

CASE 3542: Application of UNION  
OIL CO. OF CALIF. for salt water  
disposal, Lea County, N. Mex.

CASE No.  
3542

Application,  
TRANSCRIPTS,  
SMALL Exhibits  
ETC.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF )  
UNION OIL COMPANY OF CALIFORNIA FOR )  
AN ORDER AUTHORIZING THE DISPOSAL OF )  
SALT WATER INTO THE DEVONIAN FORMATION )  
BY INJECTION INTO ITS FEDERAL G-1 WELL )  
LOCATED IN UNIT G OF SECTION 31, TOWN- )  
SHIP 9 SOUTH, RANGE 36 EAST, LEA COUNTY, )  
NEW MEXICO. )  
-----

No. 3542

APPLICATION

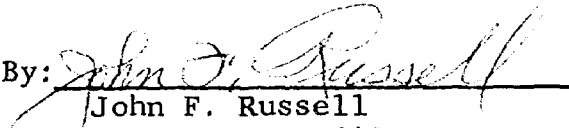
COMES NOW Union Oil Company of California by its attorney,  
John F. Russell, and states:

1. Applicant proposes to commence the disposal of salt water produced from the Devonian Formation of the West Crossroads Field by injection into the Devonian Formation through its Federal G-1 Well located in Unit G of Section 31, Township 9 South, Range 36 East, Lea County, New Mexico.
2. The water being disposed of is not suitable for domestic or agricultural purposes and the disposal of said water, as proposed, will not impair production of oil, gas or fresh water from the reservoir nor will it impair correlative rights.
3. Applicant attaches hereto as Exhibit 1 a plat showing the location of the proposed injection well and all wells within two miles from said proposed injection well and the names of the lessees.
4. Applicant attaches hereto as Exhibit 2 a copy of the well log of the proposed injection well.
5. Applicant attaches hereto as Exhibit 3 a diagrammatic sketch showing the manner of completing the proposed injection well.

WHEREFORE Applicant requests that the Commission set this matter down for hearing before its Examiner, publish notice as required by law and after hearing issue its order authorizing the disposal of salt water as aforesaid.

Respectfully submitted,

UNION OIL COMPANY OF CALIFORNIA

By:   
John F. Russell  
P. O. Drawer 640  
Roswell, New Mexico

DATED; February 27, 1967

Applicant's Attorney

dearnley-meier reporting service, inc.

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

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



Page 1

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
March 22, 1967

EXAMINER HEARING

-----  
IN THE MATTER OF: )

Application of Union Oil Company for )  
California for salt water disposal, Lea )  
County, New Mexico. )

) Case No. 3542  
)  
)  
)  
)  
)  
)  
)

-----  
BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

dearnley-meier

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

1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-4691 • ALBUQUERQUE, NEW MEXICO 87101  
1406 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108

MR. UTZ: We will call Case 3542.

MR. HATCH: Application of Union Oil Company of California for salt water disposal, Lea County, New Mexico.

MR. RUSSELL: John F. Russell, Roswell, New Mexico, appearing on behalf of the applicant, and I have one witness.

(Witness sworn.)

MR. UTZ: Are there any other appearances in this case? You may proceed.

WALTER V. PALMER

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

DIRECT EXAMINATION

BY MR. RUSSELL:

Q Will you please state your name and address?

A I am Walter V. Palmer, employed by Union Oil Company of California in Midland, Texas.

Q In what capacity are you employed?

A Petroleum Engineer.

Q Have you previously qualified to give testimony before this Commission or the Examiner?

A I have not.

Q Will you give a brief resume of your educational background and your experience in the field since graduation?

A I am a Graduate Petroleum Engineer from the

University of California and since graduation have been employed for the past ten years by Union of California in various capacities as a Petroleum Engineer.

MR. RUSSELL: Are the witness' qualifications satisfactory?

MR. UTZ: Yes, they are.

Q (By Mr. Russell) Are you familiar with the application in Case Number 3542?

A I am.

Q And what is the purpose of this application?

A Union Oil of California seeks authority to dispose of produced salt water in the Devonian formation through perforations from 12,017 to 12,036 feet in its Federal G Well Number 1, located in Unit G, Section 31, Township 9 South, Range 36 East, in the West Crossroads-Devonian Pool, Lea County, New Mexico.

Q Now, are you presently disposing of salt water from that field?

A Yes, sir, we are.

Q And what is the reason for this additional well?

A The salt production from the field has increased and is taking the limit of our present disposal facilities. We need additional facilities to dispose of the water.

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

Q (By Mr. Russell) Now, I will refer you to what has been marked as Exhibit 1, and ask you if you will identify and tell what that shows?

A Exhibit 1 is a curve of the water produced and the oil produced from the West Crossroads-Devonian Field.

Q All right. Now, referring you to Exhibit 2, I will ask you what that reflects?

A Exhibit 2 is a map showing the location of the Devonian producer and circled in red is the location of the proposed injection well, the Federal 1 "G".

Q What is the location of that Federal 1 "G"? Can you give me the quarter section.

Q It is in section -- the northwest quarter of the northeast quarter of Section 31. It is the only well in that quarter.

Q Now, what is the other well into which you are presently disposing of salt water?

A The other well is the Union State 1 "H" in Section 32, the southwest of Section 32, Number 1 "H" Well.

Q The injection into that well was previously approved by the Examiner or the Commission?

A Yes, sir, it was.



dearnley-meier

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

1120 SIMAS BLDG. • P.O. BOX 1092 • PHONE 243-6651 • ALBUQUERQUE, NEW MEXICO 87101  
1400 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108

Q But at the present time, that one well will not handle all the salt water that needs to be disposed of?

A Correct.

Q All right. I refer you now to what has been marked as Exhibit 3 and ask you to explain what that shows, what it is and what it shows.

A Exhibit 3 is a Xerox copy of the Devonian section gamma-ray neutron log showing the interval that we request permission to inject salt water into, perforations are shown on that log on the crosshatched interval.

Q And that is in the Devonian formation, is it not?

A Yes, sir.

Q All right. Now, referring you to Exhibit 4, will you explain what that exhibit is?

A Exhibit 4 is a diagrammatic sketch of the proposed completion for salt water disposal in the existing Federal 1 "G" Well, showing the perforations, the top of the cement and the proposed tubing, which will have plastic coating, and injection is below the packer, as shown in the diagram.

Q And as I understand from this, the annulus will be filled with corrosion inhibited fluid, is that correct?

A That is correct.

Q And this is the method by which you propose to complete this well as a salt water disposal well?

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 87101  
1400 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108

A Right.

Q Were Exhibits 2, 3, and 4 prepared by you or under your direction and supervision?

A They were.

MR. RUSSELL: I move the introduction into evidence of Exhibits 1 through 4.

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

(Whereupon, Applicant's Exhibits 1 through 4 offered and admitted in evidence.)

MR. RUSSELL: I have no further questions of this witness.

# CROSS EXAMINATION

BY MR. UTZ:

Q Referring to Exhibit 4, Mr. Palmer, I believe that exhibits shows that the eleven and three-quarters set at 327 was circulated, as well as the eight and five-eighths set at 4108?

A Yes, sir.

Q Down to 4101 instead of 4108. So, any waters that might be down to the depth are protected by both casing and cement, is that correct?

A That is correct.

Q Now, I also noticed that the five and a half inch

cement is topped at 10,730, which leaves something like 6,629 feet of hole open behind the pipe?

A Yes, sir.

Q What formations are in this area?

A Well, I will check that on the log, here. I hope the tops are marked, 10,730, top of cement. This is a geological term I am not familiar with. PST and PCN are the intervals marked. I could find out what exact formations they are. 4101, PCS is the Cisco, at 9550 -- at about 9390 CB which is the Bursom.

Q 95 what?

A 9390. Continuing up the hole at 8970 is the Wolfcamp, at 7683 is the Abo, at approximately 6905 is the Tubb, at 6168 is the Clear Fork, 5518 is the Glorietta, and 4800, approximately, is the Milne Sands. That is the last marker I have below the eight and five-eighths on this log.

Q Are any of these formations productive in this area?

A No, sir, not to my knowledge.

Q And you intend to load the annulus with corrosive inhibited fluid. How about the surface of the annulus, are you going to leave it open or are you going to put a gauge on it or what, the top of the annulus?

A The top, I assume it will be filled completely to the surface with corrosive --

Q Just leave it open so you can tell if you get any break through?

A Yes, sir, definitely.

MR. UTZ: Are there any other questions? The witness may be excused.

(Witness excused.)

MR. UTZ: Statements in this case?

MR. HATCH: I have a letter from the State Engineer's Office dated March 2, 1967. "This office offers no objection to the granting of the application, provided the well is completed and equipped and operated in the manner shown on Exhibit 3. Since it appears that no threat of contamination of fresh water, which may exist in the water, may occur. Signed, Frank Irby."

MR. RUSSELL: That will be Exhibit Number 2.

MR. UTZ: Are there any other statements? The case will be taken under advisement.

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 87101  
1400 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108

I N D E X

WITNESS	PAGE
WALTER V. PALMER	
Direct Examination by Mr. Russell	2
Cross Examination by Mr. Utz	6

E X H I B I T S

EXHIBIT	MARKED FOR IDENTIFICATION	OFFERED	ADMITTED
Ex. No. 1 - curve	4	6	6
Ex. No. 2 - map	4	6	6
Ex. No. 3 - log	4	6	6
Ex. No. 4 - sketch	4	6	6

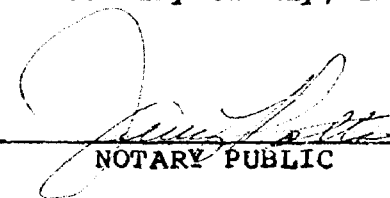
dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS  
 1120 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-4691 • ALBUQUERQUE, NEW MEXICO 87101  
 1400 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108

STATE OF NEW MEXICO )  
 ) ss  
 COUNTY OF BERNALILLO )

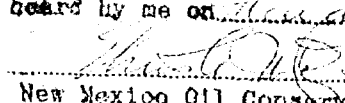
I, JERRY POTTS, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings,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

Witness my Hand and Seal this 14th day of May, 1967.

  
 NOTARY PUBLIC

My Commission Expires:

July 10, 1970

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 55-02, heard by me on May 22, 1967.  
  
 Examiner  
 New Mexico Oil Conservation Commission

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 87101  
 1400 FIRST NATIONAL BANK EAST • PHONE 256-1294 • ALBUQUERQUE, NEW MEXICO 87108

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**

LAND COMMISSIONER  
GUYTON B. HAYS  
MEMBER



P. O. BOX 2088  
SANTA FE

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

March 30, 1967

Mr. John Russell  
Attorney at Law  
Post Office Drawer 640  
Roswell, New Mexico

Re: Case No. 3541 & 3542  
Order No. R-3209 & R-3210  
Applicant:

Texas Pacific & Union of Calif

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 R-3210 to Mr. Frank Irby

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. 3542  
Order No. R-3210

APPLICATION OF UNION OIL COMPANY  
OF CALIFORNIA FOR SALT WATER DIS-  
POSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 22, 1967,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 30th day of March, 1967, 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 Oil Company of California,  
is the owner and operator of the Federal G Well No. 1, located  
in Unit G of Section 31, Township 9 South, Range 36 East, NMPM,  
West Crossroads-Devonian Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to  
dispose of produced salt water into the Devonian formation, with  
injection through perforations from approximately 12,017 feet to  
12,036 feet.

(4) That the injection should be accomplished through 2 7/8-  
inch internally plastic-coated tubing installed in a packer set  
below 11,854 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 tubing or packer.



-2-

CASE No. 3542  
Order No. R-3210

(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 Oil Company of California, is hereby authorized to utilize its Federal G Well No. 1, located in Unit G of Section 31, Township 9 South, Range 36 East, NMPM, West Crossroads-Devonian Pool, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 2 7/8-inch tubing installed in a packer set below 11,854 feet, with injection into the perforated interval from approximately 12,017 feet to 12,036 feet;

PROVIDED HOWEVER, that the tubing shall be internally plastic-coated; 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 tubing or packer.

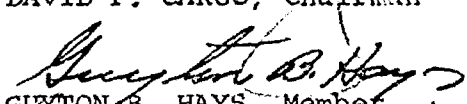
(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

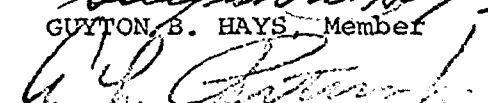
(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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.

S E A L

esr/

Care 3542

Recd 3-22-67

Recd 3-23-67

1. Mount Union oil of Cal. permission  
to a SWP - ved their Federal #1

#-31-95-36 E.

2. Well shall be completed as shown  
on their Exhibit #4 of this case.

i.e. Plaster coated tubing, packed at  
11,854, corrosion inhibited fluid in

5 1/2 x 2 7/8 tubing annulus.

3. Use usual order form.

Frank R.



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS  
STATE ENGINEER

March 2, 1967

ADDRESS CORRESPONDENCE TO:  
STATE CAPITOL  
SANTA FE, NEW MEXICO 87501

*File 3542*

Mr. A. L. Porter, Jr.  
Secretary-Director  
Oil Conservation Commission  
Santa Fe, N. M.

Dear Mr. Porter:

Reference is made to the application of Union Oil Company of California which seeks authority to dispose of salt water into the Devonian formation by injection into its Federal G-1 in Sec. 21, T. 9 S., R. 36 E. Attached to the application is a diagrammatic sketch of the injection well which is marked Exhibit 3 and is referred to in the application as Exhibit 3.

This office offers no objection to the granting of the application, provided the well is completed, equipped and operated in the manner shown on Exhibit 3, since it appears that no threat of contamination to the fresh waters which may exist in the area will occur.

FEI/ma  
cc-F. H. Hennighausen  
J. F. Russell

*Ex 4*

Yours truly,

S. E. Reynolds  
State Engineer

By: *Frank E. Irby*  
Frank E. Irby  
Chief  
Water Rights Div.

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 22, 1967

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

---

The following cases will be heard before Elvis A. Utz, Examiner, or  
Daniel S. Nutter, Alternate Examiner:

CASE 3541: Application of Texas Pacific Oil Company for several non-standard gas proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the rededication of certain acreage and the establishment of the following non-standard gas proration units in Township 23 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico:

A 260-acre unit comprising the NW/4, E/2 NE/4, and SW/4 NE/4 of Section 9, dedicated to its State "A" Acct. #1, Well No. 41 located 660 feet from the North and East lines of Section 9, and to its State "A" Acct. #1 Well No. 100 located 1980 feet from the North line and 990 feet from the East line of Section 9;

A 200-acre unit comprising the NE/4 SW/4, N/2 SE/4, and SE/4 SE/4 of Section 9, and the SW/4 SW/4 of Section 10 dedicated to its State "A" Acct. #1 well No. 38 located 990 feet from the South and West lines of Section 10;

A 240-acre unit comprising the NW/4 and N/2 SW/4 of Section 10, dedicated to its State "A" Acct. #1 Well No. 37 located 1650 feet from the North and West lines of Section 10;

A 200-acre unit comprising the SE/4 SW/4 of Section 10 and the NW/4 of Section 15, dedicated to its State "A" Acct. #1 Well No. 33 located 1650 feet from the North and West lines of Section 15;

A 400-acre unit comprising the N/2 SE/4 and SE/4 SE/4 of Section 21 and SW/4, S/2 NW/4, and NE/4 NW/4 of Section 22, dedicated to its State "A" Acct. #1 Well No. 94 located 660 feet from the North line and 1980 feet from the West line of Section 22 and to its State "A" Acct. #1 Well No. 97 located 1980 feet from the North and West lines of Section 22.

← CASE 3542: Application of Union Oil Company of California for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the Devonian formation through perforations from 12,017 to 12,036 feet in its Federal G Well No. 1 located in Unit G of Section 31, Township 9 South, Range 36 East, West Crossroads-Devonian Pool, Lea County, New Mexico.

PAGE -2- Docket No. 9-67  
Examiner Hearing - March 22, 1967

CASE 3543: Application of Tenneco Oil Company for a pool contraction, new pool creation, and special pool rules, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the contraction of the South Blanco-Tocito Oil Pool by the deletion of that portion of said pool contained in Sections 18, 19, 20, 21, and 22, Township 26 North, Range 5 West, Rio Arriba County, New Mexico, and the creation of a new Gallup sand pool to include Sections 16 through 23 of the same township, and the promulgation of special rules therefor. Applicant proposes pool rules for said pool similar to those promulgated by Order No. R-1410-C for the Angels Peak Gallup Pool.

CASE 3544: Application of Perry R. Bass, Cities Service Oil Company, agent, for creation of a gas pool and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a Morrow gas pool for its Big Eddy Unit Well No. 17 located in Unit B of Section 2, Township 21 South, Range 29 East, Eddy County, New Mexico, and for the promulgation of temporary special pool rules therefor, including a provision for 640-acre proration units.

ir/

LAW OFFICES OF  
JOHN F. RUSSELL  
SUITE 1010 SECURITY NATIONAL BANK BUILDING  
P. O. DRAWER 640  
ROSWELL, NEW MEXICO 88201

TELEPHONE 622-4641  
AREA CODE 505

February 27, 1967

*Case 3542*

Mr. A. L. Porter, Jr.  
Secretary-Director  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico

Dear Mr. Porter:

Pursuant to my telephone conversation with Mr. Nutter today, I transmit herewith an Application of Union Oil Company of California, together with its Exhibits, to be set for hearing before an examiner.

Very truly yours,

*John F. Russell*  
John F. Russell

JFR/wa  
Encs. as above

cc: Mr. Frank E. Irby w/enc.

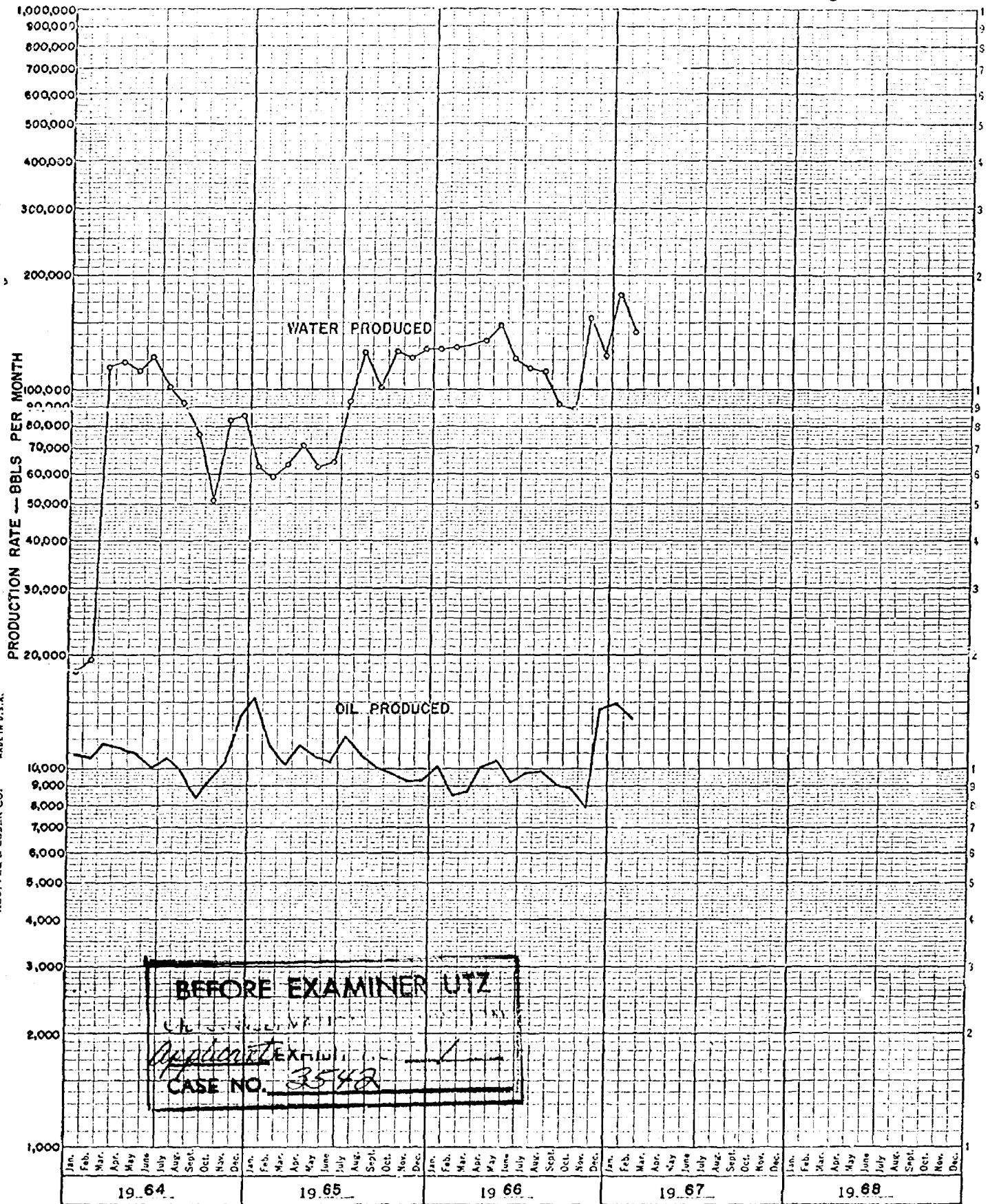
DOCKET MAILED

Date 3-10-67

*Mr*

# WEST CROSSROADS (DEVONIAN) FIELD LEA COUNTY, NEW MEXICO

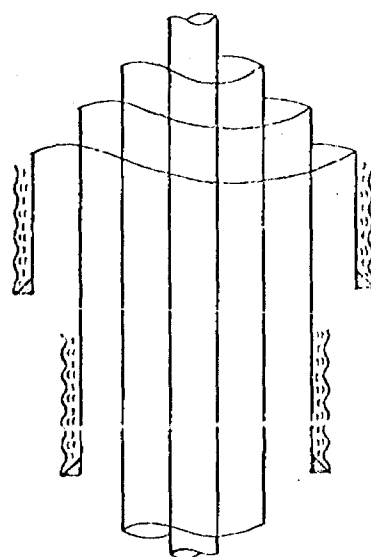
K&E 5 YEARS BY MONTHS 359-195  
X 3 CYCLES  
KEUFFEL & ESSER CO. MADE IN U.S.A.



DIAGRAMATIC SKETCH  
PROPOSED COMPLETION FOR SWD SERVICE  
UNION OIL COMPANY OF CALIFORNIA

FEDERAL G-1 WELL

WEST CROSSROADS DEVONIAN POOL  
SEC.31, T9S, R36E, LEA COUNTY, NEW MEXICO



11 3/4" Csg. set.  
@ 327' w/450 sq. Cmt. Circulated

8 5/8" Csg. set  
@ 4101' w/1201 sq. Cmt. Circulated

Top Cmt. @ 10,730' by Log

Annulus to be filled w/corrosion inhibited fluid

DV Tool @ 11,854 Cmt. above w/200 sq.

2 7/8" x 5 1/2" Packer set below 11,854'

2 7/8" Plastic coated Tubing

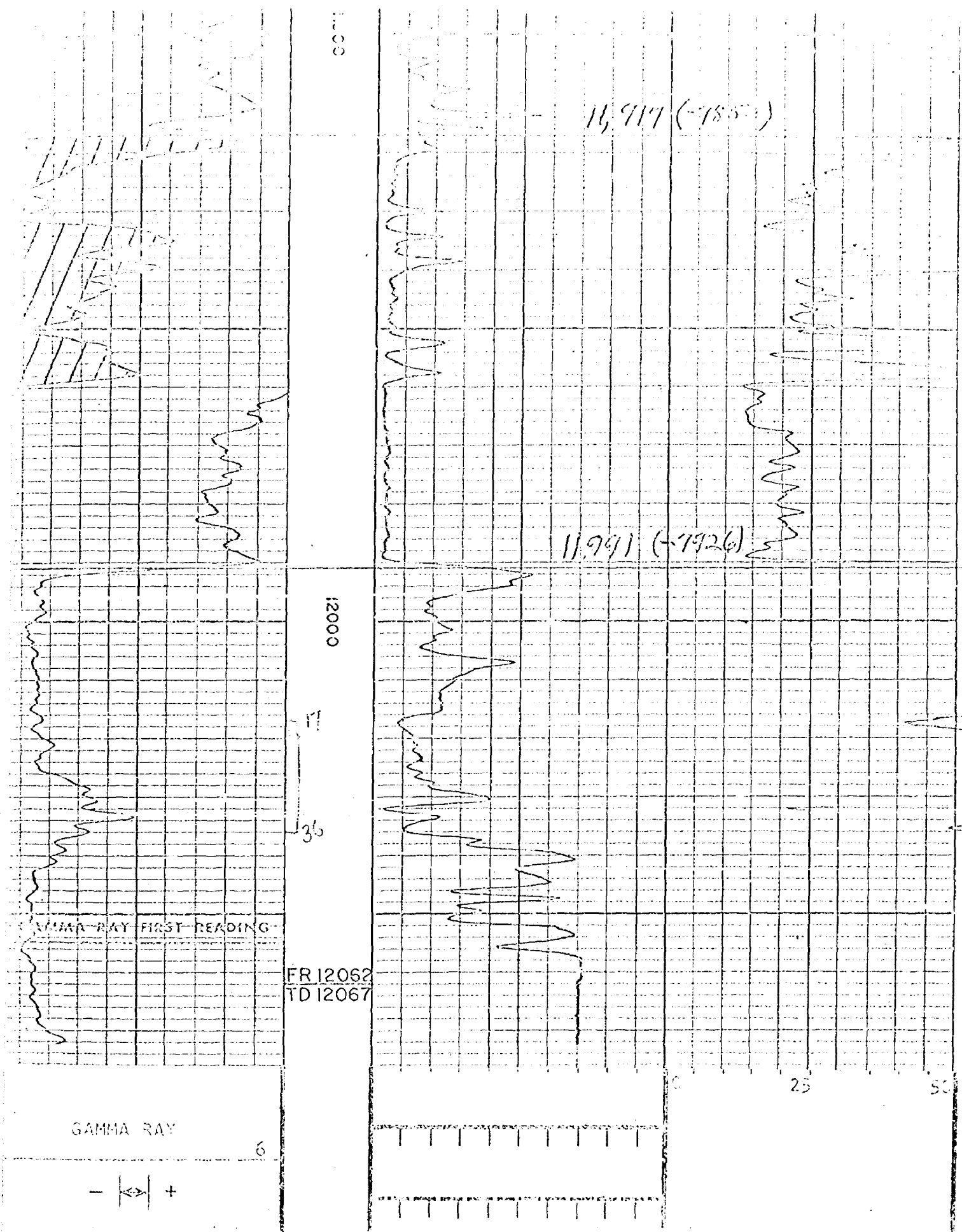
Perfs. 12,017 } open  
12,036 }

5 1/2" Cst. set.  
@ 12,059 w/75 sq. Cmt.

TD 12,070

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 4  
CASE NO. 3542





PONTANEOUS-POTENTIAL millivolts		DEPTHS	RESISTIVITY ohms. m <sup>2</sup> /m	RESISTIVITY ohms. m <sup>2</sup> /m
COMPANY	THE PIPE OIL COMPANY		Rm	SWSC FR 12062
WELL	FEDERAL		Rmf	SWSC TD 2067
FIELD	WEST CROSSROADS		Rmc	ORLR TD 2067
COUNTRY	USA	STATE	OHIO	Elev.
				KB
				DF
				GL

Case 3542

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

OPERATOR The Pure Oil Company		ADDRESS P. O. Box 671, Midland, Texas			
LEASE NAME State - Lea "H"	WELL NO. #1	FIELD West Crossroads Devonian	COUNTY Lea		
LOCATION UNIT LETTER <u>L</u> ; WELL IS LOCATED <u>1920</u> FEET FROM THE <u>South</u> LINE AND <u>660</u> FEET FROM THE <u>West</u> LINE, SECTION <u>32</u> TOWNSHIP <u>95</u> RANGE <u>36 E</u> N.M.P.M.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING *	11-3/4"	365'	500	Surface	
INTERMEDIATE *	8-5/8"	4099'	1000	300'	Temperature Survey
LONG STRING **	4-1/2"	12068(Est)	375 (Est)	11000(Est)	
TUBING			NAME, MODEL AND DEPTH OF TUBING PACKER		
NAME OF PROPOSED INJECTION FORMATION Devonian		TOP OF FORMATION 12,058'		BOTTOM OF FORMATION Unknown	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Casing		PERFORATIONS OR OPEN HOLE? Open Hole		PROPOSED INTERVAL (S) OF INJECTION 12,065 - 12,300	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Devonian Producer (Dry Hole)		HAS WELL EVER BEEN PERFORATED IN ANY FORM OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 325		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 9855		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA Unknown	
ANTICIPATED DAILY INJECTION VOLUME (BBL/S.)	MINIMUM 1000	MAXIMUM 4000	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity	APPROX. PRESSURE (PSI) ---
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 Yes		
			ARE WATER ANALYSES ATTACHED? Yes		
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) - U. D. Sawyer, Crossroads, New Mexico					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL W. K. Byrom, 1000 N. Dal Paso, Hobbs, New Mexico					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		PLAT OF AREA Yes		ELECTRICAL LOG Yes	
				THE NEW MEXICO STATE ENGINEER Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

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

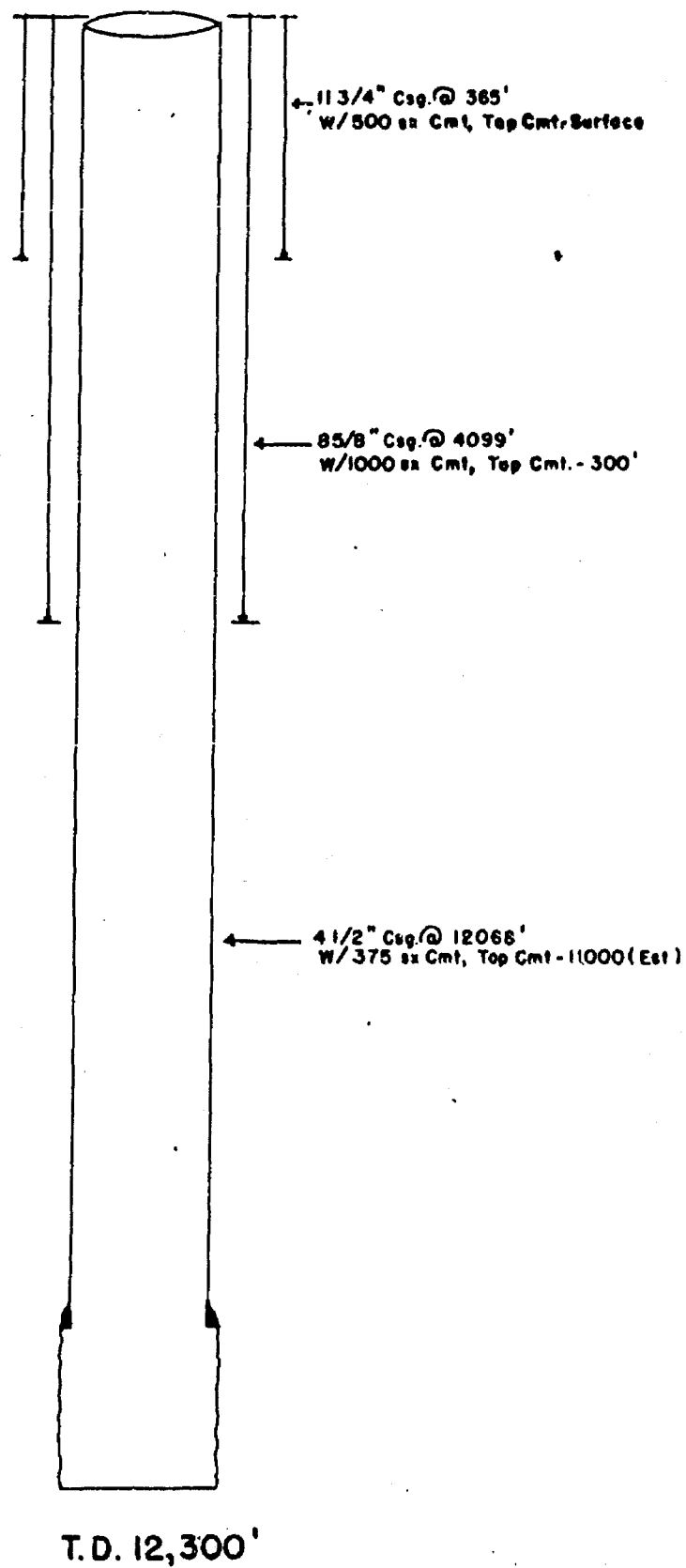
D. K. Spadlin  
(Signature)Petroleum Engineer  
(Title)April 28, 1965  
(Date)

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.

\* Casing strings left in hole at time of abandonment.

\*\* Casing String proposed to be run.

THE PURE OIL CO. STATE-LEA "H" NO. 1  
DIAGRAMATIC SKETCH OF PROPOSED INJECTION WELL



WATER ANALYSIS

WEST CROSSROADS DEVONIAN - PRODUCED WATER

LEA COUNTY, NEW MEXICO

	<u>PPM</u>	<u>EPM</u>
Calcium	2,120	106
Magnesium	380	28
Sodium	18,175	782
Iron	- -	- -
Hydrogen Sulfide	- -	- -
Chloride	30,800	869
Sulfate	1,800	38
Bicarbonate	535	9
Carbonate	- -	- -
Hydroxide	- -	- -

Specific Gravity - 1.038 @ 80° F.  
PH - 7.3