahin P.O. Box 2265 Santa Fe, New Mexico 87504-2265

Re:

Certification of Positive Production Response

State-35 Unit Tertiary Recovery/ Pressure Maintenance Project

Dear Mr. Kellahin:

Pursuant to your request dated June 19, 2002, please be advised that the Division hereby certifies that a positive production response occurred within the State-35 Unit Tertiary Recovery/Pressure Maintenance Project on September 1, 1998.

All Vacuum Grayburg-San Andres Pool producing wells within the following described area, which currently number twenty-four as shown on Exhibit "A" attached hereto, shall be eligible for the recovered oil tax rate.

### **PROJECT AREA**

Township 17 South, Range 34 East, NMPM

Section 35: N/2, E/2 SW/4, SE/4

Phillips Petroleum Company shall notify the Division:

- (a) of the change in status of any of the producing wells shown on Exhibit "A";
- (b) in the event new producing wells are drilled within the project area; and
- (c) of changes in operations within the project area which may affect the certification and resulting tax rate granted herein.

Positive Production Response Certification Phillips Petroleum Company State-35 Unit Tertiary Recovery/Pressure Maintenance Project Page 2

The Division Director shall notify the Secretary of the New Mexico Taxation and Revenue Department of the certification granted herein.

Sincerely,

Lori Wrotenbery

Director

Xc: File-EOR-32

# EXHIBIT "A" CERTIFICATION OF POSITIVE PRODUCTION RESPONSE STATE-35 UNIT TERTIARY RECOVERY/ PRESSURE MAINTENANCE PROJECT PRODUCING WELLS

API NUMBER	WELL NAME & NUMBER	WELL LOCATION UL-S-T-R
30-025-02225	State 35 Unit No. 1	Unit D, Section 35, T-17S, R-34E
30-025-02215	State 35 Unit No. 2	Unit B, Section 35, T-17S, R-34E
30-025-02214	State 35 Unit No. 3	Unit A, Section 35, T-17S, R-34E
30-025-28046	State 35 Unit No. 7	Unit H, Section 35, T-17S, R-34E
30-025-33489	State 35 Unit No. 8	Unit H, Section 35, T-17S, R-34E
30-025-02217	State 35 Unit No. 10	Unit G, Section 35, T-17S, R-34E
30-025-33415	State 35 Unit No. 11	Unit H, Section 35, T-17S, R-34E
30-025-02213	State 35 Unit No. 12	Unit H, Section 35, T-17S, R-34E
30-025-22955	State 35 Unit No. 13	Unit E, Section 35, T-17S, R-34E
30-025-33418	State 35 Unit No. 15	Unit K, Section 35, T-17S, R-34E
30-025-33419	State 35 Unit No. 18	Unit I, Section 35, T-17S, R-34E
30-025-02220	State 35 Unit No. 19	Unit K, Section 35, T-17S, R-34E
30-025-33416	State 35 Unit No. 20	Unit K, Section 35, T-17S, R-34E
30-025-02222	State 35 Unit No. 21	Unit J, Section 35, T-17S, R-34E
30-025-34277	State 35 Unit No. 38	Unit I, Section 35, T-17S, R-34E
30-025-30614	State 35 Unit No. 24	Unit N, Section 35, T-17S, R-34E
30-025-30615	State 35 Unit No. 26	Unit O, Section 35, T-17S, R-34E
30-025-33417	State 35 Unit No. 28	Unit P, Section 35, T-17S, R-34E
30-025-08455	State 35 Unit No. 31	Unit N, Section 35, T-17S, R-34E
30-025-30616	State 35 Unit No. 32	Unit N, Section 35, T-17S, R-34E
30-025-02223	State 35 Unit No. 33	Unit O, Section 35, T-17S, R-34E
30-025-30617	State 35 Unit No. 34	Unit P, Section 35, T-17S, R-34E
30-025-02221	State 35 Unit No. 35	Unit P, Section 35, T-17S, R-34E
30-025-20780	State 35 Unit No. 36	Unit P, Section 35, T-17S, R-34E



## NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
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Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 9, 2002

Department of Taxation and Revenue P.O. Box 630 Santa Fe, New Mexico 87509-0630

Attention: Mr. T. Glenn Ellington, Secretary

Re: Certification of a Positive Production Response

Phillips Petroleum Company

State 35 Unit Tertiary Recovery/Pressure Maintenance Project

Dear Secretary Ellington:

Enclosed is a copy of a Division Certification that was issued on September 9, 2002. This document certifies that a positive production response has occurred within the State 35 Unit Tertiary Recovery/Pressure Maintenance Project that is currently operated by Phillips Petroleum Company. In addition, this positive production response has occurred within the seven year time limit as described within the "New Mexico Enhanced Oil Recovery Act". The Division has determined that all wells within the certified area producing from the Vacuum Grayburg-San Andres Pool are eligible for the recovered oil tax rate. These wells are shown on Exhibit "A" to the Division Certification.

For your convenience, we have also enclosed a summary page showing all pertinent data. If additional information is required, please advise.

Sincerely,

Lou Westenbery by De

Director

LW/DRC

Xc: EOR-32

### POSITIVE PRODUCTION RESPONSE DATA STATE 35 UNIT TERTIARY RECOVERY/ PRESSURE MAINTENANCE PROJECT

### NAME OF PROJECT

State 35 Unit Tertiary Recovery/Pressure Maintenance Project

### **OPERATOR**

Phillips Petroleum Company 4001 Penbrook Odessa, Texas 79762

### **POOL**

Vacuum Grayburg-San Andres Pool

### OCD ORDER NO. APPROVING PROJECT & DATE

R-10599-B, September 27, 1996

### <u>PROJECT AREA</u>

Section by the

Township 17 South, Range 34 East, NMPM

Section 35: N/2, E/2 SW/4, SE/4

### DATE CO2/WATER INJECTION COMMENCED

November, 1996

### DATE CERTIFIED PROJECT TO TAXATION & REVENUE

November 7, 1996

### DATE POSITIVE PRODUCTION RESPONSE OCCURRED

September 1, 1998

### CURRENT NUMBER OF WELLS WITHIN PROJECT AREA

Injection—11 Production—24

KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

TELEPHONE (505) 982-4285

TELEFAX (505) 982-2047

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

JASON KELLAHIN (RETIRED 1991)

June 19, 2002

\*NEW MEXICO BOARD OF LEGAL SPECIALIZATION RECOGNIZED SPECIALISY IN THE AREA OF

NATURAL RESOURCES-OIL AND GAS LAW

W. THOMAS KELLAHIN\*

### HAND DELIVERED

Mr. David R. Catanach Oil Conservation Division 1220 South Saint Francis Drive Santa Fe, New Mexico 87505

Re: APPLICATION FOR POSITIVE INJECTION RESPONSE NMOCD Case 11523; ORDER P-10599-B Phillips Petroleum Company Tertiary Recovery-Pressure Maintenance Project for the State-35 Unit

Dear Mr. Catanach::

On behalf of Phillips Petroleum Company, please find enclosed are application for a positive injection response for the reference project. The November 7, 19996 letter incorrect used a 5 year period then in fact this project is eligible for a 7 year period.

If you have any questions, please call me.

Regards,

W. Thomas Kellahin

cfx: Phillips Petroleum Company
Attn: Alfred H. Kent, Jr.

(915) 368-1450

### STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURECES DEPARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF PHILLIPS PETROLEUM COMPANY FOR CERTIFICATION OF A POSITIVE PRODUCTION RESPONSE OF ITS STATE 35 UNIT TERTIARY RECOVERY/PRESSURE MAINTENANCE PROJECT PURSUANT TO THE "NEW MEXICO ENHANCED OIL RECOVERY ACT," LEA COUNTY, NEW MEXICO

#### **ADMINISTRATIVE APPLICATION**

Comes now PHILLIPS PETROLEUM COMPANY, by its attorneys, Kellahin & Kellahin, and pursuant to the New Mexico "Enhanced Oil Recovery Act" and Division Order R-9708.E.2 applies to the New Mexico Oil Conservation Division for certification of a positive production response for its State 35 Unit Tertiary Recover/Pressure Maintenance Project, Lea County, New Mexico, and in support states:

- (1) Phillips Petroleum Company ("Phillips") is the operator for the State 35 Unit Tertiary Recovery/Pressure Maintenance Project, a tertiary recovery project for an area comprising 560 acres, more or less, being the N/2, E/2 SW/4, and SE/4 Section 35, T17S, R34E, NMPM, State leases and identified as the "Project Area" on Exhibit "A" attached.
- (2) Phillips controls 100% of the working interest ownership in the project area and is the current operator of all wells within that area.
- (3) As of the 1<sup>st</sup> day of November, 1997, the producing wells in the Project Area demonstrated a positive production response. From this date to February 28, 2002, the total volume of oil produced by unit wells has been 832,000 barrels of oil.

NMOCD Application of Phillips Petroleum Company Page 2

- (4) The Twenty-seven (27) producing wells and the Eleven (11) injection wells are as listed by name and location on Exhibit "B" attached.
- (5) In accordance with Division Order R-9708, the following is submitted:
  - (a) A copy of Division Order R-10599-B dated September 27, 1996;
  - (b) A copy of the Division's certification of enhance oil recovery project for recovered oil tax rate dated November 7, 1996 (Certification date October 1, 1996);
  - (c) A plat of the affected area showing all injection and producing wells with completion dates (Exhibit A);
  - (d) Production graphs and supporting data demonstrating a positive production response and showing the volumes of water and gas that have been injected on these leases since initiation of the enhance recovery project (Figures 1 through 47).

Respectfully submitted

W. Thomas Kellahin

KELLAHIN & KELLAHIN

P. O. Box 2265

Santa Fe, New Mexico 87504

(505) 982-4285

ATTORNEYS FOR APPLICANT

NMOCD Application of Phillips Petroleum Company Page 3

### **CERTIFICATION**

STATE OF TEXAS	)
	) SS
COUNTY OF ECTOR	)

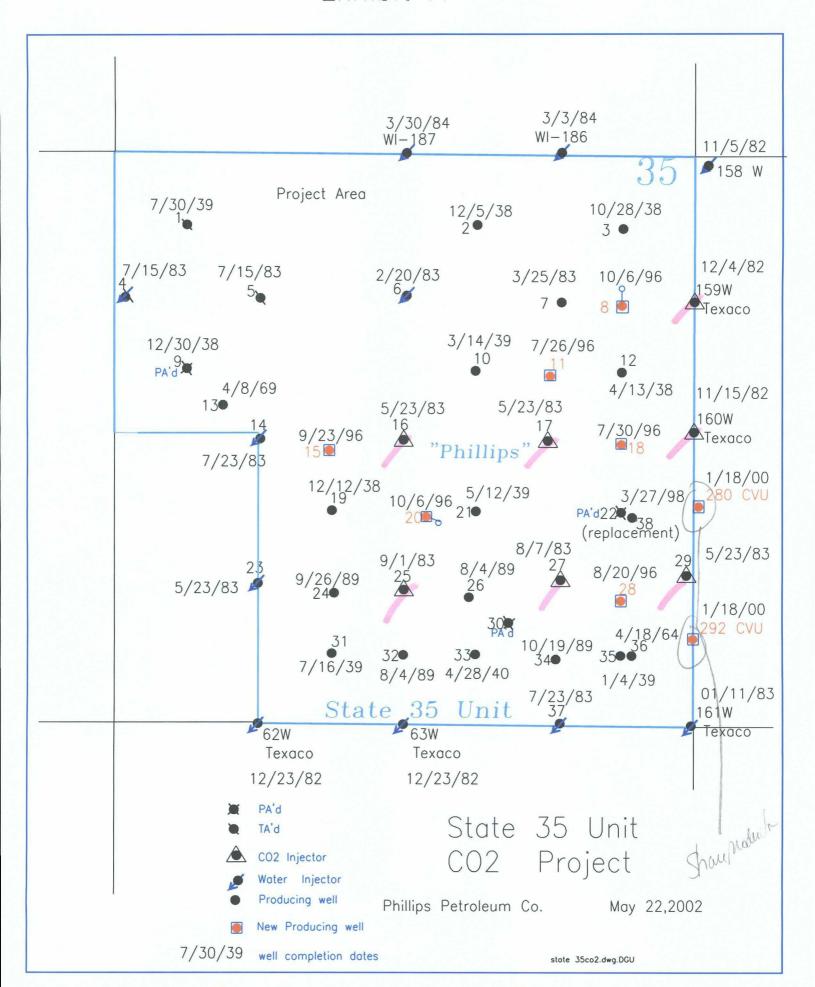
I, Alfred H. Kent, Jr., having been first duly sworn, state that I am a petroleum engineer, a duly authorized representative of Phillips Petroleum Company, have knowledge of the facts herein and therefore certify that the facts set forth in this Application are true and accurate to the best of my own knowledge and belief.

anna C. Shornton

The foregoing certificate was acknowledged before me this 17 day of June, 2002 by Alfred H. Kent, Jr.,

DANNA C. THORNTON MY COMMISSION EXPIRES August 2, 2004

My Commission Expires: 8-2-04



# Exhibit B Certification of a Positive Production Response State 35 Unit Tertiary Recovery Project

### List of Wells

		Location	Unit	
Well Name	API	(feet from Section Line)	Letter	Status
Producers				
State 35 Unit #1	3002502225	660 FN, 660 FW	D	TA'd
State 35 Unit #2	3002502215	660 FN, 1980 FE	В	
State 35 Unit #3	3002502214	660 FN, 660 FE	Α	
State 35 Unit #7	3002528046	1345 FN, 1210 FE	Н	
State 35 Unit #8	3002533489	1120 FN, 660 FE	Н	
State 35 Unit #9	3002502224	1980 FN, 660 FW	Е	PA'd
State 35Unit #10	3002502217	1980 FN, 1980 FE	G	
State 35 Unit #11	3002533415	2020 FN, 1310 FE	Н	
State 35 Unit #12	3002502213	1980 FN, 660 FE	Н	
State 35 Unit #13	3002522955	2310 FN, 990 FW	Е	
State 35 Unit #15	3002533418	2527 FS, 1955 FW	K	
State 35 Unit #18	3002533419	2600 FS, 660 FE	I	
State 35 Unit #19	3002502220	1980 FS, 1980 FW	K	
State 35 Unit #20	3002533416	1926 FS, 2430 FE	K	
State 35 Unit #21	3002502222	1980 FS, 1980 FE	J .	
State 35 Unit #22	3002502219	1980 FS, 660 FE	I	PA'd
State 35 Unit #38 (repl #22)	3002534277	1934 FS, 560 FE	I	
State 35 Unit #24	3002530614	1225 fS, 2000 FW	N	
State 35 Unit #26	3002530615	1194 FS, 2040 FE	О	
State 35 Unit #28	3002533417	1170 FS, 660 FE	P	
State 35 Unit #30	3002520782	960 FS, 1680 FE	O	PA'd
State 35 Unit #31	3002508455	660 FS, 1980 FW	N	
State 35 Unit #32	3002530616	650 FS, 2630 FW	N	
State 35 Unit #33	3002502223	600 FS, 1980 FE	О	
State 35 Unit #34	3002530617	620 FS, 1250 FE	P	
State 35 Unit #35	3002502221	660 FS, 660 FE	P	
State 35 Unit #36	3002520780	660 FS, 560 FE	P	
Injectors				
State 35 Unit #4	3002528054	1330 FN, 110 FW	Е	TA'd
State 35 Unit #5	3002528053	1330 FN, 1310 FW	Ē	TA'd
State 35 Unit #6	3002528047	1295 FN, 2615 FW	C	
State 35 Unit #14	3002528057	2630 FS, 1330 FW	K	
State 35 Unit #16' (WAG)	3002528058	2630 FS, 2630 FW	K	
State 35 Unit #17 (WAG)	3002528059	2630 FS, 1330 FE	J	
State 35 Unit #23	3002528060	1310 FS, 1310 FW	N	
State 35 Unit #25 (WAG)	3002528055	1260 FS, 2630 FE	О	
State 35 Unit #27 (WAG)	3002528056	1360 FS, 1210 FE	I	
State 35 Unit #29 (WAG)	3002528061	1410 FS, 10 FE	I	
State 35 Unit #37	3002528062	10 FS, 1210 FE	P	

All Section 35 / T17S / R34E

WAG indicates wells that have had CO2 injection.

WellListExhibitB 5/20/2002

### Application for Certification of a Postive Production Response State 35 Unit CO2 Project

### Production Plots and Other Supporting Data

- 1. The NMOCD approved the enhanced recovery project on September 27, 1996, with Order No. R-10599-B (Case No. 11523), and on November 7, 1996, the NMOCD certified the project as an Enhanced Oil Recovery Project for Recovered Oil Tax Rate with a Certification Date of October 1, 1996. The project is a miscible gas augmented waterflood using a combination of purchased pure CO2 and CO2 contaminated produced gas ("Gas"). First Gas injection began on November 27, 1996.
- 2. Phillips and Texaco entered into an agreement on October 14, 1998, amending the Vacuum (Grayburg-San Andres) Cooperative Water Injection Agreement to facilitate injection of Gas into three wells located on the State 35 Unit / Central Vacuum Unit lease line (Central Vacuum Unit wells #159 and #160, and State 35 Unit well #29). Gas injection into these three lease line wells began in November 1998.
- 3. Phillips and Texaco entered into a lease line production agreement on December 7, 1999 with which they agreed to share the production from two new Texaco operated wells near the State 35 Unit / Central Vacuum Unit lease line (Central Vacuum Unit wells #280 and #292).
- 4. Exhibit A shows a map of all injection and production wells with completion dates for the State 35 Unit wells and Central Vacuum Unit wells on the State 35 Unit / Central Vacuum Unit lease line. Six new producers were drilled in 1996. One replacement producer (#38) was drilled in 1997. The two Texaco operated Central Vacuum Unit producers (#280 and #292) were drilled on the State 35 Unit lease line in December 1999. Five State 35 Unit injectors (#16, #17, #25, #27, and #29) and two Central Vacuum Unit injectors (#159 and #160) on the State 35 Unit lease line have had Gas injection
- 5. State 35 Unit production and injection is shown on Figure 1. Cumulative Gas injected into five unit wells is 12.1 BSCF, which includes purchased CO2 and recycled gas.
- 6. Production and injection from the 2 producers and 2 injectors operated by on the State 35 Unit / Central Vacuum Unit lease line are shown on Figure 2. Cumulative Gas injected into the two Central Vacuum Unit lease line wells is 4.1 BSCF. Phillips, as owner and operator of State 35 Unit, receives 50% of the oil production from the two lease line production wells, and pays for 50% of the cost of Gas supplied to the two Texaco operated lease line injection wells. Central Vacuum Unit owners pay for 50% of the cost of Gas supplied to the State 35 Unit lease line injection well #29.
- 7. The first indication of positive production response from Gas injection occurred in State 35 Unit well #28 in November 1997, as shown on Figure 3. There is evidence of Gas response due to the increase in oil rate, increase in GOR, and decrease in water production. Graphs of production and injection volumes all other individual wells are shown on Figures 4 through 45. Other wells that show proof of positive response include #3, #7, #10, #11, #12, and #38.

VACUUM GRAYBURG-SAN ANDRES POOL (Grayburg and San Andres Tertiary Recovery/Pressure Maintenance Project) Lea County, New Mexico

Order No. R-10599-B, Authorizing Phillips Petroleum Company to Institute a Tertiary Recovery/Pressure Maintenance Project in the Grayburg and San Andres formations of the Vacuum Grayburg-San Andres Pool, Lea County, New Mexico, September 27, 1996.

Application of Phillips Petroleum Company for Approval of a Pressure Maintenance Project, to Qualify said Project for the Recovered Oil Tax Credit Pursuant to the "New Mexico Enhanced Oil Recovery Act", and for Three Unorthodox Oil Well Locations, Lea County, New Mexico.

Case No. 11523 Order No. R-10599-B

#### ORDER OF THE DIVISION

BY THE DIVISION: This cause came on for hearing at 8:15 a.m. on May 2, 1996, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 27th day of September, 1996, the Division Director, having considered 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) At the time of the hearing Division Case Nos. 11522 and 11523 were consolidated for the purpose of testimony.
- (3) By Division Order No. R-10599, issued in Case 11522 and dated May 10, 1996, as amended by Division Nunc Pro Tunc Order No. R-10599-A, dated September 16, 1996, the State-35 Unit Agreement and Area was approved for an area comprising 560 acres, more or less, of State lands underlying the N/2, E/2 SW/4, and SE/4 of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico. The "Unitized Formation" for this unit includes that stratigraphic interval underlying the Unit Area in the Vacuum-Grayburg San Andres Pool that extends from a measured depth of 4,000 feet (+21 feet sub-sea datum) to 4,950 feet (-929 feet sub-sea datum), both depths as identified on the Lane Wells Acoustic Log, dated March 12, 1964, for the Phillips M. E. Hale Well No. 8 (API No. 30-025-20780), located 660 feet from the South line and 560 feet from the East line (Unit P) of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico.
- (4) The applicant in this matter, Phillips Petroleum Company ("Phillips"), seeks the following:

- (a) authority to institute a tertiary recovery project or pressure maintenance project within its aforementioned State-35 Unit by the injection of water and carbon dioxide ("CO2") into both the Grayburg and San Andres formations of the Vacuum Grayburg-San Andres Pool through sixteen (16) certain wells;
- (b) approval for the drilling of three producing wells within said Unit Area at unorthodox oil well locations; and,
- (c) to qualify this project for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act" (Law 1992, Chapter 38, Sections 1 through 5).
- (5) Phillips as the proposed operator of the State-35 Unit Tertiary Recovery/Pressure Maintenance Project Area ("EOR Project Area") intends to recover additional oil by means of combined water and CO2 gas injection ("WAG") into the Grayburg and San Andres formations of the Vacuum Grayburg-San Andres Pool within said Unit Area with seven (7) interior injection wells, nine (9) leaseline injection wells and sixteen (16) producing wells.

### (6) Within the proposed 56-acre EOR Project Area:

- (a) the Phillips operated Mable lease comprising the W/2 NW/4 of said Section 35 and the Phillips operated Hale lease comprising the E/2 SW/4 and SE/4 of said Section 35 were the subject of Division Order Nos. R-7103, which order authorized the Phillips Hale-Mable Vacuum Pressure Maintenance Project by means of water injection within this 320 acres, and R-7103-A, which authorized the injection of polyacrylamide polymers into the Phillips Hale-Mable Vacuum Pressure Maintenance Project Area; and,
- (b) Conoco, Inc. was granted similar approval for its Conoco State H-35 Vacuum Pressure Maintenance Project comprising the NE/4 and E/2 NW/4 of said Section 35 by Division Order Nos. R-7182 and R-7182-A (Phillips has since become operator of the H-35 lease).
- (7) There are currently four active secondary recovery projects within the Vacuum Grayburg-San Andres Pool that immediately offset the proposed 560-acre EOR Project Area:
- (a) the Texaco Exploration and Production, Inc. Central Vacuum Unit Pressure Maintenance Project (see Division Order Nos. R-5530, R-5530-A, R-5530-B, and R-5530-C), which is also a tertiary recovery project (see Division Order No. R-5530-D) in the S/2 of Section 25 and all of Section 30, both in Township 17 South, Range 34 East, NMPM, Central Vacuum Unit Area (approved by Division Order No. R-5496), Lea County, New Mexico;
- (b) the Texaco Exploration and Production, Inc. Vacuum Grayburg-San Andres Pressure Maintenance Project (see Division Order Nos. R-4412 and R-6094), which is also a tertiary recovery project (see Division Order Nos. R-7010 and R-7010-A) comprising the W/2 SW/4 of Section 35, Township 17 South, Range 34 East, NMPM, and Sections 1, 2, the NE/4 of Section 11, and the N/2 NW/4 of Section 12, Township 18 South, Range 34 East, NMPM, all within the Vacuum Grayburg San Andres Unit Area (approved by Division Order Nos. R-4433 and R-4433-A, as ex

(VACUUM GRAYBURG-SAN ANDRES (GRAYBURG AND SAN ANDRES TERTIARY RECOVERY/PRESSURE MAINTENANCE PROJECT) POOL - Cont'd.)

panded by letter from the New Mexico Oil Conservation Division dated December 9, 1980 and by letter from the new Mexico State Land Office dated February 2, 1981), Lea County, New Mexico;

- (c) the Mobil Producing Texas and New Mexico, Inc. Bridges-State Waterflood Project (see Division Order Nos. R-1244, R-3496, R-3984, R-3984-A, R-4385, R-7361, and R-7361-A), a portion of which is also a tertiary recovery project (see Division Order No. R-7405) comprising in part all of Section 26 and the E/2 of Section 27, both in Township 17 South, Range 34 East, NMPM, Lea County, New Mexico; and,
- (d) the Texaco Exploration and Production, Inc. West Vacuum Unit Waterflood Project (see Division Order Nos. R-3008 and R-4234) comprising in part all of Section 34, Township 17 South, Range 34 East, NMPM, West Vacuum Unit Area (approved by Division Order No. R-3007, as amended by Order No. R-3007-A), Lea County, New Mexico.
- (8) Testimony presented by Phillips indicates that as of December 31, 1995, cumulative primary and secondary oil recovery from the proposed EOR Project Area had been 17,207,369 barrels of oil with an estimated additional one million barrels of oil to be recovered under the current mode of operations.
- (9) Phillips further testified that the proposed EOR Project Area is currently producing at a rate of approximately 420 BOPD with approximately 95% watercut from sixteen (16) active producers. Further, there are currently ten (10) active leaseline and four (4) active interior injector wells contributing to the current mode of operations within the two existing pressure maintenance projects within the subject 560 acres.
- (10) Phillips seeks to institute tertiary recovery operations within the proposed EOR Project Area by means of a significant change in the process used for the displacement of crude oil by the initiation of the injection of water-alternate-gas injection ("WAG") by using water and carbon dioxide ("CQ2") in alternating slugs of produced gas and CO2 and slugs of water to be injected at a 1.4 to 1 ratio with an estimated total of 45 BCF of CO2 gas to be utilized or 40% pore volume ("PV") slug.
- (11) As part of this EOR Project, Phillips intends to drill another six infill producing wells of which three are to be located at locations considered to be unorthodox pursuant to Rule 104.C(1) of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10533, issued by the Oil Conservation Commission in Case 11,351 on January 18, 1996, however Rule 104.F(1) provides for an administrative process whereby any well within an active secondary, enhanced, or pressure maintenance project can be granted authorization in most instances by submitting a Division Form C-102; therefore, that portion of this application for unorthodox locations should be dismissed at this time and Phillips can resubmit to the supervisor of the Hobbs District Office of the Division those requests for unorthodox locations applicable to said General Rule 104.F(1).

- (12) The estimated amount of recoverable oil attributed to a positive production response from the expanded use of enhanced oil recovery technology for this proposed EOR Project is an estimated 7,122,000 barrels of additional oil.
- (13) The applicant testified that the initiation of pressure maintenance operations utilizing the methodology set forth in Finding Paragraph No. (10) above, should result in the recovery of an additional 7,122,000 barrels of oil for a projected cost of approximately \$8,130,000.00 which includes the drilling of the 6 additional infill producing wells and 2 replacement wells, converting 7 interior and 9 leaseline wells to water-alternate-gas (WAG) injection, construction of CO2 compression and distribution facilities and upgrading of the present production and water injection facilities.
- (14) At the time of the hearing Phillips requested a project allowable for the H-35 Unit of 5,000 barrels of oil per day in order to provide operational flexibility to maximize recovery from the unit and thereby prevent waste and protect correlative rights.
- (15) In accordance with Division General Rule 701, the applicant provided evidence, exhibits and testimony which justifies the approval of the 16 proposed WAG injection wells all as identified on Exhibit "A" attached hereto and made a part hereof.
- (16) Maximum injection pressures have been established for this project based upon actual San Andres fracture gradients and therefore 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 1850 psig.

surface injection pressure to no more than 1850 psig.

(17) Further evidence presented by Phillips indicated that the subject "Project Area" meets all the criteria for certification 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).

(18) The certified "EOR Project Area" should initially comprise the area within the H-35 Unit Area as described in Finding Paragraph No. (3) above provided however that the "Project Area" eligible for the recovery

- (18) The certified "EOR Project Area" should initially comprise the area within the H-35 Unit Area as described in Finding Paragraph No. (3) above, provided, however, that the "Project Area" 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.
- (19) To be eligible for the EOR tax credit, the operator should advise the Division when WAG injection commences in the project area and requests the Division certify such phases or area to the New Mexico Taxation and Revenue Department.
  - (20) At such time as a positive production response occurs from WAG injection operations 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 benefiting from enhanced recovery operations. 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 with are eligible for the credit.

- (VACUUM GRAYBURG-SAN ANDRES (GRAYBURG AND SAN ANDRES TERTIARY RECOVERY/PRESSURE MAINTENANCE PROJECT) POOL Cont'd.)
- (21) The proposed tertiary recovery/pressure maintenance project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.
- (22) The applicant testified that there are no "problem wells" within the one-half mile "area of review" and a review of applicant's Form C-108 confirms that all plugged and abandoned wells and all producing wells are cemented in a manner adequate to confine the injected fluid to the proposed injection interval.
- (23) Prior to commencing injection operations, the applicant should be required to submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement with the offset projects currently operated by Texaco in the West Vacuum Unit, the Vacuum Grayburg San Andres Unit and the Central Vacuum Unit.
- (24) If not previously equipped each of the injection 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.
- (25) The operator should give advance notification to the supervisor of the Hobbs District Office of the Division if applicable of the date and time of the installation of any new injection equipment and if applicable of the mechanical integrity pressure tests in order that the same may be witnessed.
- (26) 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.
- (27) Approval of this application will prevent waste, result in the recovery of hydrocarbons which might not otherwise be recovered, protect corrective rights and promote the interests of conservation.

### IT IS THEREFORE ORDERED THAT:

(1) The applicant, Phillips Petroleum Company ("Phillips"), is hereby authorized to institute a tertiary recovery/pressure maintenance project by means of combined water and carbon dioxide ("CO2") gas injection ("WAG") in its State-35 Unit Area (approved by Division Order Nos. R-10599 and R-10599-A) comprising 560 acres, more or less, underlying the

N/2, E/2 SW/4, and SE/4 of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, by the injection of water and carbon dioxide ("CO2") into the Grayburg and San Andres formations of the Vacuum Grayburg-San Andres Pool, through the gross perforated and/or open hole interval that extends from a measured depth of 4,000 feet (+ 21 feet sub-sea datum) to 4,950 feet (-929 feet sub-sea datum), both depths as identified on the Lane Wells Acoustic Log, dated March 12, 1964, for the Phillips M. E. Hale Well No. 8 (API No. 30-025-20780), located 660 feet from the South line and 560 feet from the East line (Unit P) of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, into sixteen (16) certain wells, all of which are existing, as shown on Exhibit "A", attached hereto and made a part hereof.

#### IT IS FURTHER ORDERED THAT:

- (2) Any previous injection authority not in conflict with the provisions set forth in this order shall remain in full force and effect.
- (3) WAG injection operations for the 16 subject injection wells shown on Exhibit "A" shall be accomplished through plastic lined tubing installed in a packer set within approximately 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 16 WAG injection wells or pressurization system shall be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to not more than 1850 psig.
- (5) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the above pressure limit 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 identified 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 commencing WAG injection operations, the applicant shall submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement with Texaco Exploration and Producing, Inc., the operator of the offsetting waterflood/pressure maintenance project.
- (8) 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 any applicable WAG injection equipment and of the mechanical integrity pressure tests, in order that the same may be witnessed.



### (VACUUM GRAYBURG-SAN ANDRES (GRAYBURG AND SAN ANDRES TERTIARY RECOVERY/PRESSURE MAINTENANCE PROJECT) POOL - Cont'd.)

- (9) The operator 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, natural gas, CO2, or oil from or around any producing well, or the leakage of water, natural gas, CO2, or oil from any plugged and abandoned well within the project area, and shall take such steps as may be necessary to correct such failure or leakage.
- (10) The subject tertiary recovery/pressure maintenance project is hereby designated the State-35 Unit Tertiary Recovery/Pressure Maintenance Project and shall be governed by the provisions of Rules Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.
- (11) Monthly progress reports of the tertiary recovery/pressure maintenance project herein authorized shall be submitted to the Division in accordance with Rules 706 and 1115 of the Division Rules and Regulations.
- (12) The project allowable shall be established at 5,000 barrels of oil per day which may be produced from any combination of wells in the unit including the transfer of allowables between or among wells within the project area.
- (13) The subject tertiary recovery/pressure maintenance project 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).
- (14) The certified and approved "EOR Project Area" shall initially coincide with the boundaries of the State-35 Unit, described in Decretory Paragraph No. (1), above, provided however, the "EOR Project Area" 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.
- (15) To be eligible for the EOR credit, prior to commencing WAG injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.
- (16) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the operator must apply to the Division for certification of positive production response, which application shall identify the area actually benefiting from

enhanced recovery operations. 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.

- (17) The injection authority granted herein for the 16 WAG injection wells shall terminate one year after the effective date of this order if the operator has not commenced WAG injection operations into these wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.
- (18) Jurisdiction is hereby 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.

EXHIBIT A\*
CASE NO, 11523
ORDER NO, R-10599-A
FILLIPS PETROLEUM COMPANY
STATE -35 UNIT TERTIARY RECOVERY/PRESSUREMAINTUNANCEE REPORT

PROPOSED STATE-35 UNIT "WAG" INJECTION WELLS TO BE OPERATED BY PHILLIPS PETROLEUM COMPANY LOCATED IN SECTION 35, TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM, VACUUM GRAYBURG SAN ANDRES POOL, LEA COUNTY, NEW MEXIC

FORMER WELL NAME AND NUMBER	API NO.	NEW WELL DESIGNATION	LOCATION FOOTAGE (UNIT)	CURRENT	PREVIOUS INJECTION AUTHORITY
STATE "H-35" NO. 15	30-025-28047	STATE "35" NO. 6W	1295' FNL - 2615' FWL (C)	TA INJ.	R-7182
STATE "H-35" NO. 14	30-025-28046	STATE "35" NO. 7W	1345' FNL - 1210' FEL (H)	PRODUCING	R-7182
M.E. HALE NO. 14	30-025-28057	STATE "35" NO. 14W	2630' FSL - 1330' FWL (K)	INJECTION	R-7103
M.E. HALE NO. 15	30-025-28058	STATE "35" NO. 16W	2630' FS & WL (K)	INJECTION	R-7103
M.E. HALE NO. 16	30-025-28059	STATE "35" NO. 17W	2630' FSL - 1330' FEL (J)	INJECTION	R-7103
M.E. HALE NO. 17	30-025-28060	STATE *35" NO. 23W	1310 FSL - 1330 FWL (N)	INJECTION	R-7103
M.E. HALE NO. 12	30-025-28055	STATE "35" NO. 25W	1260 FSL - 2630 FEL (O)	INJECTION	PMX-170
M.E. HALE NO. 21	30-025-30615	STATE "35" NO. 26W	1194' FSL - 2040' FEL (O)	PRODUCING	N/A
M.E. HALE NO. 13	30-025-28056	STATE "35" NO. 27W	1360' FSL - 1210' FEL (I)	INJECTION	PMX-170
M E. HALE NO. 18	30-025-28061	STATE "35" NO. 29W	1410 FSL - 10 FEL (1)	INJECTION	R-7103
M.E. HALE NO. 19	30-025-28062	STATE "35" NO. 37W	10' FSL - 1210' FEL (P)	INJECTION	R-7103

PROPOSED NON-UNIT "WAG" INJECTION WELLS TO BE OPERATED BY TEXACO EXPLORATION AND PRODUCING, INC. LOCATED IN EITHER SECTION 36, TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMFM OR IN SECTION 3, TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMFM, VACUUM GRAYBURG SAN ANDRES POOL, LEA COUNTY, NEW MEXICA.

WELL NAME AND NUMBER	API NO.	LOCAT FOOTAGE		SECTION	CURRENT STATUS	PREVIOUS INJECTION AUTHORITY
CENTRAL VACUUM UNIT WELL NO. 159W	30-025-27969	1310 FNL - 100 FWL	(D)	36	INJECTION	PMX-121
CENTRAL VACUUM UNIT WELL NO. 160W	30-025-27970	2602' FNL - 35' FWL	(E)	36	INJECTION	PMX-121
CENTRAL VACUUM UNIT WELL NO. 161 W	30-025-27971	180 FSL - 10 FWL	(M)	36	INJECTION	PMX-121
VACUUM GRAYBURG SAN ANDRES UNIT WELL NO. 62W	30-025-27973	65' FNL - 1330' FWL	(C)	2	плестюм	PMX-120
VACUUM GRAYBURG SAN ANDRES UNIT WELL NO. 63W	30-025-27974	50' FNL - 2630' FEL	(B)	2	INJECTION	PMX-120

OIL CONSERVATION DIVISION 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

November 7, 1996

RECEIVED

NOV 18 1998

Phillips Petroleum Company 4001 Penbrook Odessa, Texas 79762 PHILLIPS PETROLEUM CO. ODESSA, TEXAS

Attention: Jamie Welin

### CERTIFICATION OF ENHANCED OIL RECOVERY PROJECT FOR RECOVERED OIL TAX RATE

The New Mexico Oil Conservation Division hereby certifies that the following Enhanced Oil Recovery Project has been approved by the Division as a secondary project, pursuant to the provisions of the *New Mexico Enhanced Oil Recovery Act* (Laws of 1992, Chapter 38). In order to qualify for the *Recovered Oil Tax Rate*, you must apply for certification of positive production response within five years from the date of this certification. Only production from that portion of the project area identified herein which is actually developed for enhanced recovery will qualify for the reduced tax rate.

If operation of this project is terminated for any reason, the operator of the project must notify this Division and the Secretary of the Taxation and Revenue Department not later than the thirtieth day after termination.

NAME OF PROJECT:

State-35 Unit Tertiary Recovery/

Pressure Maintenance Project

OCD ORDER NO.

R-10599-B

OPERATOR:

Phillips Petroleum Company

Attn: Jamie Welin

ADDRESS:

4001 Penbrook

Odessa, Texas 79762

**CERTIFICATION DATE:** 

October 1, 1996

### PROJECT AREA

### TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

Section 35: N/2, E/2 SW/4 and SE/4

### PROJECT PRODUCING WELLS ELIGIBLE FOR CREDIT

### State-35 Wells

1)	Well No.1 (API No.30-025-02225)
	660 FNL & 660 FWL, Unit Letter 'D'
2)	Well No.2 (API No.30-025-02215)
	660 FNL & 1980 FEL, Unit Letter 'B'
3)	Well No.3 (API No.30-025-02214)
	660 FNL & 660 FEL, Unit Letter 'A'
4)	Well No.8 (API No. not assigned)
	1120 FNL & 660 FEL, Unit Letter 'H'
5)	Well No.9 (API No.30-025-02224)
	1980 FNL & 660 FWL, Unit Letter 'E'
6)	Well No.10 (API No.30-025-02217)
	1980 FNL & 1980 FEL, Unit Letter 'G'
7)	Well No.11 (API No. not assigned)
	2220 FNL & 1310 FEL, Unit Letter 'H'
8)	Well No.12 (API No.30-025-02213)
	1980 FNL & 660 FEL, Unit Letter 'H'
9)	Well No.13 (API No.30-025-22955)
	2310 FNL & 990 FWL, Unit Letter 'E'
10)	Well No.15 (API No. not assigned)
	2527 FSL & 1955 FWL, Unit Letter 'K'
11)	Well No.18 (API No. not assigned)
	2600 FSL & 660 FEL, Unit Letter 'I'
12)	Well No.19 (API No.30-025-02220)
	1980 FSL & 1980 FWL, Unit Letter 'K'
13)	Well No.20 (API No. not assigned)
	1926 FSL & 2430 FEL, Unit Letter 'K'
14)	Well No.21 (API No.30-025-02222)
	1980 FSL & 1980 FEL, Unit Letter 'J'
15)	Well No.22 (API No.30-025-02219)
	1980 FSL & 660 FEL, Unit Letter 'I'

- 16) Well No.24 (API No.30-025-30614)
  1225 FSL & 2000 FWL, Unit Letter 'N'
- 17) Well No.28 (API No. not assigned)
  1170 FSL & 660 FEL, Unit Letter 'P'
- 18) Well No.30 (API No.30-025-20782) 960 FSL & 1680 FEL, Unit Letter 'O'
- 19) Well No.31 (API No.30-025-08455) 660 FSL & 1980 FWL, Unit Letter 'N'
- 20) Well No.32 (API No.30-025-30616) 650 FSL & 2630 FWL, Unit Letter 'N'
- 21) Well No.33 (API No.30-025-02223) 600 FSL & 1980 FEL, Unit Letter 'O'
- 22) Well No.34 (API No.30-025-30617) 620 FSL & 1250 FEL, Unit Letter 'P'
- 23) Well No.35 (API No.30-025-02221) 660 FSL & 660 FEL, Unit Letter 'P'
- 24) Well No.36 (API No.30-025-20780) 660 FSL & 560 FEL, Unit Letter 'M'

ALL IN SECTION 35, TOWNSHIP 17 SOUTH, RANGE 34 EAST, LEA COUNTY, NEW MEXICO

APPROVED BY:

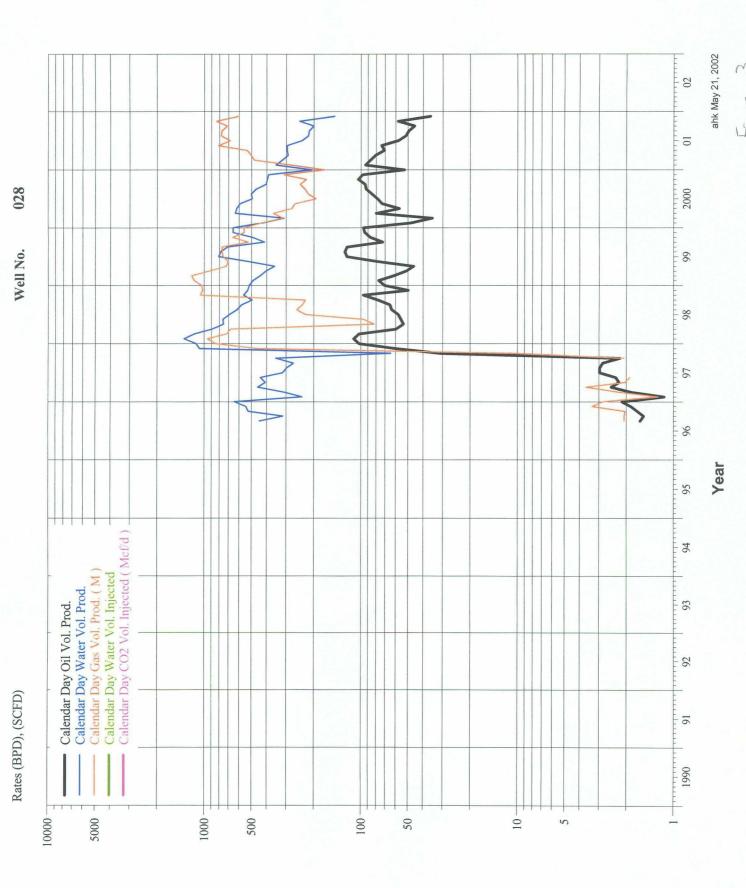
STATE OF NEW MEXICO OIL CONSERVATION DIVISION

WILLIAM J. LEMAY DIRECTOR

SEAL

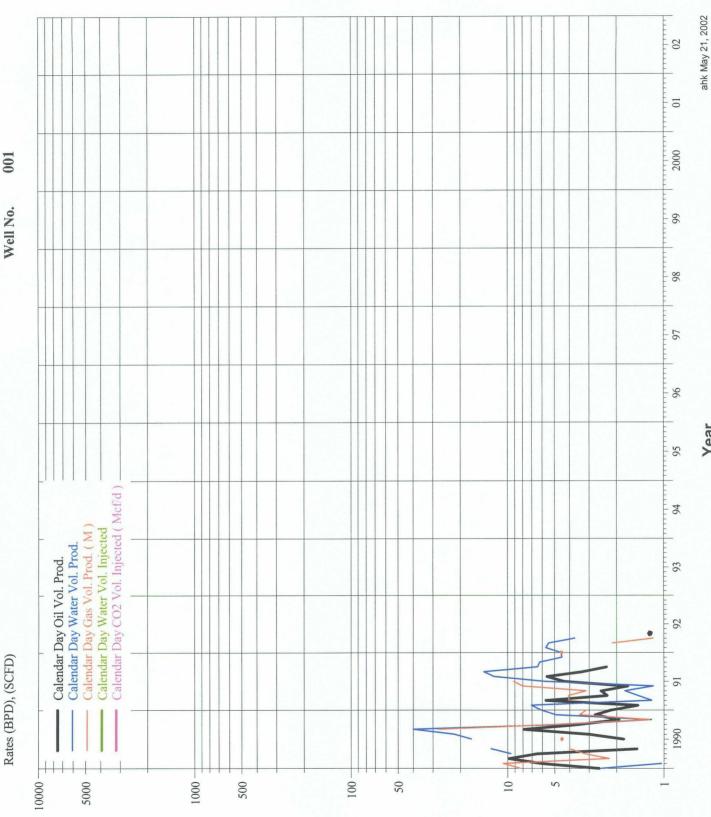
J-02 J-01 J-00 1-98 100% of All Unit Wells (including #29) J-97 -- Gas Production → Water Injection State 35 Unit 96-f J-95 J-94 --- Water Production J-93 -Oil Production -Gas Injection J-92 J-91 J-90 100 10,000 100,000 1,000 Production or Injection Rates (BOPD, BWPD, MCFD)

J-01 • J-00 (Production Wells #280 and #292, Injection Wells #159 and #160) 1-99 Central Vacuum Unit Wells on State 35 Unit Lease Line 1-98 J-97 -- Gas Production → Water Injection Date 96-f J-95 J-94 --- Water Production J-93 -- Oil Production -Gas Injection J-92 J-91 J-90 10 1,000 10,000 100 Production or Injection Rates (BOPD, BWPD, MCFD)



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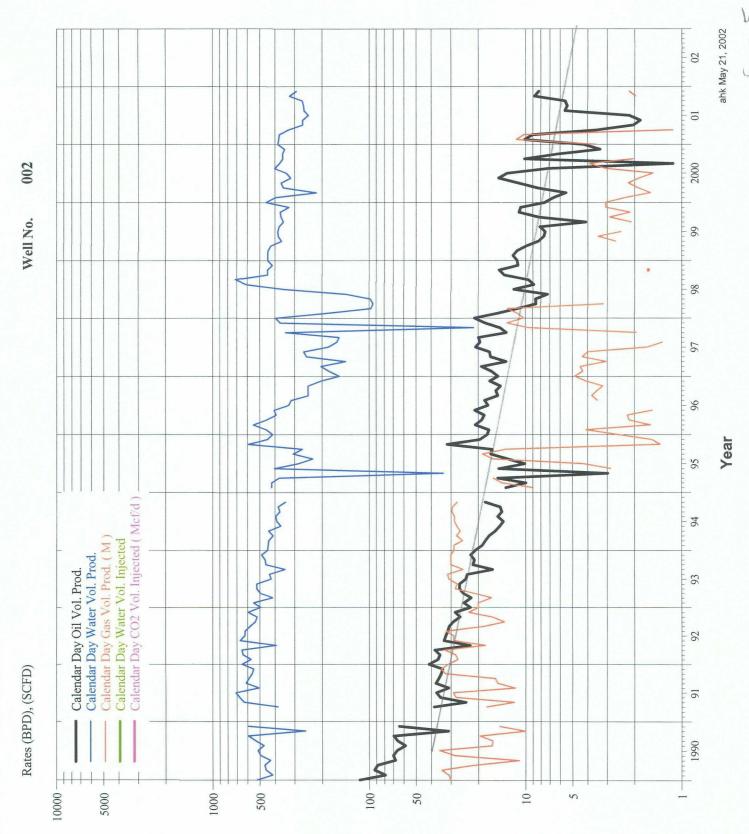
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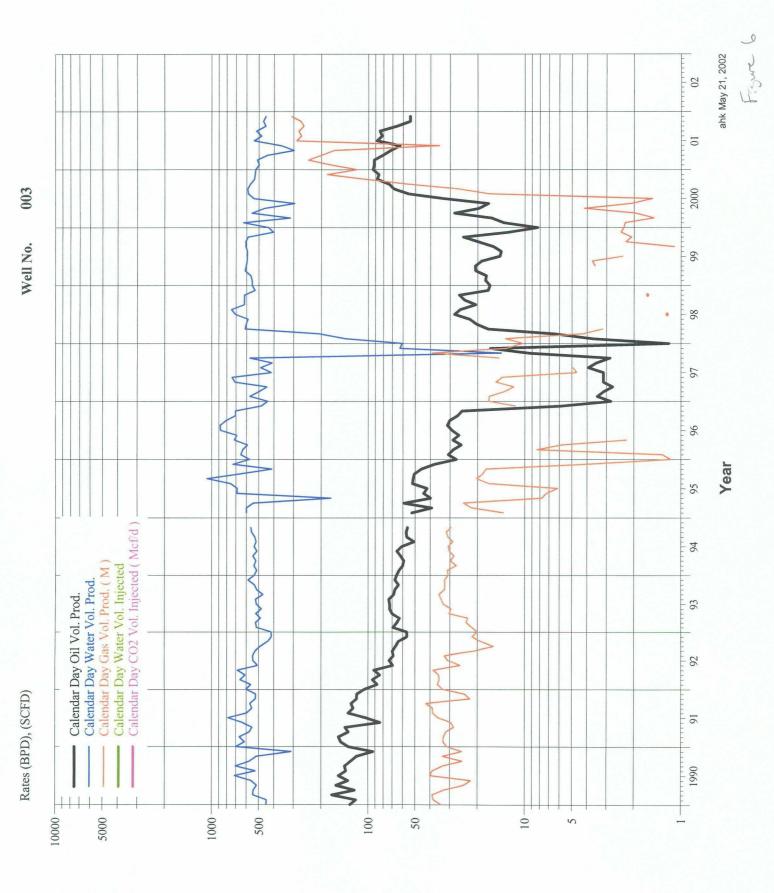
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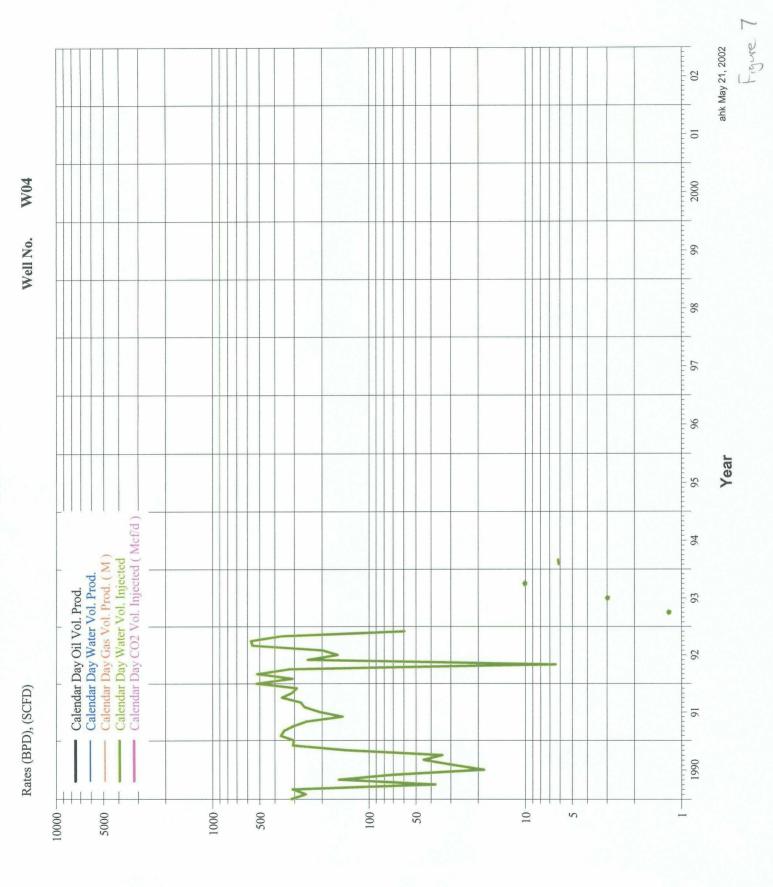
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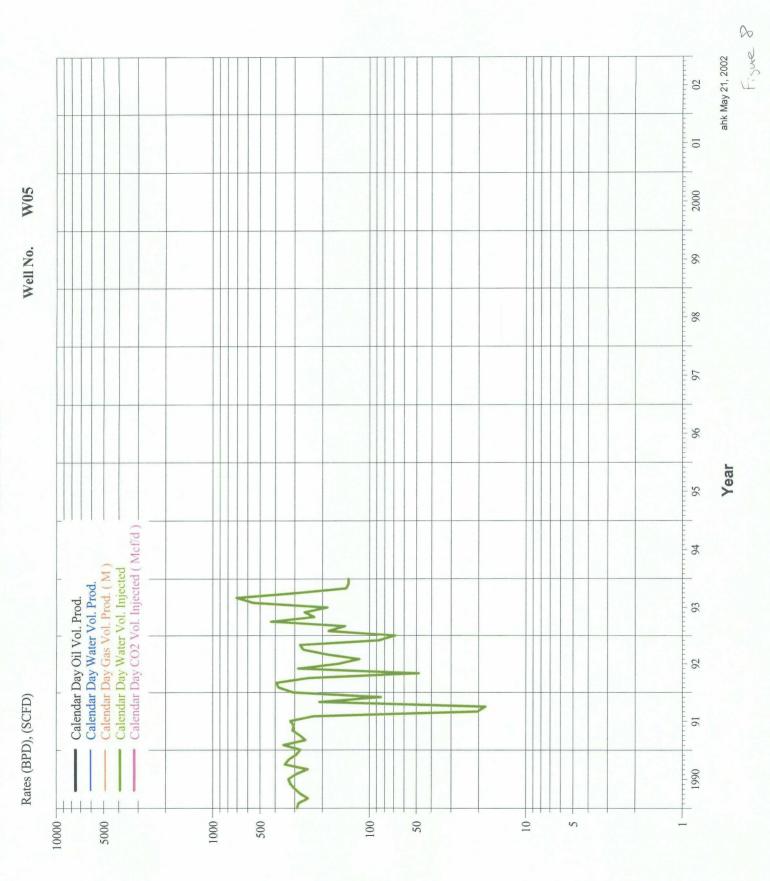
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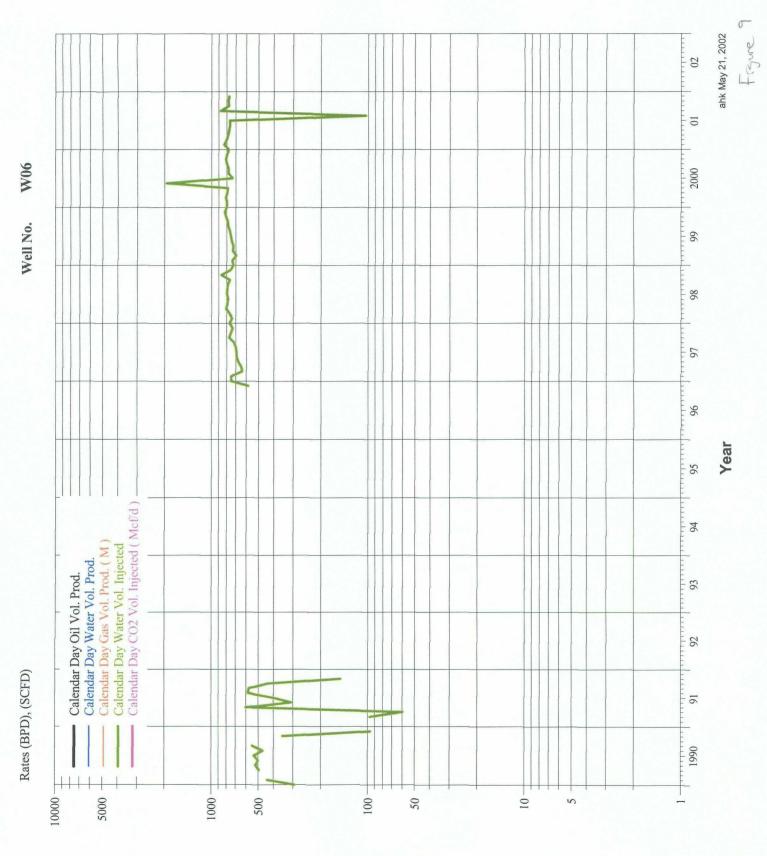


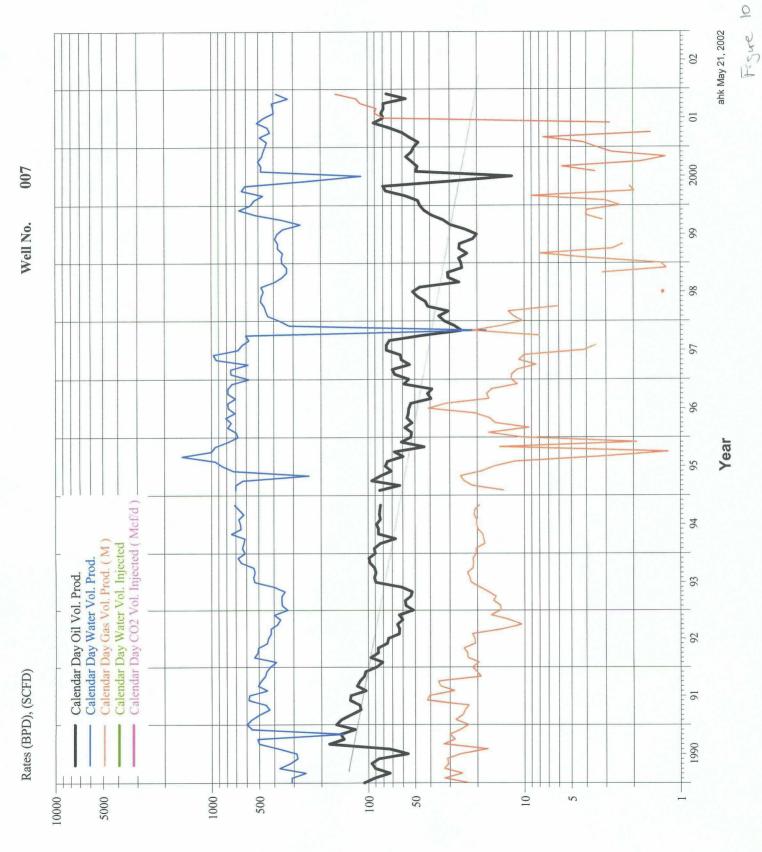
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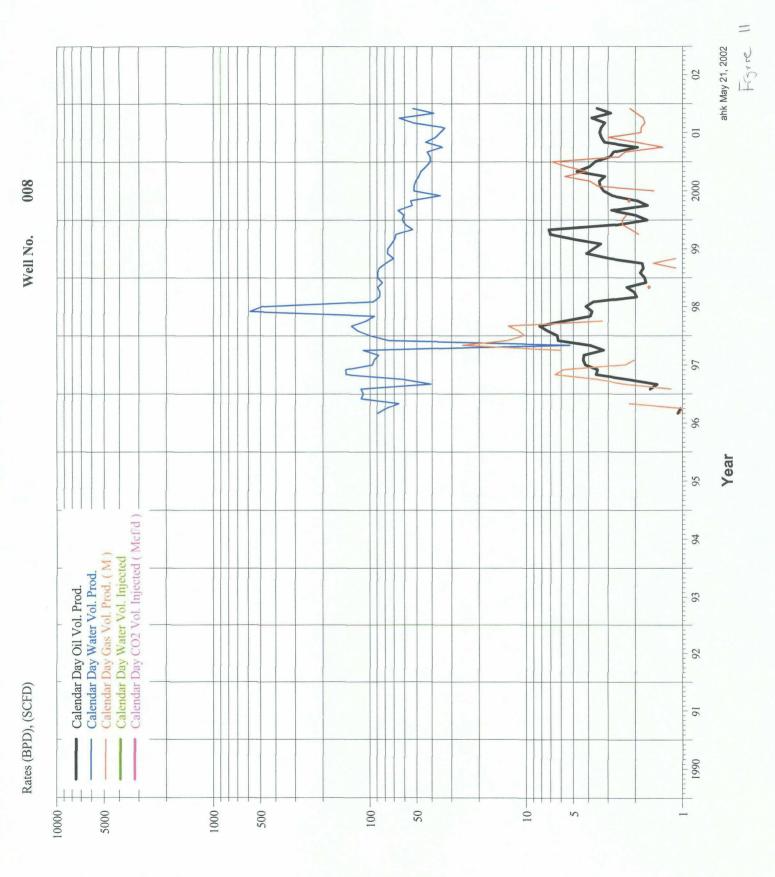


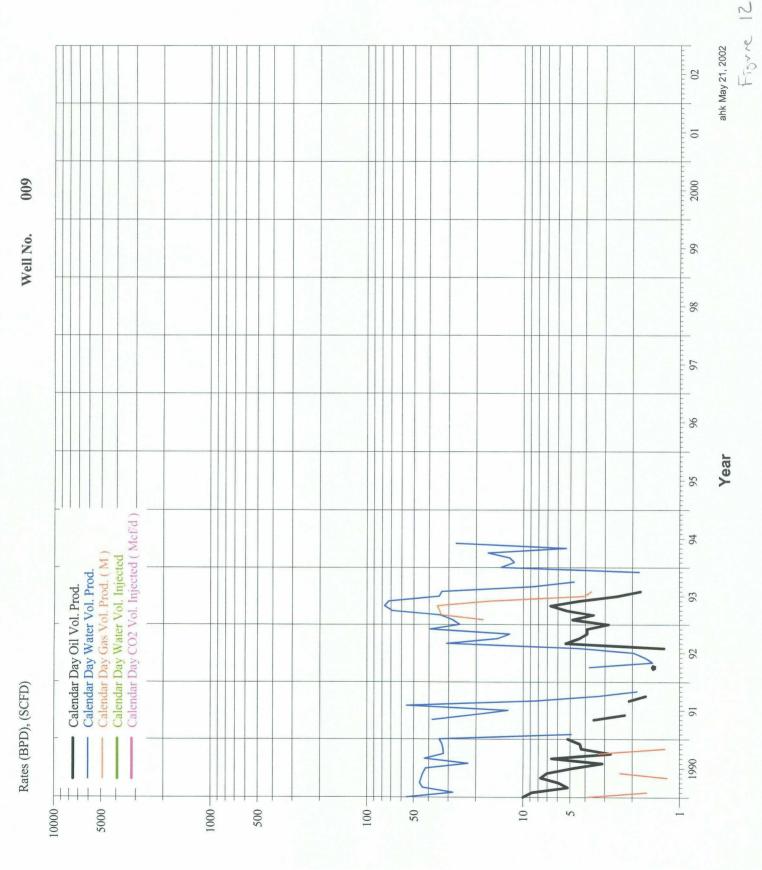
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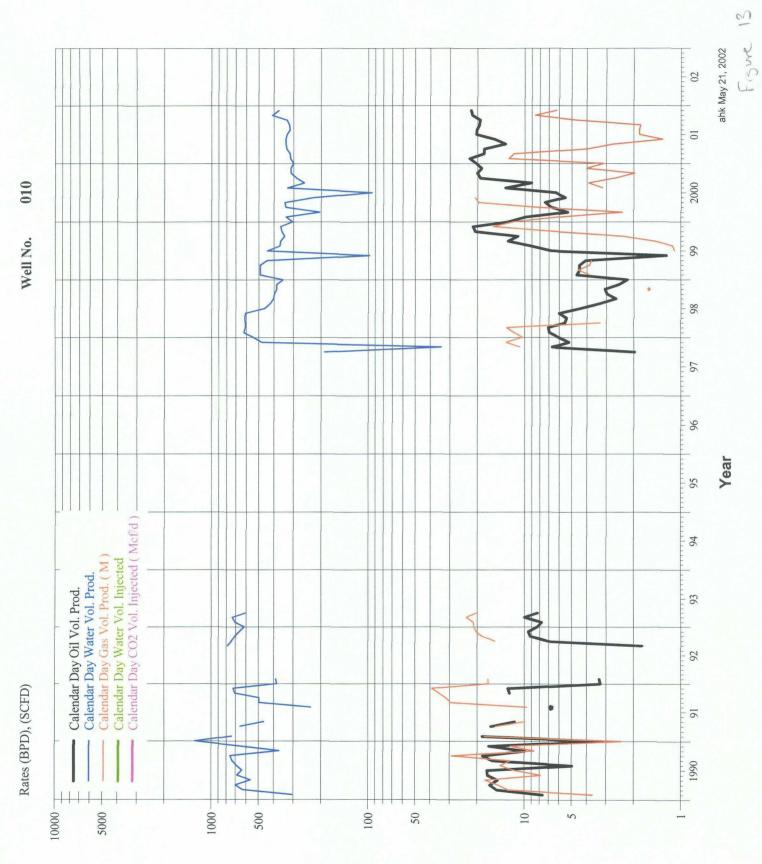


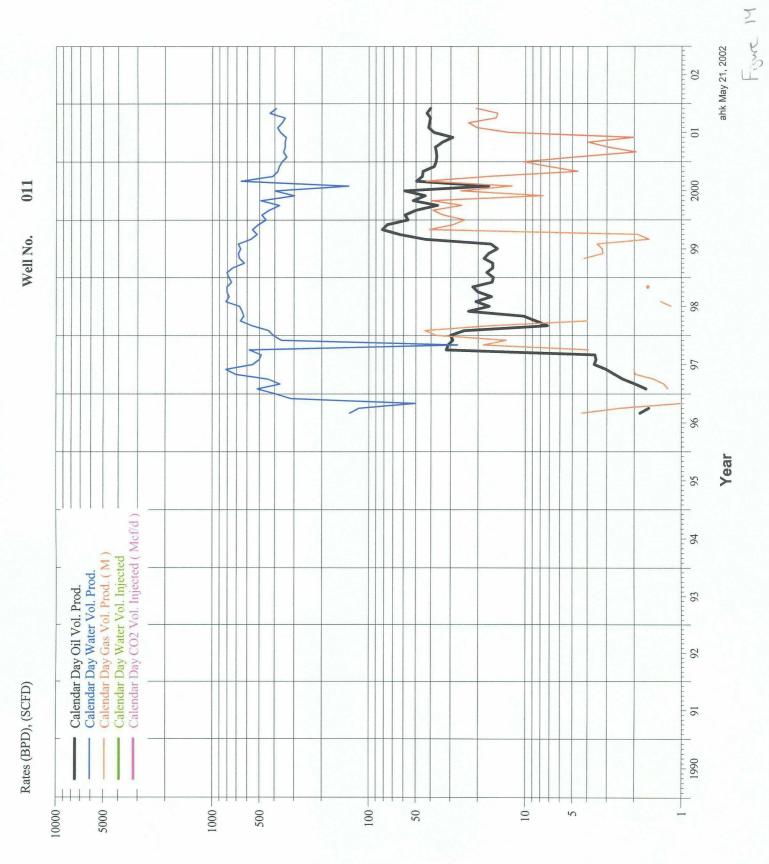


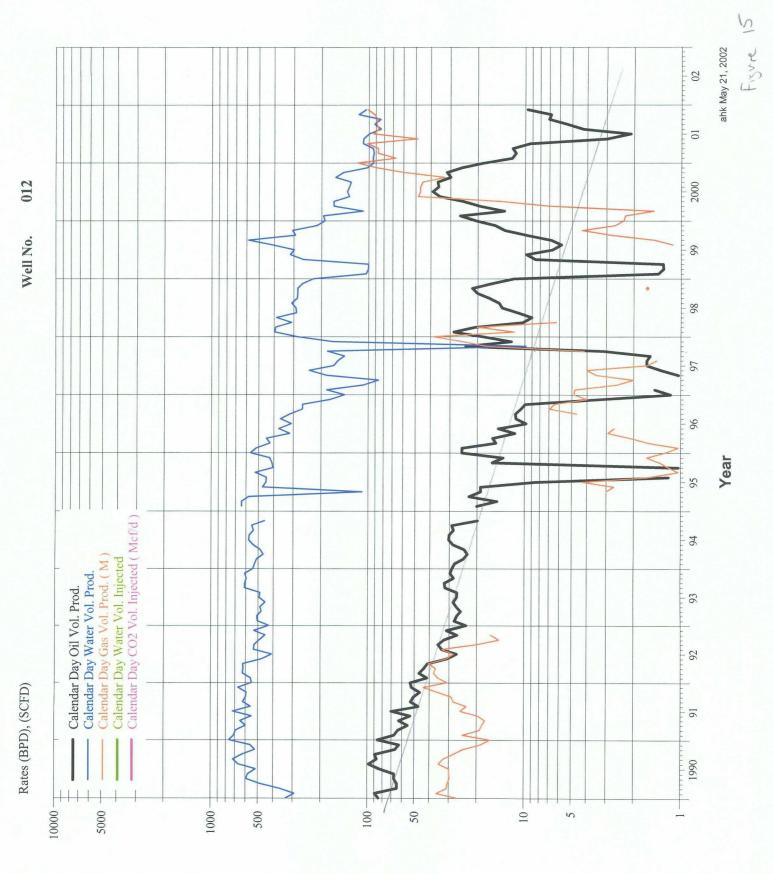


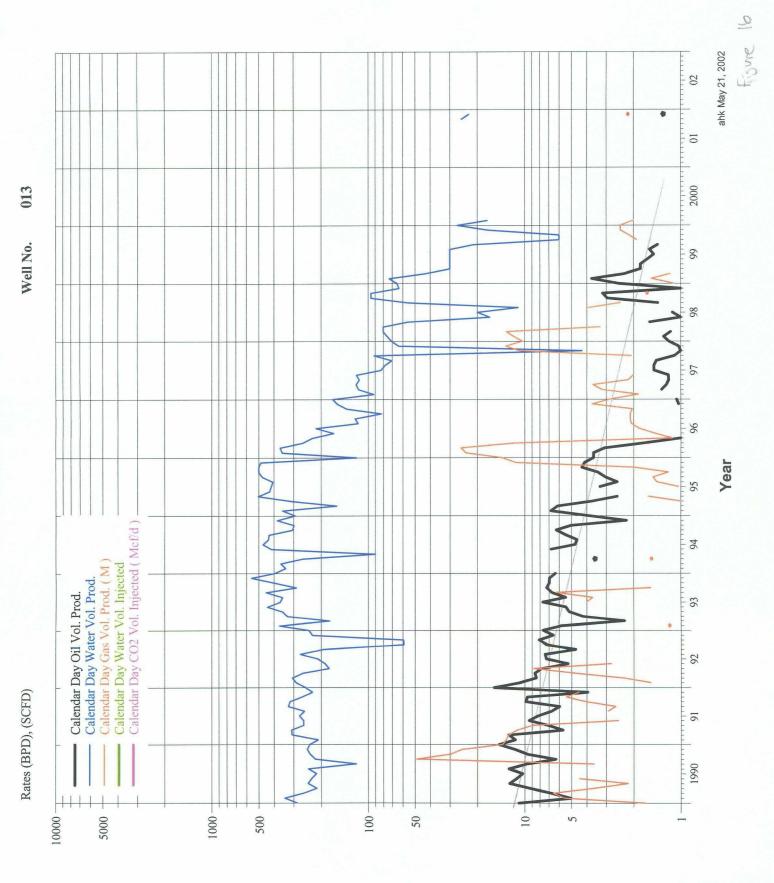


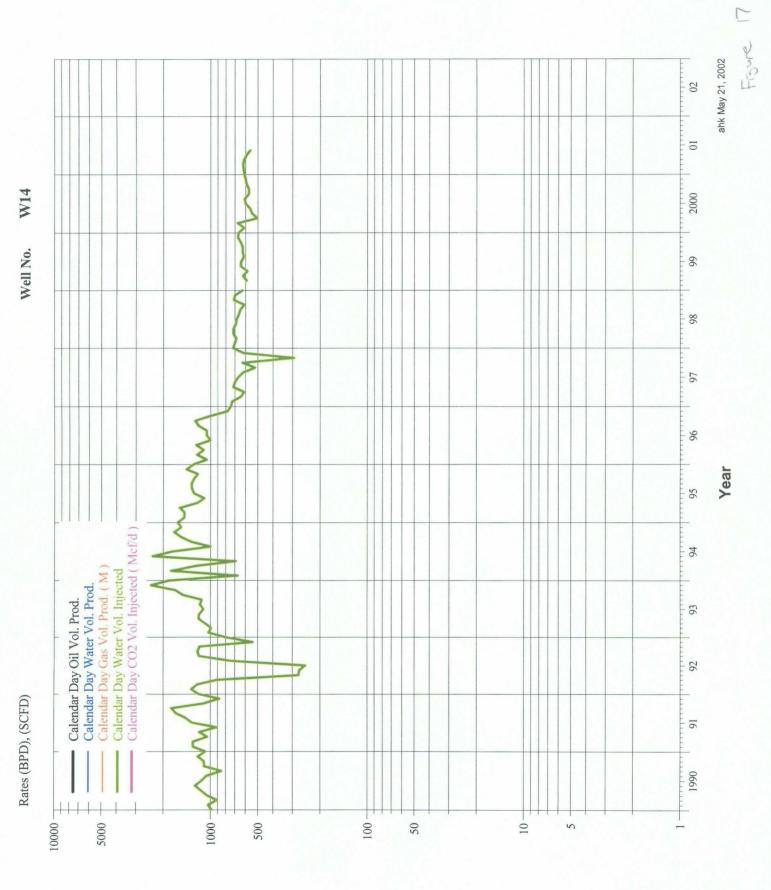


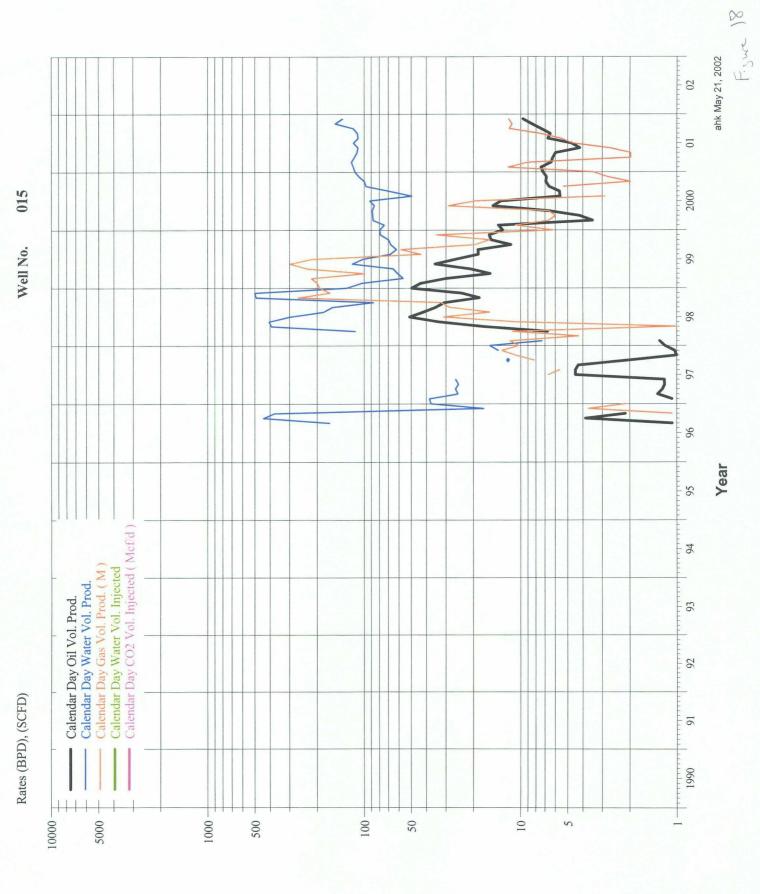


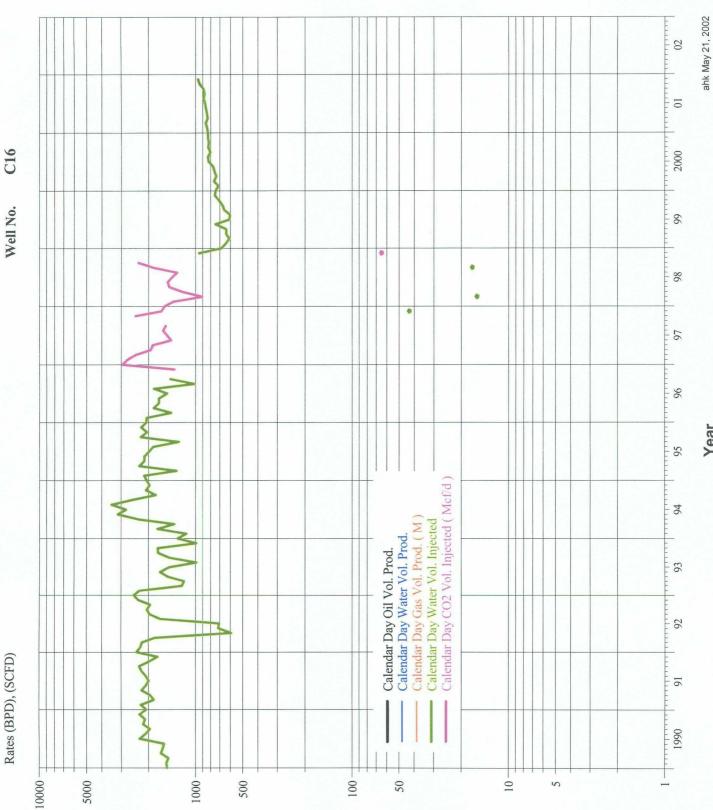




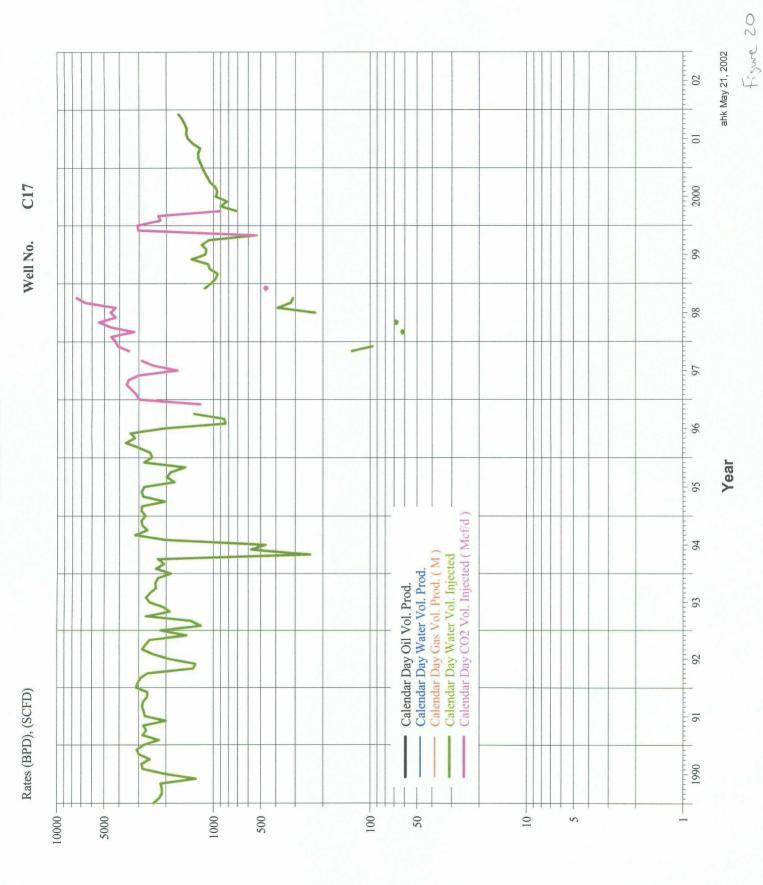


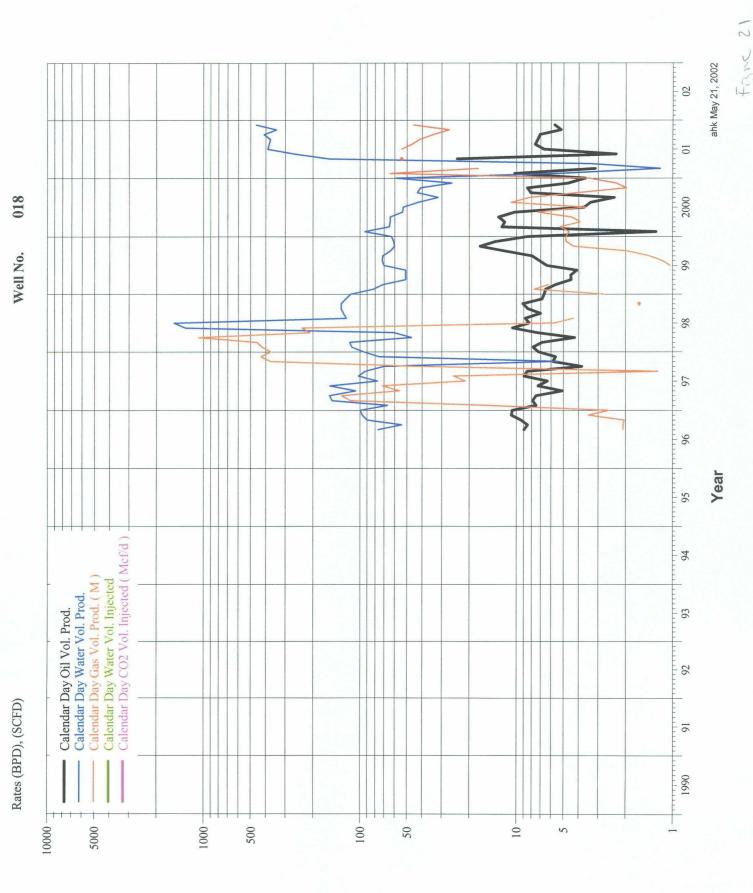


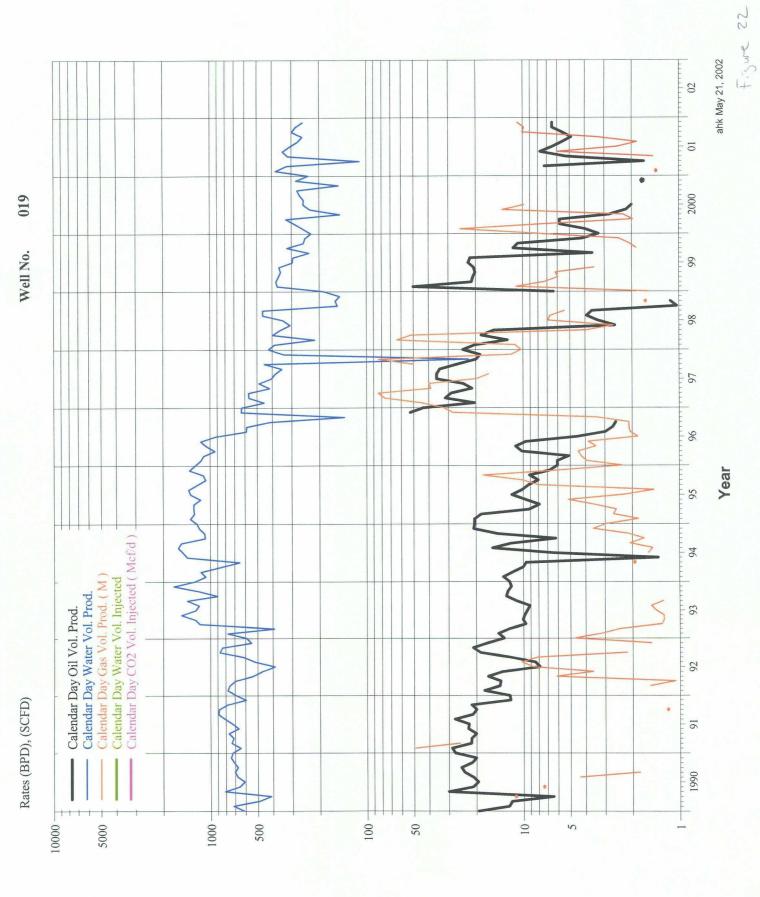


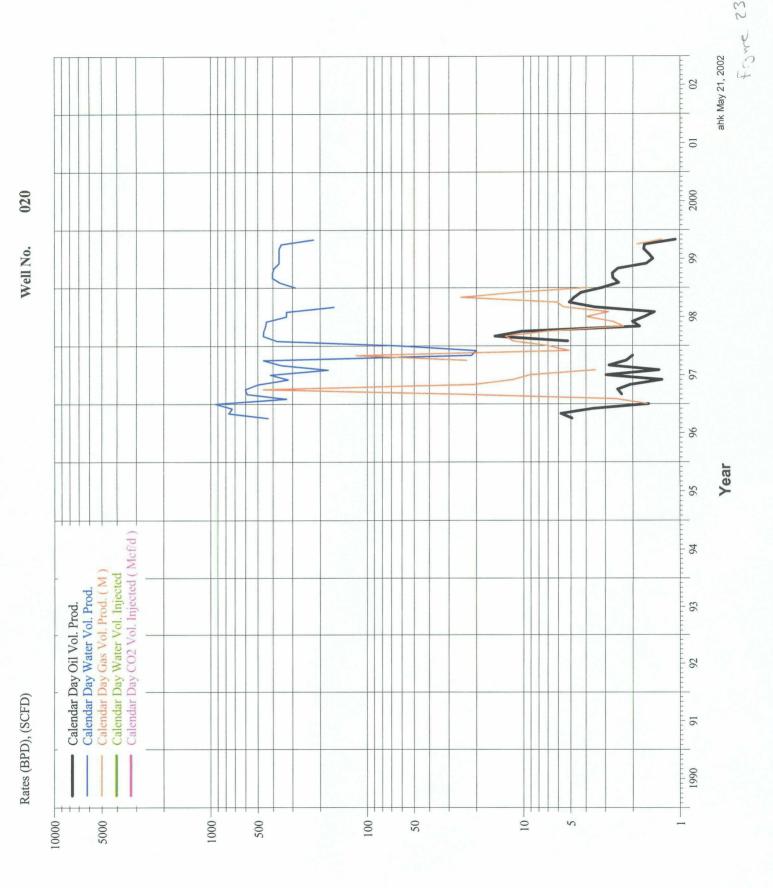


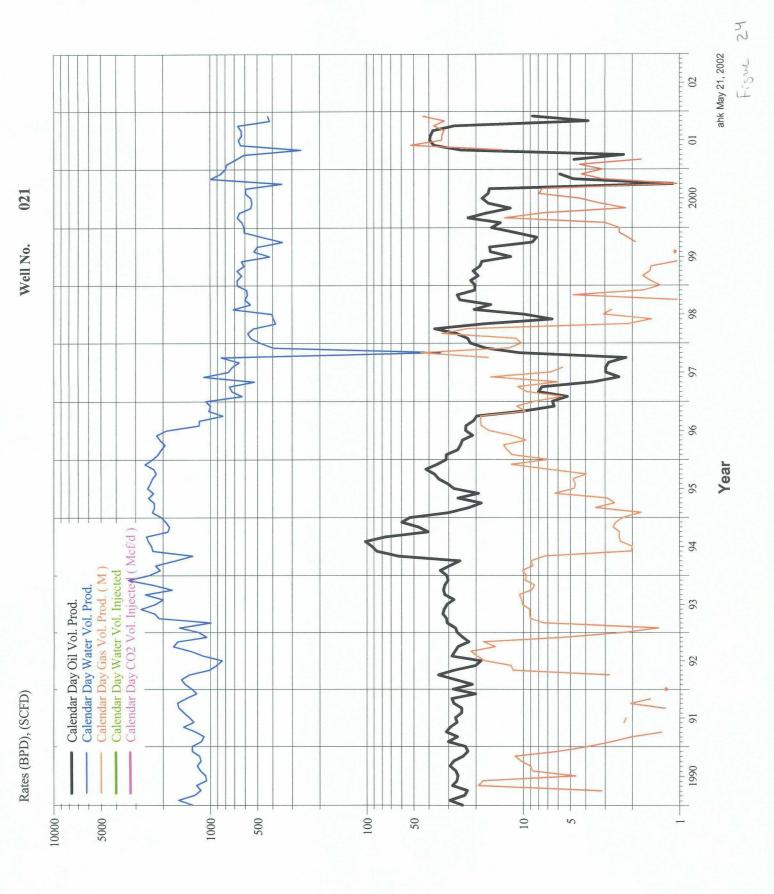
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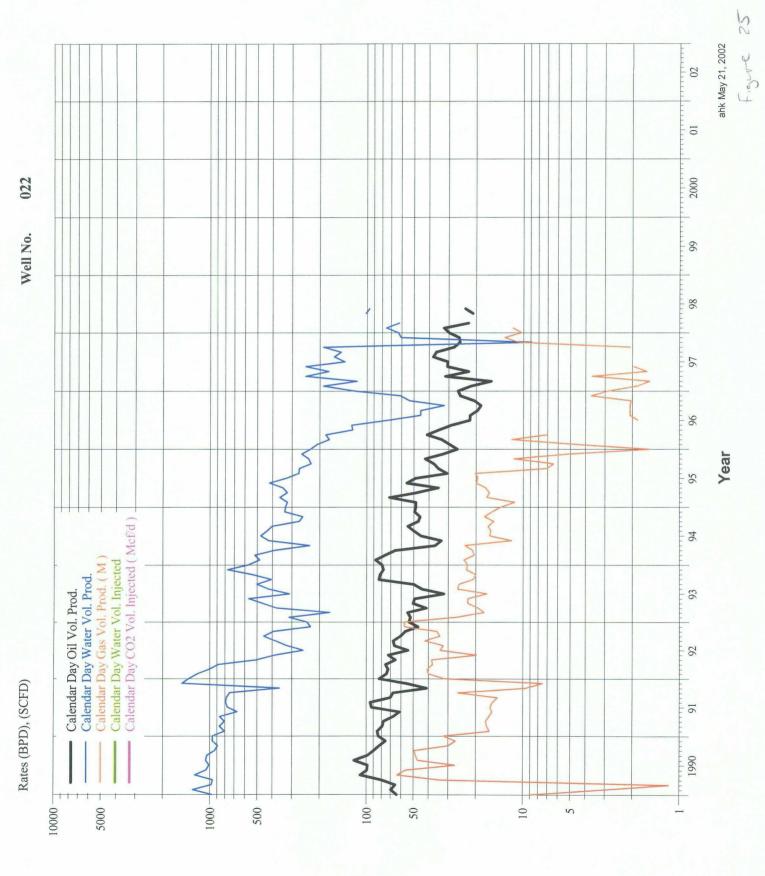


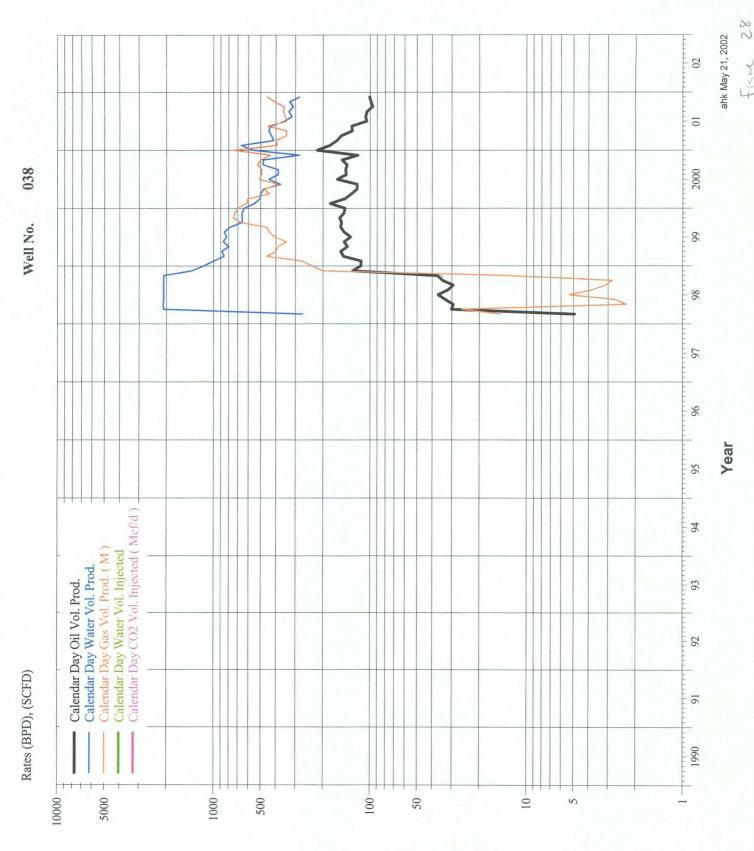




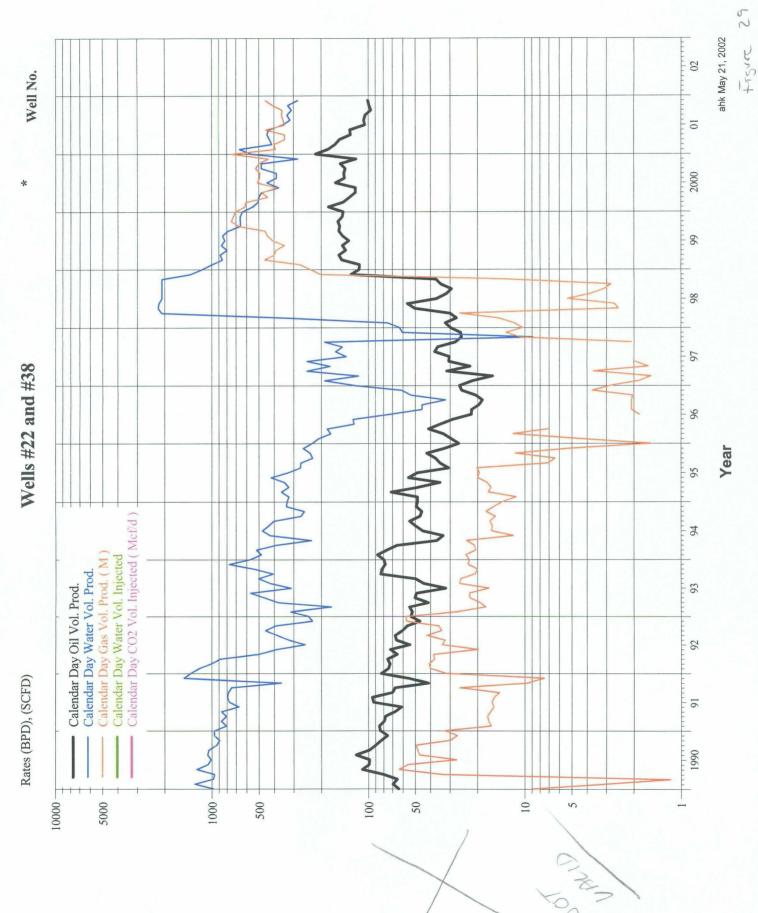


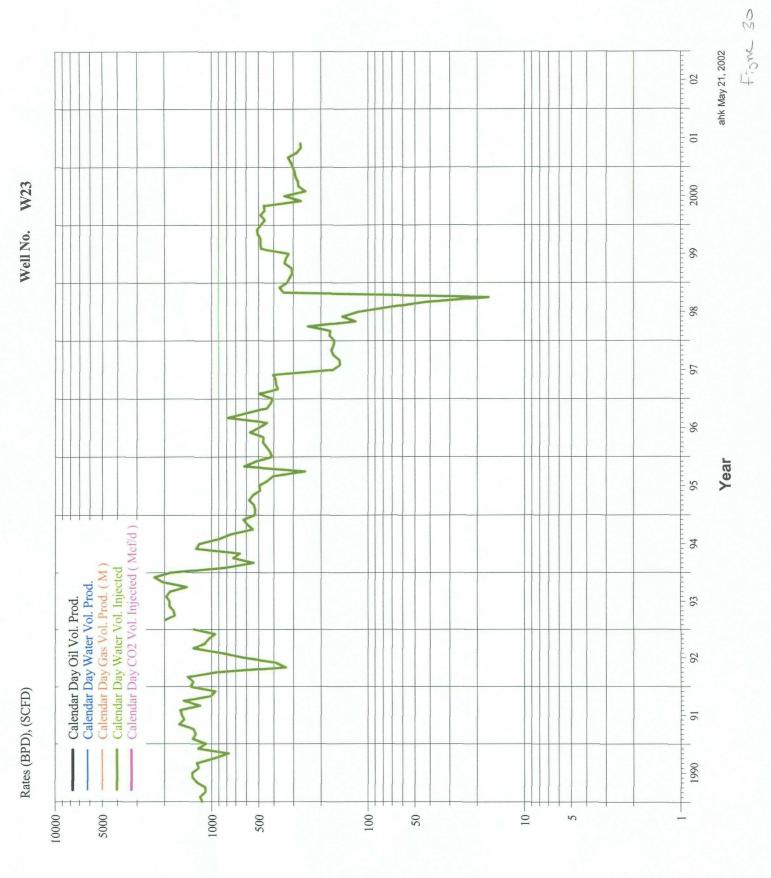


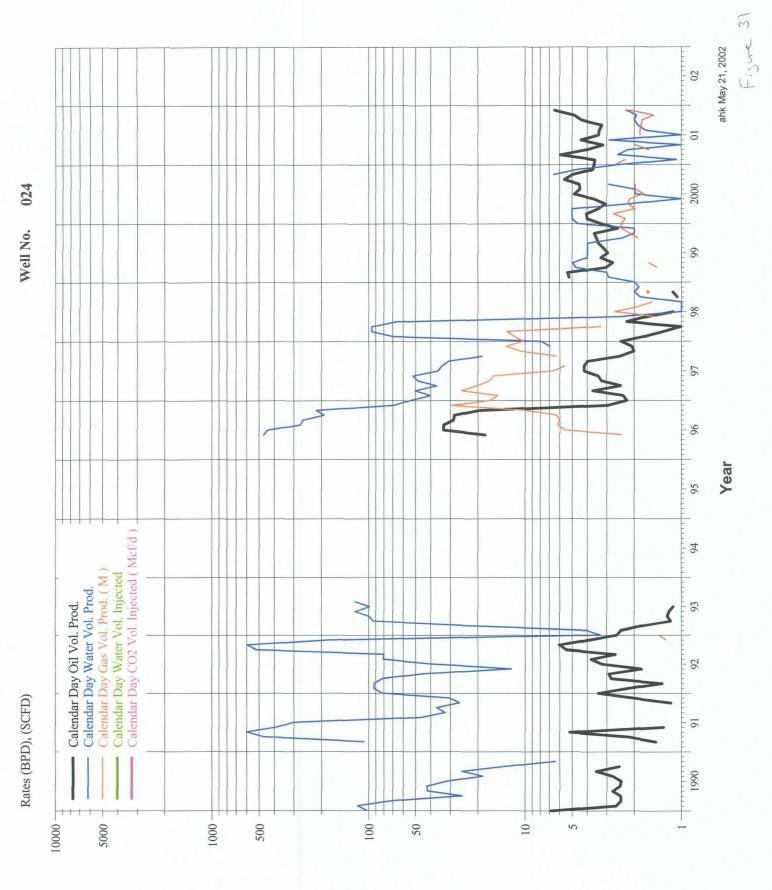


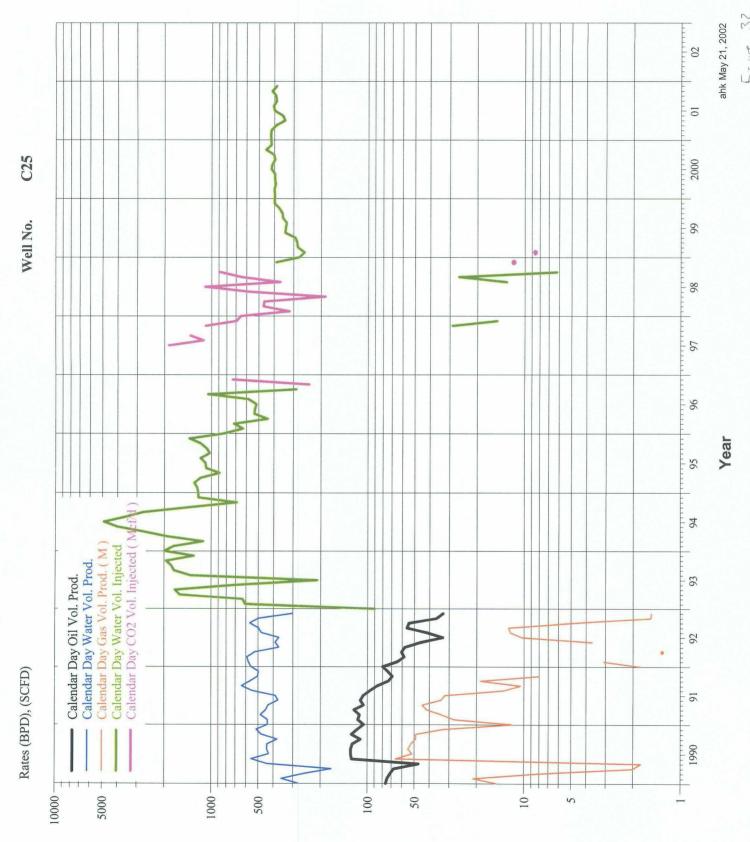


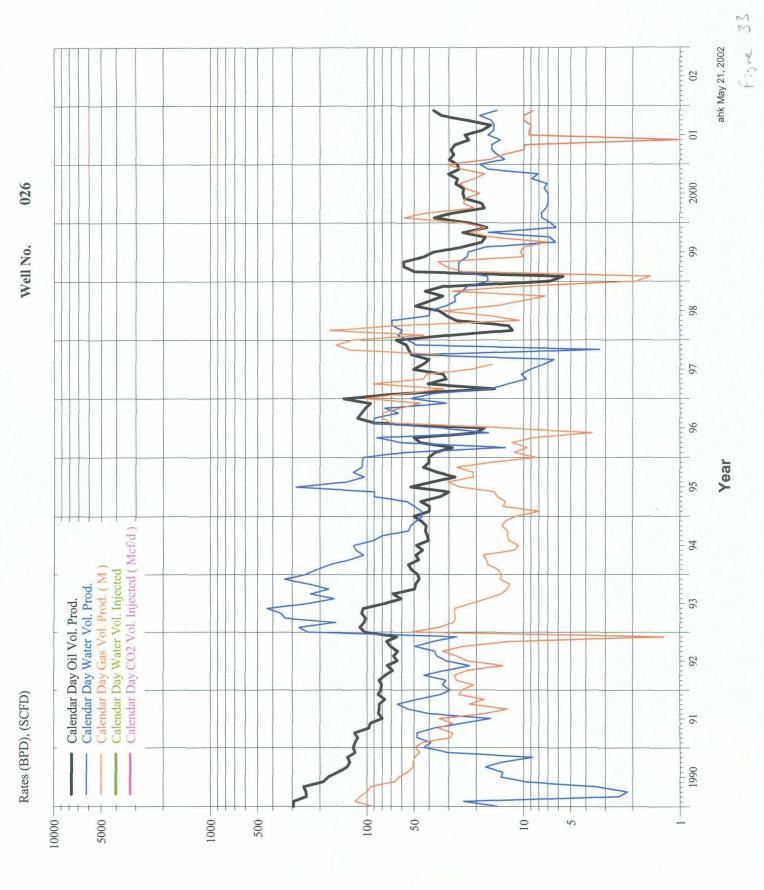
# State 35 Unit

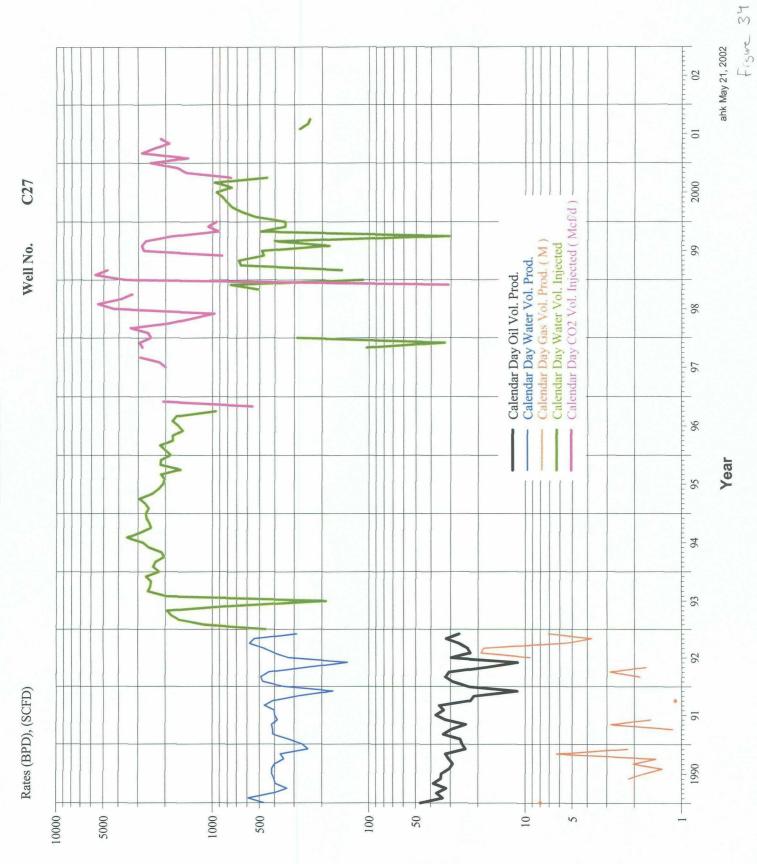


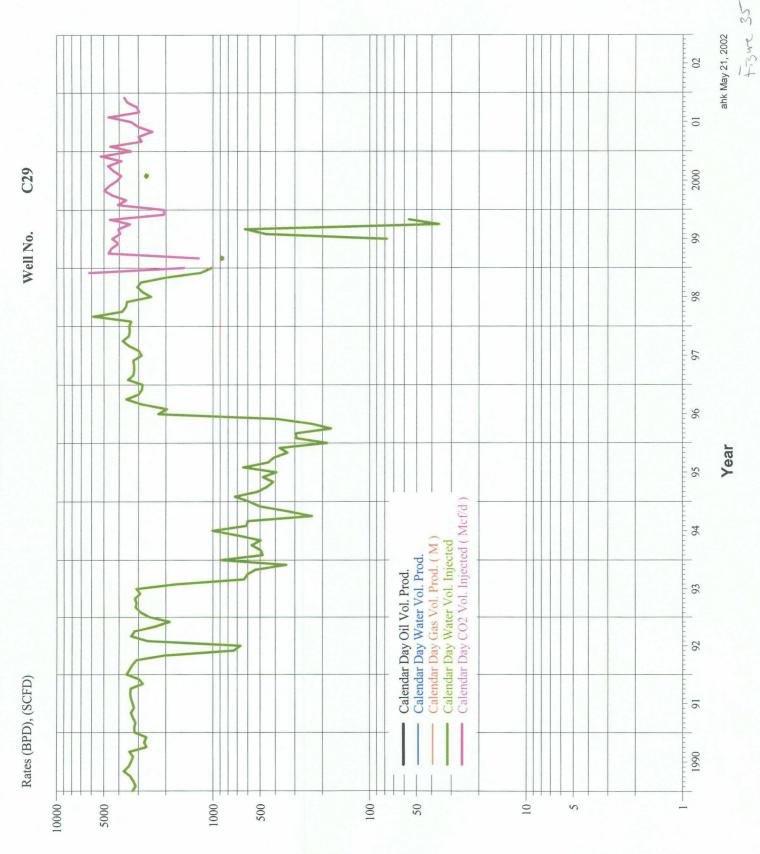


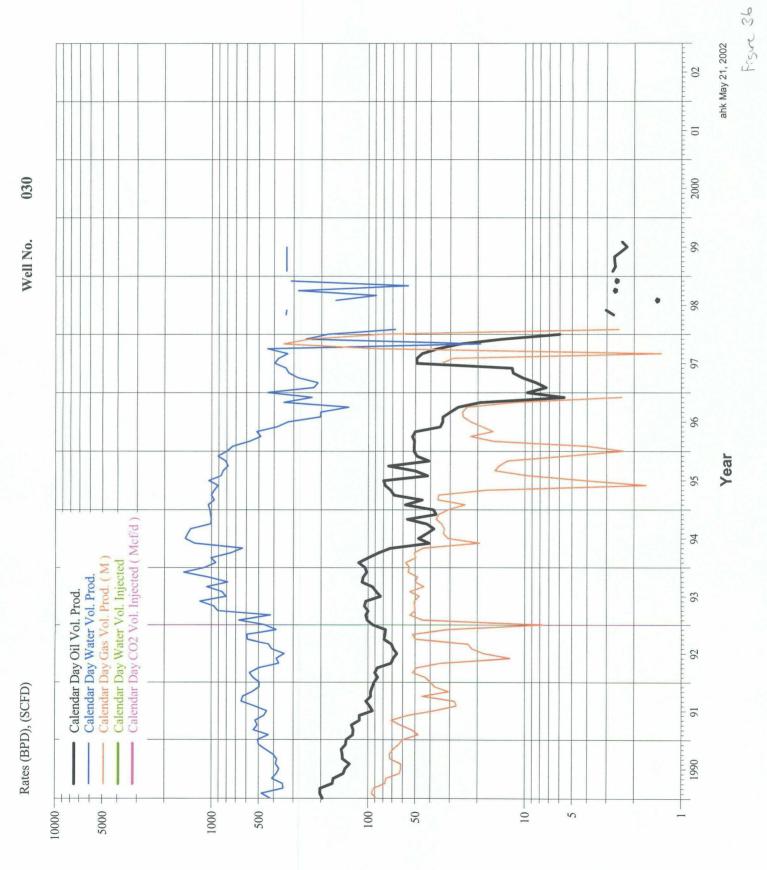


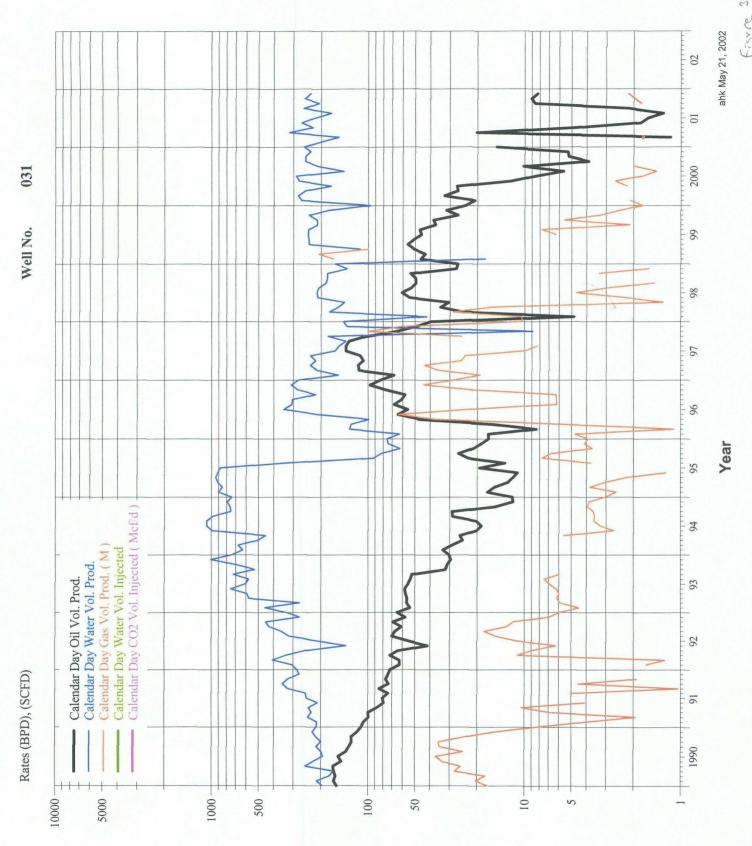


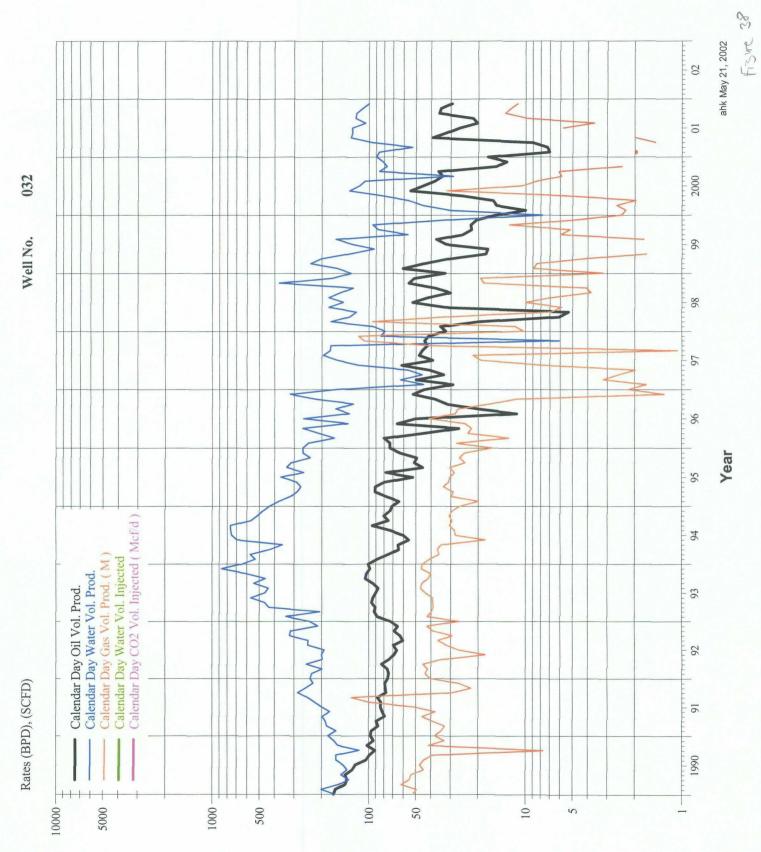


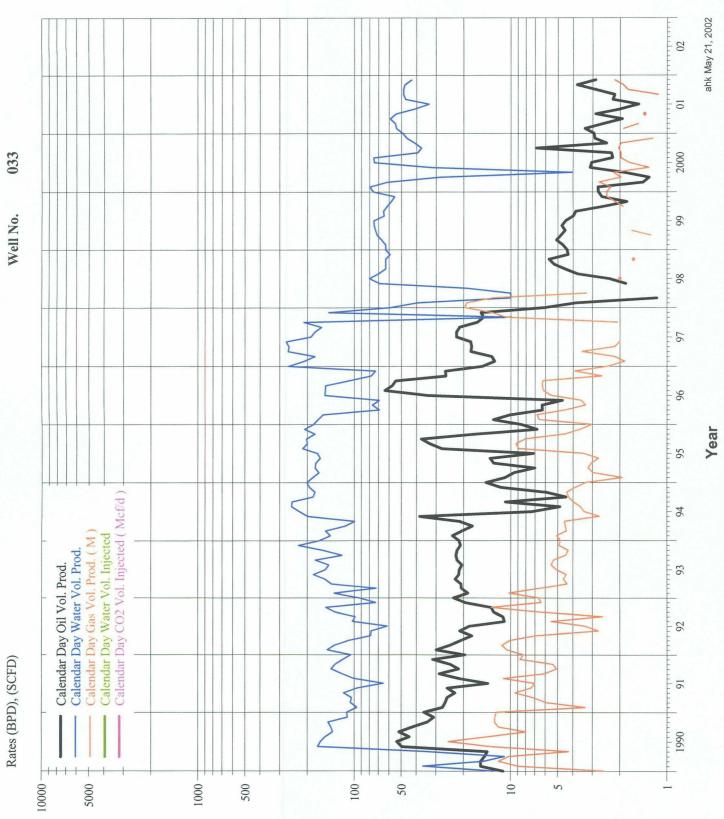


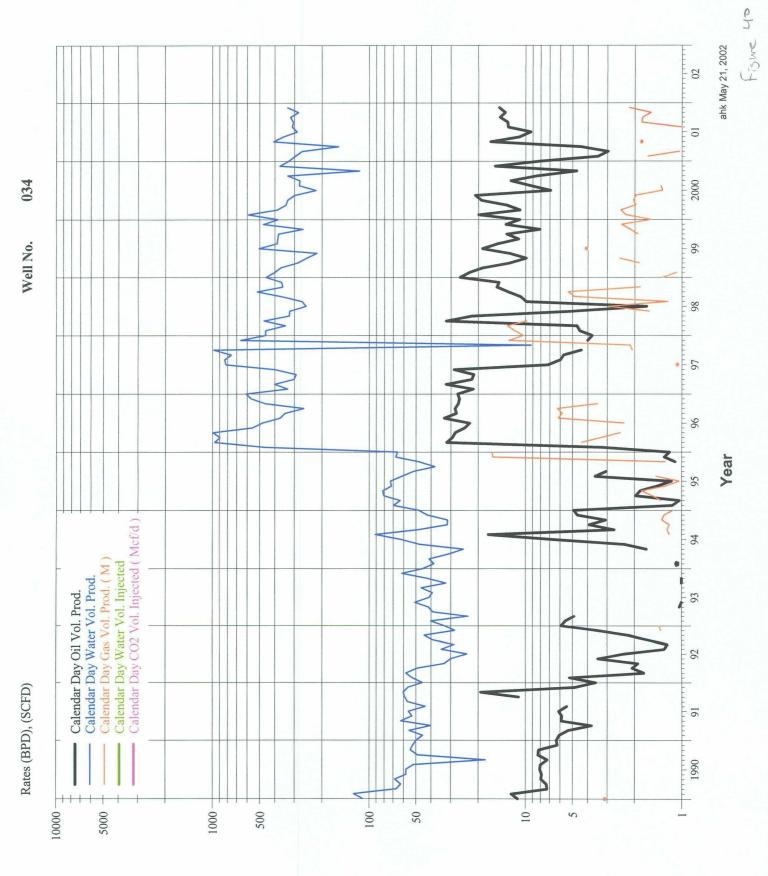


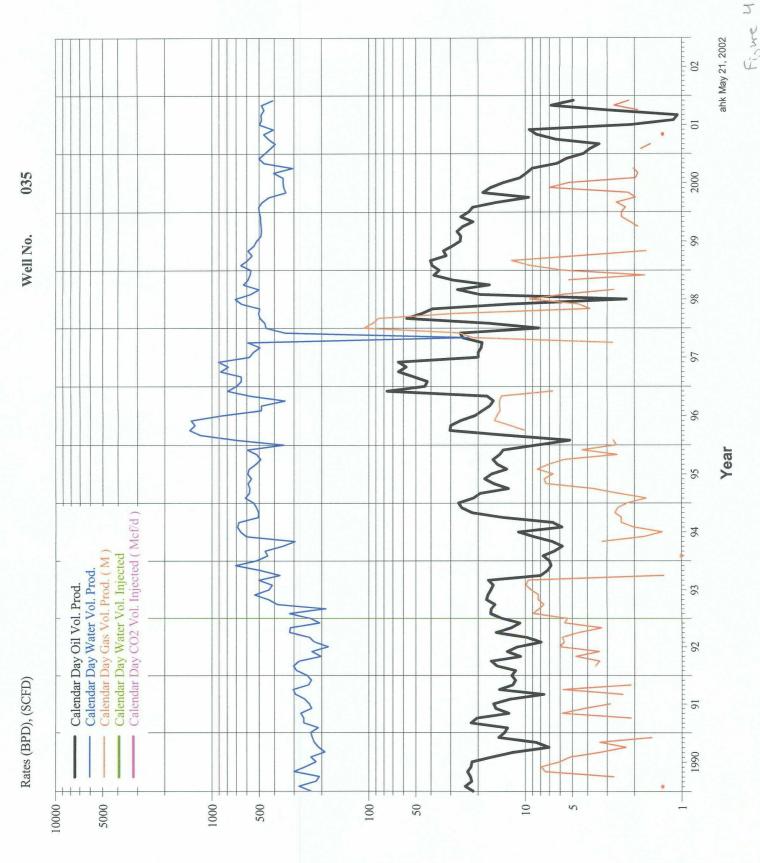


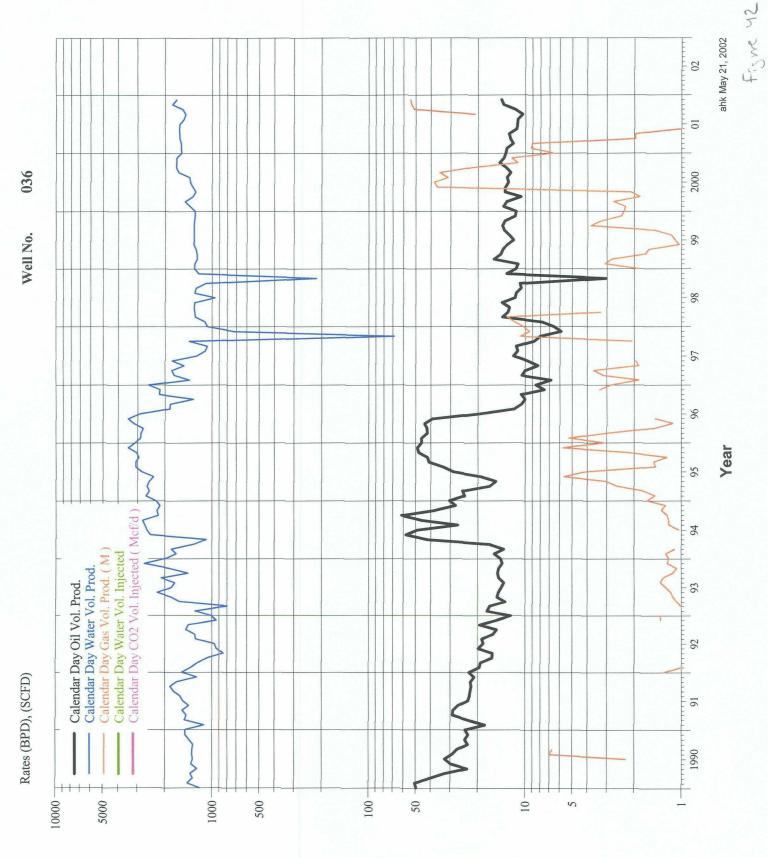


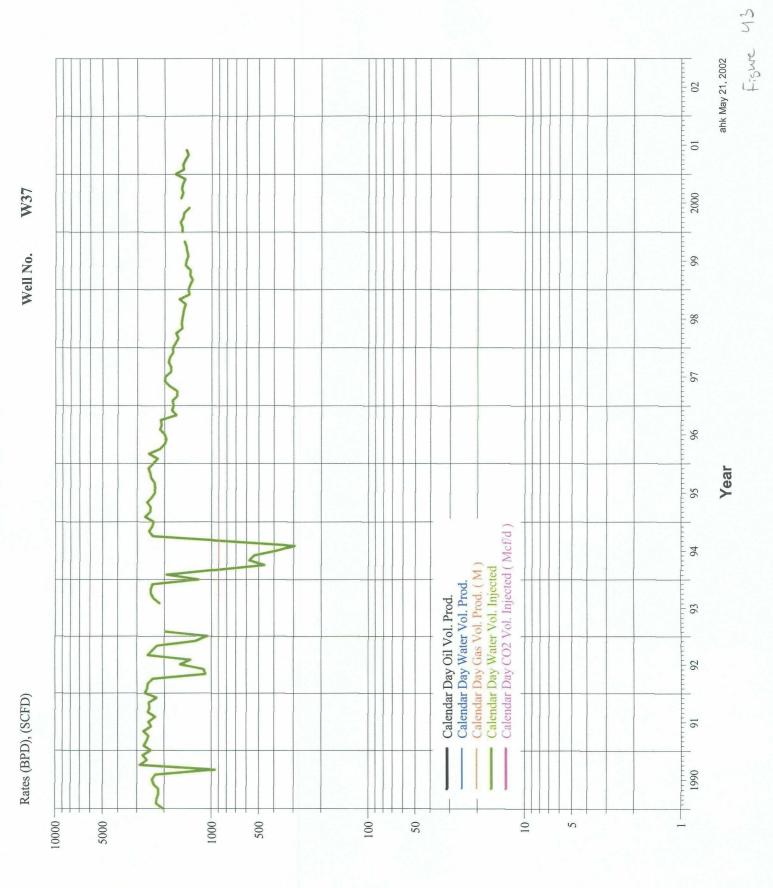


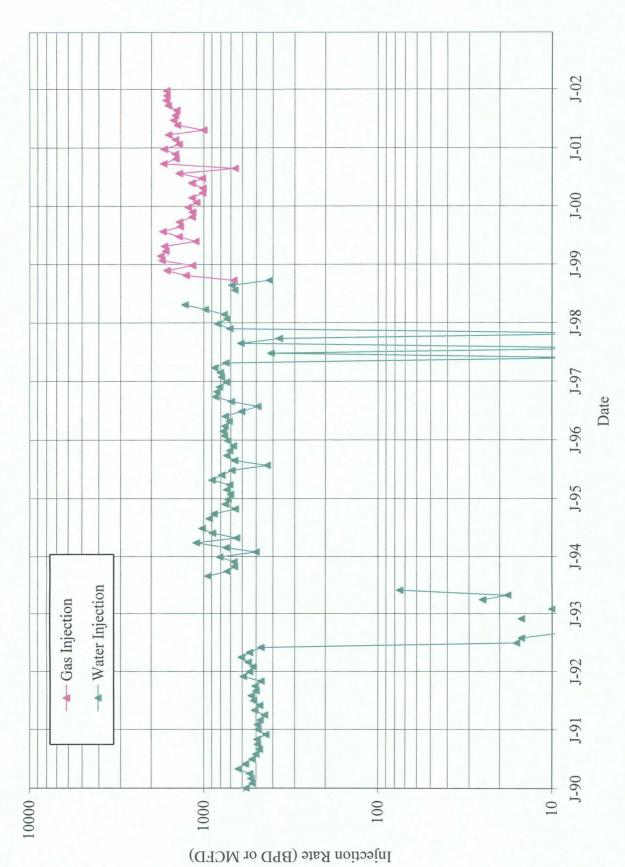


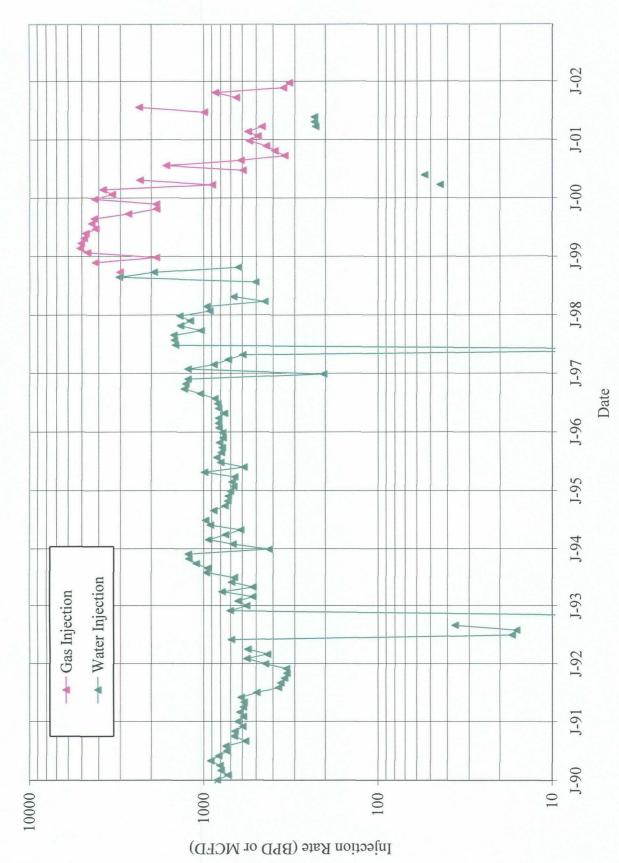


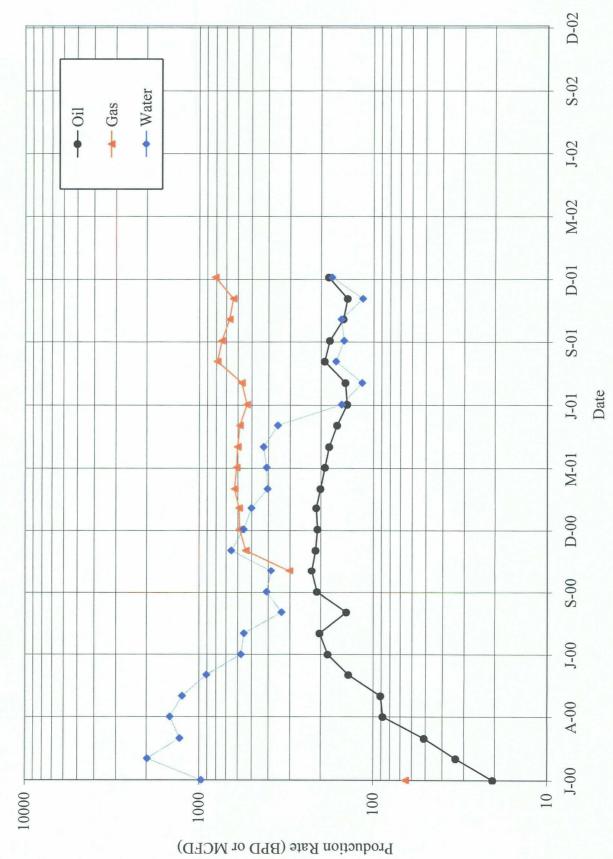


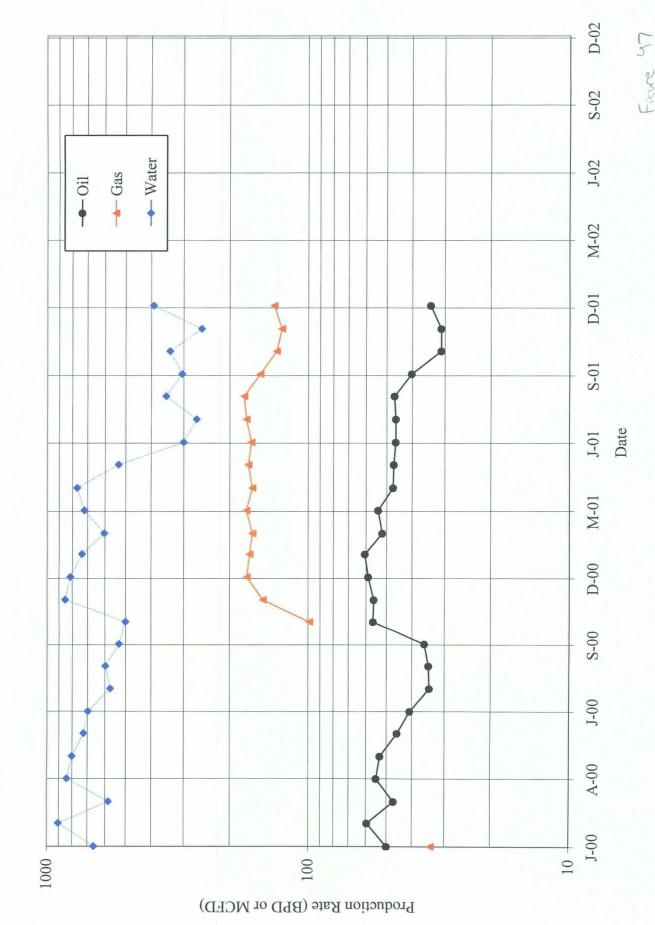












## Exhibit B Certification of a Positive Production Response State 35 Unit Tertiary Recovery Project

#### List of Wells

			Location	Unit	
	Well Name	API	(feet from Section Line)	Letter	Status
	Producers		(leet from Section Line)	Letter	Status
Not And	— State 35 Unit #1	3002502225	660 FN, 660 FW	D	TA'd
NR	— State 35 Unit #2	3002502215	660 FN, 1980 FE	В	
1/200	— State 35 Unit #3	3002502214	660 FN, 660 FE	A .	
8/1989	State 35 Unit #7	3002528046	1345 FN, 1210 FE	Н	
NR	State 35 Unit #8	3002533489	1120 FN, 660 FE	Н	
ust Arad	State=35=Unit=#9	3002502224	1980 FN, 660 FW	ēEF	PA'd
7/1999	State 35Unit #10	.3002502217	1980 FN, 1980 FE	G	
7/1999	— State 35 Unit #11	3002533415	2020 FN, 1310 FE	H	
11/97	State 35 Unit #12	3002502213	1980 FN, 660 FE	H	
7/98	State 35 Unit #13	3002522955	2310 FN, 990 FW	E	
1/98	State 35 Unit #15	3002533418	2527 FS, 1955 FW	K	
1198	— State 35 Unit #18	3002533419	2600 FS, 660 FE	I	
12/96	—— State 35 Unit #19	3002502220	1980 FS, 1980 FW	K	
2198	— State 35 Unit #20	3002533416	1926 FS, 2430 FE	K	
1/98	——State 35 Unit #21	3002502222	1980 FS, 1980 FE	J ·	
Not Prod	State 35-Unit:#22	3002502219	1980 FS, 660 FE	45	PA'd
10/98	— State 35 Unit #38 (repl #22)	3002534277	1934 FS, 560 FE	I	
17/99	State 35 Unit #24	3002530614	1225 fS, 2000 FW	N	
,	State 35 Unit #26	3002530615	1194 FS, 2040 FE	, 0	
11/97-	State 35 Unit #28	3002533417	1170 FS, 660 FE	P	,
Nest Auc	/State.35_Unit:#30=	3002520782	960 FS, 1680 FE	(Θ≥	PA'd
6/94	—State 35 Unit #31	3002508455	660 FS, 1980 FW	N	1
	- State 35 Unit #32	3002530616	650 FS, 2630 FW	N	
	- State 35 Unit #33	3002502223	600 FS, 1980 FE	0	
2/ 3/	6 - State 35 Unit #34	3002530617	620 FS, 1250 FE	P	
3/	26 - State 35 Unit #35	3002502221	660 FS, 660 FE	P	
	? - State 35 Unit #36	3002520780	660 FS, 560 FE	P	
	Tutual				
	Injectors State 35 Unit #4	3002528054	1220 EN 110 EU	E	TA'd
	State 35 Unit #4 State 35 Unit #5	3002528054	1330 FN, 110 FW 1330 FN, 1310 FW	E E	TA'd
	State 35 Unit #6	3002328033	1295 FN, 2615 FW	C	174.0
	State 35 Unit #14	3002528047	2630 FS, 1330 FW	ĸ	
11/01	- State 35 Unit #16 (WAG)	3002528057	2630 FS, 2630 FW	K	
11/96	_ State 35 Unit #17 (WAG)	3002528059	2630 FS, 1330 FE	J	
11/96	State 35 Unit #23	3002528059	1310 FS, 1310 FW	N	1
in	_State 35 Unit #25 (WAG)	3002528055	1260 FS, 2630 FE	o	
11/96	_State 35 Unit #27 (WAG)	3002528056	1360 FS, 1210 FE	I	. ]
11/96	_ State 35 Unit #29 (WAG)	3002528061	1410 FS, 10 FE	I	
11/86	State 35 Unit #37	3002528062	10 FS, 1210 FE	P	
L			,		

All Section 35 / T17S / R34E

WAG indicates wells that have had CO2 injection.

5059822047

W. THOMAS KELLAHIN'

NEW MEXICO BOARD OF LEGAL SPECIALIZATION RECOGNIZED SPECIALIZET IN THE AREA OF NATURAL RESOURCES-OIL AND DAS LAW

JAEON KELLAHIN (RETIRED 1991)

#### KELLAHIN AND KELLAHIN

June 19, 2002

#### HAND DELIVERED

Mr. David R. Catanach Oil Conservation Division 1220 South Saint Francis Drive Santa Fe, New Mexico 87505

Re: APPLICATION FOR POSITIVE INJECTION RESPONSE NMOCD Case 11523; ORDER P-10599-B Phillips Petroleum Company Tertiary Recovery Pressure Maintenance Project for the State-35 Unit

Dear Mr. Catanach::

On behalf of Phillips Petroleum Company, please find enclosed are application for a positive injection response for the reference project. The November 7, 19996 letter incorrect used a 5 year period then in fact this project is eligible for a 7 year period.

If you have any questions, please call me.

Regards

W. Thomas Kellahin

Phillips Petroleum Company cfx: Attn: Alfred H. Kent. Jr.

(915) 368-1450

OIL CONSERVATION DIVISION 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

November 7, 1996

Phillips Petroleum Company 4001 Penbrook Odessa, Texas 79762

Attention: Jamie Welin

### CERTIFICATION OF ENHANCED OIL RECOVERY PROJECT FOR RECOVERED OIL TAX RATE

The New Mexico Oil Conservation Division hereby certifies that the following Enhanced Oil Recovery Project has been approved by the Division as a secondary project, pursuant to the provisions of the *New Mexico Enhanced Oil Recovery Act* (Laws of 1992, Chapter 38). In order to qualify for the *Recovered Oil Tax Rate*, you must apply for certification of positive production response within five years from the date of this certification. Only production from that portion of the project area identified herein which is actually developed for enhanced recovery will qualify for the reduced tax rate.

If operation of this project is terminated for any reason, the operator of the project must notify this Division and the Secretary of the Taxation and Revenue Department not later than the thirtieth day after termination.

NAME OF PROJECT:

State-35 Unit Tertiary Recovery/

Pressure Maintenance Project

OCD ORDER NO.

R-10599-B

OPERATOR:

Phillips Petroleum Company

Attn: Jamie Welin

ADDRESS:

4001 Penbrook

Odessa, Texas 79762

CERTIFICATION DATE:

October 1, 1996

#### PROJECT AREA

#### **TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM**

Section 35: N/2, E/2 SW/4 and SE/4

#### PROJECT PRODUCING WELLS ELIGIBLE FOR CREDIT

#### State-35 Wells

1)	Well No.1 (API No.30-025-02225)
	660 FNL & 660 FWL, Unit Letter 'D'
2)	Well No.2 (API No.30-025-02215)
	660 FNL & 1980 FEL, Unit Letter 'B'
3)	Well No.3 (API No.30-025-02214)
	660 FNL & 660 FEL, Unit Letter 'A'
4)	Well No.8 (API No. not assigned)
	1120 FNL & 660 FEL, Unit Letter 'H'
5)	Well No.9 (API No.30-025-02224)
	1980 FNL & 660 FWL, Unit Letter 'E'
6)	Well No.10 (API No.30-025-02217)
	1980 FNL & 1980 FEL, Unit Letter 'G'
7)	Well No.11 (API No. not assigned)
	2220 FNL & 1310 FEL, Unit Letter 'H'
8)	Well No.12 (API No.30-025-02213)
	1980 FNL & 660 FEL, Unit Letter 'H'
9)	Well No.13 (API No.30-025-22955)
	2310 FNL & 990 FWL, Unit Letter 'E'
10)	Well No.15 (API No. not assigned)
	2527 FSL & 1955 FWL, Unit Letter 'K'
11)	Well No.18 (API No. not assigned)
	2600 FSL & 660 FEL, Unit Letter 'I'
12)	Well No.19 (API No.30-025-02220)
	1980 FSL & 1980 FWL, Unit Letter 'K'
13)	Well No.20 (API No. not assigned)
	1926 FSL & 2430 FEL, Unit Letter 'K'
14)	Well No.21 (API No.30-025-02222)
	1980 FSL & 1980 FEL, Unit Letter 'J'
15)	Well No.22 (API No.30-025-02219)

1980 FSL & 660 FEL, Unit Letter 'I'

- 16) Well No.24 (API No.30-025-30614)
  1225 FSL & 2000 FWL, Unit Letter 'N'
- 17) Well No.28 (API No. not assigned)
  1170 FSL & 660 FEL, Unit Letter 'P'
- 18) Well No.30 (API No.30-025-20782) 960 FSL & 1680 FEL, Unit Letter 'O'
- 19) Well No.31 (API No.30-025-08455) 660 FSL & 1980 FWL, Unit Letter 'N'
- 20) Well No.32 (API No.30-025-30616) 650 FSL & 2630 FWL, Unit Letter 'N'
- 21) Well No.33 (API No.30-025-02223) 600 FSL & 1980 FEL, Unit Letter 'O'
- 22) **Well No.34 (API No.30-025-30617)**620 FSL & 1250 FEL, Unit Letter 'P'
- 23) Well No.35 (API No.30-025-02221) 660 FSL & 660 FEL, Unit Letter 'P'
- 24) Well No.36 (API No.30-025-20780) 660 FSL & 560 FEL, Unit Letter 'M'

ALL IN SECTION 35, TOWNSHIP 17 SOUTH, RANGE 34 EAST, LEA COUNTY, NEW MEXICO

APPROVED BY:

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

WILLIAM J. LEMAY DIRECTOR

SEAL

OIL CONSERVATION DIVISION 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

November 7, 1996

Department of Taxation and Revenue P.O. Box 630 Santa Fe, NM 87509-0630

Attention: John Chavez, Secretary

RE: Certification of EOR Project

Phillips Petroleum Company State-35 Unit Tertiary Recovery/ Pressure Maintenance Project

Dear Secretary Chavez:

Enclosed is a copy of the certification issued to Phillips Petroleum Company for its State-35 Unit Tertiary Recovery/Pressure Maintenance EOR project, certified by this Division on October 1, 1996, to be a qualified Enhanced Oil Recovery Project. If the operator applies for certification of positive production response within five years from that date, this project will be eligible for the *Recovered Oil Tax Rate* as provided in Laws of 1992, Chapter 38.

Only oil production from that portion of the lands identified in the certification which is actually developed for enhanced recovery will be eligible for the reduced tax rate. At the time positive production response is certified, we will identify for you the specific lands and wells within the project which qualify for the *Recovered Oil Tax Rate*.

Sincerely,

William J. LeMay Director

WJL/BES

**Enclosures** 

EOR CERT.

#### KELLAHIN AND KELLAHIN

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

TELEPHONE (505) 982-4285 TELEFAX (505) 982-2047

JASON KELLAHIN (RETIRED 1991)

\*NEW MEXICO BOARD OF LEGAL SPECIALIZATION RECOGNIZED SPECIALIST IN THE AREA OF NATURAL RESOURCES-OIL AND GAS LAW

W. THOMAS KELLAHIN\*

October 1, 1996

HAND DELIVERED

Mr. Ben Stone
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

RECEIVED

OCT 1 1996

Re: NMOCD Case 11523 (Order R-10599-B)

Request for Certification of Qualification for an Enhanced Oil Recovery Project for Phillips Petroleum Company Oil Conservation Division

Dear Mr. Stone:

On behalf of Phillips Petroleum Company and in accordance with Division Order R-10599-B (copy enclosed), I hereby request from the Division a Certificate of Qualification for the following described project:

#### Project Name:

State-35 Unit Tertiary Recovery/Pressure Maintenance Project

#### **Project Operator:**

Phillips Petroleum Company 4001 Penbrook Odessa, Texas 79762

#### Project Area:

The Grayburg and San Andres formations of the Vacuum Grayburg-San Andres Pool within the following project area in Lea County, New Mexico, containing 560 acres, more or less and described as follows:

Oil Conservation Division October 1, 1996 Page 2.

Township 17 South, Range 34 East, NMPM

Section 35: N/2, E/2SW/4 and SE/4

#### SEE EXHIBIT A ATTACHED

Project wells eligible for credit:

#### SEE EXHIBIT B ATTACHED

Project injection wells:

SEE EXHIBIT C ATTACHED.

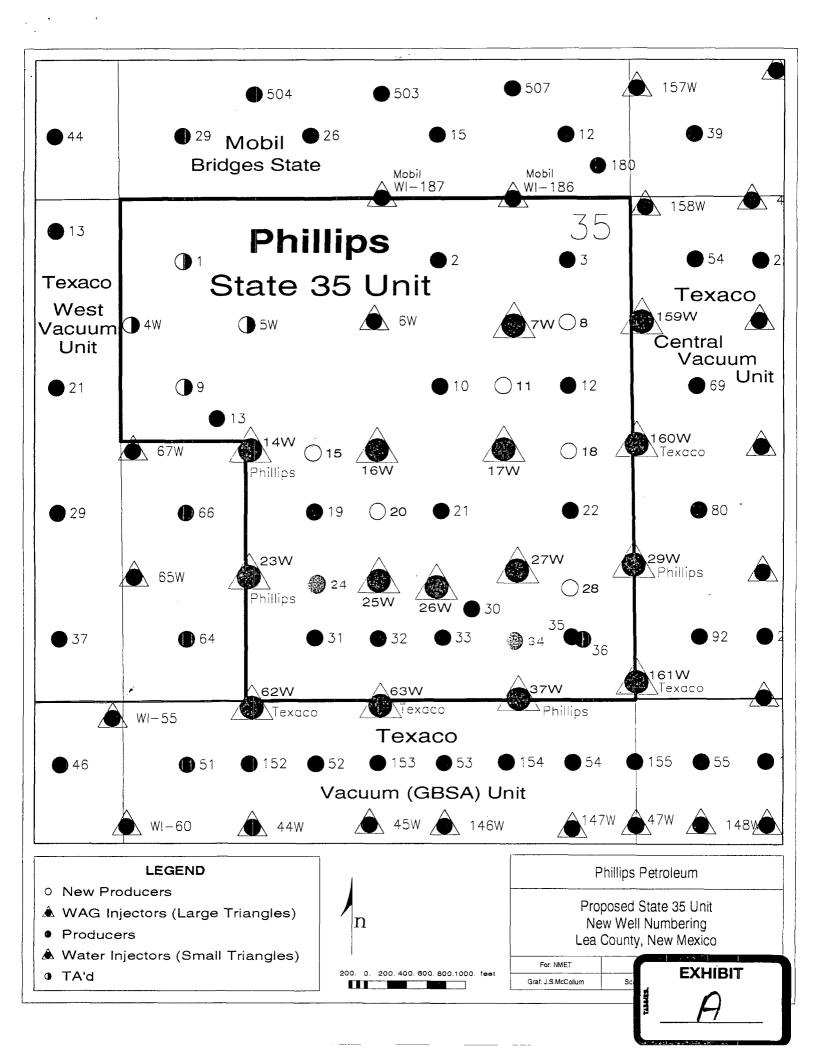
Please let me know if you require anything further.

MAU

Very truly yours,

W. Thomas Kellahin

cc: Phillips Petroleum Company Attn: Jamie Welin



### STATE 35 UNIT

### ATTACHMENT III TO FORM C-108 APPLICATION FOR AUTHORIZATION TO INJECT

### PROPOSED WELL NUMBERING SCHEME

New Well Designation	Lease Well N		API <u>Number</u>	Unit <u>Letter</u>	Sec-Tn-Ra	<u>Epotage</u>	Former Operator	Current Status
		-	LIGHTEST	<u> </u>	333 11113	<u> </u>	Operator	Status
State 35 # 1	Mable	2	3002502225	D	35-17S-34E	660' FN, 660' FW	Phillips	l TA
State 35 # 2	H-35	3	3002502215	В	35-17S-34E	660' FN. 1980' FE	Phillips	PROD
State 35 # 3	H-35	2	3002502214	A	35-17S-34E	660' FN. 660' FE	Phillips	PROD
State 35 # 4W	Mable	5W	3002528054	E	35-17S-34E	1330' FN, 110' FW	Phillips	SI
√State 35 # 5W	Mable	4W	3002528053	Ε	35-17S-34E	1330' FN, 1310' FW	Phillips	SI
State 35 # 6W	H-35 1	5W	3002528047	C	35-17S-34E	1295' FN, 2615' FW	Phillips	TA
State 35 # 7W	H-35	14	3002528046	н	35-17S-34E	1345' FN, 1210' FE	Phillips	PROD
State 35 # 8			1	Н	35-17S-34E	1120' FN, 660' FE	Phillips	•
State 35 # 9	Mable	1	3002502224	E	35-17S-34E	1980' FN, 660' FW	Phillips	TA
State 35 # 10	H-35	5	3002502217	G	35-17S-34E	1980 FN, 1980 FE	Phillips	TA
State 35 # 11				H	35-17S-34E	2220' FN, 1310' FE	Phillips	•
State 35 # 12	H-35	1	3002502213	н	35-17S-34E	1980' FN, 660 FE	Phillips	PROD
State 35 # 13	Mable	3	3002522955	Ε	35-17S-34E	2310' FN, 990' FW	Phillips	PROD
State 35 # 14W	Hale 1	4W	3002528057	K	35-17S-34E	2630' FS. 1330' FW	Phillips	WAT. INJ.
State 35 # 15				K	35-17S-34E	2527' FS, 1955' FW	Phillips	•
State 35 # 16W	Hale 1	5W	3002528058	K	35-17S-34E	2630' FSL, 2630' FWL	Phillips	WAT. INJ.
State 35 # 17W	Haie 1	6W	3002528059	J	35-17S-34E	2630' FS, 1330' FE	Phillips	WAT, INJ.
State 35 # 18					35-17S-34E	2500' FS, 660' FE	Phillips	•
State 35 # 19	Hale	2	3002502220	K	35-17S-34E	1980' FS, 1980' FW	Phillips	PROD
State 35 # 20				к	35-17S-34E	1926' FS, 2430' FE	Phillips	•
State 35 # 21	Hale	5	3002502222	J	35-17S-34E	1980' FS, 1980' FE	Phillips	PROD
State 35 # 22	Hale	1	3002502219	1	35-17S-34E	1980' FS, 660' FE	Phillips	PRCD
∫ State 35 # 23W	Hale 1	7W	3002528060	N	35-17S-34E	1310' FS, 1310' FW	Phillips	WAT. INJ.
State 35 # 24	Haie	20	3002530614	N	35-17S-34E	1225' FS, 2000 FW	Phillips	PROD
, State 35 # 25W	Hale 1	2VV	3002528055	0	35-17S-34E	1260' FS, 2630' FE	Phillips	WAT. INJ.
State 35 # 26W	Haie	21	3002530615	0	35-17S-34E	1194' FS, 2040' FE	Phillips	PROD
State 35 # 27W 1	Hale 1	SW i	3002528056	1	35-17S-34E	1360' FS, 1210' FE	Phillips	WAT, INJ.
State 35 # 28		1		Р	35-17S-34E	1170' FS, 660' FE	Phillips	•
State 35 # 29W	Haie 1	ws.	3002528061	1	35-17S-34E	1410' FS, 10' FE	Phillips	. LNI. TAW
State 35 # 30	Hale	10	3002520782	0	35-17S-34E	960 FS. 1680' FE	Phillips	PROD
State 35 # 31	Hale	4	3002508455	N	35-17S-34E	660' FS, 1980 FW	Phillips	PROD
State 35 # 32	Hale	22	3002530616	N	35-17S-34E	650' FS, 2630' FW	Phillips	PRCD
State 35 # 33	Hale	5	3002502223	0	35-17S-34E	600' FS, 1980' FE	Phillips	PROD
State 35 # 34	Hale	23	3002530617	Р	35-17S-34E	620' FS, 1250' FE	Phillips	PROD
State 35 # 35	Hale	3	3002502221	Р	35-17S-34E	660' FS, 660 FE	Phillips	PROD
State 35 # 36	Hale	8	3002520780	P	35-17S-34E	660' FS, 560' FE	Phillips	PROD
State 35 # 37W	Hale 1	ew	3002528062	Р	35-17S-34E	10' FS, 1210' FE	Phillips	WAT. INJ.
'			. ,	1	- 1	, 1		

<sup>\*</sup> New drill producer locations - Pending final staking & NMCCD approval



### STATE 35 UNIT

### ATTACHMENT III TO FORM C-108 APPLICATION FOR AUTHORIZATION TO INJECT

### PROPOSED UNIT INJECTION WELLS

New Well Designation	<u>Operator</u>	Lease & Well No.	API Number	Sec-Tr	ı-Ra	<u>Footage</u>	Current Statu
State 35 # 6W	Phillips	H-35 # 15	3002528047	35 178	35E	1295' FN, 2615' FW	TA Inj.
State 35 # 7W	Phillips	H-35 # 14	3002528046	35 175	35E	1345' FN, 1210' FE	SA Prod
State 35 # 14W	Phillips	Hale # 14	3002528057	35 17S	35E	2630' FS, 1330' FW	SA Inj.
State 35 # 16W	Phillips	Hale # 15	3002528058	35 175	35E	2630' FSL, 2630' FW	SA Inj.
State 35 # 17W	Phillips	Hale # 16	3002528059	35 17S	35E	2630' FS, 1330' FE	SA Inj.
State 35 # 23W	Phillips	Hale # 17	3002528060	35 17S	35E	1310' FS, 1310' FW	SA Inj.
State 35 # 25W	Phillips	Hale # 12	3002528055	35 17S	35E	1260' FS, 2630' FE	SA Inj.
State 35 # 26W	Phillips	Hale # 21	3002530615	35 17S	35E	1194' FS, 2040' FE	SA Prod
State 35 # 27W	Phillips	Hale # 13	3002528056	35 17S	35E	1360' FS, 1210' FE	SA Inj.
State 35 # 29W	Phillips	Hale # 18	3002528061	35 17S	35E	1410' FS, 10' FE	SA Inj.
State 35 # 37W	Phillips	Hale # 19	3002528062	35 178	35E	10' FS, 1210' FE	SA Inj.
		PROPOSED	ILNI TINU-NON	ECTION	WELL	<u>s</u>	
	Texaco	CVU # 159	3002527969	36 175	35E	1310' FN, 100' FW	SA Inj.
	Техасо	CVU # 160	3002527970	36 178	35E	2602' FN, 35' FW	SA Inj.
	Texaco	CVU # 161	3002527971	36 175	35€	180' FS, 10' FW	SA Inj.
	Texaco	Vac GBSAU # 62	3002527973	02 185	34E	65' FN, 1330' FW	SA Inj.
	Texaco	Vac GBSAU # 63	3002527974	01 185	34E	50' FN, 2630' FE	SA Inj.



### 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. 11523 ORDER NO. R-10599-B

APPLICATION OF PHILLIPS PETROLEUM COMPANY FOR APPROVAL OF A PRESSURE MAINTENANCE PROJECT, TO QUALIFY SAID PROJECT FOR THE RECOVERED OIL TAX CREDIT PURSUANT TO THE "NEW MEXICO ENHANCED OIL RECOVERY ACT", AND FOR THREE UNORTHODOX OIL WELL LOCATIONS, LEA COUNTY, NEW MEXICO.

### ORDER OF THE DIVISION

### BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on May 2, 1996, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 27th day of September, 1996, the Division Director, having considered 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) At the time of the hearing Division Case Nos. 11522 and 11523 were consolidated for the purpose of testimony.
- (3) By Division Order No. R-10599, issued in Case 11522 and dated May 10, 1996, as amended by Division Nunc Pro Tunc Order No. R-10599-A, dated September 16, 1996, the State-35 Unit Agreement and Area was approved for an area comprising 560 acres, more or less, of State lands underlying the N/2, E/2 SW/4, and SE/4 of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico. The "Unitized Formation" for this unit includes that stratigraphic interval underlying the Unit Area in the Vacuum-Grayburg San Andres Pool that extends from a measured depth of 4,000 feet (+21 feet sub-sea datum) to 4,950 feet (-929 feet sub-sea datum), both depths

,

as identified on the Lane Wells Acoustic Log, dated March 12, 1964, for the Phillips M. E. Hale Well No. 8 (API No. 30-025-20780), located 660 feet from the South line and 560 feet from the East line (Unit P) of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico.

- (4) The applicant in this matter, Phillips Petroleum Company ("Phillips"), seeks the following:
  - (a) authority to institute a tertiary recovery project or pressure maintenance project within its aforementioned State-35 Unit by the injection of water and carbon dioxide ("CO<sub>2</sub>") into both the Grayburg and San Andres formations of the Vacuum Grayburg-San Andres Pool through sixteen (16) certain wells;
  - (b) approval for the drilling of three producing wells within said Unit Area at unorthodox oil well locations; and,
  - (c) to qualify this project for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act" (Law 1992, Chapter 38, Sections 1 through 5).
- (5) Phillips as the proposed operator of the State-35 Unit Tertiary Recovery/Pressure Maintenance Project Area ("EOR Project Area") intends to recover additional oil by means of combined water and CO<sub>2</sub> gas injection ("WAG") into the Grayburg and San Andres formations of the Vacuum Grayburg-San Andres Pool within said Unit Area with seven (7) interior injection wells, nine (9) leaseline injection wells and sixteen (16) producing wells.
  - (6) Within the proposed 560-acre EOR Project Area:
    - (a) the Phillips operated Mable lease comprising the W/2 NW/4 of said Section 35 and the Phillips operated Hale lease comprising the E/2 SW/4 and SE/4 of said Section 35 were the subject of Division Order Nos. R-7103, which order authorized the Phillips Hale-Mable Vacuum Pressure Maintenance Project by means of water injection within this 320 acres, and R-7103-A, which authorized the injection of polyacrylamide polymers into the Phillips Hale-Mable Vacuum Pressure Maintenance Project Area; and,

- (b) Conoco. Inc. was granted similar approval for its Conoco State H-35 Vacuum Pressure Maintenance Project comprising the NE/4 and E/2 NW/4 of said Section 35 by Division Order Nos. R-7182 and R-7182-A (Phillips has since become operator of the H-35 lease).
- (7) There are currently four active secondary recovery projects within the Vacuum Grayburg-San Andres Pool that immediately offset the proposed 560-acre EOR Project Area:
  - (a) the Texaco Exploration and Production, Inc. Central Vacuum Unit Pressure Maintenance Project (see Division Order Nos. R-5530, R-5530-A, R-5530-B, and R-5530-C), which is also a tertiary recovery project (see Division Order No. R-5530-D) in the S/2 of Section 25 and all of Section 30, both in Township 17 South, Range 34 East, NMPM, Central Vacuum Unit Area (approved by Division Order No. R-5496), Lea County, New Mexico;
  - (b) the Texaco Exploration and Production, Inc. Vacuum Grayburg-San Andres Pressure Maintenance Project (see Division Order Nos. R-4442 and R-6094), which is also a tertiary recovery project (see Division Order Nos. R-7010 and R-7010-A) comprising the W/2 SW/4 of Section 35, Township 17 South, Range 34 East, NMPM, and Sections 1, 2, the NE/4 NE/4 of Section 11, and the N/2 NW/4 of Section 12, Township 18 South, Range 34 East, NMPM, all within the Vacuum Grayburg San Andres Unit Area (approved by Division Order Nos. R-4433 and R-4433-A, as expanded by letter from the New Mexico Oil Conservation Division dated December 9, 1980 and by letter from the new Mexico State Land Office dated February 2, 1981), Lea County, New Mexico;
  - (c) the Mobil Producing Texas and New Mexico, Inc. Bridges-State Waterflood Project (see Division Order Nos. R-1244, R-3496, R-3984, R-3984-A, R-4385, R-7361, and R-7361-A), a portion of which is also a tertiary recovery project (see Division Order No. R-7405) comprising in part all of Section 26 and the E/2 of Section 27, both in Township 17 South, Range 34 East, NMPM, Lea County,

New Mexico; and,

- (d) the Texaco Exploration and Production, Inc. West Vacuum Unit Waterflood Project (see Division Order Nos. R-3008 and R-4234) comprising in part all of Section 34, Township 17 South, Range 34 East, NMPM, West Vacuum Unit Area (approved by Division Order No. R-3007, as amended by Order No. R-3007-A), Lea County, New Mexico.
- (8) Testimony presented by Phillips indicates that as of December 31, 1995, cumulative primary and secondary oil recovery from the proposed EOR Project Area had been 17,207,369 barrels of oil with an estimated additional one million barrels of oil to be recovered under the current mode of operations.
- (9) Phillips further testified that the proposed EOR Project Area is currently producing at a rate of approximately 420 BOPD with approximately 95% watercut from sixteen (16) active producers. Further, there are currently ten (10) active leaseline and four (4) active interior injector wells contributing to the current mode of operations within the two existing pressure maintenance projects within the subject 560 acres.
- (10) Phillips seeks to institute tertiary recovery operations within the proposed EOR Project Area by means of a significant change in the process used for the displacement of crude oil by the initiation of the injection of water-alternate-gas injection ("WAG") by using water and carbon dioxide ("CO<sub>2</sub>") in alternating slugs of produced gas and CO<sub>2</sub> and slugs of water to be injected at a 1.4 to 1 ratio with an estimated total of 45 BCF of CO<sub>2</sub> gas to be utilized or 40% pore volume ("PV") slug.
- (11) As part of this EOR Project, Phillips intends to drill another six infill producing wells of which three are to be located at locations considered to be unorthodox pursuant to Rule 104.C(1) of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10533, issued by the Oil Conservation Commission in Case 11,351 on January 18, 1996, however Rule 104.F(1) provides for an administrative process whereby any well within an active secondary, enhanced, or pressure maintenance project can be granted authorization in most instances by submitting a Division Form C-102; therefore, that portion of this application for unorthodox locations should be dismissed at this time and Phillips can resubmit to the supervisor of the Hobbs District Office of the Division those requests for unorthodox locations applicable to said General Rule 104.F(1).

- (12) The estimated amount of recoverable oil attributed to a positive production response from the expanded use of enhanced oil recovery technology for this proposed EOR Project is an estimated 7,122,000 barrels of additional oil.
- (13) The applicant testified that the initiation of pressure maintenance operations utilizing the methodology set forth in Finding Paragraph No. (10) above, should result in the recovery of an additional 7,122,000 barrels of oil for a projected cost of approximately \$8,130,000.00 which includes the drilling of the 6 additional infill producing wells and 2 replacement wells, converting 7 interior and 9 leaseline wells to water-alternate-gas (WAG) injection, construction of CO<sub>2</sub> compression and distribution facilities and upgrading of the present production and water injection facilities.
- (14) At the time of the hearing Phillips requested a project allowable for the H-35 Unit of 5,000 barrels of oil per day in order to provide operational flexibility to maximize recovery from the unit and thereby prevent waste and protect correlative rights.
- (15) In accordance with Division General Rule 701, the applicant provided evidence, exhibits and testimony which justifies the approval of the 16 proposed WAG injection wells all as identified on Exhibit "A" attached hereto and made a part hereof.
- (16) Maximum injection pressures have been established for this project based upon actual San Andres fracture gradients and therefore 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 1850 psig.
- (17) Further evidence presented by Phillips indicated that the subject "Project Area" meets all the criteria for certification 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).
- (18) The certified "EOR Project Area" should initially comprise the area within the H-35 Unit Area as described in Finding Paragraph No. (3) above, provided, however, that the "Project Area" 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.
- (19) To be eligible for the EOR tax credit, the operator should advise the Division when WAG injection commences in the project area and requests the Division certify such phases or area to the New Mexico Taxation and Revenue Department.

Case No. 11523 Order No. R-10599-B Page 6

- (20) At such time as a positive production response occurs from WAG injection operations 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. 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 with are eligible for the credit.
- (21) The proposed tertiary recovery/pressure maintenance project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.
- (22) The applicant testified that there are no "problem wells" within the one-half mile "area of review" and a review of applicant's Form C-108 confirms that all plugged and abandoned wells and all producing wells are cemented in a manner adequate to confine the injected fluid to the proposed injection interval.
- (23) Prior to commencing injection operations, the applicant should be required to submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement with the offset projects currently operated by Texaco in the West Vacuum Unit, the Vacuum Grayburg San Andres Unit and the Central Vacuum Unit.
- (24) If not previously equipped each of the injection 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.
- (25) The operator should give advance notification to the supervisor of the Hobbs District Office of the Division if applicable of the date and time of the installation of any new injection equipment and if applicable of the mechanical integrity pressure tests in order that the same may be witnessed.
- (26) 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.
- (27) Approval of this application will prevent waste, result in the recovery of hydrocarbons which might not otherwise be recovered, protect corrective rights and promote the interests of conservation.

### IT IS THEREFORE ORDERED THAT:

authorized to institute a tertiary recovery/pressure maintenance project by means of combined water and carbon dioxide ("CO<sub>2</sub>") gas injection ("WAG") in its State-35 Unit Area (approved by Division Order Nos. R-10599 and R-10599-A) comprising 560 acres, more or less, underlying the N/2, E/2 SW/4, and SE/4 of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, by the injection of water and carbon dioxide ("CO<sub>2</sub>") into the Grayburg and San Andres formations of the Vacuum Grayburg-San Andres Pool, through the gross perforated and/or open hole interval that extends from a measured depth of 4,000 feet (+ 21 feet sub-sea datum) to 4,950 feet (-929 feet sub-sea datum), both depths as identified on the Lane Wells Acoustic Log, dated March 12, 1964, for the Phillips M. E. Hale Well No. 8 (API No. 30-025-20780), located 660 feet from the South line and 560 feet from the East line (Unit P) of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, into sixteen (16) certain wells, all of which are existing, as shown on Exhibit "A", attached hereto and made a part hereof.

### IT IS FURTHER ORDERED THAT:

- (2) Any previous injection authority not in conflict with the provisions set forth in this order shall remain in full force and effect.
- (3) WAG injection operations for the 16 subject injection wells shown on Exhibit "A" shall be accomplished through plastic lined tubing installed in a packer set within approximately 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 16 WAG injection wells or pressurization system shall be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to not more than 1850 psig.
- (5) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the above pressure limit 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 identified 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 commencing WAG injection operations, the applicant shall submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement with Texaco Exploration and Producing, Inc., the operator of the offsetting waterflood/pressure maintenance project.
- (8) 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 any applicable WAG injection equipment and of the mechanical integrity pressure tests, in order that the same may be witnessed.
- (9) The operator 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, natural gas, CO<sub>2</sub>, or oil from or around any producing well, or the leakage of water, natural gas, CO<sub>2</sub>, or oil from any plugged and abandoned well within the project area, and shall take such steps as may be necessary to correct such failure or leakage.
- (10) The subject tertiary recovery/pressure maintenance project is hereby designated the State-35 Unit Tertiary Recovery/Pressure Maintenance Project and shall be governed by the provisions of Rules Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.
- (11) Monthly progress reports of the tertiary recovery/pressure maintenance project herein authorized shall be submitted to the Division in accordance with Rules 706 and 1115 of the Division Rules and Regulations.
- (12) The project allowable shall be established at 5,000 barrels of oil per day which may be produced from any combination of wells in the unit including the transfer of allowables between or among wells within the project area.
- (13) The subject tertiary recovery/pressure maintenance project 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).
- (14) The certified and approved "EOR Project Area" shall initially coincide with the boundaries of the State-35 Unit, described in Decretory Paragraph No. (1), above, provided however, the "EOR Project Area" 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.

- (15) To be eligible for the EOR credit, prior to commencing WAG injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.
- (16) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the operator must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations. 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.
- (17) The injection authority granted herein for the 16 WAG injection wells shall terminate one year after the effective date of this order if the operator has not commenced WAG injection operations into these wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.
- (18) Jurisdiction is hereby 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

WILLIAM J/LEMAY

Director

SEAL

### EXHIBIT "A" CASE NO. 11523 ORDER NO. R-10599-A PHILLIPS PETROLEUM COMPANY

## STATE -35 UNIT TERTIARY RECOVERY/PRESSUREMAINTENANCEE REPORT

SECTION 35, TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM, VACUUM GRAYBURG SAN ANDRES POOL, LEA COUNTY, NEW MEXIC PROPOSED STATE-35 UNIT "WAG" INJECTION WELLS TO BE OPERATED BY PHILLIPS PETROLEUM COMPANY LOCATED IN

API NO. DESIGNATION	NEW WELL DESIGNATION		LOCATION FOOTAGE (UNIT)	CURRENT	PREVIOUS INJECTION
					AUTHORITY
$\simeq$	30-025-28047	STATE "35" NO. 6W	1295' FNL - 2615' FWL (C)	TA INJ.	R-7182
2 □	30-025-28046	STATE "35" NO. 7W	1345' FNL - 1210' FEL (II)	PRODUCING	R-7182
0	30-025-28057	STATE "35" NO. 14W	2630' FSL - 1330' FWL (K)	INJECTION	R-7103
0:	30-025-28058	STATE "35" NO. 16W	2630' FS & WL (K)	INJECTION	R-7103
0-0	30-025-28059	STATE "35" NO. 17W	2630' FSL - 1330' FEL (J)	INJECTION	R-7103
0-0	30-025-28060	STATE "35" NO. 23W	1310' FSL - 1330' FWL (N)	INJECTION	R-7103
)-0	30-025-28055	STATE "35" NO. 25W	1260' FSL - 2630' FEL (O)	INJECTION	PMX-170
)-0	30-025-30615	STATE "35" NO. 26W	1194' FSL - 2040' FEL (O)	PRODUCING	N/A
)-()	30-025-28056	STATE "35" NO. 27W	1360' FSL - 1210' FEL (I)	INJECTION	PMX-170
0-0	30-025-28061	STATE "35" NO. 29W	1410' FSL - 10' FEL (I)	INJECTION	R-7103
0	30-025-28062	STATE "35" NO. 37W	10' FSL - 1210' FEL (P)	INJECTION	R-7103

LOCATED IN EITHER SECTION 36, TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM OR IN SECTION 2, TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM, VACUUM GRAYBURG SAN ANDRES POOL, LEA COUNTY, NEW MEXICO: PROPOSED NON-UNIT "WAG" INJECTION WELLS TO BE OPERATED BY TEXACO EXPLORATION AND PRODUCING, INC.

WELL NAME AND NUMBER	API NO.	EOCATION FOOTAGE L	ION	UNIT SECTION	CURRENT	PREVIOUS INJECTION AUTHORITY
CENTRAL VACUUM UNIT WELL NO. 159W	30-025-27969	1310' FNL - 100' FWL	(D) 36	36	INJECTION	PMX-121
CENTRAL VACUUM UNIT WELL NO. 160W	30-025-27970	2602' FNL - 35' FWL	(E) 36	36	INJECTION	PMX-121
CENTRAL VACUUM UNIT WELL NO. 161W	30-025-27971	180' FSL - 10' FWL	(M) 36	36	INJECTION	PMX-121
VACUUM GRAYBURG SAN ANDRES UNIT WELL NO. 62W	30-025-27973	65' FNL - 1330' FWL	(C)	2	INJECTION	PMX-120
VACUUM GRAYBURG SAN ANDRES UNIT WELL NO. 63W	30-025-27974	50' FNL - 2630' FEL	(B)	2	INJECTION	PMX-120

### 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. 11523 ORDER NO. R-10599-B

APPLICATION OF PHILLIPS PETROLEUM COMPANY FOR APPROVAL OF A PRESSURE MAINTENANCE PROJECT, TO QUALIFY SAID PROJECT FOR THE RECOVERED OIL TAX CREDIT PURSUANT TO THE "NEW MEXICO ENHANCED OIL RECOVERY ACT", AND FOR THREE UNORTHODOX OIL WELL LOCATIONS, LEA COUNTY, NEW MEXICO.

### ORDER OF THE DIVISION

### BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on May 2, 1996, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 27th day of September, 1996, the Division Director, having considered 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) At the time of the hearing Division Case Nos. 11522 and 11523 were consolidated for the purpose of testimony.
- (3) By Division Order No. R-10599, issued in Case 11522 and dated May 10, 1996, as amended by Division Nunc Pro Tunc Order No. R-10599-A, dated September 16, 1996, the State-35 Unit Agreement and Area was approved for an area comprising 560 acres, more or less, of State lands underlying the N/2, E/2 SW/4, and SE/4 of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico. The "Unitized Formation" for this unit includes that stratigraphic interval underlying the Unit Area in the Vacuum-Grayburg San Andres Pool that extends from a measured depth of 4,000 feet (+21 feet sub-sea datum) to 4,950 feet (-929 feet sub-sea datum), both depths

as identified on the Lane Wells Acoustic Log, dated March 12, 1964, for the Phillips M. E. Hale Well No. 8 (API No. 30-025-20780), located 660 feet from the South line and 560 feet from the East line (Unit P) of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico.

- (4) The applicant in this matter, Phillips Petroleum Company ("Phillips"), seeks the following:
  - (a) authority to institute a tertiary recovery project or pressure maintenance project within its aforementioned State-35 Unit by the injection of water and carbon dioxide ("CO<sub>2</sub>") into both the Grayburg and San Andres formations of the Vacuum Grayburg-San Andres Pool through sixteen (16) certain wells;
  - (b) approval for the drilling of three producing wells within said Unit Area at unorthodox oil well locations; and,
  - (c) to qualify this project for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act" (Law 1992, Chapter 38, Sections 1 through 5).
- (5) Phillips as the proposed operator of the State-35 Unit Tertiary Recovery/Pressure Maintenance Project Area ("EOR Project Area") intends to recover additional oil by means of combined water and CO<sub>2</sub> gas injection ("WAG") into the Grayburg and San Andres formations of the Vacuum Grayburg-San Andres Pool within said Unit Area with seven (7) interior injection wells, nine (9) leaseline injection wells and sixteen (16) producing wells.
  - (6) Within the proposed 560-acre EOR Project Area:
    - (a) the Phillips operated Mable lease comprising the W/2 NW/4 of said Section 35 and the Phillips operated Hale lease comprising the E/2 SW/4 and SE/4 of said Section 35 were the subject of Division Order Nos. R-7103, which order authorized the Phillips Hale-Mable Vacuum Pressure Maintenance Project by means of water injection within this 320 acres, and R-7103-A, which authorized the injection of polyacrylamide polymers into the Phillips Hale-Mable Vacuum Pressure Maintenance Project Area; and,

- (b) Conoco, Inc. was granted similar approval for its Conoco State H-35 Vacuum Pressure Maintenance Project comprising the NE/4 and E/2 NW/4 of said Section 35 by Division Order Nos. R-7182 and R-7182-A (Phillips has since become operator of the H-35 lease).
- (7) There are currently four active secondary recovery projects within the Vacuum Grayburg-San Andres Pool that immediately offset the proposed 560-acre EOR Project Area:
  - (a) the Texaco Exploration and Production, Inc. Central Vacuum Unit Pressure Maintenance Project (see Division Order Nos. R-5530, R-5530-A, R-5530-B, and R-5530-C), which is also a tertiary recovery project (see Division Order No. R-5530-D) in the S/2 of Section 25 and all of Section 30, both in Township 17 South, Range 34 East, NMPM, Central Vacuum Unit Area (approved by Division Order No. R-5496), Lea County, New Mexico;
  - (b) the Texaco Exploration and Production, Inc. Vacuum Grayburg-San Andres Pressure Maintenance Project (see Division Order Nos. R-4442 and R-6094), which is also a tertiary recovery project (see Division Order Nos. R-7010 and R-7010-A) comprising the W/2 SW/4 of Section 35, Township 17 South, Range 34 East, NMPM, and Sections 1, 2, the NE/4 NE/4 of Section 11, and the N/2 NW/4 of Section 12, Township 18 South, Range 34 East, NMPM, all within the Vacuum Grayburg San Andres Unit Area (approved by Division Order Nos. R-4433 and R-4433-A, as expanded by letter from the New Mexico Oil Conservation Division dated December 9, 1980 and by letter from the new Mexico State Land Office dated February 2, 1981), Lea County, New Mexico;
  - the Mobil Producing Texas and New Mexico, Inc. Bridges-State Waterflood Project (see Division Order Nos. R-1244, R-3496, R-3984, R-3984-A, R-4385, R-7361, and R-7361-A), a portion of which is also a tertiary recovery project (see Division Order No. R-7405) comprising in part all of Section 26 and the E/2 of Section 27, both in Township 17 South, Range 34 East, NMPM, Lea County,

New Mexico; and,

- (d) the Texaco Exploration and Production, Inc. West Vacuum Unit Waterflood Project (see Division Order Nos. R-3008 and R-4234) comprising in part all of Section 34, Township 17 South, Range 34 East, NMPM, West Vacuum Unit Area (approved by Division Order No. R-3007, as amended by Order No. R-3007-A), Lea County, New Mexico.
- (8) Testimony presented by Phillips indicates that as of December 31, 1995, cumulative primary and secondary oil recovery from the proposed EOR Project Area had been 17,207,369 barrels of oil with an estimated additional one million barrels of oil to be recovered under the current mode of operations.
- (9) Phillips further testified that the proposed EOR Project Area is currently producing at a rate of approximately 420 BOPD with approximately 95% watercut from sixteen (16) active producers. Further, there are currently ten (10) active leaseline and four (4) active interior injector wells contributing to the current mode of operations within the two existing pressure maintenance projects within the subject 560 acres.
- (10) Phillips seeks to institute tertiary recovery operations within the proposed EOR Project Area by means of a significant change in the process used for the displacement of crude oil by the initiation of the injection of water-alternate-gas injection ("WAG") by using water and carbon dioxide ("CO<sub>2</sub>") in alternating slugs of produced gas and CO<sub>2</sub> and slugs of water to be injected at a 1.4 to 1 ratio with an estimated total of 45 BCF of CO<sub>2</sub> gas to be utilized or 40% pore volume ("PV") slug.
- (11) As part of this EOR Project, Phillips intends to drill another six infill producing wells of which three are to be located at locations considered to be unorthodox pursuant to Rule 104.C(1) of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10533, issued by the Oil Conservation Commission in Case 11,351 on January 18, 1996, however Rule 104.F(1) provides for an administrative process whereby any well within an active secondary, enhanced, or pressure maintenance project can be granted authorization in most instances by submitting a Division Form C-102; therefore, that portion of this application for unorthodox locations should be dismissed at this time and Phillips can resubmit to the supervisor of the Hobbs District Office of the Division those requests for unorthodox locations applicable to said General Rule 104.F(1).

- (12) The estimated amount of recoverable oil attributed to a positive production response from the expanded use of enhanced oil recovery technology for this proposed EOR Project is an estimated 7,122,000 barrels of additional oil.
- (13) The applicant testified that the initiation of pressure maintenance operations utilizing the methodology set forth in Finding Paragraph No. (10) above, should result in the recovery of an additional 7,122,000 barrels of oil for a projected cost of approximately \$8,130,000.00 which includes the drilling of the 6 additional infill producing wells and 2 replacement wells, converting 7 interior and 9 leaseline wells to water-alternate-gas (WAG) injection, construction of CO<sub>2</sub> compression and distribution facilities and upgrading of the present production and water injection facilities.
- (14) At the time of the hearing Phillips requested a project allowable for the H-35 Unit of 5,000 barrels of oil per day in order to provide operational flexibility to maximize recovery from the unit and thereby prevent waste and protect correlative rights.
- (15) In accordance with Division General Rule 701, the applicant provided evidence, exhibits and testimony which justifies the approval of the 16 proposed WAG injection wells all as identified on Exhibit "A" attached hereto and made a part hereof.
- (16) Maximum injection pressures have been established for this project based upon actual San Andres fracture gradients and therefore 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 1850 psig.
- (17) Further evidence presented by Phillips indicated that the subject "Project Area" meets all the criteria for certification 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).
- (18) The certified "EOR Project Area" should initially comprise the area within the H-35 Unit Area as described in Finding Paragraph No. (3) above, provided, however, that the "Project Area" 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.
- (19) To be eligible for the EOR tax credit, the operator should advise the Division when WAG injection commences in the project area and requests the Division certify such phases or area to the New Mexico Taxation and Revenue Department.

Case No. 11523 Order No. R-10599-B

Page 6

- (20) At such time as a positive production response occurs from WAG injection operations 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. 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 with are eligible for the credit.
- (21) The proposed tertiary recovery/pressure maintenance project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.
- (22) The applicant testified that there are no "problem wells" within the one-half mile "area of review" and a review of applicant's Form C-108 confirms that all plugged and abandoned wells and all producing wells are cemented in a manner adequate to confine the injected fluid to the proposed injection interval.
- (23) Prior to commencing injection operations, the applicant should be required to submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement with the offset projects currently operated by Texaco in the West Vacuum Unit, the Vacuum Grayburg San Andres Unit and the Central Vacuum Unit.
- (24) If not previously equipped each of the injection 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.
- (25) The operator should give advance notification to the supervisor of the Hobbs District Office of the Division if applicable of the date and time of the installation of any new injection equipment and if applicable of the mechanical integrity pressure tests in order that the same may be witnessed.
- (26) 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.
- (27) Approval of this application will prevent waste, result in the recovery of hydrocarbons which might not otherwise be recovered, protect corrective rights and promote the interests of conservation.

### IT IS THEREFORE ORDERED THAT:

(1) The applicant, Phillips Petroleum Company ("Phillips"), is hereby authorized to institute a tertiary recovery/pressure maintenance project by means of combined water and carbon dioxide ("CO<sub>2</sub>") gas injection ("WAG") in its State-35 Unit Area (approved by Division Order Nos. R-10599 and R-10599-A) comprising 560 acres, more or less, underlying the N/2, E/2 SW/4, and SE/4 of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, by the injection of water and carbon dioxide ("CO<sub>2</sub>") into the Grayburg and San Andres formations of the Vacuum Grayburg-San Andres Pool, through the gross perforated and/or open hole interval that extends from a measured depth of 4,000 feet (+ 21 feet sub-sea datum) to 4,950 feet (-929 feet sub-sea datum), both depths as identified on the Lane Wells Acoustic Log, dated March 12, 1964, for the Phillips M. E. Hale Well No. 8 (API No. 30-025-20780), located 660 feet from the South line and 560 feet from the East line (Unit P) of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, into sixteen (16) certain wells, all of which are existing, as shown on Exhibit "A", attached hereto and made a part hereof.

### IT IS FURTHER ORDERED THAT:

- (2) Any previous injection authority not in conflict with the provisions set forth in this order shall remain in full force and effect.
- (3) WAG injection operations for the 16 subject injection wells shown on Exhibit "A" shall be accomplished through plastic lined tubing installed in a packer set within approximately 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 16 WAG injection wells or pressurization system shall be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to not more than 1850 psig.
- (5) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the above pressure limit 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 identified 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 commencing WAG injection operations, the applicant shall submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement with Texaco Exploration and Producing, Inc., the operator of the offsetting waterflood/pressure maintenance project.
- (8) 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 any applicable WAG injection equipment and of the mechanical integrity pressure tests, in order that the same may be witnessed.
- (9) The operator 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, natural gas, CO<sub>2</sub>, or oil from or around any producing well, or the leakage of water, natural gas, CO<sub>2</sub>, or oil from any plugged and abandoned well within the project area, and shall take such steps as may be necessary to correct such failure or leakage.
- (10) The subject tertiary recovery/pressure maintenance project is hereby designated the State-35 Unit Tertiary Recovery/Pressure Maintenance Project and shall be governed by the provisions of Rules Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.
- (11) Monthly progress reports of the tertiary recovery/pressure maintenance project herein authorized shall be submitted to the Division in accordance with Rules 706 and 1115 of the Division Rules and Regulations.
- (12) The project allowable shall be established at 5,000 barrels of oil per day which may be produced from any combination of wells in the unit including the transfer of allowables between or among wells within the project area.
- (13) The subject tertiary recovery/pressure maintenance project 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).
- (14) The certified and approved "EOR Project Area" shall initially coincide with the boundaries of the State-35 Unit, described in Decretory Paragraph No. (1), above, provided however, the "EOR Project Area" 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.

- (15) To be eligible for the EOR credit, prior to commencing WAG injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.
- (16) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the operator must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations. 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.
- (17) The injection authority granted herein for the 16 WAG injection wells shall terminate one year after the effective date of this order if the operator has not commenced WAG injection operations into these wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.
- (18) Jurisdiction is hereby 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

WILLIAM J/LÆMA

Director

SEAL

### STATE -35 UNIT TERTIARY RECOVERY/PRESSUREMAINTENANCEE REPORT PHILLIPS PETROLEUM COMPANY ORDER NO. R-10599-A CASE NO. 11523 EXHIBIT "A"

# PROPOSED STATE-35 UNIT "WAG" INJECTION WELLS TO BE OPERATED BY PHILLIPS PETROLEUM COMPANY LOCATED IN

SECTION 35, TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM, VACUUM GRAYBURG SAN ANDRES POOL, LEA COUNTY, NEW MEXIC

R-7103	INJECTION	10' FSL - 1210' FEL (P)	STATE "35" NO. 37W	30-025-28062	M.E. HALE NO. 19
R-7103	INJECTION	1410' FSL - 10' FEL (I)	STATE "35" NO. 29W	30-025-28061	M.E. HALE NO. 18
PMX-170	INJECTION	1360' FSL - 1210' FEL (I)	STATE "35" NO. 27W	30-025-28056	M.E. HALE NO. 13
N/A	PRODUCING	1194' FSL - 2040' FEL (O)	STATE "35" NO. 26W	30-025-30615	M.E. HALE NO. 21
PMX-170	INJECTION	1260' FSL - 2630' FEL (O)	STATE "35" NO. 25W	30-025-28055	M.E. HALE NO. 12
R-7103	INJECTION	1310' FSL - 1330' FWL (N)	STATE "35" NO. 23W	30-025-28060	M.E. HALE NO. 17
R-7103	INJECTION	2630' FSL - 1330' FEL (J)	STATE "35" NO. 17W	30-025-28059	M.E. HALE NO. 16
R-7103	INJECTION	2630' FS & WL (K)	STATE "35" NO. 16W	30-025-28058	M.E. HALE NO. 15
R-7103	INJECTION	2630' FSL - 1330' FWL (K)	STATE "35" NO. 14W	30-025-28057	M.E. HALE NO. 14
R-7182	PRODUCING	1345' FNL - 1210' FEL (H)	STATE "35" NO. 7W	30-025-28046	STATE "H-35" NO. 14
R-7182	TA INJ.	1295' FNL - 2615' FWL (C)	STATE "35" NO. 6W	30-025-28047	STATE "H-35" NO. 15
PREVIOUS INJECTION AUTHORITY	CURRENT STATUS	LOCATION FOOTAGE (UNIT)	NEW WELL DESIGNATION	API NO.	FORMER WELL NAME AND NUMBER

RANGE 34 EAST, NMPM, VACUUM GRAYBURG SAN ANDRES POOL, LEA COUNTY, NEW MEXICO: PROPOSED NON-UNIT "WAG" INJECTION WELLS TO BE OPERATED BY TEXACO EXPLORATION AND PRODUCING, INC. LOCATED IN EITHER SECTION 36, TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM OR IN SECTION 2, TOWNSHIP 18 SOUTH,

PMX-120	INJECTION	2	(B)	50' FNL - 2630' FEL	30-025-27974	VACUUM GRAYBURG SAN ANDRES UNIT WELL NO. 63W
PMX-120	INJECTION	2	(C)	65' FNL - 1330' FWL	30-025-27973	VACUUM GRAYBURG SAN ANDRES UNIT WELL NO. 62W
PMX-121	INJECTION	36	( <u>M</u>	180' FSL - 10' FWL	30-025-27971	CENTRAL VACUUM UNIT WELL NO. 161W
PMX-121	INJECTION	36	(E)	2602' FNL - 35' FWL	30-025-27970	CENTRAL VACUUM UNIT WELL NO. 160W
PMX-121	INJECTION	36	(D)	1310' FNL - 100' FWL	30-025-27969	CENTRAL VACUUM UNIT WELL NO. 159W
PREVIOUS INJECTION AUTHORITY	CURRENT STATUS	SECTION	TION UNIT S	LOCATION FOOTAGE	API NO.	WELL NAME AND NUMBER

### 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. 11575 Order No. R-10673

APPLICATION OF NEARBURG EXPLORATION COMPANY FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.

### ORDER OF THE DIVISION

### **BY THE DIVISION:**

This cause came on for hearing at 8:15 a.m. on September 26, 1996, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 30th day of September, 1996, the Division Director, having considered the record and the recommendations of the Examiner, and being fully advised in the premises,

### FINDS THAT:

The applicant's request for dismissal should be granted.

### IT IS THEREFORE ORDERED THAT:

Case No. 11575 is hereby dismissed.

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

STATE OF NEW MEXICO OIL CONSERYATION DIVISION

WILLIAM J. LEMAY

Director