



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

May 7, 1996

Phillips Petroleum Company
4001 Penbrook
Odessa, Texas 79762
Attention: Larry M. Sanders

Administrative Order DD-146

Dear Mr. Sanders:

Under the provisions of **Rules 111.D and E** of the General Rules and Regulations of the New Mexico Oil Conservation Division ("Division"), revised by Division Order No. R-10388, issued by the Oil Conservation Commission in Case 11,274 on June 13, 1995, Phillips Petroleum Company ("Phillips") made application to the New Mexico Oil Conservation Division on May 6, 1996 for authorization to directional drill its proposed M. E. Hale Well No. 24, Lea County, New Mexico.

The Division Director Finds That:

- (1) The proposed wellbore, to be drilled to a pre-determined bottom-hole location in the Phillips Petroleum Company Hale-Mable Vacuum Grayburg-San Andres Pressure Maintenance Project Area, established by Division Order No. R-7103, dated October 12, 1982, and as such the Vacuum-Grayburg-San Andres Pool is subject to the statewide rules and regulations for oil wells, as promulgated by **Rules 104.C(1) and F(1)**, which provides for 40-acre oil spacing and proration units, or drilling units, and requires that wells be located no closer than 330 feet to the outer boundary of the lease or unitized area (pressure maintenance/waterflood project area), nor closer than 10 feet to any quarter-quarter section line or subdivision inner boundary;
- (2) The Hale-Mable Vacuum Grayburg-San Andres Pressure Maintenance Project Area comprises the W/2 NW/4, E/2 SW/4, and SE/4 of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico;
- (3) The surface area of the proposed well location dictates the necessity for deviating

this well in a predetermined direction. The existence of gathering lines, flow lines, pipelines, and tank production facilities requires the well to be located 1926 feet from the South line and 2430 feet from the East line (Unit J) of said Section 35;

- (4) The proposed bottom-hole location within the Vacuum-Grayburg-San Andres Pool, 1980 feet from the South line and 2630 feet from the East line (Unit J) of said Section 30, is necessary to complete an effective and efficient injection/production pattern for the current secondary recovery operations and for the future tertiary recovery operation proposed by Phillips, which was the subject of Division Case 11523 heard on May 2, 1996;
- (5) The "target or project area" for said directional drilling should be within a reasonable radius of the projected bottom-hole location of 1980 feet from the South line and 2630 feet from the East line; and,
- (6) It appearing the applicant has satisfied all of the appropriate requirements prescribed in said Rules 111.D and E and 104.C(1) and F(1), the subject application should be approved and the well should be governed by the provisions contained within this order and all other applicable provisions of Division General Rules 104 and 111.

IT IS THEREFORE ORDERED THAT:

(1) Phillips Petroleum Company ("Phillips") is hereby authorized to drill its M. E. Hale Well No. 24 from a surface location 1926 feet from the South line and 2430 feet from the East line (Unit J) of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, kick-off to the west a directionally drill such into the Vacuum-Grayburg-San Andres Pool is as close as is reasonably possible to the targeted bottom-hole location of 1980 feet from the South line and 2630 feet from the East line (Unit J) of said Section 30.

PROVIDED HOWEVER THAT prior to commencing directional drilling operations in said wellbore, the applicant shall establish the location of the kick-off point by means of a directional survey acceptable to the Division.

PROVIDED FURTHER THAT during or upon completion of said directional drilling operations, the applicant shall conduct an accurate wellbore survey from the kick-off point to total depth in order that the subsurface bottom-hole location, as well as the wellbore's true depth and course, may be determined.

- (2) The applicant shall notify the supervisor of the Hobbs District office of the Division

of the date and time said wellbore surveys are to be conducted so that they may be witnessed. The applicant shall further provide a copy of said wellbore surveys to the Santa Fe and Hobbs offices of the Division upon completion.

(3) The operator shall comply with all requirements and conditions set forth in **Division General Rule 111.E(2)** and any applicable requirements in **111.D** and **F** and **104.C(1)** and **104.F(2)**.

(4) Form C-105 shall be filed in accordance with **Division Rule 1105** and the operator shall indicate thereon true vertical depth in addition to measured depths.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


WILLIAM J. LEMAY
Director

SEAL

cc: Oil Conservation Division - Hobbs
New Mexico State Land Office - Santa Fe
File: Case 11523

DD-WF

Rec: 5-6-96

Susp: NA

Released: 5-6-96

May 6, 1996

Phillips Petroleum Company
4001 Penbrook
Odessa, Texas 79762

Attention: Larry M. Sanders


146
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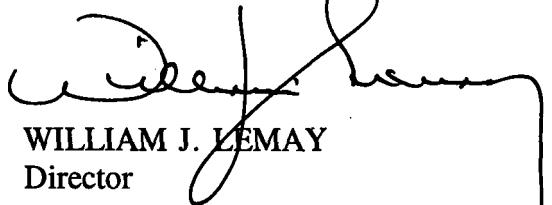
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STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY
Director

S E A L

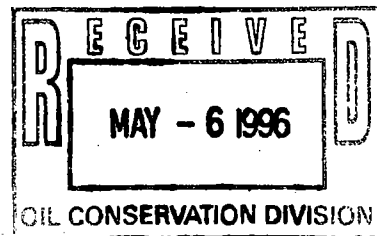
cc: Oil Conservation Division - Hobbs
New Mexico State Land Office - Santa Fe
File: Case 11523



PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762
4001 PENBROOK

EXPLORATION AND PRODUCTION GROUP
Permian Basin Region



May 2, 1996

Vacuum Grayburg/San
Andres Field
Lea County, New Mexico

State of New Mexico
Energy, Minerals, and Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87504

Attention: Michael Stogner,
Engineer

Gentlemen:

Phillips Petroleum Company respectfully requests administrative approval under the provisions of Rule 111 to intentionally deviate the Hale, M. E. Well No. 24. The surface area of the proposed well location dictates the necessity for deviation of the well. The existence of gathering/flowlines, pipelines, and tank production facilities requires the wellpad area to be established where staked. The proposed bottom hole location is required to effectively complete the injection and production pattern for the current waterflood project. Future plans include unitization of and CO2 injection on the State H-35 Lease, the Mable Lease, and the Hale, M. E. Lease.

The proposed surface location is:

Unit Letter J, 1926' FSL & 2430' FEL of Section 35, T-17-S, R-34-E,
Lea County.

The proposed bottom hole location is:

Unit Letter J, 1980' FSL & 2630' FEL of Section 35, T-17-S, R-34-E,
Lea County.

Phillips Petroleum Company operates all offsetting proration units to unit letter J. The unorthodox well location application is filed with the Hobbs district office. (Copy attached)

Sincerely,

L. M. Sanders,
Sr. Regulation Analyst

LMS:ls

cc: NMOCD - Hobbs, New Mexico



PHILLIPS PETROLEUM COMPANY

ODESSA, TEXAS 79762
4001 PENBROOK

EXPLORATION AND PRODUCTION GROUP
Permian Basin Region

May 2, 1996

Vacuum Grayburg/San
Andres Field
Lea County, New Mexico

State of New Mexico
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2040 S. Pacheco
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Sincerely,

L. M. Sanders,
Sr. Regulation Analyst

LMS:ls

cc: NMOCD - Hobbs, New Mexico

District I
PO Box 1988, Hobbs, NM 88241-1988
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1800 Rio Bravo Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

| | | |
|--|--|--|
| ¹ Operator name and Address Phillips Petroleum Company 4001 Penbrook Street Odessa, TX 797962 | | ² OGRID Number 017643 |
| | | ³ API Number 30-0 |
| ⁴ Property Code 009099 | ⁵ Property Name HALE, M. E. | ⁶ Well Number 024 |

| ⁷ Surface Location | | | | | | | | | |
|-------------------------------|-----------|-------------|-------------|----------|---------------|------------------|---------------|----------------|------------|
| UL or lot no. | Section | Township | Range | Lot. Idn | Feet from the | North/South Line | Feet from the | East/West line | County |
| J | 35 | 17-S | 34-E | | 1926' | SOUTH | 2430' | EAST | LEA |

| ⁸ Proposed Bottom Hole Location If Different From Surface | | | | | | | | | |
|--|-----------|-------------|-------------|----------|--|------------------|---------------|----------------|------------|
| UL or lot no. | Section | Township | Range | Lot. Idn | Feet from the | North/South Line | Feet from the | East/West line | County |
| J | 35 | 17-S | 34-E | | 1980' | SOUTH | 2630' | EAST | LEA |
| ⁹ Proposed Pool 1 VACUUM GRAYBURG/SAN ANDRES | | | | | ¹⁰ Proposed Pool 2 VACUUM GRAYBURG/SAN ANDRES | | | | |

| | | | | |
|--|---|--|---|---|
| ¹¹ Work Type Code N | ¹² Well Type Code 0 | ¹³ Cable/Rotary R | ¹⁴ Lease Type Code S | ¹⁵ Ground Level Elevation 4016' GL |
| ¹⁶ Multiple | ¹⁷ Proposed Depth 5,000' | ¹⁸ Formations GB/SA | ¹⁹ Contractor | ²⁰ Spud Date UPON APPROVAL |

| ²¹ Proposed Casing and Cement Program | | | | | |
|--|---------------|--------------------|---------------|-----------------|----------------|
| Hole Size | Casing Size | Casing weight/foot | Setting Depth | Sacks of Cement | Estimated TOC |
| 12-1/4" | 8-5/8" | 24#, J-55 | 1,600' | 600 SXS | SURFACE |
| 7-7/8" | 5-1/2" | 15.5#, J-55 | 5,000' | 1000 SXS | SURFACE |
| | | | | | |
| | | | | | |

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary

USE APPROPRIATE BOP FOR CONTROL
SEE ATTACHED CASING AND CEMENTING PROGRAM
SEE ATTACHED MUD PROGRAM

NOTE: AFTER UNITIZATION THIS WELL WILL BECOME:
STATE 35 UNIT WELL NO. 20.

NOTE: DEVIATED HOLE REQUEST SENT TO NMOC - SANTA FE.

NOTE: UNORTHODOX LOCATION TO COMPLETE AND EFFICIENT PRODUCTION AND INJECTION PATTERN
WITHIN A SECONDARY RECOVERY PROJECT.

| | | | |
|--|------------------------------|--|------------------|
| ²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. | | OIL CONSERVATION DIVISION | |
| Signature: <i>Larry M. Sanders</i> | | Approved by: | |
| Printed name: Larry M. Sanders | | Title: | |
| Title: Senior Regulation Analyst | | Approval Date: | Expiration Date: |
| Date: 05/02/96 | Phone: (915) 368-1488 | Conditions of Approval: Attached <input type="checkbox"/> | |

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT II
P.O. Drawer 80, Artesia, NM 88211-0710

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
P.O. Box 2088, Santa Fe, N.M. 87504-2088

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | |
|-------------------------|---|---|
| API Number | Pool Code 62180 | Pool Name VACUUM GRAYBURG/SAN ANDRES |
| Property Code 009099 | Property Name HALE, M. E. | Well Number 024 |
| OGHD No. 017643 | Operator Name PHILLIPS PETROLEUM CO. | Elevation 4016 |

Surface Location

| | | | | | | | | | |
|--------------------|---------------|------------------|---------------|---------|-----------------------|---------------------------|-----------------------|------------------------|---------------|
| UL or lot No. J | Section 35 | Township 17 S | Range 34 E | Lot Idn | Feet from the 1926 | North/South line SOUTH | Feet from the 2430 | East/West line EAST | County LEA |
|--------------------|---------------|------------------|---------------|---------|-----------------------|---------------------------|-----------------------|------------------------|---------------|

Bottom Hole Location If Different From Surface

| | | | | | | | | | |
|---------------------------|-----------------|--------------------|---------------|---------|------------------------|---------------------------|------------------------|------------------------|---------------|
| UL or lot No. J | Section 35 | Township 17-S | Range 34-E | Lot Idn | Feet from the 1980' | North/South line SOUTH | Feet from the 2630' | East/West line EAST | County LEA |
| Dedicated Acres 40 Ac. | Joint or Infill | Consolidation Code | Order No. | | | | | | |

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

| | | | |
|---|---|---|---|
| D | C | B | A |
| E | F | G | H |
| L | K | J | I |
| M | N | O | P |

2430'

1926'

OPERATOR CERTIFICATION

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

L. M. Sanders
Signature

L. M. Sanders
Printed Name

Sr. Regulation Analyst
Title

05/02/96
Date

SURVEYOR CERTIFICATION

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

APRIL 3, 1996

Date Surveyed

Signature & Seal of Professional Surveyor

JOHN W. WEST
676
3239
12641

DMCC

96-11-0408

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 8 Copies

DISTRICT II
P.O. Drawer 80, Artesia, NM 88211-0719

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1000 Rio Brazos Rd., Artesia, NM 87410

DISTRICT IV
P.O. Box 8088, Santa Fe, N.M. 87504-2088

OIL CONSERVATION DIVISION

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Santa Fe, New Mexico 87504-2088

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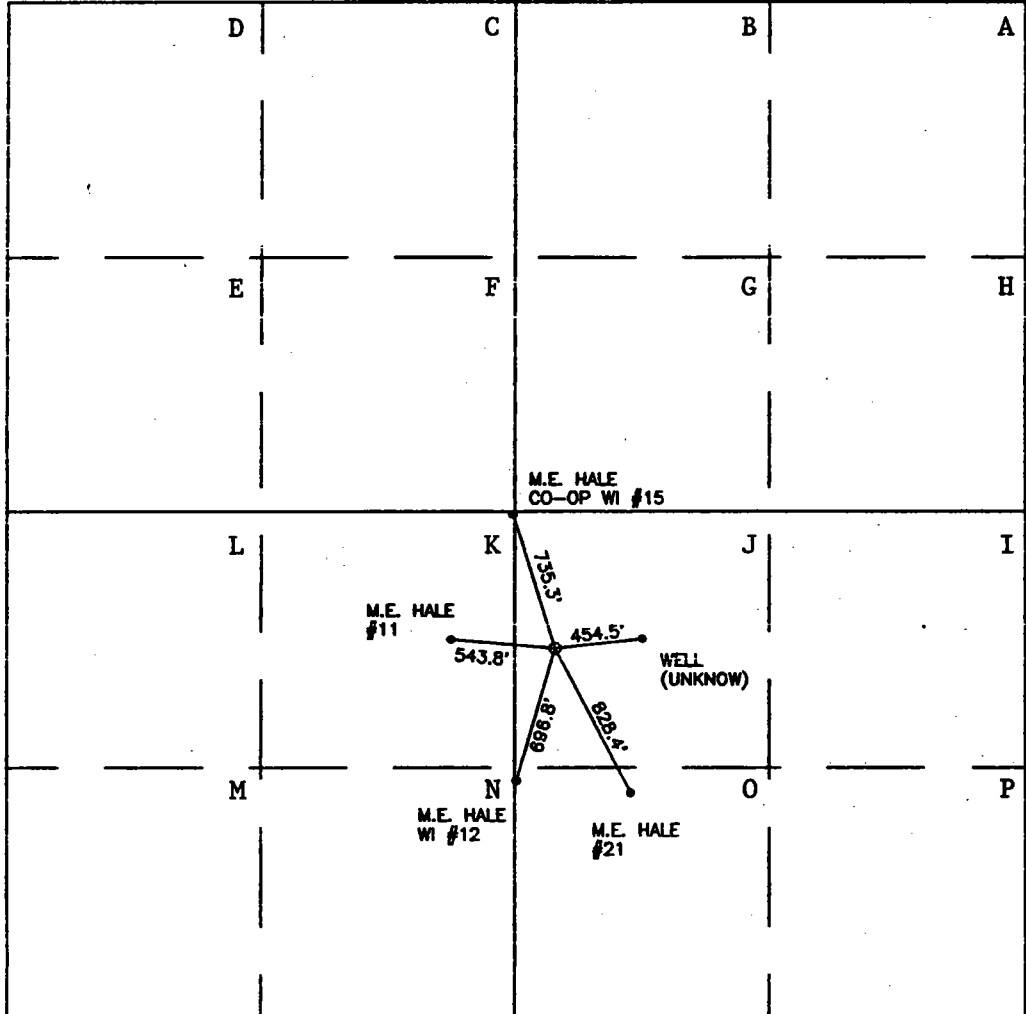

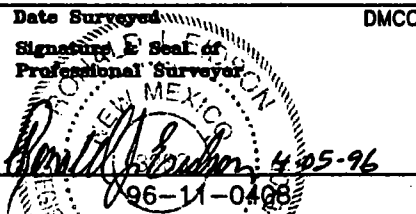
Surface Location

| | | | | | | | | | |
|--------------------|---------------|------------------|---------------|---------|-----------------------|---------------------------|-----------------------|------------------------|---------------|
| UL or lot No. J | Section 35 | Township 17 S | Range 34 E | Lot Idn | Feet from the 1926 | North/South line SOUTH | Feet from the 2430 | East/West line EAST | County LEA |
|--------------------|---------------|------------------|---------------|---------|-----------------------|---------------------------|-----------------------|------------------------|---------------|

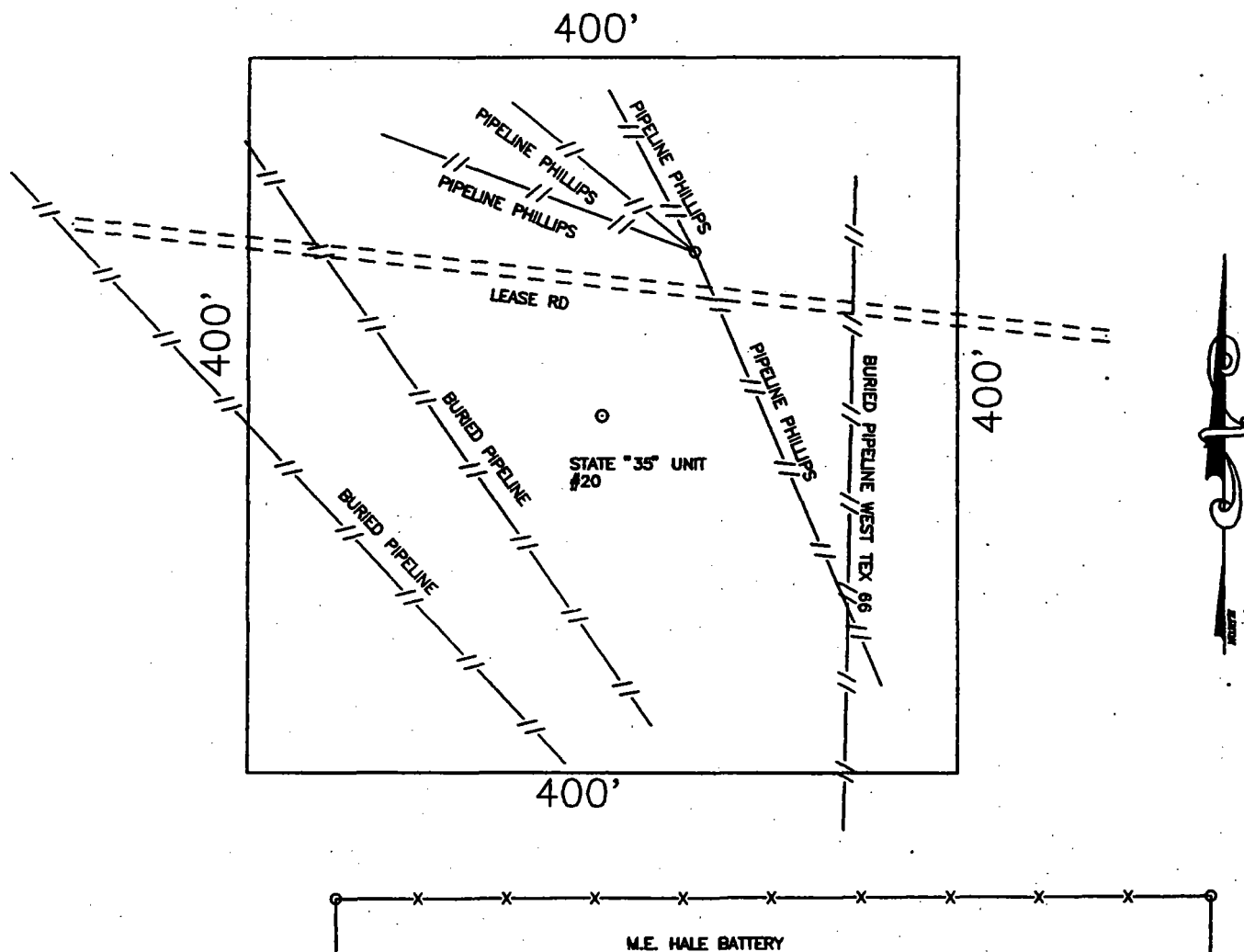
Bottom Hole Location If Different From Surface

| | | | | | | | | | |
|---------------------------|-----------------|--------------------|---------------|---------|------------------------|---------------------------|------------------------|------------------------|---------------|
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OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

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|--|--|
|  | OPERATOR CERTIFICATION I hereby certify the the information contained herein to true and complete to the best of my knowledge and belief.  Signature L. M. Sanders Printed Name Sr. Regulation Analyst Title 05/02/96 Date |
| | SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. APRIL 3, 1996 Date Surveyed DMCC  Signature & Seal of Professional Surveyor Certificate No. JOHN W. WEST 676 RONALD E. EIDSON 3239 EDSON 12641 |

SECTION 35, TOWNSHIP 17 SOUTH, RANGE 34 EAST, N.M.P.M.
LEA COUNTY, NEW MEXICO



PHILLIPS PETROLEUM CO.

THE STATE "35" NO. 20 IS LOCATED 1926 FEET FROM THE SOUTH LINE AND 2430 FEET FROM THE EAST LINE, SECTION 35, TOWNSHIP 17 SOUTH, RANGE 34 EAST, N.M.P.M. LEA COUNTY, NEW MEXICO.

| | |
|-------------------------|---------------------------------|
| Survey Date: 4-3-96 | Sheet 1 of 1 Sheets |
| W.O. Number: 95-11-0408 | Drawn By: D.McCARLEY |
| Date: 4-3-96 | DISK: PHILLIPS Scale: 1" = 100' |

JOHN W. WEST ENGINEERING COMPANY
CONSULTING ENGINEERS & SURVEYORS - HOBBS, NEW MEXICO

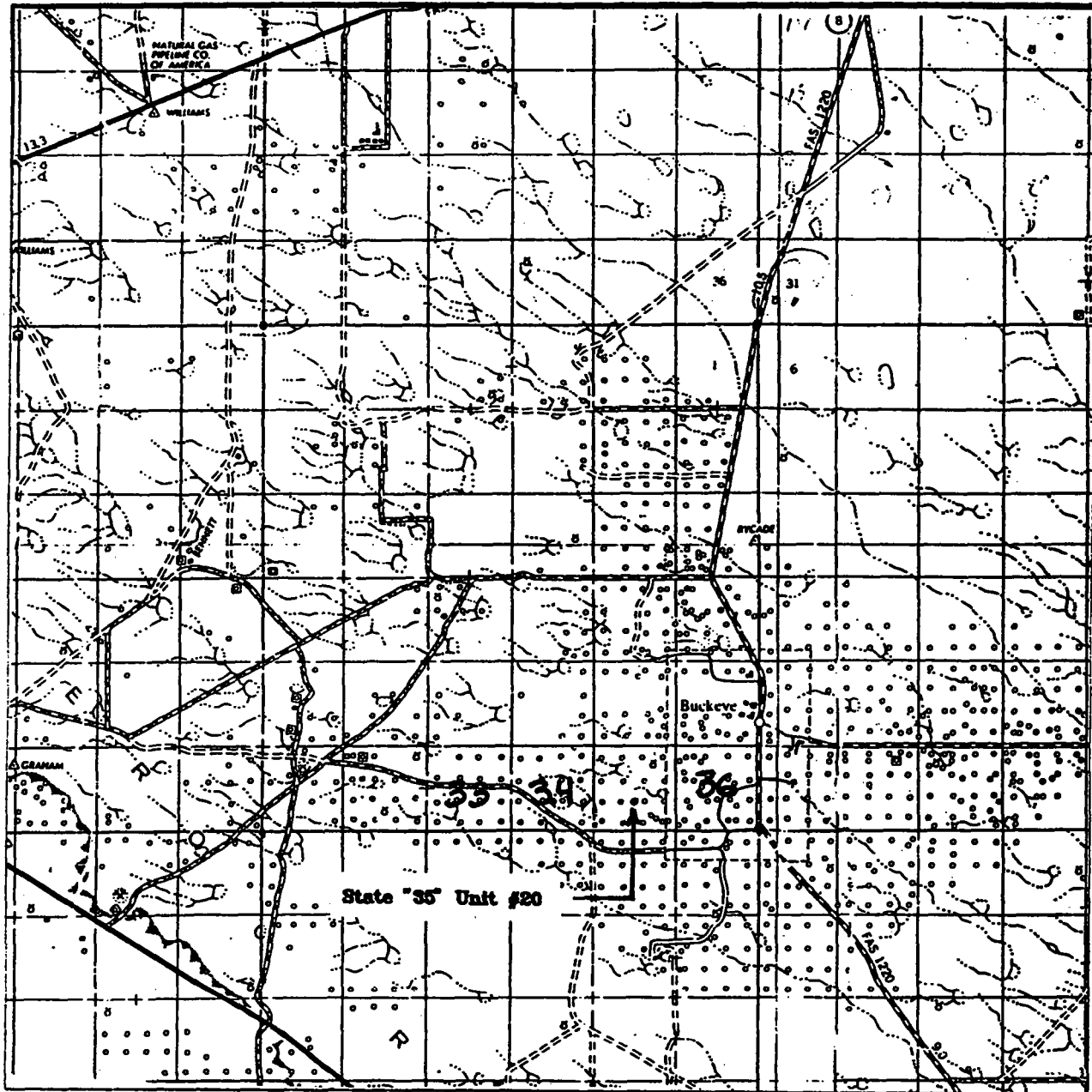


CONTOUR INTERVAL:
BUCKEYE - 5'

BUCKEYE, N.M.

**JOHN WEST ENGINEERING
HOBBS, NEW MEXICO
(505) 393-3117**

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 35 TWP. 17-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1926' FSL & 2430' FEL

ELEVATION 4016

OPERATOR PHILLIPS PETROLEUM CO.

LEASE STATE "35" UNIT

**JOHN WEST ENGINEERING
HOBBS, NEW MEXICO**

(505) 393-3117

CASING & CEMENTING PROGRAM

HALE, M.E. WELL NO. 24

8 5/8" 24 lb/ft J-55 Surface Casing Set at 1600' - 12 1/4" Hole:

Lead: 450 sx Class "C" + 4% Gel + 2% CaCl₂.
Desired TOC = Surface.

| | |
|--------------------|--------------------------|
| Slurry Weight: | 13.5 ppg |
| Slurry Yield: | 1.72 ft ³ /sx |
| Water Requirement: | 9.06 gals/sx |

Tail: 150 sx Class "C" + 2% CaCl₂.
Desired TOC = 1300'.

| | |
|--------------------|--------------------------|
| Slurry Weight: | 14.8 ppg |
| Slurry Yield: | 1.32 ft ³ /sx |
| Water Requirement: | 6.3 gals/sx |

5 1/2" 15.5 lb/ft J-55 Production Casing Set at 5000' - 7 7/8" Hole:

Lead: 750 sx Class "C" + Econolite + 3% Salt.
Desired TOC = Surface.

| | |
|--------------------|--------------------------|
| Slurry Weight: | 11.80 ppg |
| Slurry Yield: | 2.60 ft ³ /sx |
| Water Requirement: | 15.60 gals/sx |

Tail: 250 sx Class "C" + 50 lbs Pozmix + 7% CalSeal + 3% Salt +
0.5% Diacel FL + 0.5% CFR-3 + 0.5% Econolite.

Desired TOC = 4000'.

| | |
|--------------------|--------------------------|
| Slurry Weight: | 15.00 ppg |
| Slurry Yield: | 1.16 ft ³ /sx |
| Water Requirement: | 4.77 gals/sx |

MUD PROGRAM

**STATE H-35 WELL NOS. (16, 17)
HALE, M.E. WELL NOS. (24, 25, 26, 27)**

| DEPTH | MUD WEIGHT | VISCOSITY | FLUID LOSS | CL PPM | % SOLIDS | ADDITIVES |
|---------------|-----------------|---------------------|------------|-----------|----------|-----------------|
| Surf. - 1600' | 8.3 - 9.0 ppg | 28 - 36 sec/1000 cc | N/C | - | - | Native Solids |
| 1600' - 4000' | 10.0 ppg | 28 - 32 sec/1000 cc | N/C | Saturated | - | Native Solids |
| 4000' - TD | 10.0 - 10.2 ppg | 32 - 36 sec/1000 cc | 20 cc | Saturated | - | Starch/Drispac+ |

The Mud Engineer shall include on each test report the materials used for the previous 24 hour period. Daily fax the test reports to (915) 368-1507 Attn: J.C. Shoumaker / L.E. Robinson.

Send two copies of the Well Recap (Final Cost & Engineering Summaries) to Phillips Petroleum Company , Attn: J.C. Shoumaker / L.E. Robinson, 4001 Penbrook, Odessa, Texas 79762

STATE 35 UNIT

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

PROPOSED WELL NUMBERING SCHEME

| New Well Designation | Lease & Well No. | API Number | Unit Letter | Sec-Tn-Rq | Footage * | Former Operator | Current Status |
|----------------------|------------------|------------|-------------|------------|--|-----------------|----------------|
| State 35 # 1 | Mable 2 | 3002502225 | D | 35-17S-34E | 660' FN, 660' FW | Phillips | TA |
| State 35 # 2 | H-35 3 | 3002502215 | B | 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 | E | 35-17S-34E | 1330' FN, 1310' FW | Phillips | SI |
| State 35 # 6W | H-35 15W | 3002528047 | C | 35-17S-34E | 1295' FN, 2615' FW | Phillips | TA |
| State 35 # 7W | H-35 14 | 3002528046 | H | 35-17S-34E | 1345' FN, 1210' FE | Phillips | PROD |
| State 35 # 8 | H-35 16 | | H | 35-17S-34E | 1310' FN, 660' FE 1120' FN, 660' FE(S.L.) | 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 17 | | H | 35-17S-34E | 2020' FN, 1310' FE | Phillips | ** |
| State 35 # 12 | H-35 1 | 3002502213 | H | 35-17S-34E | 1980' FN, 660' FE | Phillips | PROD |
| State 35 # 13 | Mable 3 | 3002522955 | E | 35-17S-34E | 2310' FN, 990' FW | Phillips | PROD |
| State 35 # 14W | Hale 14W | 3002528057 | K | 35-17S-34E | 2630' FS, 1330' FW | Phillips | WAT. INJ. |
| State 35 # 15 | Hale 26 | | K | 35-17S-34E | 2527' FS, 1955' FW | Phillips | ** |
| State 35 # 16W | Hale 15W | 3002528058 | K | 35-17S-34E | 2630' FSL, 2630' FWL | Phillips | WAT. INJ. |
| State 35 # 17W | Hale 16W | 3002528059 | J | 35-17S-34E | 2630' FS, 1330' FE | Phillips | WAT. INJ. |
| State 35 # 18 | Hale 27 | | I | 35-17S-34E | 2600' FS, 660' FE | Phillips | ** |
| State 35 # 19 | Hale 2 | 3002502220 | K | 35-17S-34E | 1980' FS, 1980' FW | Phillips | PROD |
| State 35 # 20 | Hale 24 | | J/K | 35-17S-34E | 1980' FS, 2630' FE 1926' FS, 2430' FE(S.L.) | Phillips | ** |
| State 35 # 21 | Hale 5 | 3002502222 | J | 35-17S-34E | 1980' FS, 1980' FE | Phillips | PROD |
| State 35 # 22 | Hale 1 | 3002502219 | I | 35-17S-34E | 1980' FS, 660' FE | Phillips | PROD |
| State 35 # 23W | Hale 17W | 3002528060 | N | 35-17S-34E | 1310' FS, 1310' FW | Phillips | WAT. INJ. |
| State 35 # 24 | Hale 20 | 3002530614 | N | 35-17S-34E | 1225' FS, 2000' FW | Phillips | PROD |
| State 35 # 25W | Hale 12W | 3002528055 | O | 35-17S-34E | 1260' FS, 2630' FE | Phillips | WAT. INJ. |
| State 35 # 26W | Hale 21 | 3002530615 | O | 35-17S-34E | 1194' FS, 2040' FE | Phillips | PROD |
| State 35 # 27W | Hale 13W | 3002528056 | I | 35-17S-34E | 1360' FS, 1210' FE | Phillips | WAT. INJ. |
| State 35 # 28 | Hale 25 | | P | 35-17S-34E | 1170' FS, 660' FE | Phillips | ** |
| State 35 # 29W | Hale 18W | 3002528061 | I | 35-17S-34E | 1410' FS, 10' FE | Phillips | WAT. INJ. |
| State 35 # 30 | Hale 10 | 3002520782 | O | 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 | PROD |
| State 35 # 33 | Hale 6 | 3002502223 | O | 35-17S-34E | 600' FS, 1980' FE | Phillips | PROD |
| State 35 # 34 | Hale 23 | 3002530617 | P | 35-17S-34E | 620' FS, 1250' FE | Phillips | PROD |
| State 35 # 35 | Hale 3 | 3002502221 | P | 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 19W | 3002528062 | P | 35-17S-34E | 10' FS, 1210' FE | Phillips | WAT. INJ. |

* All footages are bottom hole locations unless specified

** New drill producer locations - Pending final staking & NMOCD approval

VACUUM GRAYBURG-SAN ANDRES POOL
 (Phillips Hale-Mable Vacuum
 G-SA Pressure Maintenance Project)
 Lea County, New Mexico

Order No. R-7103, Authorizing Phillips Petroleum Company to Institute a Pressure Maintenance Project on its Mable and Hale Leases, in the Grayburg and San Andres Formation, in the Vacuum Grayburg-San Andres Pool, Lea County, New Mexico, October 12, 1982.

Application of Phillips Petroleum Company
 for a Pressure Maintenance Project, Lea
 County, New Mexico.

CASE NO. 7678
 Order No. R-7103

ORDER OF THE DIVISION

BY THE DIVISION: This cause came on for hearing at 9 a.m. on September 15, 1982, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 12th day of October, 1982, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Phillips Petroleum Company, seeks authority to institute a pressure maintenance project in the Vacuum Grayburg-San Andres Pool by the injection of water into the Grayburg-San Andres formation through two wells on its Mable Lease to be drilled at unorthodox locations as follows:

| Well No. | Unit Letter | Location |
|----------|-------------|-------------------------|
| 4 | E | 1330' FNL and 1310' FWL |
| 5 | E | 1330' FNL and 10' FWL |

and also through six wells on its M. E. Hale Lease to be drilled at unorthodox locations as follows:

| Well No. | Unit Letter | Location |
|----------|-------------|-------------------------|
| 14 | K | 2630' FSL and 1330' FWL |
| 15 | K | 2630' FSL and 2630' FWL |
| 16 | J | 2630' FSL and 1330' FEL |
| 17 | N | 1310' FSL and 1330' FWL |
| 18 | P | 1310' FSL and 10' FEL |
| 19 | P | 10' FSL and 1310' FEL |

all of the above wells being in Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico.

(3) That the applicant also proposes to complete two new producing wells in said Section 35, to be drilled at unorthodox locations as follows:

| Well No. | Unit Letter | Location |
|----------|-------------|-------------------------|
| 12 | O | 1310' FSL and 2630' FEL |
| 13 | P | 1310' FSL and 1310' FEL |

(4) That the wells described in Findings Nos. (2) and (3) above, together with the presently existing wells on the aforesaid Mable and M. E. Hale leases, and the offsetting injection wells which are to be drilled by other operators in accordance with certain lease-line agreements between applicant and said offsetting operators, will provide a thorough and efficient sweep of the hydrocarbons underlying the entire project and will result in the recovery of otherwise unrecoverable oil and gas, thereby preventing waste.

(5) That the above described injection wells, some of which will be at unorthodox locations along the outer boundaries of the Hale and Mable Leases in accordance with the aforementioned lease-line agreements, will not impair but will protect correlative rights.

(6) That the applicant seeks to have the entire Hale Lease and the entire Mable Lease designated as the Phillips Hale-Mable Pressure Maintenance Project with the project area to be congruent to the leases upon active injection into all the proposed injection wells.

(7) That the project area should comprise all of the Hale and Mable leases upon active injection into each of the proposed injection wells inasmuch as each 40-acre tract within said leases has been developed by having at least one well completed in the Vacuum Grayburg-San Andres Pool thereon.

(8) That each lease in the project area should receive its own project area allowable, and each lease's project area allowable should be equal to the sum of the individual lease's basic project allowable plus the individual lease's water injection credit allowable.

(9) That the individual lease basic project area allowable should be equal to 80 barrels of oil per day times the number of developed 40-acre proration units on the lease.

(10) That the individual lease water injection credit allowable should be based on the following formula:

$$\text{Water Injection Credit Allowable} = \left[\frac{\text{net water injected}}{\text{basic lease allowable}} \right]^{-1} \times \text{basic allowable}$$

and should be calculated in accordance with the formula and parameters set forth in Exhibits "A" and "B" attached hereto.

(11) That a weighted average project area reservoir pressure should be determined prior to commencement of water injection and at least annually thereafter.

(12) That each lease's project allowable should be permitted to be produced from the wells on that lease in any proportion.

(VACUUM GRAYBURG-SAN ANDRES (PHILLIPS HALE-MABLE VACUUM G-SA PRESSURE MAINTENANCE PROJECT) POOL - Cont'd.)

(13) That the Division Director should have the authority to approve, without notice and hearing, the drilling of production and injection wells at unorthodox locations anywhere within the project area, provided however, that no unorthodox location should be closer than 10 feet to any quarter-quarter section line, and provided further, that no such unorthodox location should be closer than 330 feet to the outer boundary of the project unless such location is covered by a lease-line agreement with the operator of the lands offsetting such location.

(14) No well should be placed on water injection in the Hale-Mable Pressure Maintenance Area unless the Division Director has approved such well for injection. Applications for injection approval should be filed in accordance with Rule 701 of the Division Rules and Regulations.

(15) Each newly drilled injection or producing well should be equipped with surface casing (minimum 350 feet) and "production" casing run to total depth (approximately 5000 feet). All casing strings should be cemented to the surface except that in any well in which an intermediate casing string has been run to below the top of the Yates formation and cemented to the surface, the production string could be cemented back into the case of the intermediate string.

(16) Injection should be accomplished through tubing installed in a packer set within 100 feet of the uppermost perforation. The injection tubing should be corrosion protected by a non-reactive internal lining or coating and the casing-tubing annulus in each injection well should be filled with an inert fluid and a surface pressure gauge or approved leak detection device shall be attached to the annulus.

(17) The injection wells or system should be equipped with a pressure control device or other acceptable device which will limit the surface injection pressure to no more than 0.2 psi per foot of depth to the uppermost perforation. The Division Director should be authorized to administratively authorize a pressure limitation in excess of the above upon showing by the project operator that such higher pressure will not result in fracturing of the confining strata.

(18) All wells within the individual lease project area should be equipped with risers or in some other acceptable manner as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

(19) The project operator should immediately notify the Supervisor of the Hobbs District Office of the Division of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from or around any producing well, the leakage of water or oil from or around any plugged and abandoned wells within the individual lease project area, or any other evidence of fluid migration from the injection zone, and should take such timely steps as may be necessary or required to correct such failure or leakage.

(20) Each month the project operator should submit to the Division a Pressure Maintenance Project Operator's Report, on a form prescribed by the Division, outlining thereon the data required and requesting allowables for each of the several wells in the Project as well as the total individual lease project area allowable.

(21) The Division should, upon review of the report and after any adjustments deemed necessary, calculate the allowable for the wells on each lease in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated should be assigned to each lease in the Project and, as provided in Finding No. (12) above, could be produced from the wells on that lease in any proportion.

(22) That the applicant, Phillips Petroleum Company, should consult with the Supervisor of the Hobbs District Office of the Division and any other affected party and determine the course of action necessary to render the Conoco Inc. State H-35 Well No. 11, located 660 feet from the North line and 2180 feet from the West line of Section 35, Township 17 South, Range 34 East, NMPM, safe for nearby water injection into the San Andres formation.

(23) That an order embodying the above findings and authorizing the proposed pressure maintenance project is in the interest of conservation, will prevent waste and protect correlative rights, and should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant, Phillips Petroleum Company, is hereby authorized to institute a Vacuum Grayburg-San Andres pressure maintenance project on its Mable Lease, comprising the W/2 NW/4 of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, and on its M. E. Hale Lease, comprising the E/2 SW/4 and SE/4 of said Section 35, by the injection of water into the Grayburg and San Andres formations through eight injection wells to be drilled at unorthodox locations (also hereby approved) as follows:

| Lease | Well No. | Unit | Location |
|------------|----------|------|-----------------------|
| Mable | 4 | E | 1330' FNL & 1310' FWL |
| Mable | 5 | E | 1330' FNL & 10' FWL |
| M. E. Hale | 14 | K | 2630' FSL & 1330' FWL |
| M. E. Hale | 15 | K | 2630' FSL & 2630' FWL |
| M. E. Hale | 16 | J | 2630' FSL & 1330' FEL |
| M. E. Hale | 17 | N | 1310' FSL & 1330' FWL |
| M. E. Hale | 18 | P | 1310' FSL & 10' FEL |
| M. E. Hale | 19 | P | 10' FSL & 1310' FEL |

all in Section 35, Township 17 South, Range 34 East, NMPM.

(2) That the applicant is hereby authorized to drill two producing wells at the following unorthodox locations in Section 35, Township 17 South, Range 34 East, NMPM:

| Lease | Well No. | Unit | Location |
|------------|----------|------|-----------------------|
| M. E. Hale | 12 | O | 1310' FSL & 2630' FEL |
| M. E. Hale | 13 | P | 1310' FSL & 1310' FEL |

(3) That the project herein authorized shall be known as the Phillips Hale-Mable Vacuum G-SA Pressure Maintenance Project and shall be governed by special rules and regulations hereby promulgated as follows:

**SPECIAL RULES AND REGULATIONS
FOR THE
PHILLIPS HALE-MABLE VACUUM G-SA
PRESSURE MAINTENANCE PROJECT**

RULE 1. The Phillips Hale-Mable Vacuum G-SA Pressure Maintenance Project shall, in the absence of unitization, actually be considered two separate and distinct pressure maintenance projects, one on the Mable Lease comprising the W/2 NW/4 of Section 35, Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, and the other on the M. E. Hale Lease comprising the E/2 SW/4 and SE/4 of said Section 35. Allowables and Water Injection Credits, as well as production accounting, shall be on an individual lease basis.

RULE 2. The overall Project Area of the Hale-Mable Vacuum G-SA Pressure Maintenance Project shall consist of those proration units within the M. E. Hale and Mable leases, upon which is located an injection well and any directly or diagonally offsetting proration unit which contains a producing well.

(VACUUM GRAYBURG-SAN ANDRES (PHILLIPS HALE-MABLE VACUUM G-SA PRESSURE MAINTENANCE PROJECT) POOL - Cont'd.)

RULE 3. The individual lease project area shall receive a project area allowable, and said project area allowable shall be the sum of the individual lease basic project area allowable plus the individual lease water injection credit allowable.

RULE 4. The individual lease basic project area allowable shall be equal to 80 barrels of oil per day times the number of developed 40-acre proration units in the lease project area.

RULE 5. The individual lease water injection credit allowable shall be contingent upon full reservoir voidage replacement of all produced fluids and shall be based upon the following formula:

$$\text{Water Injection Credit Allowable} = \left[\frac{\text{net water injected}}{\text{basic lease allowable reservoir voidage}} \right] \times \text{basic project area allowable}$$

The water injection credit allowable shall be calculated in accordance with the procedures and parameters depicted on Exhibits "A" and "B".

In no event shall the individual lease water injection credit allowable be less than zero, i.e., negative numbers derived from application of the above formula shall be ignored.

RULE 6. The weighted average project area reservoir pressure shall be determined prior to commencement of injection of water into the reservoir and at least annually thereafter. The weighted average project area pressure shall be determined from the pressures in representative wells selected by the project operator and the Supervisor of the Hobbs District Office of the Division.

RULE 7. The individual lease project area allowable may be produced from the wells within the individual lease project area in any proportion, provided however, that any proration unit outside the individual lease project area shall not be permitted to produce in excess of 80 barrels of oil per day.

RULE 8. Those wells within the Hale-Mable Leases that are not included within the project area as defined above, shall be prorated in accordance with the Rules and Regulations of the Division.

RULE 9. The Division Director, shall have the authority to approve, without notice and hearing, the drilling of wells at unorthodox locations anywhere within the project boundary, provided that no such unorthodox location shall be closer than 330 feet to the outer boundary of the project, unless such well is covered by a lease-line agreement with the operator of the lands offsetting such well, and a copy of the lease-line agreement accompanies the application for such unorthodox location, or unless such offset operator has waived objection to the proposed unorthodox location in writing, and his waiver accompanies the application.

RULE 10. No well other than those originally authorized for injection shall be placed on water injection in the Hale-Mable Vacuum G-SA Pressure Maintenance Project unless the Division Director has approved such well for injection. Applications for injection approval shall be filed in accordance with Rule 701 of the Division Rules and Regulations.

RULE 11. Each newly drilled injection or producing well shall be equipped with surface casing (minimum 350 feet) and "production" casing run to total depth (approximately 5000 feet). All casing strings shall be cemented to the surface except that in any well in which an intermediate casing string has been run to below the top of the Yates formation and cemented to the surface, the production string may be cemented back into the base of the intermediate casing.

RULE 12. Injection shall be accomplished through tubing installed in a packer set within 100 feet of the uppermost perforation. The injection tubing shall be corrosion protected by a non-reactive internal lining or coating. The casing-tubing annulus in each injection well shall be filled with an inert fluid and a surface pressure gauge or approved leak detection device shall be attached to the annulus.

RULE 13. The injection wells or system shall be equipped with a pressure control device or other acceptable device which will limit the surface injection pressure to no more than 0.2 psi per foot of depth to the uppermost perforation. The Division Director may administratively authorize a pressure limitation in excess of the above upon showing by Phillips Petroleum Company that such higher pressure will not result in fracturing of the confining strata.

RULE 14. All wells within the individual lease project area shall be equipped with risers or in some other acceptable manner as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

RULE 15. The project operator shall immediately notify the Supervisor of the Hobbs District Office of the Division of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from or around any producing well, the leakage of water or oil from or around any plugged and abandoned well within the individual lease project area, or any other evidence of fluid migration from the injection zone, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

RULE 16. Each month the project operator shall submit to the Division a Pressure Maintenance Project Operator's Report, on a form prescribed by the Division, outlining thereon the data required and requesting allowables for each of the several wells in the Project as well as the total individual lease project area allowable.

RULE 17. The Division shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for the wells on each lease in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated shall be assigned to each lease in the Project and, as provided under Rule 7 above, may be produced from the wells on that lease in any proportion.

(4) That the applicant, Phillips Petroleum Company, shall consult with the Supervisor of the Hobbs District Office of the Division and with any other affected party and determine the course of action necessary to ensure the integrity of the Conoco Inc. State H-35 Well No. 11, located 660 feet from the North line and 2180 feet from the West line of Section 35, Township 17 South, Range 34 East, NMPM, prior to placing Mable Wells Nos. 4 or 5, or M. E. Hale Wells Nos. 14 or 15, on active water injection.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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

(VACUUM GRAYBURG-SAN ANDRES (PHILLIPS HALE-
MABLE VACUUM G-SA PRESSURE MAINTENANCE
PROJECT) POOL - Cont'd.)

VACUUM GRAYBURG-SAN ANDRES POOL, LEA COUNTY, NEW MEXICO

LEASE

WATER INJECTION CREDIT ALLOWABLE CALCULATION DATA

ATTACHMENT TO _____, 19____, REPORT

$$\text{Water Injection Credit Allowable} = \left[\frac{W_1 - W_p}{\text{BPAA} \left\{ \beta_o + \left(\frac{R_p - R_s}{1,000} \right) \beta_g \right\}} - 1 \right] \text{BPAA}$$

W_1 = _____ = Average daily water injection, barrels per day, project area only.

W_p = _____ = Average daily water produced, barrels per day, project area only.

BPAA = _____ = Basic project area allowable, 80 bopd X _____ (number of developed 40-acre tracts in project area).

_____ = Weighted average project area reservoir pressure, psig, from _____, 19____, survey data.

β_o = _____ = Oil formation volume factor, reservoir barrels per stock tank barrel (Exhibit B).

R_p = _____ = Producing gas-oil ratio, cubic feet per barrel, project area only.

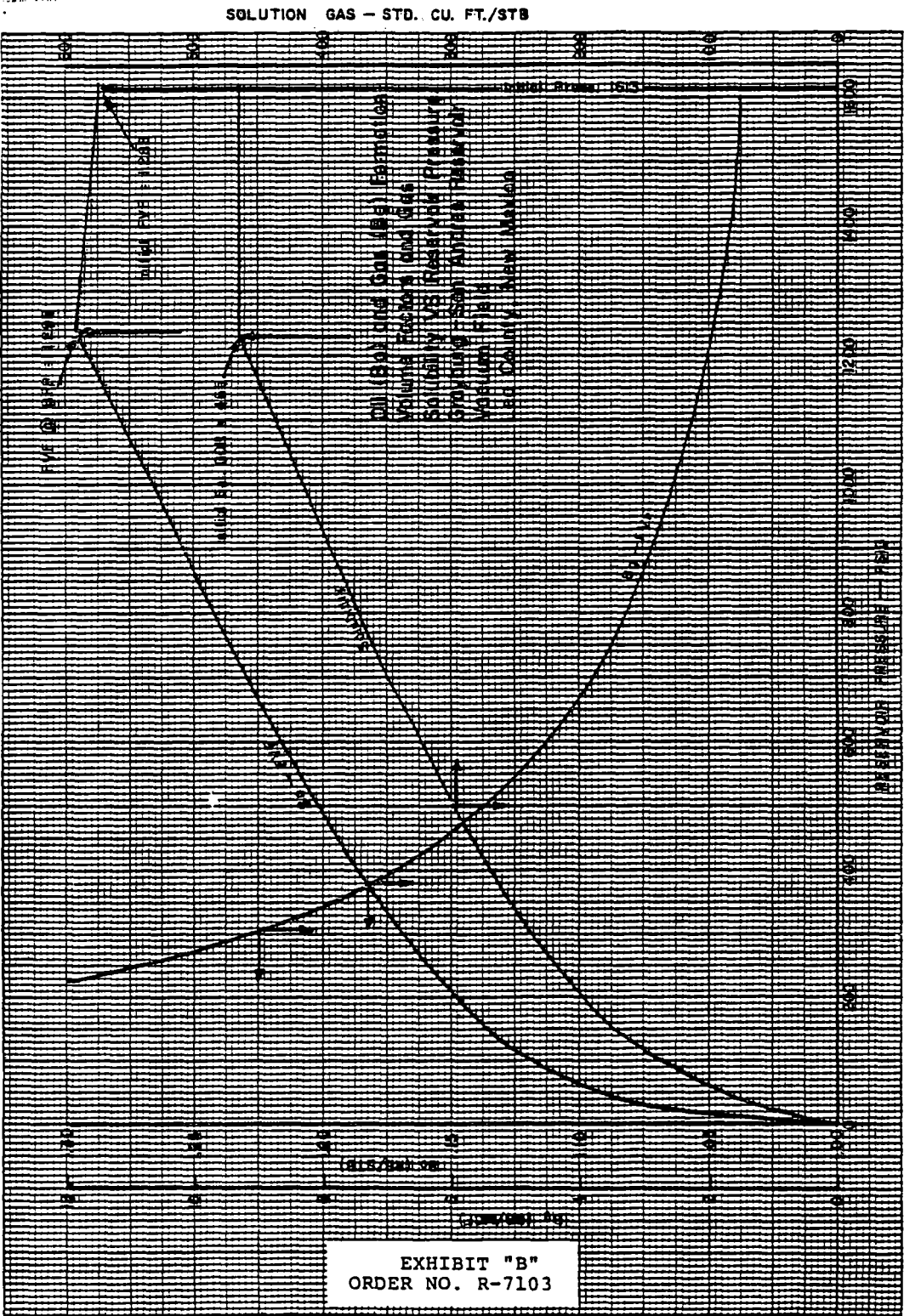
R_s = _____ = Solution gas-oil ratio, cubic feet per barrel, (Exhibit B).

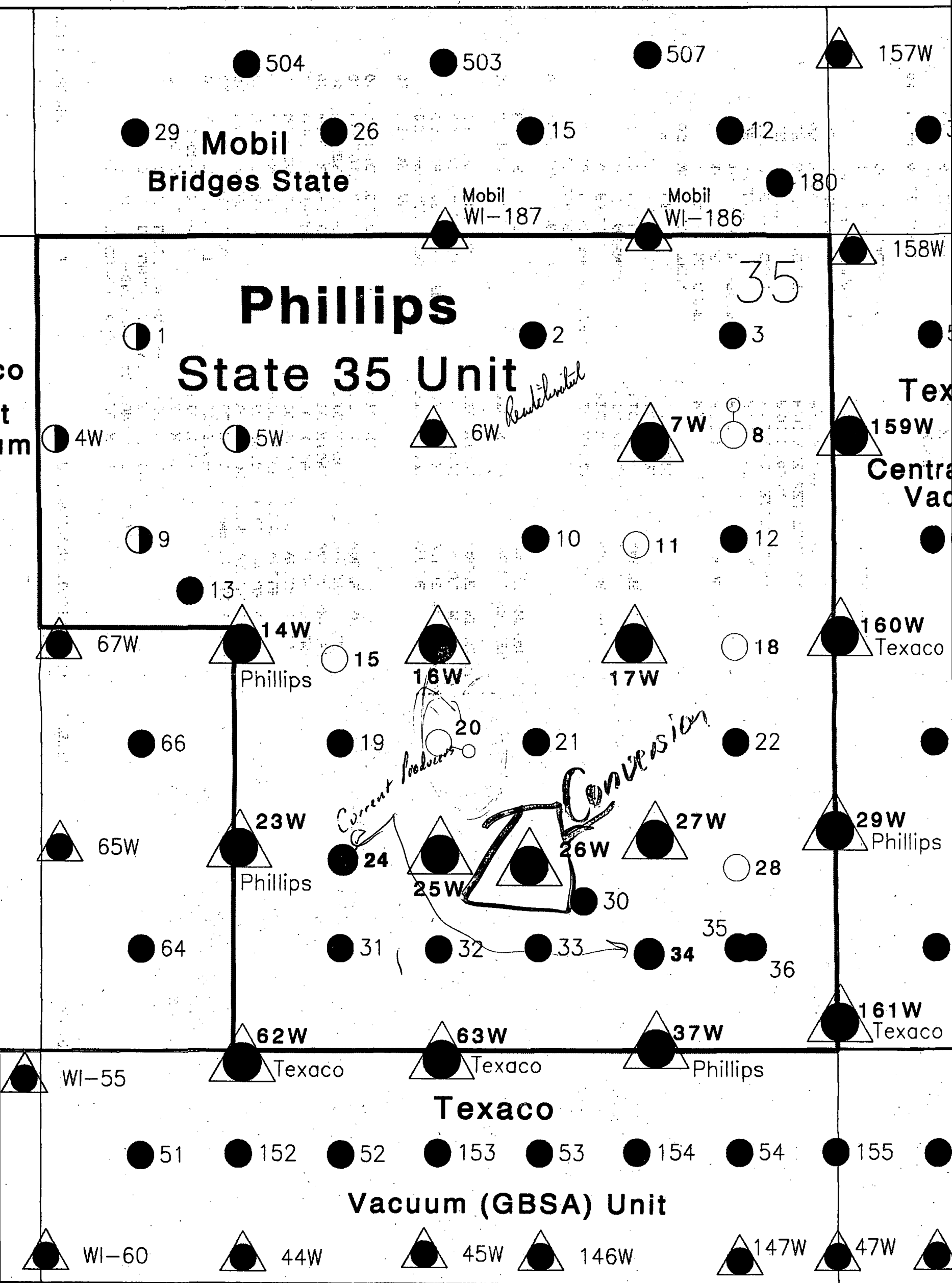
β_g = _____ = Gas formation volume factor, reservoir barrels per Mcf (Exhibit B).

Water injection credit allowable for _____, 19____ = _____ barrels of oil per day.

EXHIBIT "A"
ORDER NO. R-7103

(VACUUM GRAYBURG-SAN ANDRES (PHILLIPS HALE-
MABLE VACUUM G-SA PRESSURE MAINTENANCE
PROJECT) POOL - Cont'd.)





LEGEND

Producers

Injectors (Open Circle)

BEFORE EXAMINER *Stogner*

Oil Conservation Division

Phillips Petroleum

Proposed State 35 Unit
New Well Numbering

```
10 WS-DOCUMENT-AGENCY PIC X(03).
10 WS-DOCUMENT-CASH-ACCOUNT PIC X(02).
10 WS-DOCUMENT-ACTIVITY PIC X(02).
10 WS-DOCUMENT-REF-NBR PIC X(06).
01 WS-TRAN-KEY PIC X(20).
01 WS-GENERIC-KEY PIC X(16).
01 WS-NBR-TRANSACTION PIC 9(04).
01 WS-END-MSG-LEN PIC 9(04) COMP VALUE +50.
01 WS-DSF-LEN PIC 9(04) COMP VALUE +130.
01 WS-DHF-LEN PIC 9(04) COMP VALUE +120.
01 WS-TRN-LEN PIC 9(04) COMP VALUE +16.
01 WS-COM-LEN PIC 9(04) COMP VALUE +820.
01 WS-MENU-TRANID PIC X(04) VALUE 'FAEM'.
01 WS-ABEND-CODE PIC X(04) VALUE SPACES.
01 WS-MESSAGE-OUT PIC X(50) VALUE SPACES.
01 WS-EDIT-ERR PIC X VALUE '0'.
01 WS-REC-FOUND PIC X.

01 WS-MAP-NAMES.
05 WS-FAED-MENU PIC X(07) VALUE 'MPFAEM'.
05 WS-FAED-VOUCHER PIC X(07) VALUE 'MPFAED'.
05 WS-FAED-MED PIC X(07) VALUE 'MPFAMED'.
05 WS-FAED-PO PIC X(07) VALUE 'MPFAPO'.

01 WS-MAP-NAME PIC X(07) VALUE SPACES.
88 MENU-MAP VALUE 'MPFAEM'.

01 WS-TRAN-LINE.
05 WS-CLASS.
10 WS-CASH-ACCOUNT PIC X(02).
10 FILLER PIC X VALUE '-'.
10 WS-AGENCY PIC X(03).
10 FILLER PIC X VALUE ' '.
10 WS-ACTIVITY PIC X(02).
05 FILLER PIC X(02).
05 WS-LINE-ITEM.
10 WS-LINE-CODE PIC X(03).
10 FILLER PIC X VALUE ' '.
10 WS-LINE-SUFFIX PIC X.
05 FILLER PIC X(03).
05 WS-EXP-AMOUNT PIC ZZZ,ZZZ,ZZZ.99.
05 FILLER PIC X(05).
05 WS-ENC-AMOUNT PIC ZZZ,ZZZ,ZZZ.99.
05 FILLER PIC X(04).
05 WS-ENCUMBRANCE-NO.
10 WS-ENCUMB-FY PIC XX.
10 FILLER PIC X VALUE '-'.
10 WS-ENCUMB-NO PIC X(06).

*
01 WS-STATUS-LINE.
05 WS-PAYEE PIC X(24).
05 WS-ADDRESS-1 PIC X(27).
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