

CASE 3987: Application of UNION
TEXAS PETROLEUM CORP. FOR SALT
WATER INJECTION, LEA COUNTY.

Case Number

3987

Application

Transcripts.

Small Exhibits

ETC.

dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
December 11, 1968

EXAMINER HEARING

IN THE MATTER OF:)

)
Application of Union Texas)
Petroleum Corporation for)
salt water injection, Lea)
County, New Mexico.)

CASE NUMBER
3987

BEFORE:

ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 3987.

MR. HATCH: Application of Union Texas Petroleum Corporation for salt water injection, Lea County, New Mexico.

MR. HINKLE: Mr. Examiner, Clarence Hinkle, Hinkle, Bondurant and Christy, Roswell, appearing on behalf of the applicant. We have one witness and four exhibits, and would like to have Mr. Kenn Freeman sworn.

(Witness sworn.)

MR. UTZ: Any other appearances:

(Whereupon, Applicant's Exhibits 1 through 4 were marked for identification.)

KENNETH A. FREEMAN

called as a witness by the applicant, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q Will you state your name, your residence, and by whom you are employed?

A My name is Kenneth A. Freeman. I reside at 2504 Seaboard in Midland, Texas, and I am employed by Union Texas Petroleum Corporation in Midland, as a petroleum engineer.

Q Are you a graduate petroleum engineer?

A Yes, I am.

Q Have you previously testified before the New Mexico

Oil Conservation Commission?

A No, I haven't.

Q Would you briefly give your educational qualifications as a petroleum engineer?

A I am a graduate of the University of Texas at Austin, Bachelor of Science degree in Petroleum Engineering. And I am a registered petroleum engineer in the State of Texas, with Registration Number F-28223. I was employed for six years by Panhandle Eastern Pipeline Company or Anadarko Production Company in the Anadarko Basin. I worked in Kansas, Oklahoma, Texas, and New Mexico.

Then in 1965, I was employed by Wesatch Operating Company in Corpus Christi, and worked in South Texas. And then in January of 1968, I was employed by Union Texas as a petroleum engineer in their Midland office.

Q Are you familiar with Union Texas properties in New Mexico?

A Yes, I am.

Q And in particular with their properties in the Langlie-Mattix Pool, Lea County?

A Yes.

Q Are you familiar with all of the wells in that area which relate to the properties of Union Texas?

A Yes, sir, I am.

Q Are you familiar with the application of Union Texas in Case No. 3987?

A Yes.

Q What is Union Texas seeking by this application?

A What we are asking for is authority to dispose of produced salt water. At the present time we are working on the proposed Langlie-Jal Unit, and this unit will not be finalized before the no-pit order of January 1st. Therefore, to be able to maintain production, we are asking that we can convert the Well No. 4 into a disposal well.

Now, under our secondary recovery operation, the Well No. 4 is set up as an injection well.

Q Have you prepared or has there been prepared under your direction certain exhibits to be introduced in this case?

A Yes, there has.

Q Refer to Exhibit 1, and explain what that is and what it shows.

A Exhibit No. 1 shows the ownership within a two mile radius of the Well Number 4, and the arrow indicates where the Well Number 4 is located in the center of the page. Now, I would also like to note that looking at the top part of the arrow, just to the north of it, you will see a Skelly No.

7 Sherril. In one of the later exhibits, this well is used as the type log in the proposed secondary recovery unit. On the Well Number 4, there is not a log, so what I have done is use this type log, and I just wanted to point out its relationship in relation to the Number 4.

Q Are all the wells shown on Exhibit Number 1 producing from the Langlie-Mattix Pool?

A Well, it is a combination of Langlie-Mattix and Jalmat.

Q Now, refer to Exhibit Number 2, and explain what this shows.

A What I have done, Exhibit Number 2 is the very last page, and this is the proposed unit outline of the Langlie-Jalmat Unit, which is nearing completion. We anticipate this will become a reality in about three months, but you will notice the Number 4 well, the arrow, and this is the injection pattern. All these wells that the lines go through will be injection wells. This will be a five-spot injection pattern.

Q You are not asking approval of the unit at this time, but you simply are submitting that to show that this will probably be an injection well in the unit to be approved in the future?

A Yes, I am. I mean all I am showing is that this

will be an injection well, and we are not asking for the unit to be approved.

Q Or for a project allowable or anything of that kind?

A Correct.

Q Now, Exhibit Number 2 does show the proposed outlines of the unit?

A Yes, it does.

Q Now, refer to Exhibit Number 3, and explain what this shows.

A Well, as I had stated, being there is no open-hole log on the Well Number 4, we used the sample log. Drilling time and the tops were picked, the Yates at 2,950, the Seven Rivers at 3,170, and you will notice at the bottom I say that that is based on sample tops. Then we have correlated this to the type log for the proposed unit or the Skelly Oil Company Sherril Number 7.

You will notice on the Well Number 4, five-and-a-half inch casing is set at 3,421, and we would be injecting water in the open-hole section below 3,421, which correlated across to the Sherril Number 7 is in the lower 150 feet of the Seven Rivers.

Q Refer to Exhibit Number 4, which is a diagrammatic

sketch, and explain this to the Commission.

A Exhibit Number 4 is the schematic sketch of the proposed well here, if the Commission grants us authority to dispose of the water in this open-hole section. Seven-and-seven-eighths surface casing was set at 1,208 feet, and cemented with 350 sacks. Cement was circulated to the surface. Then five-and-a-half inch OD casing was set at 3,421, and cemented with 250 sacks of cement, and it was also circulated to the surface.

What we propose to do is to run a string of two-and-three-eighths inch plastic-coated tubing, and set a tension type packer within sixty feet of the open-hole section, or, in other words, it would be set within sixty feet of the five-and-a-half inch casing.

The annular space between the tubing and the casing would be filled with an inhibited fluid, and water would be disposed of through the two-inch internal plastic-coated tubing.

Q Do you contemplate setting a pressure gauge in the annulus?

A Yes, sir, there will be.

Q Is there anything else you would like to testify with respect to Exhibit Number 4?

A No, sir.

Q What quantities of water do you anticipate you will dispose of in this well?

A Initially, we are anticipating of disposing of 100 barrels a day at a minimum, and 255 barrels a day maximum. And why this figure varies somewhat, other operators within this proposed unitized interval are going to eventually be adding their water to this, so this will not only be Union Texas, but it will be other operators within the proposed unitized interval.

Q Will Union Texas be the operator of the proposed unit that you have testified to?

A Yes, sir, it will.

Q And as you have testified, this will be one of the disposal wells or injection wells in connection with the unit?

A Yes, it will be an injection well.

MR. HINKLE: We would like to offer into evidence Exhibits 1 through 4.

MR. UTZ: Without objection, Exhibits 1 through 4 will be entered into the record.

(Whereupon, Exhibits 1-4 were admitted in evidence.)

MR. HINKLE: I believe that is all of the direct testimony.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Freeman, is this well surrounded by producing Langlie-Mattix wells?

A There are three producing Langlie-Mattix wells around. Most of these wells are temporarily abandoned, waiting on the unit to become effective. This whole field, or this whole area within the proposed unit is between ninety-seven and ninety-eight per cent depleted on primary.

Q Is it your future intention to waterflood the Langlie-Mattix zone 150 feet at the lower Seven Rivers?

A If you will notice on Exhibit 3, this type log, you will note we are proposing to unitize from the top of the Seven Rivers which in this instance is approximately 3,100 feet, down to the base of the Queen which is 3,700 feet. And the primary reason to have this large a space is that in many cases, casing is set down into the top of the Seven Rivers, and this is a good cut-off place. We feel that this will give us maximum protection, so we will not endanger the Yates gas production above. This was the reason for picking this interval.

Q This is not in the horizontal limits of the Jalmat Gas Pool?

A No, sir.

Q The zone that you are proposing to inject into, is this a portion of the zone which you intend to waterflood at some later date?

A Yes, sir.

Q Would Union Texas have any objection to calling this a pilot waterflood project?

A For the time being, until the unit would become effective, why, we would just as soon call it a disposal well.

Q The Commission is rather reluctant to dispose of water in a producing zone in the middle of a pool.

A We have no objection.

Q I think they would prefer to call it a waterflood project.

MR. HINKLE: I don't think there would be any objection to calling it that.

Q It may be desirable to call it that.

A We have no objections. All I am talking about is, from the engineering standpoint is not what we are trying to accomplish. But it would be fine with Union Texas.

MR. HINKLE: The main thing they are trying to accomplish now is to meet the dead line of January 1st, so they could dispose of this water, and there will be an application before the Commission probably shortly after the first of the

year for approval of this unit, and as a waterflood project,
is that right?

THE WITNESS: That is correct.

MR. UTZ: Any other questions of the witness? The
witness may be excused.

(Witness excused.)

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
KENNETH A. FREEMAN	
Direct Examination by Mr. Hinkle	2
Cross Examination by Mr. Utz	9

E X H I B I T S

<u>NUMBER</u>	<u>MARKED FOR IDENTIFICATION</u>	<u>OFFERED AND ADMITTED IN EVIDENCE</u>
Exhibits 1-4	2	8

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, SAM MORTELETTE, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 30th day of December, 1968.

Sam Mortelette
 NOTARY PUBLIC

I do hereby certify that the foregoing is a complete record of the proceedings in the Division hearing of Case No. 3987, heard by me on Dec. 11, 1968.

Thos. R. [Signature]
 New Mexico Oil Conservation Commission

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 2088
SANTA FE

December 18, 1968

Mr. Clarence Hinkle
Hinkle, Bondurant & Christy
Attorneys at Law
Post Office Box 10
Roswell, New Mexico 88201

Re: Case No. 3987
Order No. R-3634
Applicant:
Union Texas Petroleum Corp.

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC

Other State Engineer Office - Santa Fe

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3987
Order No. R-3634

APPLICATION OF UNION TEXAS PETROLEUM
CORPORATION FOR SALT WATER INJECTION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 11, 1968, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 18th day of December, 1968, the Commission, a quorum being present, 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 Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Union Texas Petroleum Corporation, is the owner and operator of the Wells Lease Well No. 4, located in Unit D of Section 5, Township 25 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to inject produced salt water into the Seven Rivers formation, with injection into the open-hole interval from approximately 3421 feet to 3520 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer set within 60 feet of the 5 1/2-inch casing shoe; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure

-2-

CASE No. 3987

Order No. R-3634

gauge should be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(5) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Union Texas Petroleum Corporation, is hereby authorized to utilize its Wells Lease Well No. 4, located in Unit D of Section 5, Township 25 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico, to inject produced salt water into the Seven Rivers formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set within 60 feet of the 5 1/2-inch casing shoe, with injection into the open-hole interval from approximately 3421 feet to 3520 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

GUYTON B. HAYS, Member

A. L. PORTER, Jr., Member & Secretary

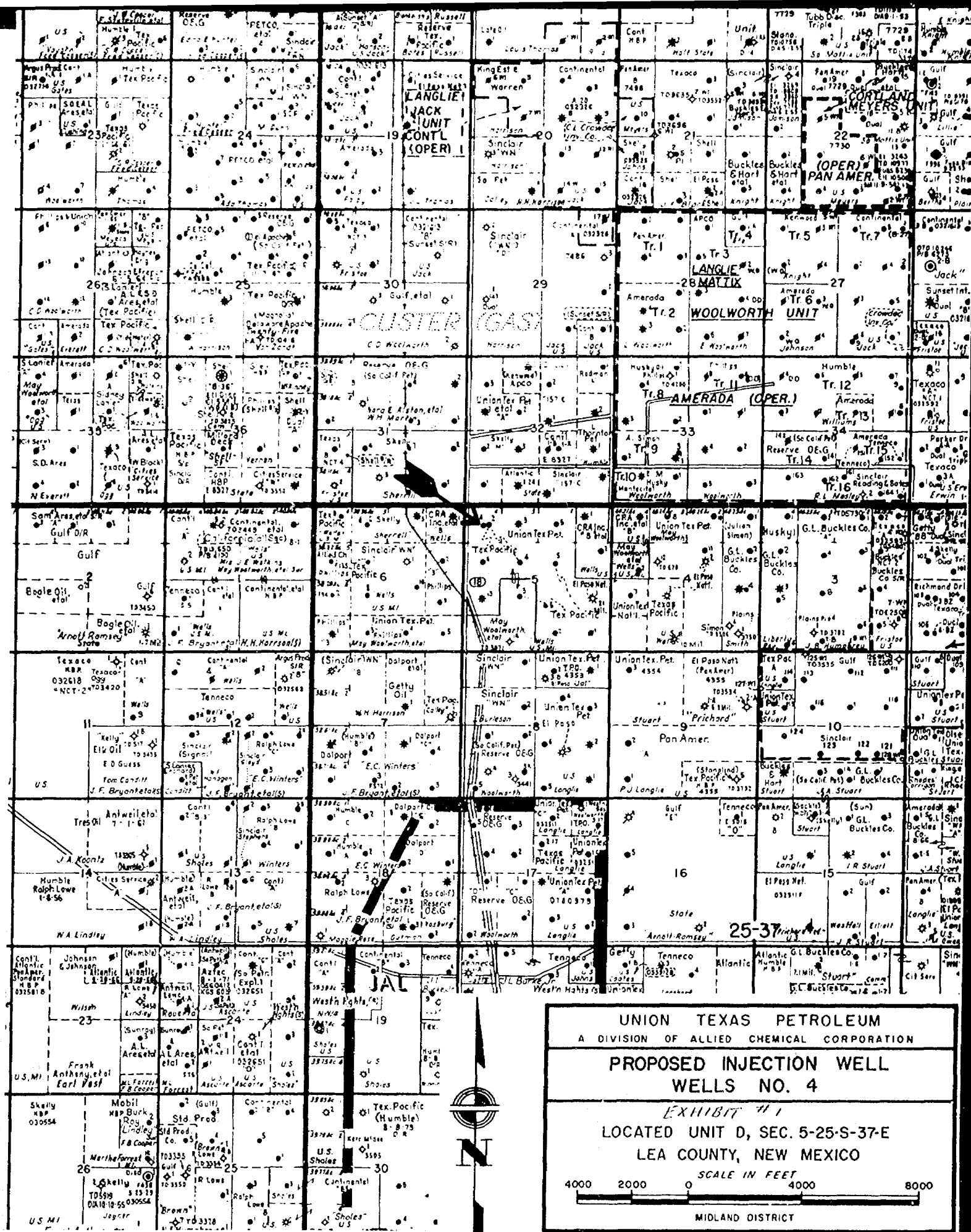
esr/

DOCKET: EXAMINER HEARING - WEDNESDAY - DECEMBER 11, 1968

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before ELMER A. UTZ, EXAMINER, or
DANIEL S. NUTTER, ALTERNATE EXAMINER:

- CASE 3984: Application of Gulf Oil Corporation for commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Penrose Skelly Pool and the Paddock Pool in the well-bore of its J. N. Carson (NCT-C) Well No. 9 located in Unit I of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, with the provision that no more than one allowable will be produced from said well.
- CASE 3985: Application of Midwest Oil Corporation for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 4048 feet to 4218 feet in its Morgan-Federal Tract 4 Well No. 5 located in Unit I of Section 12, Township 7 South, Range 33 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.
- CASE 3986: Application of Bell Petroleum Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 4224 feet to 4447 feet in its State "5" Well No. 3 located in Unit J of Section 5, Township 9 South, Range 32 East, South Button Mesa-San Andres Pool, Lea County, New Mexico.
- CASE 3987: Application of Union Texas Petroleum Corporation for salt water injection, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to inject produced salt water into the Seven Rivers formation in the open-hole interval from approximately 3421 feet to 3520 feet in its Wells lease Well No. 4 located in Unit D of Section 5, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.
- CASE 3988: Application of Anadarko Production Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Far West Loco Hills Sand Unit Area comprising 840 acres, more or less, of Federal, State and fee lands in Sections 4, 9, and 16, of Township 18 South, Range 29 East, Loco Hills Pool, Eddy County, New Mexico.



LOG OF THE PROPOSED INJECTION WELL

SKELLY OIL COMPANY

SHERRILL No. 7

K.B. Elev. 3241'

LANGLIE MATTIX FIELD

Sec. 31, T-24-S, R-36-E

LEA COUNTY, NEW MEXICO

UNION TEXAS PETROLEUM

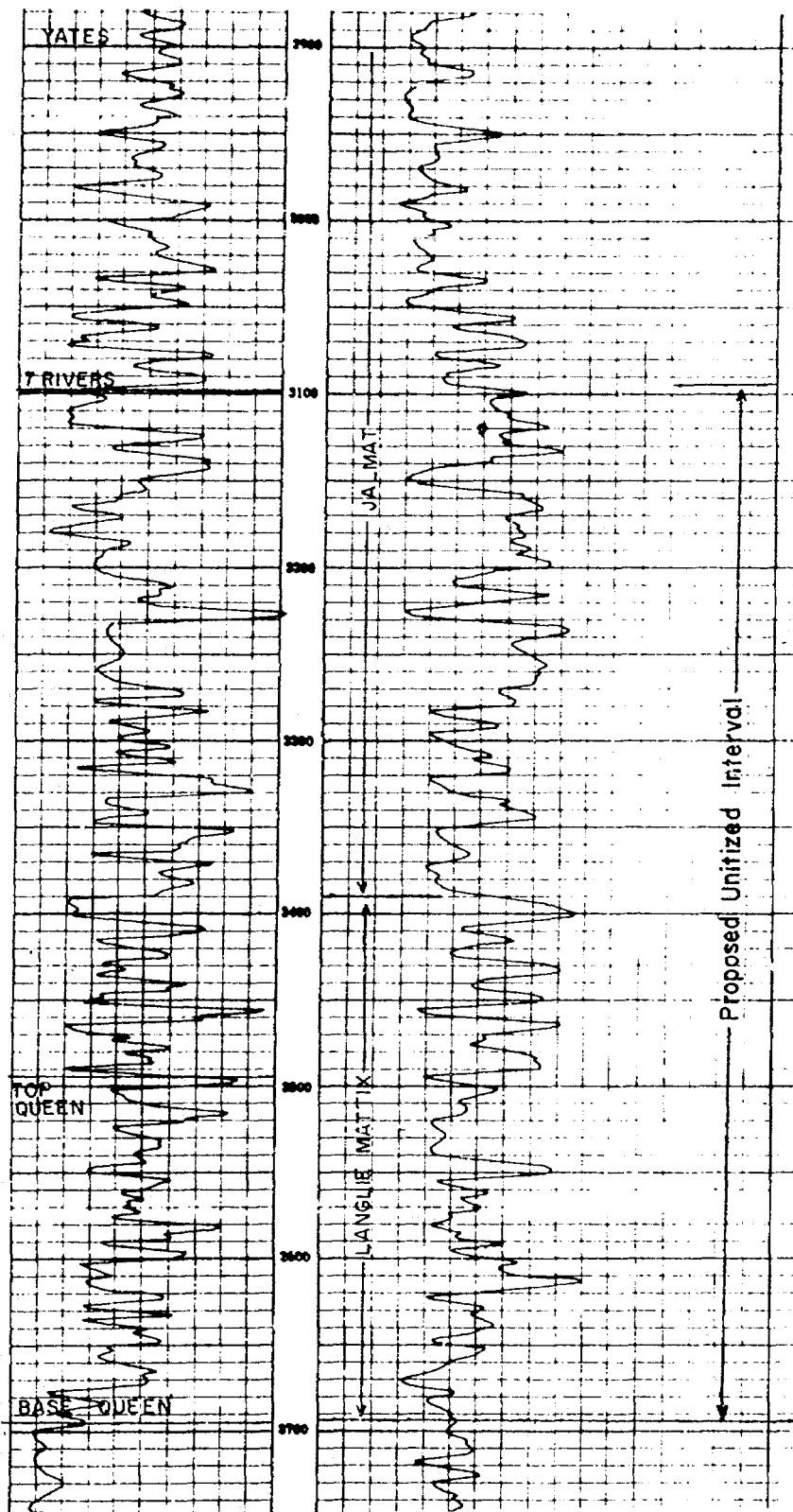
WELL No. 4

KB Elev. 3248'

LANGLIE MATTIX FIELD

Unit D Sec. 5, T-25-S, R-37-E

LEA COUNTY, NEW MEXICO



YATES 2950 *

7 RIVERS 3170 *

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 3987

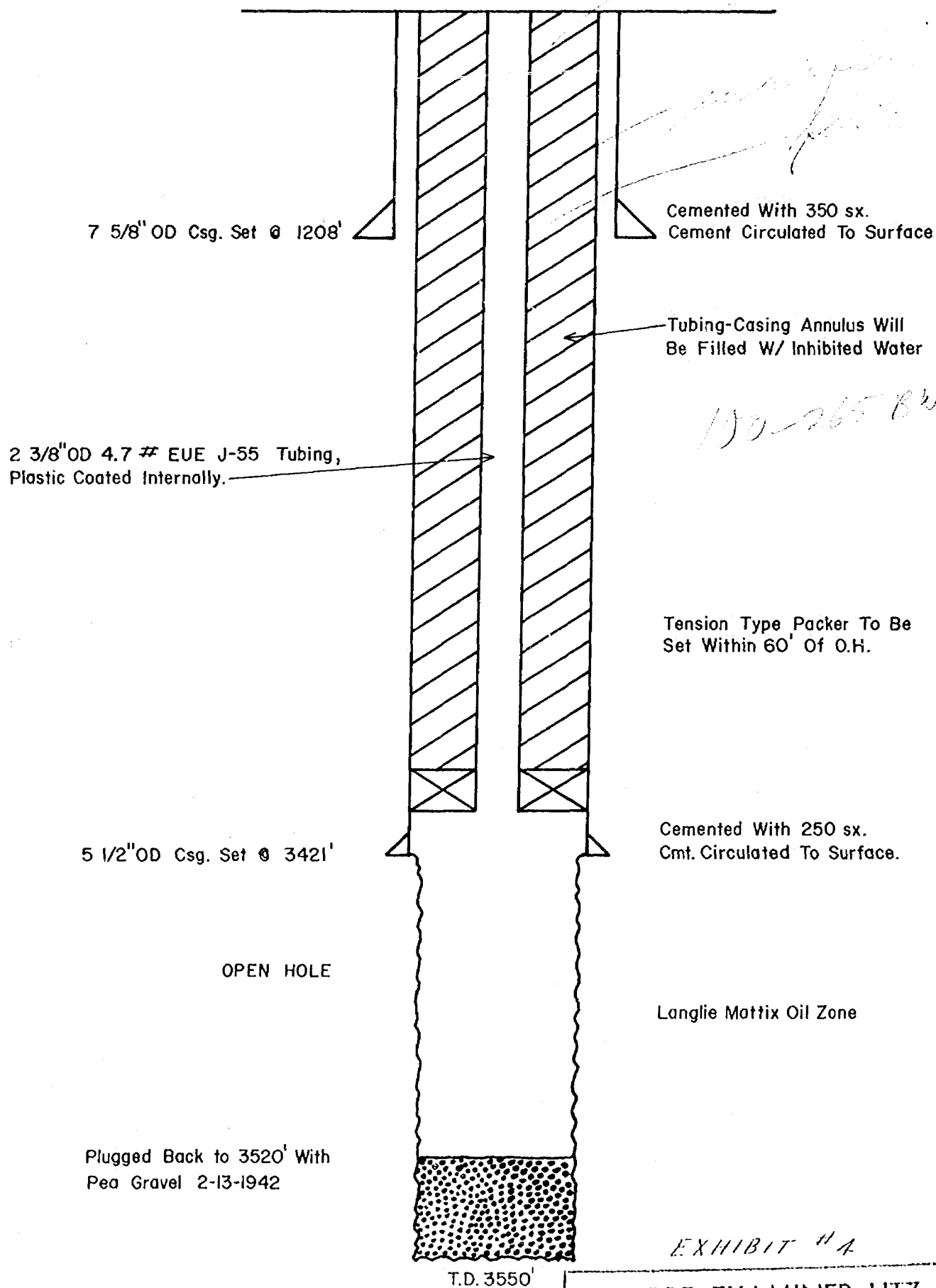
5 1/2' Set @ 3421'

* Tops based on samples no
log available

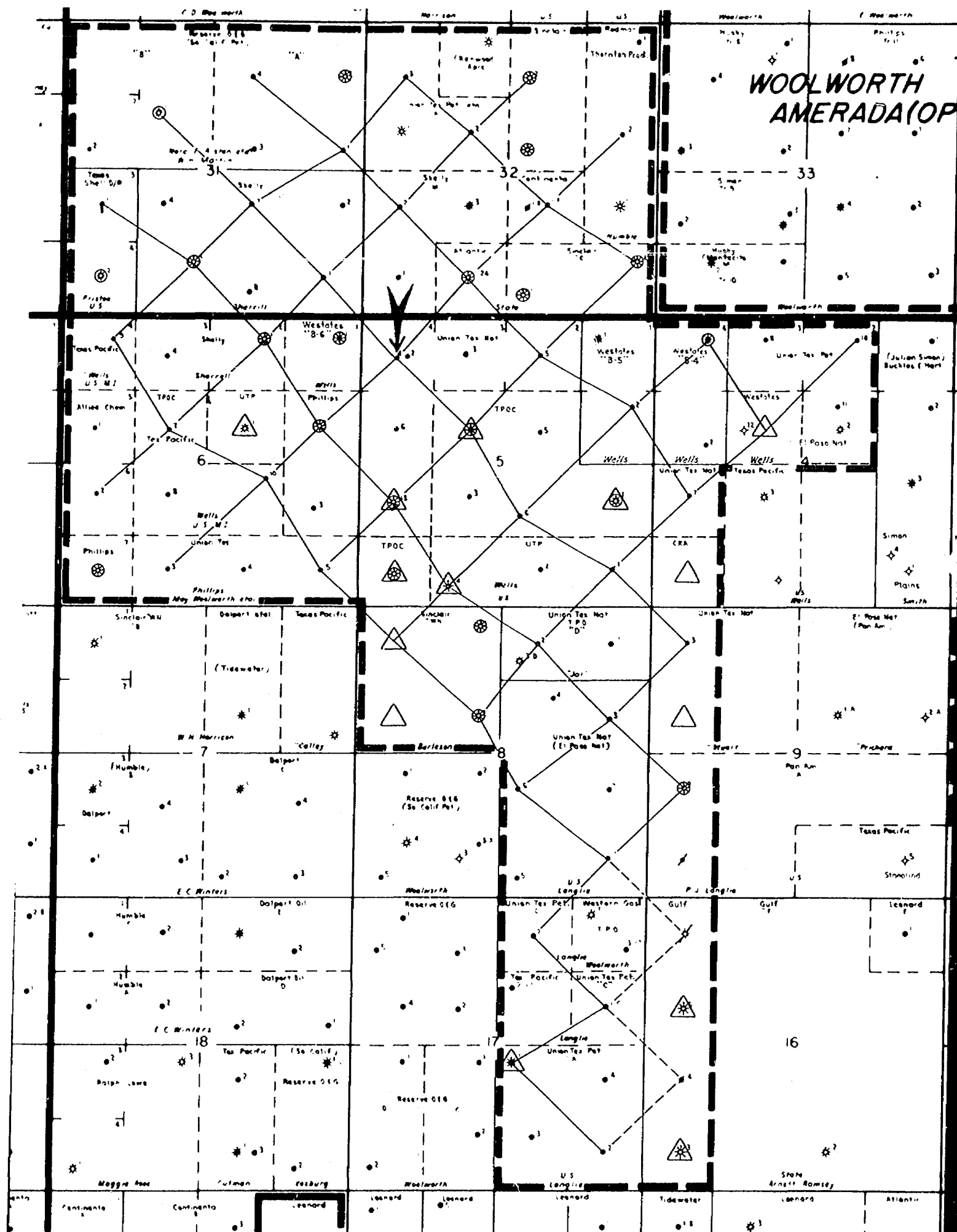
EXHIBIT # 3

3170
400
3570

DIAGRAMMATIC SKETCH
PROPOSED INJECTION WELL
UNION TEXAS PETROLEUM CORPORATION
WELLS NO. 4
LOCATED UNIT D, SEC. 5-25-S-37-E
LEA COUNTY, NEW MEXICO



BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 3987



△ = Drill Replacement Well or Development

⊗ = Yates Gas (Re-Drill or Dual Complete)

BEFORE EXAMINER UNIT 177 Wells W. Usable Wellbore in Unitized Interval

OIL CONSERVATION DISTRICT NO. 2

EXHIBIT NO. 2

CASE NO. 3987

LANGLIE-JAL UNIT
(PROPOSED FLOOD PATTERN)

EXHIBIT #2



Corporation

UNION TEXAS PETROLEUM DIVISION

1300 WILCO BUILDING • HOUSTON, TEXAS 77001 • AREA CODE, 915, 682-0515

November 14, 1968

Secretary Director
Oil Conservation Commission
State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Application of Union Texas
Petroleum Corporation for
a permit under Rule 701,
for Injection of Fluids
into a Reservoir, in the
Wells No. 4, Unit D, Section
5, T-25-S, R-37-E, Lea County,
New Mexico

Dear Sir:

Union Texas Petroleum Corporation desires to provide for underground injection of produced water from within the boundaries of the proposed Langlie-Jal Unit. As future operation of the proposed Langlie-Jal Unit, Union Texas requests that the New Mexico Oil Conservation Commission will grant a permit to inject produced water into its Wells No. 4 located in Unit D of Section 5, Township 25 South, Range 37 East, Lea County, New Mexico. By using the Wells No. 4 well to inject produced water from Union Texas leases, it will hereby offer each operator within the proposed unit the opportunity to tender produced water from their leases also. With this application, Union Texas Petroleum requests the following:

- (1) That produced water can be injected into the Wells No. 4 well in the open hole interval 3421' to 3520', which is within the Lower 150 feet of the Seven Rivers formation.
- (2) That applicant plans to inject a minimum of 100 BWPD and a maximum of 265 BWPD into the Seven Rivers (Lower 150') in the interval of 3421' to 3520'.

DOCKET MAILED

Date 11-26-68

- (3) That injection water will be saline water from the Langlie-Mattix formation found in the unit area at approximately 3350' to 3700'.
- (4) The following items are enclosed with this Application:
 - (a) A plat showing the location of the proposed injection well, and the location of all other wells within a radius of two miles from the proposed injection well.
 - (b) A type log from the area correlated to the Wells No. 4 with tops based on samples.
 - (c) A diagrammatic sketch of the Wells No. 4 showing casing strings, depth set, quantities of cement, open hole interval, tubing string, type and location of packer.
 - (d) Form C-103 submitted in triplicate.
 - (e) Plat of the proposed Langlie-Jal Unit and flood pattern for general information.

Yours very truly,

UNION TEXAS PETROLEUM CORPORATION



K. A. Freeman
Petroleum Engineer

KAF:ss

Enclosure

cc: U.S. Department of the Interior
Geological Survey
P.O. Box 1857
Roswell, New Mexico 88201

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Union Texas Petroleum Corporation		ADDRESS 1300 Wilco Building, Midland, Texas 79701	
LEASE NAME Wells	WELL NO. 4	FIELD Langlie-Mattix	COUNTY Lea
LOCATION UNIT LETTER <u>D</u> ; WELL IS LOCATED <u>660</u> FEET FROM THE <u>N</u> LINE AND <u>660</u> FEET FROM THE LINE, SECTION <u>5</u> TOWNSHIP <u>25 South</u> RANGE <u>37 East</u> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	7 5/8"	1,208'	350'
INTERMEDIATE			
LONG STRING	5 1/2"	3,421'	250'
TUBING	2 1/2"	2,400'	NAME, MODEL AND DEPTH OF TUBING PACKER Guiberson KVL @3400' - 3405'
NAME OF PROPOSED INJECTION FORMATION Langlie-Mattix		TOP OF FORMATION 3464	BOTTOM OF FORMATION 3550
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PROPOSED INTERVAL(S) OF INJECTION OH 3421' - 3520' 3421' - 3520'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Producer from Langlie-Mattix		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH Plug back from 3550' to 3520' with pea gravel 2/13/1942			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA Santa Rosa 800'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 3352'	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA Ellenburger 12,730' to 12,860'
ANTICIPATED DAILY INJECTION VOLUME (BBLs.)	MINIMUM 100	MAXIMUM 265	OPEN OR CLOSED TYPE SYSTEM Closed
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -		IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity	APPROX. PRESSURE (PSI) Vacuum
WATER TO BE DISPOSED OF Yes		NATURAL WATER IN DISPOSAL ZONE Mineralized	ARE WATER ANALYSES ATTACHED? No
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) May Woolworth, 403 West Avenue D, San Angelo, Texas 76901			
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL			
Skelly Oil Company	P. O. Box 730 Hobbs, New Mexico	Phillips Petroleum Company	217 Phillips Bldg. Odessa, Texas
Atlantic Refining Company	P. O. Box 1978 Roswell, New Mexico	Westates Petroleum Company	855 Petroleum Club Building, Denver, Colorado
Continental Oil Company	P. O. Box 460 Hobbs, New Mexico		
Sinclair Oil & Gas Company	P. O. Box 1470 Midland, Texas		
Texas Pacific Oil Company	P. O. Box 747 Dallas, Texas		
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes	SURFACE OWNER Yes	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	THE NEW MEXICO STATE ENGINEER Yes
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes	PLAT OF AREA Yes	ELECTRICAL LOG None Available	DIAGRAMMATIC SKETCH OF WELL Yes

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

L. A. Freeman
(Signature)

Petroleum Engineer
(Title)

November 14, 1968
(Date)

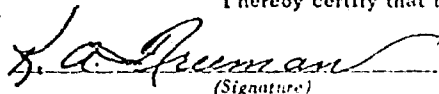
NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

Case 3987

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

GENERATOR Unicn Texas Petroleum Corporation		ADDRESS 1300 Wilco Building, Midland, Texas 79701			
LEASE NAME Wells	WELL NO. 4	FIELD Langlie-Mattix	COUNTY Lea		
LOCATION UNIT LETTER <u>D</u> WELL IS LOCATED <u>660</u> FEET FROM THE <u>N</u> LINE AND <u>660</u> FEET FROM THE LINE, SECTION <u>5</u> TOWNSHIP <u>25 South</u> RANGE <u>37 East</u> NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	7 5/8"	1,208'	350'	Circulated	
INTERMEDIATE					
LONG STRING	5 1/2"	3,421'	250'	Circulated	
TUBING	2 1/2"	2,400'	NAME, MODEL AND DEPTH OF TUBING PACKER Guiberson KVL @3400' - 3405'		
NAME OF PROPOSED INJECTION FORMATION Langlie-Mattix		TOP OF FORMATION 3464		BOTTOM OF FORMATION 3550	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		XXXXXXX OPEN HOLE? OH 3421' - 3520'		PROPOSED INTERVAL(S) OF INJECTION 3421' - 3520'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Producer from Langlie-Mattix		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH Plug back from 3550' to 3520' with pea gravel 2/13/1942					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA Santa Rosa 800'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 3352'		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA Ellenburger 12,730' to 12,860'	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.)	MINIMUM 100	MAXIMUM 265	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity	APPROX. PRESSURE (PSI) Vacuum
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -		WATER TO BE DISPOSED OF Yes		NATURAL WATER IN DISPOSAL ZONE Mineralized	ARE WATER ANALYSES ATTACHED? No
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) May Woolworth, 403 West Avenue D, San Angelo, Texas 76901					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF MILE OF THIS INJECTION WELL					
Skelly Oil Company		P. O. Box 730 Robbs, New Mexico		Phillips Petroleum Company 217 Phillips Bldg. Odessa, Texas	
Atlantic Refining Company		P. O. Box 1978 Roswell, New Mexico		Westates Petroleum Company 855 Petroleum Club Building, Denver, Colorado	
Continental Oil Company		P. O. Box 460 Hobbs, New Mexico			
Sinclair Oil & Gas Company		P. O. Box 1470 Midland, Texas			
Texas Pacific Oil Company		P. O. Box 747 Dallas, Texas			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes	SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes		THE NEW MEXICO STATE ENGINEER Yes
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes	PLAT OF AREA Yes		ELECTRICAL LOG None Available		DIAGRAMMATIC SKETCH OF WELL Yes

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


(Signature)

Petroleum Engineer

November 14, 1968

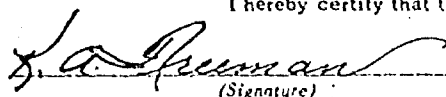
(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Union Texas Petroleum Corporation		ADDRESS 1300 Wilco Building, Midland, Texas 79701			
LEASE NAME Wells	WELL NO. 4	FIELD Langlie-Mattix	COUNTY Lea		
LOCATION UNIT LETTER <u>D</u> WELL IS LOCATED <u>660</u> FEET FROM THE <u>N</u> LINE AND <u>660</u> FEET FROM THE LINE, SECTION <u>5</u> TOWNSHIP <u>25 South</u> RANGE <u>37 East</u> NMPN.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	7 5/8"	1,208'	350'	Circulated	
INTERMEDIATE					
LONG STRING	5 1/2"	3,421'	250'	Circulated	
TUBING	2 1/2"	2,400'	NAME, MODEL AND DEPTH OF TUBING PACKER Guiberson KVL @3400' - 3405'		
NAME OF PROPOSED INJECTION FORMATION Langlie-Mattix		TOP OF FORMATION 3464		BOTTOM OF FORMATION 3550	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		OPEN HOLE? OH 3421' - 3520'		PROPOSED INTERVAL(S) OF INJECTION 3421' - 3520'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Producer from Langlie-Mattix		HAS WELL EVER BEEN PERFORMED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH Plug back from 3550' to 3520' with pea gravel 2/13/1942					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA Santa Rosa 800'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 3352'		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA Ellenburger 12,730' to 12,860'	
ANTICIPATED DAILY INJECTION VOLUME (BBLS.)	MINIMUM 100	MAXIMUM 265	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity	APPROX. PRESSURE (PSI) Vacuum
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -			WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Mineralized	ARE WATER ANALYSES ATTACHED? No
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) May Woolworth, 403 West Avenue D, San Angelo, Texas 76901					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF MILE OF THIS INJECTION WELL					
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Continental Oil Company		P. O. Box 460 Hobbs, New Mexico			
Sinclair Oil & Gas Company		P. O. Box 1470 Midland, Texas			
Texas Pacific Oil Company		P. O. Box 747 Dallas, Texas			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes	SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes		THE NEW MEXICO STATE ENGINEER Yes
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)? Yes	PLAT OF AREA Yes		ELECTRICAL LOG None Available		DIAGRAMMATIC SKETCH OF WELL Yes

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


(Signature)

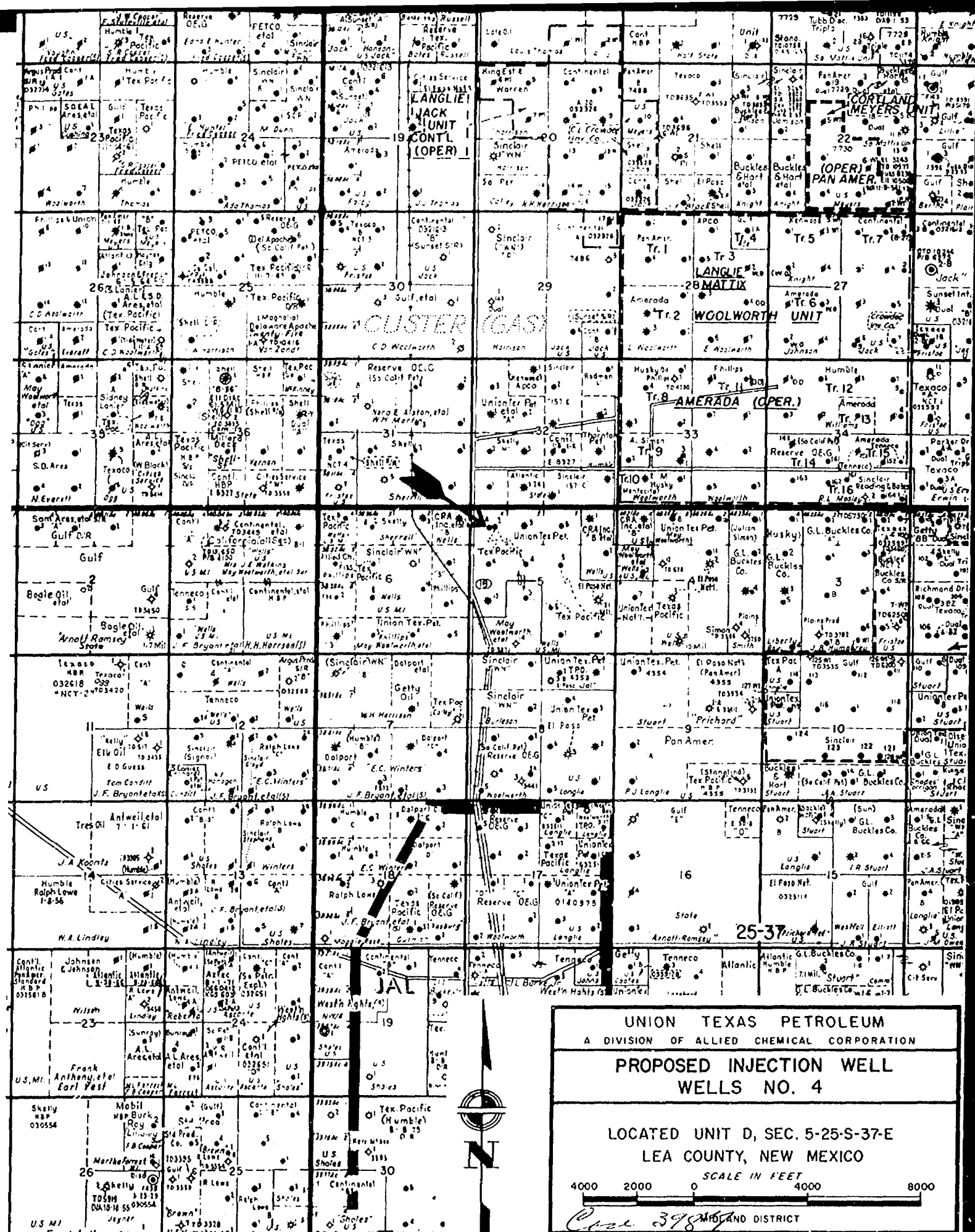
Petroleum Engineer

Chad 378 (P/E)

November 14, 1968

(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.



LOG OF THE PROPOSED INJECTION WELL

SKELLY OIL COMPANY

SHERRILL No. 7

K.B. Elev. 3241'

LANGLIE MATTIX FIELD

Sec. 31, T-24-S, R-36-E

LEA COUNTY, NEW MEXICO

UNION TEXAS PETROLEUM

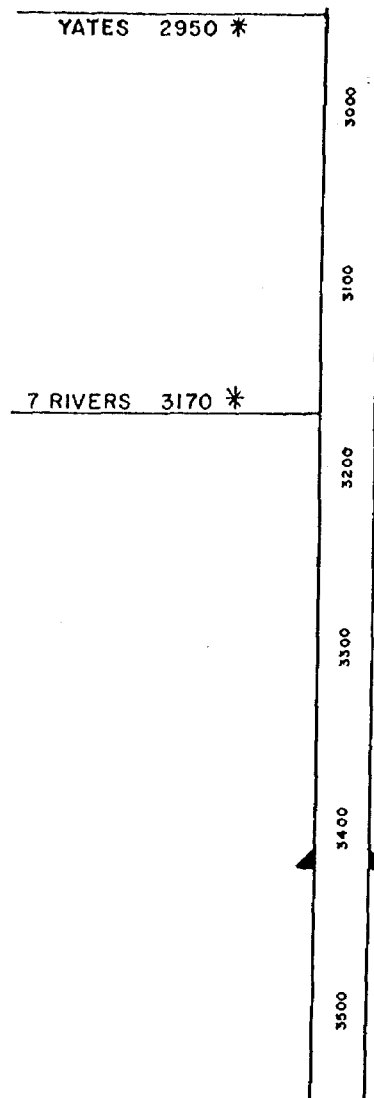
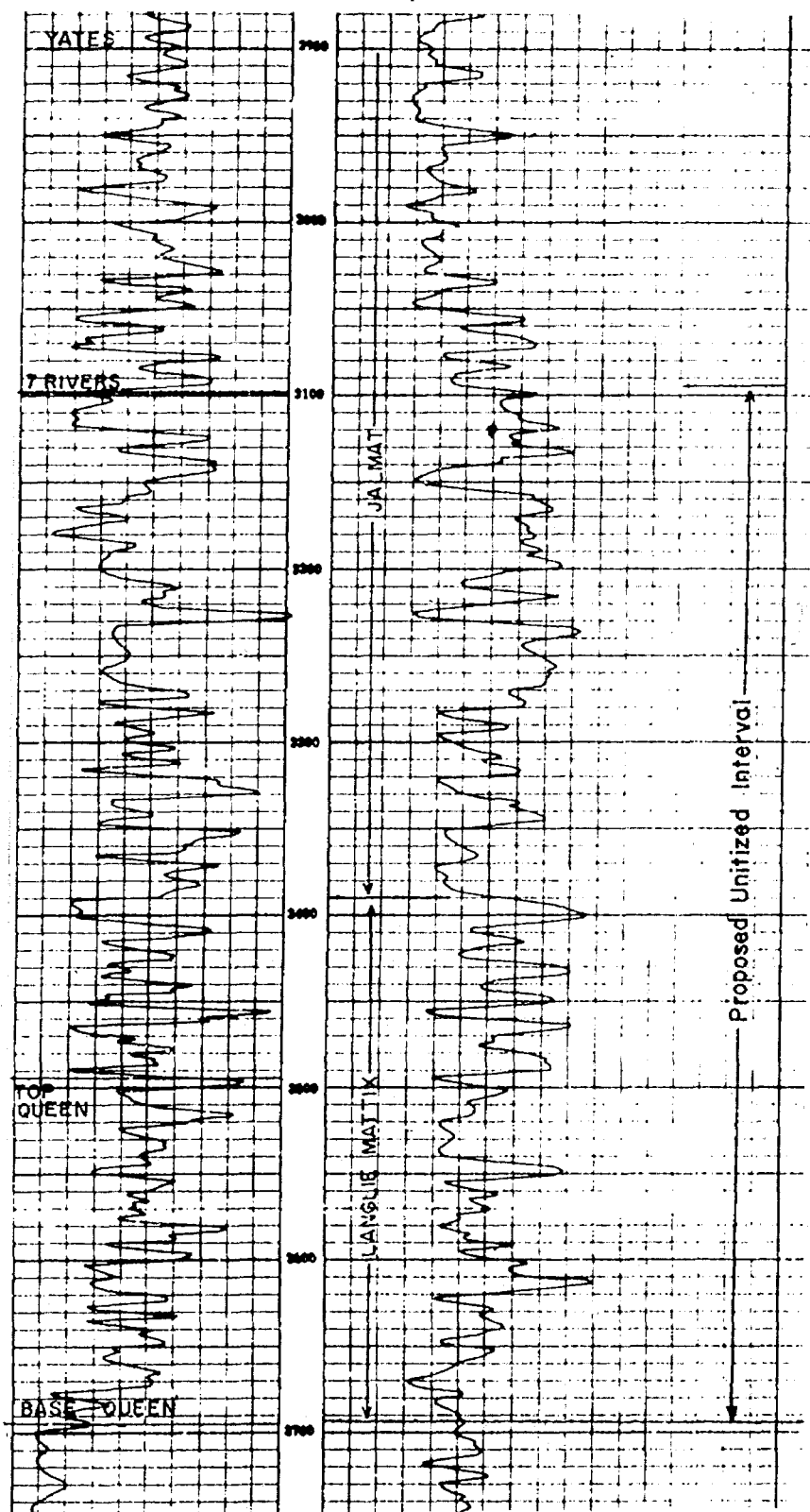
WELL No. 4

KB Elev. 3248'

LANGLIE MATTIX FIELD

Unit D Sec. 5, T-25-S, R-37-E

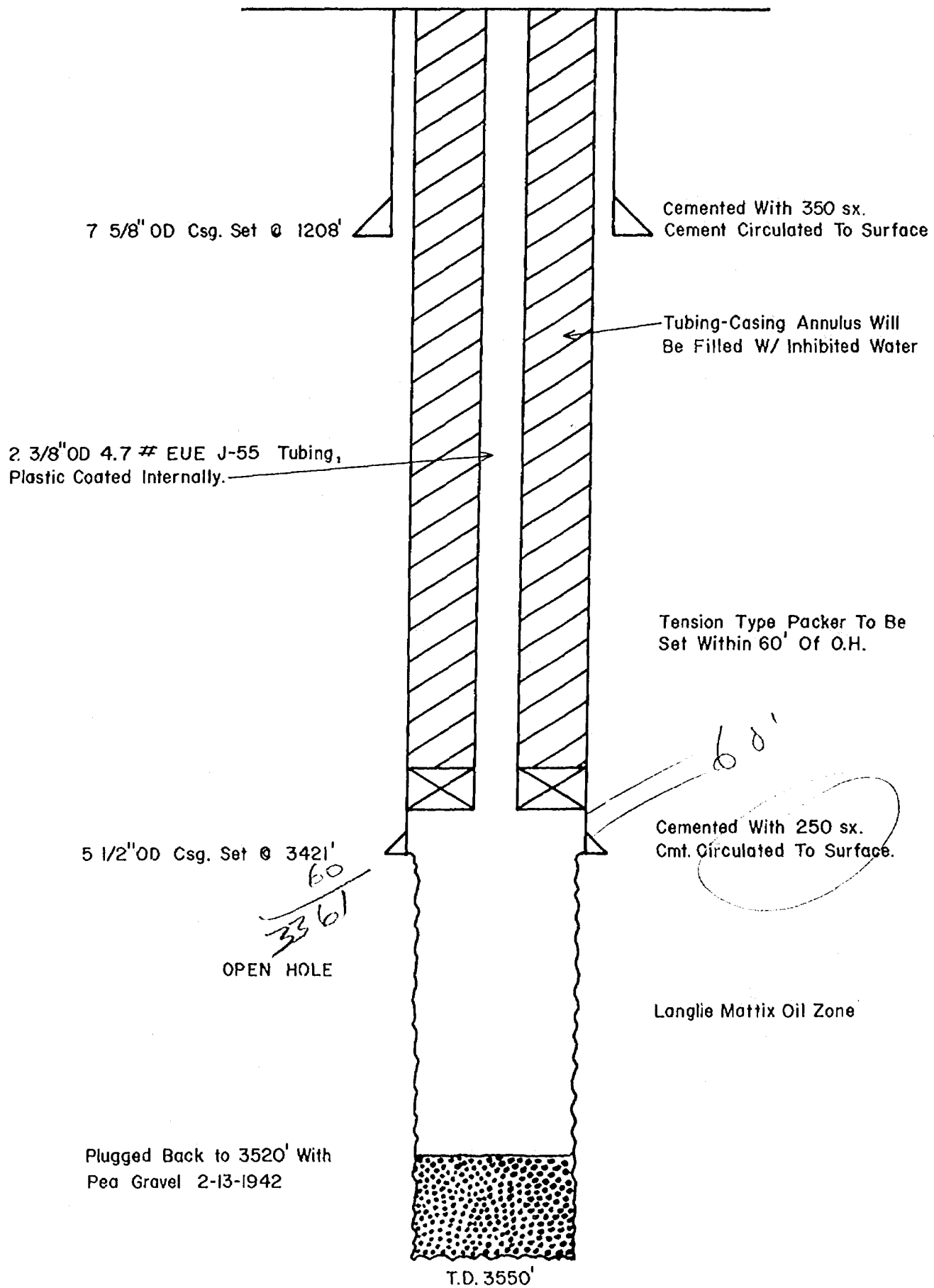
LEA COUNTY, NEW MEXICO

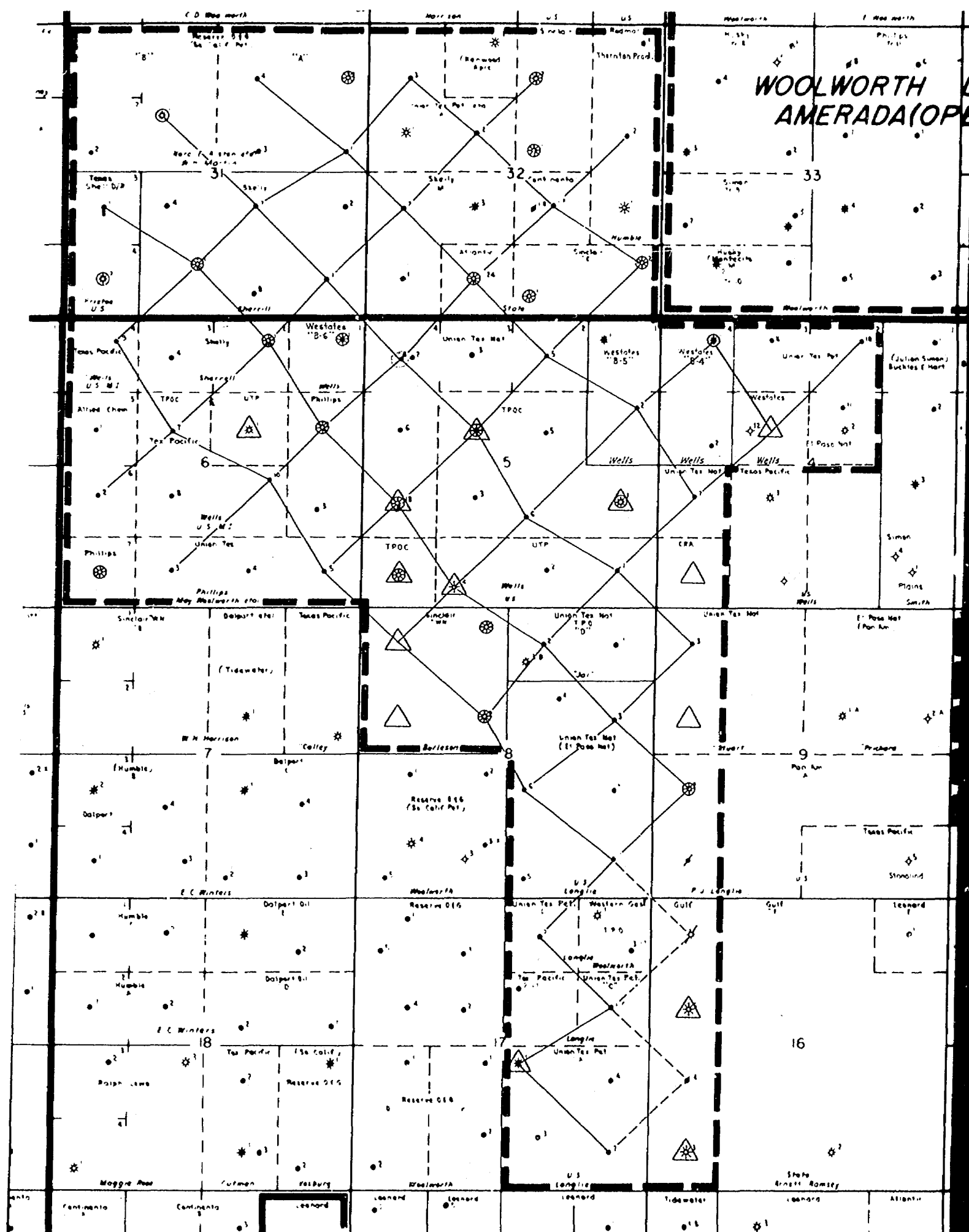


* Tops based on samples no
log available

Case 3987

DIAGRAMMATIC SKETCH
PROPOSED INJECTION WELL
UNION TEXAS PETROLEUM CORPORATION
WELLS NO. 4
LOCATED UNIT D, SEC. 5-25-S-37-E
LEA COUNTY, NEW MEXICO





- △ = Drill Replacement Well or Development
- ⊗ = Yates Gas (Re-Drill or Dual Complete)
- = Wells W/Useable Wellbore in Unitized Interval

LANGLIE-JAL UNIT (PROPOSED FLOOD PATTERN)

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3987

Order No. R- 3634

APPLICATION OF UNION TEXAS PETROLEUM
CORPORATION FOR SALT WATER INJECTION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 11, 1968,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz

NOW, on this _____ day of December, 1968, the Commission, a
quorum being present, 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 Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Union Texas Petroleum Corporation,
is the owner and operator of the Wells Lease Well No. 4,
located in Unit D of Section 5, Township 25 South, Range
37 East, NMPM, Langlie-Mattix Pool, Lea
County, New Mexico.

(3) That the applicant proposes to utilize said well to
inject
~~disposal of~~ produced salt water into the Seven Rivers ~~Green~~
formation, with injection into the open-hole interval
from approximately 3421 feet to 3520 feet.

(4) That the injection should be accomplished through
2 3/8-inch plastic-lined tubing installed in a packer set ~~at~~

within 60 feet of the casing 5 1/2-inch casing shoe;
A ~~approximately~~ feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(5) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Union Texas Petroleum Corporation, is hereby authorized to utilize its Wells Lease Well No. 4 located in Unit D of Section 5, Township 25 South, Range 37 East, NMPM, Langlie-Mattix Pool, Lea County, New Mexico, to ~~dispose of~~ inject produced salt water into the Seven Rivers-Queen formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set *within 60 feet of the* ~~at approximately~~ 5 1/2-inch casing shoe, feet, with injection into the open-hole interval from approximately 3421 feet to 3520 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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