STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

WFX 4-8-96

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☒ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no

II. Operator: Phillips Petroleum Company

Address: 4001 Penbrook St., Odessa, TX 79762

Contact party: Larry Hollenbeck Phone: (915) 368-1410

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

IV. Is this an expansion of an existing project? ☒ yes ☐ no
If yes, give the Division order number authorizing the project R-6856.

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

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

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

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

XIV. Certification

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

Name: L. M. Sanders Title Senior Regulation Analyst

Signature: L. M. Sanders Date: 3-20-96

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. October 25, 1978, Case 6367 (Order No. R-5897, Approved 1-16-79)
Amended 11-19-81, Case #7426 (Order No. R-6856, Approved 12-16-81) & Amended 1-11-90

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

EAST VACUUM GRAYBURG SAN ANDRES UNIT

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

PROPOSED INFILL INJECTION WELL LOCATION

Tract & Well No.	Unit	Sec-Tn-Rg	Footage
2738-392	F	27 17S 35E	1409' FNL, 2551' FWL

INJECTION WELL DATA SHEET

PHILLIPS PETROLEUM COMPANY — OPERATOR

EAST VACUUM GRAYBURG SAN ANDRES UNIT — LEASE

TYPICAL INJECTION WELL

WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Tabular Data

Surface Casing @ 1600'

Size 8.625 Cemented with 600 sx

TOC surface feet determined by Circulation

Hole size 12.25"

Long String @ 4850'

Size 5.5" Cemented with 800 sx

TOC surface feet determined by Circulation

Hole size 7.875"

Total Depth 4850

Intermediate Casing @

Size _____ Cemented with _____

TOC _____ feet determined by _____

Hole size _____

Injection Interval

4350' to 4650'

Perforated X

or

Open-Hole _____

Tubing 2.875" 4.7#/ft lined with plastic coating set in a ELDER LOK-SET packer at 4250'

(brand & model)

Other Data

1. Name of the injection formation: SAN ANDRES
2. Name of the Field or Pool: VACUUM
3. Is this a new well drilled for injection? NO

   If no, for what purpose was the well originally drilled? _____

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used).

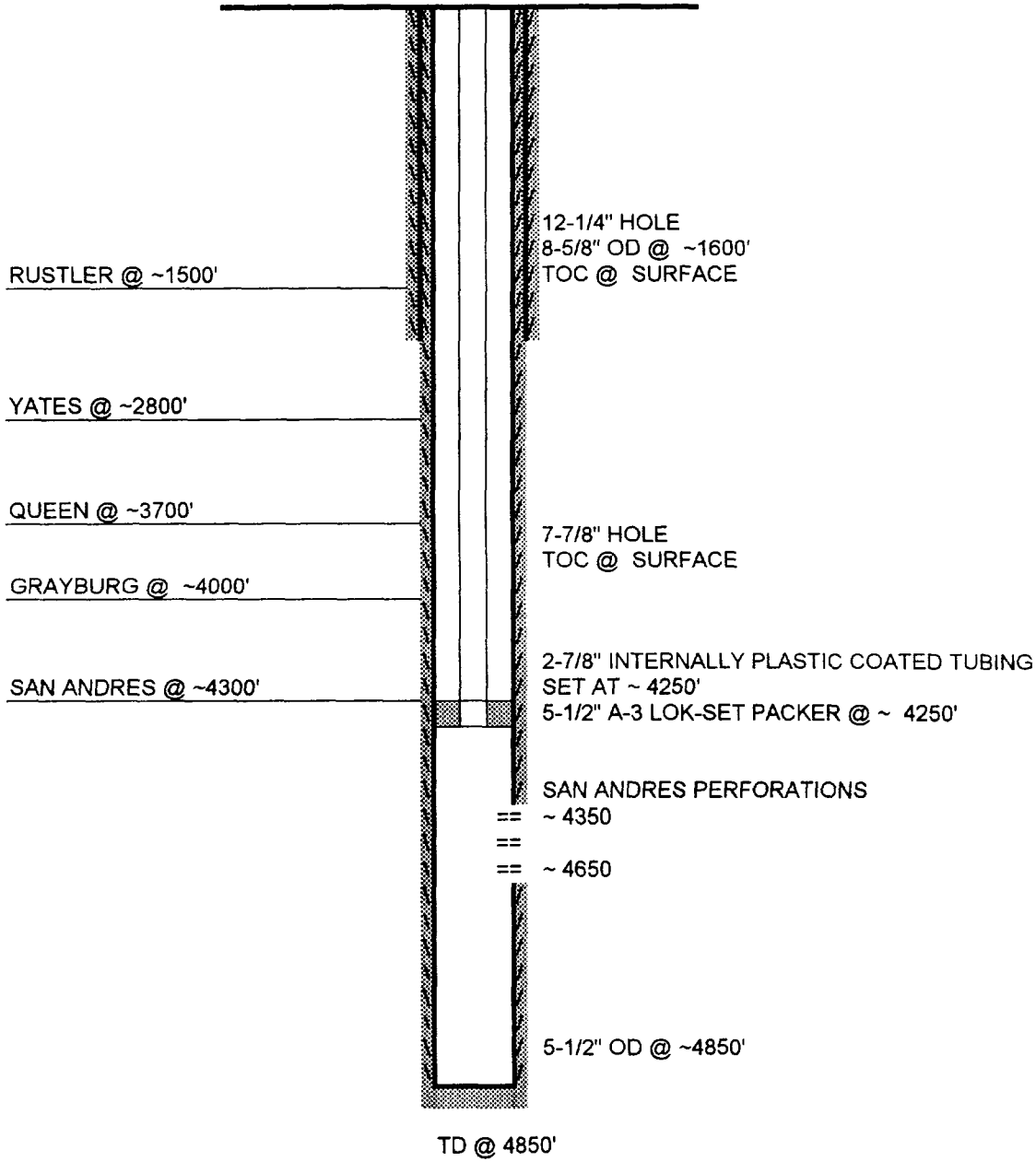
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. QUEEN @ 3700'

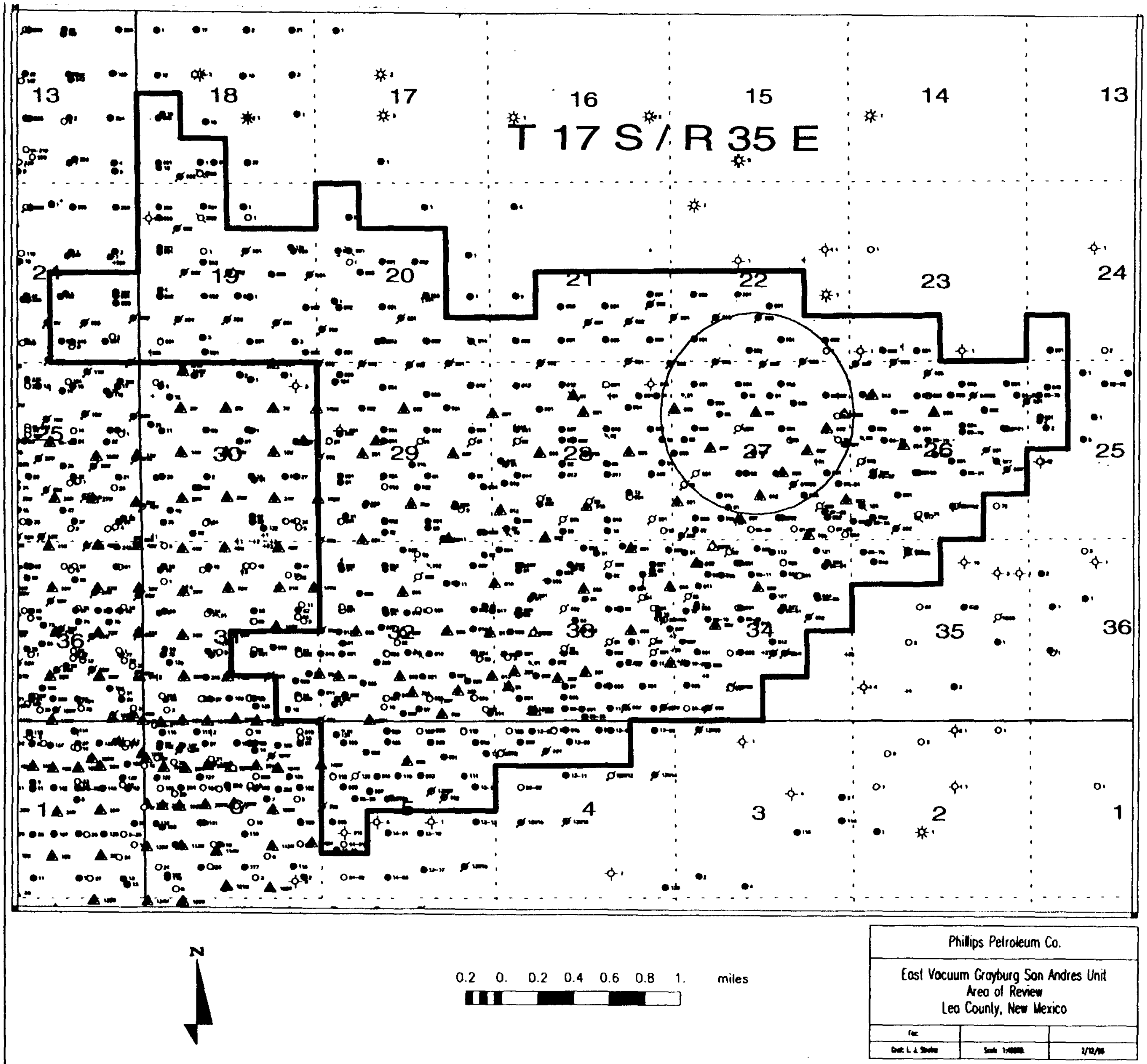
   GLORIETA @ 5800'

EAST VACUUM GRAYBURG SAN ANDRES UNIT
PROPOSED WELL 2738-392

INJECTION WELL COMPLETION DIAGRAM

5-1/2" INJECTION WELL





Phillips Petroleum Co.

East Vacuum Grayburg San Andres Unit
Area of Review
Lea County, New Mexico

VI.

EAST VACUUM GRAYBURG SAN ANDRES UNIT

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

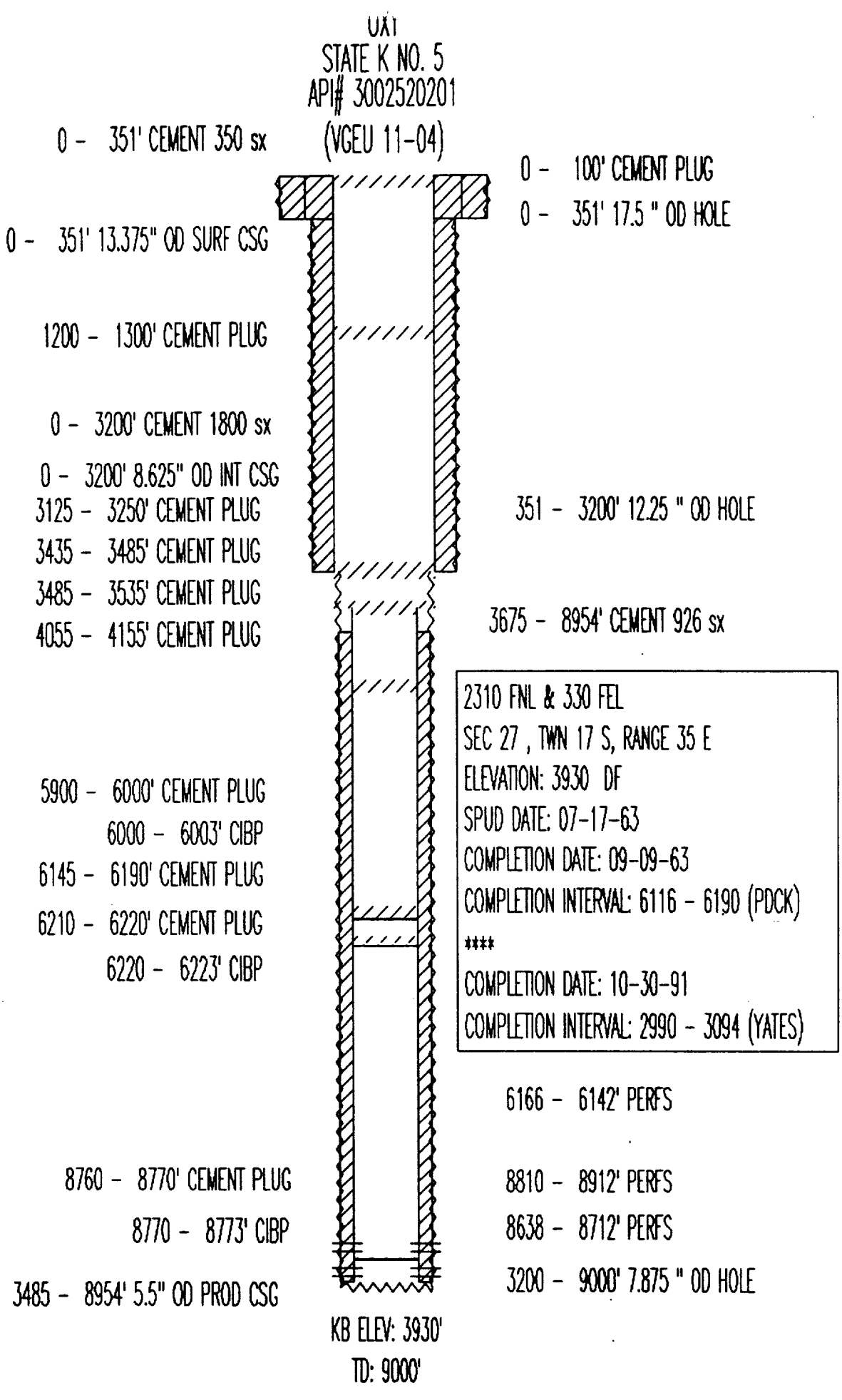
WELLS WITHIN 1/2 MILE RADIUS OF REVIEW

WELL DATA TABLE

Operator	Lease Name	Well No.	API Number	Location	Surface Casing Size(in)	Surface Casing Depth(ft)	Surface Casing Cmnt(sx)	Intermediate Casing Size(in)	Intermediate Casing Depth(ft)	Intermediate Casing Cmnt(sx)	Production Casing Size(in)	Production Casing Depth(ft)	Production Casing Cmnt(sx)	Top of Cement *	Date Drilled	Record of Completion	Current Status	Total Depth
Phillips	Vac Abo Un	07-05	3002530759	850 FS, 850 FE 27-17S-35E	13 3/8	1640	1500	8 5/8	5100	2950	5 1/2	8900	1100	surface	02-02-90	8700 - 8740 ABO	PROD	8900'
Phillips	VGEU	11-02	3002520301	990 FN, 330 FE 27-17S-35E	13 3/8	356	360	8 5/8	2995	1480	5 1/2	6290	1001	2905' M	12-19-63	6114 - 6208 PDCK	SI PROD	6290'
Phillips	VGEU	11-03	3002520253	2310 FN, 1750 FE 27-17S-35E	13 3/8	350	360	8 5/8	2999	1500	5 1/2	6269	330	2640' M	12-09-63	6178 - 6200 PDCK	SI PROD	6270'
Phillips	VGEU	11-04	3002520201	2310 FN, 330 FE 27-17S-35E	13 3/8	351	350	8 5/8	3200	1600	5 1/2	8954	926	3675' M	07-17-63	6116 - 6190 PDCK 2990 - 3094 YATES	P&A **	9000'
Phillips	VGEU	26-06	3002532367	1500 FN, 1410' FW 27-17S-35E	8 5/8	1650	850				5 1/2	6300	1600	2655' M	06-29-94	6126 - 6165 PDCK	PROD	6300'
Phillips	EVGSAU	2738-009	3002526924	1400' FN, 50' FW 27-17S-35E	9 5/8	369	400				5 1/2	4777	1420	surface	02-15-82	4440 - 4668 SADR	WATER INJ.	4777'
Phillips	EVGSAU	2720-006	3002527116	1550 FN, 150' FE 27-17S-35E	8 5/8	346	400				5 1/2	4750	1400	surface	08-23-84	4410 - 4550 SADR	WATER INJ.	4750'
Phillips	EVGSAU	2230-005	3002527305	1300 FS, 2600 FW 22-17S-35E	8 5/8	375	400				4 1/2	4782	1400	surface	11-25-81	4530 - 4618 SADR	WATER INJ.	4800'
Phillips	EVGSAU	2622-007	3002527344	50 FN, 200' FW 26-17S-35E	8 5/8	351	370				4 1/2	4800	912	surface	11-15-82	4536 - 4590 SADR	WATER INJ.	4800'
Phillips	EVGSAU	2720-008	3002527345	50 FN, 2500 FE 27-17S-35E	8 5/8	354	311				4 1/2	4800	1140	surface	11-22-82	4430 - 4594 SADR	WATER INJ.	4800'

* Top of Cement
M - Measured by Temp. Survey or Cement Bond Log
E - Estimated
C - Calculated using a cement yield of 1.32 cu ft /sack and assuming 50 % excess

** See Diagram for plugging detail


UNT
STATE K NO. 5
API# 3002520201
(VGEU 11-04)
0 - 351' CEMENT 350 sx
0 - 100' CEMENT PLUG
0 - 351' 17.5 " OD HOLE
0 - 351' 13.375" OD SURF CSG
1200 - 1300' CEMENT PLUG
0 - 3200' CEMENT 1800 sx
0 - 3200' 8.625" OD INT CSG
3125 - 3250' CEMENT PLUG
3435 - 3485' CEMENT PLUG
3485 - 3535' CEMENT PLUG
4055 - 4155' CEMENT PLUG
351 - 3200' 12.25 " OD HOLE
3675 - 8954' CEMENT 926 sx
2310 FNL & 330 FEL
SEC 27 , TWN 17 S, RANGE 35 E
ELEVATION: 3930 DF
SPUD DATE: 07-17-63
COMPLETION DATE: 09-09-63
COMPLETION INTERVAL: 6116 - 6190 (PDCK)
****
COMPLETION DATE: 10-30-91
COMPLETION INTERVAL: 2990 - 3094 (YATES)
5900 - 6000' CEMENT PLUG
6000 - 6003' CIBP
6145 - 6190' CEMENT PLUG
6210 - 6220' CEMENT PLUG
6220 - 6223' CIBP
6166 - 6142' PERFS
8760 - 8770' CEMENT PLUG
8770 - 8773' CIBP
8810 - 8912' PERFS
8638 - 8712' PERFS
3485 - 8954' 5.5" OD PROD CSG
3200 - 9000' 7.875 " OD HOLE
KB ELEV: 3930'
TD: 9000'

EAST VACUUM GRAYBURG SAN ANDRES UNIT
ATTACHMENT VII TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT WATER AND CARBON DIOXIDE

DATA ON THE PROPOSED OPERATION OF THE INJECTION WELL #392

The proposed average and maximum daily water injection rate is:

Average daily rate 1,200 BWPD, Maximum daily rate 2,200 BWPD

The proposed average and maximum daily carbon dioxide rate is:

Average daily rate 3,000 MMSCFD, Maximum daily rate 5,000 MMSCFD

Both the water and carbon dioxide systems are closed.

The proposed average and maximum surface injection pressures for water are:

Average injection pressure 1,000 PSIG, Maximum* injection pressure 1,350 PSIG

The proposed average and maximum surface injection pressures for carbon dioxide are:

Average injection pressure 1,500 PSIG, Maximum* injection pressure 1,850 PSIG

* Maximum injection pressures are based on pre-existing Unit injection pressure allowable which are based on actual San Andres fracture gradients.

There are two sources of injection water makeup, San Andres produced water from Phillips operated East Vacuum Grayburg San Andres Unit and Ogallala fresh water from the EVGSAU water supply wells. Both waters have been injected into the San Andres formation since 1979, and are compatible with each other and the San Andres formation. The two sources of carbon dioxide are from reinjected produced gas and purchased pipeline sales gas. The gas composition is approximately:

CARBON DIOXIDE	91%
HYDROGEN SULPHIDE	2%
NITROGEN	2%
HYDROCARBON	5%

Carbon dioxide has been injected into the San Andres Formation since 1985 under the authority on NMOCD Order No. R6856 dated 12/16/81.

EAST VACUUM GRAYBURG SAN ANDRES UNIT
ATTACHMENT IX TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT WATER AND CARBON DIOXIDE

PROPOSED STIMULATION PROGRAM
FOR A
TYPICAL SAN ANDRES INJECTION WELL

All injection wells will be cased hole completions selective perforated within the unitized interval. Initial stimulation will be small to medium sized matrix Hydrochloric acid treatments. Acid concentrations will typically range from 7 1/2% to 20 % depending on anticipated completion damage. As the waterflood matures additional matrix acid treatments may be preceded by an oil soluble surfactant, and the acid mixture may contain commercial mutual solvents.

EAST VACUUM GRAYBURG SAN ANDRES UNIT
ATTACHMENT XII TO FORM C-108
APPLICATION FOR AUTHORIZATION TO INJECT WATER AND CARBON DIOXIDE

STATEMENT OF HYDRAULIC INTEGRITY

Phillips Petroleum Company has examined available geological and engineering data and finds no evidence of open faults nor any other hydraulic connection between the injection zone and any underground source of drinking water.

ATTACHMENT NO. XIV

NOTIFICATION

SURFACE LAND OWNER:

STATE OF NEW MEXICO
COMMISSION OF PUBLIC LANDS
P.O. BOX 1148
SANTA FE, NEW MEXICO 87501-1148

OFFSET OPERATORS:

THERE ARE NO OFFSET OPERATORS WITHIN THE ½ MILES RADIUS OF THE EAST VACUUM GRAYBURG SAN ANDRES UNIT WELL NO. 392.

I hereby certify that a complete copy of this application has been furnished by certified mail to the above parties of interest.

Signed: L. M. Sanders

L. M. Sanders
Senior Regulation Analyst

Date: March 20, 1996

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

Energy, Minerals and Natural Resources Department

Submit to Appropriate

State Lease - 4 Copies
Fee Lease - 3 Copies

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

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	Pool Name
30-025-33327	62180	Vacuum Grayburg/San Andres

Property Code	Property Name	Well Number
009166	EVGSAU	392

OGRID No.	Operator Name	Elevation
-17643	PHILLIPS PETROLEUM COMPANY	3929

Surface Location

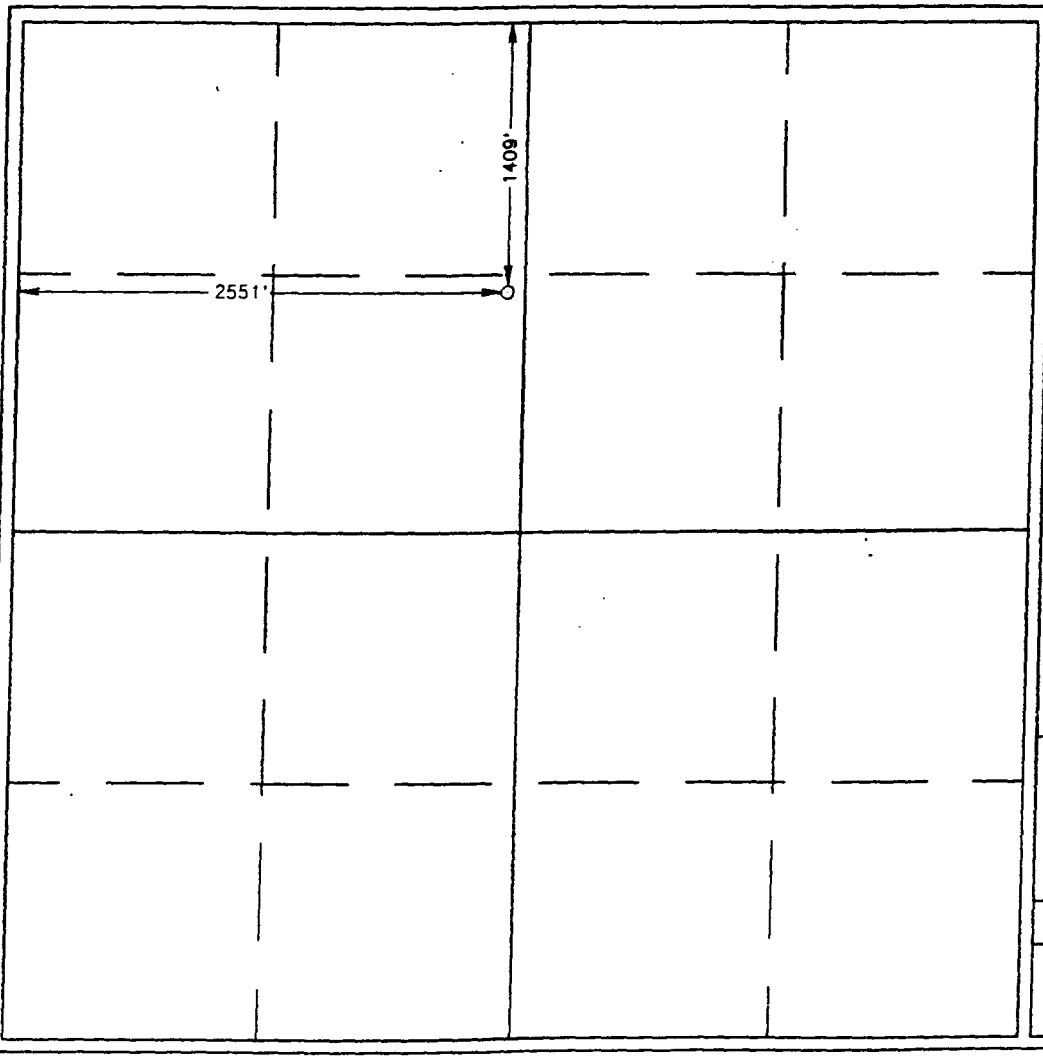
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	27	17 S	35 E		1409	NORTH	2551	WEST	LEA

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

Dedicated Acres	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



OPERATOR CERTIFICATION

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

Signature
Larry M. Sanders

Printed Name
Sr. Regulation Analyst

Title
3-20-96

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 supervison, and that the same is true and correct to the best of my belief.

FEBRUARY 16, 1996

Date Surveyed

Signature & Seal of Professional Surveyor

RONALD J. EIDSON
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

2-22-96

N.M. No. 96-11-0222

Certificate No. JOHN W. WEST 676
RONALD J. EIDSON 3239
GARY L. EIDSON 12641

AFFIDAVIT OF PUBLICATION

State of New Mexico,
County of Lea.

I, Kathi Bearden

·Publisher

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

of

1 weeks.

Beginning with the issue dated

March 14, 1996

and ending with the issue dated

March 14, 1996

Kathi Bearden
Publisher

Sworn and subscribed to before me this 18th day of March, 1996

Marilyn K. Griffin
Notary Public.

My Commission expires
March 24, 1998
(Seal)

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

LEGAL NOTICE
March 14, 1996

Notice is hereby given of the application of Phillips Petroleum Company, 4001 Penbrook Street, Odessa, Texas 79762, Attn: Mr. L. M. Sanders, (915) 368-1488, to the Oil Conservation Division, New Mexico Energy and Mineral Department, for approval of the following well for water alternating carbon dioxide (C02) injection authorization:

Well No.: East Vacuum Grayburg San Andres Unit Well No. 392

Field: Vacuum Gb/SA

Location: 1409 feet the North line and 2551 feet from the West line, Unit F, Section 27, T17S, R35E, Lea County, New Mexico

The water/C02 injection formation is Grayburg/San Andres at a depth of 4350'-4650' below the surface of the ground.

Expected maximum water injection rate is 2200 BWPD at a maximum injection pressure of 1350 PSIG. Expected maximum C02 injection is 5000 MMSCFD at a maximum injection pressure of 1850 PSIG.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, 2040 S. Pacheco, Santa Fe, NM 87504 within 15 days.

#14439