

CASE 3840: Appli. of CONTINENTAL
for a waterflood project, Lea
County, New Mexico.

Case Number

3840

Application

Transcripts.

Small Exhibits

ETC.

State of New Mexico
Oil Conservation Commission



P. O. BOX 2083
SANTA FE

September 9, 1968

3818	3848
3826	3838
3839	3817
3840 ✓	
3842	

Re: Case No. 3843
Order No. R-3482, 3483, 3484,
Applicant: 3485, 3487, 3488,
3489, 3490, 3491
Continental & Eugene Nearburg

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

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

Carbon copy of order also sent to:

Hobbs OCC x
 Artesia OCC R-3483 & R-3489
 Aztec OCC
 Other _____

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. 3840
Order No. R-3485

APPLICATION OF CONTINENTAL OIL COMPANY
FOR A WATERFLOOD PROJECT, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 21, 1968, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 9th day of September, 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, Continental Oil Company, is the owner and operator of the Lynn "A-27" Well No. 1, located in Unit D of Section 27, Township 23 South, Range 36 East, NMPM, Jalmat Pool, Lea County, New Mexico.
- (3) That the applicant seeks authority to institute a waterflood project in the Jalmat Pool by the injection of water into the Seven Rivers formation in the perforated interval from approximately 3450 feet to 3600 feet in its Lynn "A-27" Well No. 1. In the alternative, the applicant seeks to have said well authorized for salt water disposal.
- (4) That the subject well should be classified as a salt water disposal well.

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CASE No. 3840

Order No. R-3485

(5) That the injection should be accomplished through 2 7/8-inch plastic-lined tubing installed in a packer set at approximately 3100 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, casing, or packer.

(6) That approval of the subject application for salt water disposal will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

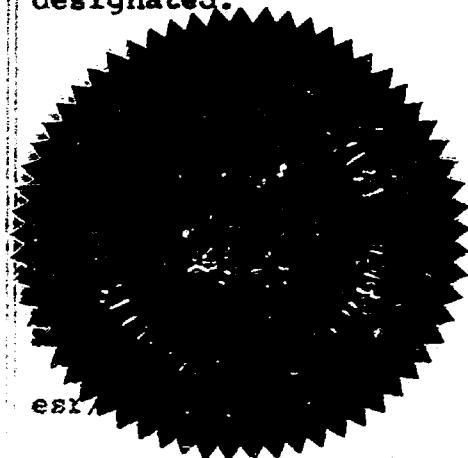
(1) That the applicant, Continental Oil Company, is hereby authorized to utilize its Lynn "A-27" Well No. 1, located in Unit D of Section 27, Township 23 South, Range 36 East, NMPM, Jalmat Pool, Lea County, New Mexico, to dispose of produced salt water into the Seven Rivers formation, injection to be accomplished through 2 7/8-inch tubing installed in a packer set at approximately 3100 feet, with injection into the perforated interval from approximately 3450 feet to 3600 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 tubing, casing, 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
DAVID F. CARGO, Chairman

Guyton B. Hays
GUYTON B. HAYS, Member

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

(Case 2839 continued)

authority to institute a waterflood project by the injection of water into the Delaware formation in the perforated interval from 5073 feet to 5145 feet in its Fields Well No. 2 located in Unit M of Section 25, Township 23 South, Range 32 East, Cruz-Delaware Pool, Lea County, New Mexico. In the alternative, applicant seeks to have said well authorized for salt water disposal.

CASE 3840: Application of Continental Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Seven Rivers formation in the perforated interval from 3450 feet to 3600 feet in its Lynn "A-27" Well No. 1 located in Unit D of Section 27, Township 23 South, Range 36 East, Jalmat Pool, Lea County, New Mexico. In the alternative, applicant seeks to have said well authorized for salt water disposal.

CASE 3841: Application of Continental Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Delaware formation in the perforated intervals from 4497 feet to 4507 feet in its Wilder Well No. 24 and from 4529 feet to 4535 feet in its Wilder Well No. 27 located in Units L and F, respectively, Section 26, Township 26 South, Range 32 East, El Mar-Delaware Pool, Lea County, New Mexico. In the alternative, applicant seeks to have said wells authorized for salt water disposal.

CASE 3842: Application of Continental Oil Company for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project by the injection of water into the Seven Rivers formation in the perforated interval from 3208 feet to 3255 feet in its Eaves "A" Well No. 10 located in Unit P of Section 19, Township 26 South, Range 37 East, Scarborough Yates-Seven Rivers Pool, Lea County, New Mexico, and promulgation of special rules for said project. In the alternative, applicant seeks to have said well authorized for salt water disposal.

CASE 3843: Application of Continental Oil Company for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project by the injection of water into the Seven Rivers formation in the perforated interval from 3012 feet to 3110 feet in its Sholes "B-25" Well No. 5 located in Unit G of Section 25, Township 25 South, Range 36 East, Jalmat Pool, Lea County, New Mexico, and promulgation of special rules for said project. In the alternative, applicant seeks to have said well authorized for salt water disposal.

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



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 21, 1960

IN THE MATTER OF:

Application of Continental Oil Company
for a waterflood project, Lea County,
New Mexico.

Case No. 3840

BEFORE: D. S. NUTTER,
Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case 3840.

MR. HATCH: Application of Continental Oil Company
for a waterflood project, Lea County, New Mexico.

MR. KELLAHIN: May the record show the same appearance
and the witness, Mr. Porter, has been sworn and qualified.

(Whereupon, Applicant's Exhibits
1 through 5 marked for identifica-
tion.)

* * * * *

J. ROGER PORTER, called as a witness, having been
previously duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A J. Roger Porter.

Q Are you the same Mr. Porter who testified in
Case 3839?

A Yes, I am.

Q Mr. Porter, what does Continental Oil Company
propose in Case 3840?

A Case No. 3840 is the application of Continental
Oil Company for authority to inject water into its Lynn
"A-27" No. 1 well in the Jalmat Pool.

Q Now, referring to what has been marked as Exhibit

No. 1, would you identify that exhibit?

A Exhibit No. 1 is a copy of a plat showing the proposed injection well circled in red at a location 990 feet from the west line and 990 feet from the north line of Section 27, Township 23 South, Range 36 East, Lea County, New Mexico. The Lynn "A" Lease is shown outlined in red and is described as the northeast quarter southeast quarter of the northwest quarter and the east half of the southwest quarter in Section 28, and the northwest quarter of Section 27, Township 23 South, Range 36 East, Lea County, New Mexico.

Q Now, referring to what has been marked as Exhibit No. 2, would you describe that exhibit?

A Exhibit No. 2 is a copy of the form C-108 for Lynn "A-27" No. 1. As shown on the form, we propose to inject produced water into the Seven Rivers formation in the approximate interval 3450 to 3600, through 2 7/8 inch and 2 3/8 inch O. D. plastic-lined tubing below a packer to be set at approximately 3100 feet. The well is to be deepened from its present total depth of 3353 feet to approximately 3600 feet where a four-inch O. D. Liner will be set.

Q Refer to what has been marked as Exhibit No. 3,

would you identify that exhibit?

A Exhibit No. 3 is a schematic diagram of the well showing the size and setting depth of the casing, the size and setting depth of the liner, the size and setting depth of the tubing, the location of the packer and the injection interval.

Q Now, your four-inch O. D. liner will be set and cemented into the casing, is that correct?

A That is correct.

Q And then perforated?

A After it is logged, that is correct.

Q Now, referring to what has been marked as Exhibit No. 4, would you identify that exhibit?

A Exhibit No. 4 is a copy of the radioactivity log on the Lynn A-27 No. 2, which is located 330 feet from the west line and 2310 feet from the north line of Section 27, Township 23 South, Range 36 East, Lea County, New Mexico. The log of the Lynn A-27 No. 2 well is used because the current total depth of the Lynn A-27 No. 1 does not make it possible to have a log section of the injection interval.

Q Referring back to Exhibit No. 3 for a moment, you will inject through tubing under a packer, is that correct?

A That is correct.

Q It will be a lined tubing, plastic-lined tubing?

A That is correct.

Q Will an inert fluid be in the casing, tubing and annulus?

A Yes, sir.

Q What volumes of water and from what sources do you propose to inject into this well?

A Initially, 750 to a thousand barrels of water a day will be injected from the Lynn A-27, Lynn A-28 leases. Then we plan to haul additional water from leases producing from the South Eunice Pool, providing that water is compatible with the injection water from the Lynn A-27 and Lynn A-28 lease.

Q Referring to Exhibit No. 5 would you identify that exhibit?

A Exhibit No. 5 is an analysis of water produced on this lease.

Q Is this water potable?

A No, it is not.

Q Is the Jalmat Pool considered to be a waterflood prospect?

A There is a strong water drive in the Seven Rivers and Basal Yates of the Jalmat Pool. These intervals are not considered to be waterflood prospects since there is a natural water drive, or waterflood, already in existence.

Q Now are you proposing to inject into this Seven Rivers Formation?

A Yes, sir.

Q There is other production in the area from the Seven Rivers, is there not?

A That is correct.

Q What will be the effect of injecting water into the Seven Rivers?

A The injection of produced water back into the Seven Rivers formation will have the effect of maintaining pressure in that formation.

Q Will this have any effect on the recovery of oil in this area?

A In view of the very strong water drive in the Seven Rivers formation, we do not expect any effect on oil recovery as a result of the injection. We do not expect recovery to be either increased or decreased.

Q It would not cause any damage to any offsetting wells, is that correct?

A No, the result of this application will be that produced water, well it will not result to damage to offset wells.

Q Will the granting of the application result in waste?

A No, the result of the application will be that produced water which is presently produced into pits on the lease will be injected underground. There will be no effect on the oil and gas production in the area.

Q Will the granting of this application result in any impairment of correlative rights?

A In my opinion there will be no impairment of correlative rights.

Q Were Exhibits 1 through 5 prepared by you or under your supervision?

A Yes, they were.

MR. KELLAHIN: At this time, I offer in evidence Exhibits 1 through 5.

MR. NUTTER: Continental's exhibits 1 through 5 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 5 offered and admitted in evidence.)

MR. KELLAHIN: That's all I have on direct examination.

CROSS EXAMINATION

BY MR. NUTTER:

Q What's the current status of this well?

A Temporarily shut in. On initial completion this well was classified as a gas well and when it started to make

some quantities of oil in 1937, it was reclassified as a Jalmat oil well, and that is what it is classified as now, but it is shut in now.

Q The productivity declined to the economic limit?

A Right.

Q I notice that you are going to set a four-inch liner, I presume at the top of it; refer to your Exhibit No. 3.

A Yes, sir.

Q The top of this liner, is that 2950, is that correct?

A It is correct.

Q You would have a 74-foot overlap from the top of the liner to the shoe to the five and a half-inch pipe?

A That's correct.

Q You plan to cement that with 100 sacks. Will that be sufficient to come up from the shoe, up into the top of the liner?

A In my opinion it will be at least a hundred percent extra.

Q At any rate, the calculated amount should result in circulation of cement on the liner?

A Yes, sir.

Q Now, you stated that the annulus would be loaded with an inert fluid. It could be left open or equipped with a gauge, correct?

A Yes, sir.

Q And the log which you submitted here is for the

A-27 No. 2. That would be the south offset to the subject well?

A That is correct.

MR. NUTTER: Any other questions of this witness?

He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr.

Kellahin?

MR. KELLAMIN: That's all, Mr. Nutter.

MR. NUTTER: Does anyone have anything further to offer in Case 3840? We will take the case under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my hand and seal this 3rd day of September, 1968.

I do hereby certify that the foregoing is a true and correct record of the proceedings in the Public Hearing of Case No. 3840 heard by me on 8/21, 1968.

[Signature], Examiner
New Mexico Oil Conservation Commission

T. M. D. E. A.

WITNESS

PAGE

J. ROGER PORTER

Direct Examination by Mr. Kellahin

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Cross Examination by Mr. Nutter

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EXHIBITSMARKEDOFFERED AND
ADMITTED

Applicant's 1 through 5

2

7

BEFORE EXAMINER

App EXHIBIT NO. 2
CASE NO. 3890

Form C-108
Revised 1-1-65

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

OPERATOR Continental Oil Company		ADDRESS Box 460 Hobbs, New Mexico	
LEASE NAME Lynn A-27	WELL NO. 1	FIELD Jalmat	COUNTY Lea
LOCATION UNIT LETTER D : WELL IS LOCATED 990' FEET FROM THE West LINE AND 990 FEET FROM THE North LINE, SECTION 27 TOWNSHIP 23S RANGE 36E NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	7 5/8"	1219'	550
Long String	5 1/2"	3024'	500
Liner	4"	3600'	100
TUBING 2 7/8- 2 3/8"		NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Model AD or equivalent at 3100'	
NAME OF PROPOSED INJECTION FORMATION Seven Rivers		TOP OF FORMATION Est. 3360'	BOTTOM OF FORMATION est. 3760'
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES? Perforations	PROPOSED INTERVAL(S) OF INJECTION Gross interval 3450'-3600'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Producing gas and oil well		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			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 250'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None	
ANTICIPATED DAILY INJECTION VOLUME (BBL/D) 750		MINIMUM 3000	MAXIMUM 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		WATER TO BE DISPOSED OF Yes	
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Francis Henry Randolph, Star Route, Jal, New Mexico 88252		IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL		APPROX. PRESSURE (PSI) --	
Argus Production Company, 3313 Republic Nat'l. Bank Bldg., Dallas, Texas		NATURAL WATER IN DISPOSAL ZONE Yes	
Texas Pacific, Box 1069, Hobbs, New Mexico		ARE WATER ANALYSES ATTACHED? No	
Albert Gackle, Box 2038, Hobbs, New Mexico			
Shell, Box 1509, Midland, Texas			
Skelly (no production on lease)			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?	SURFACE OWNER No	EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL No	THE NEW MEXICO STATE ENGINEER No
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)	PLAT OF AREA Yes	ELECTRICAL LOG No	DIAGRAMMATIC SKETCH OF WELL No

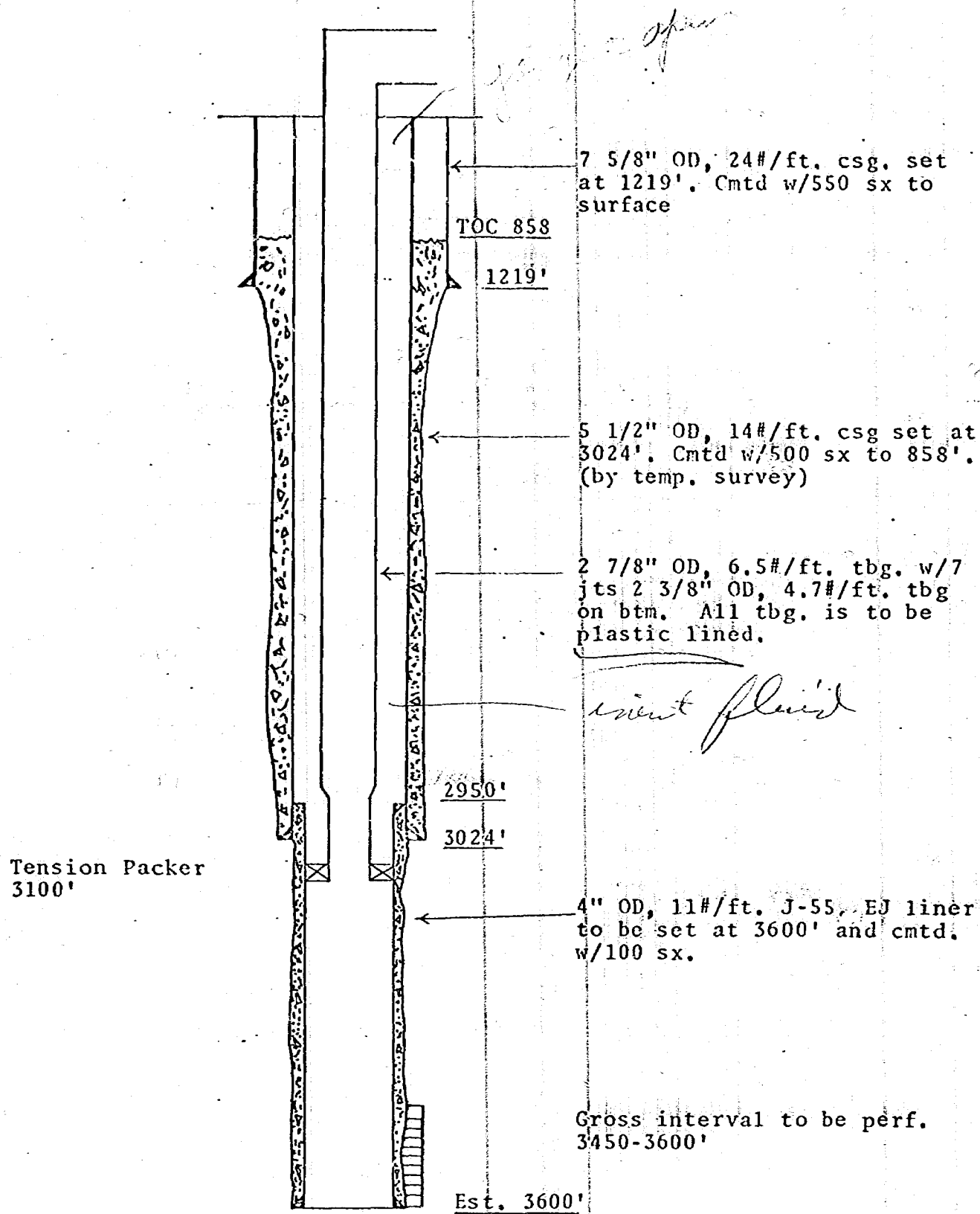
I hereby certify that the information above is true and complete to the best of my knowledge and belief.

[Signature] Assistant Division Manager 7-19-68
(Signature) (Title) (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.

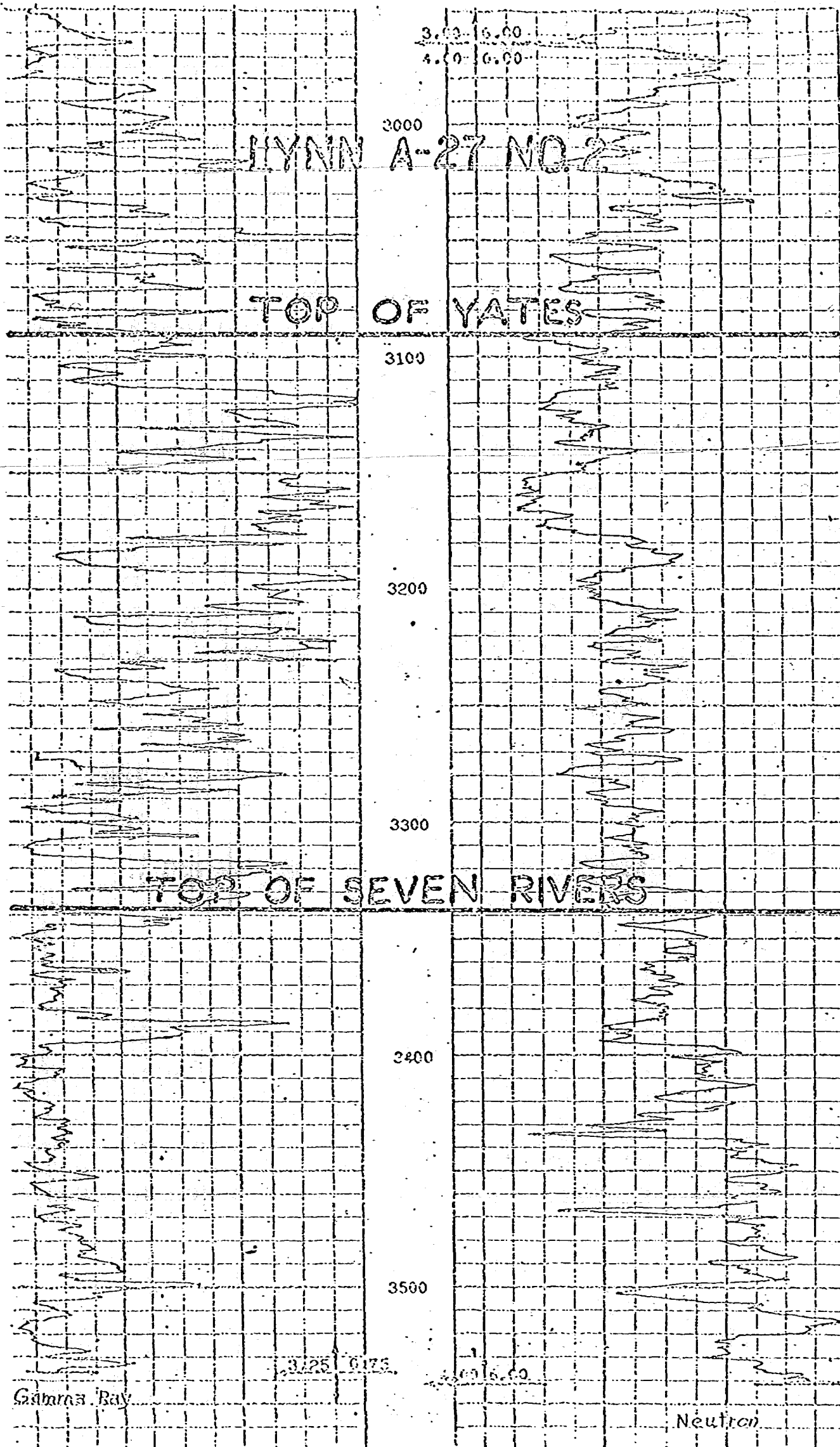
EXHIBIT NO. 2

Lynn A-27 No. 1
990' FNL & FWD, Sec. 27, T-23S, R-36E
Lea County, New Mexico



BEFORE EXAMINED BY THE

EXHIBIT NO. 3
CASE NO. 3840



TELEPHONE: HOBBS 393-6215



UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Continental Oil Company

Field Jalmat Yates Seven Rivers

Lease Lynn "A" #27

Sampling Date 7/9/68

Type of Sample _____

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	44.91	900
Magnesium (Mg++)	92.11	1120
Sodium (Na+) (cal.)	257.58	5922
Bicarbonate (HCO_3^-)	21.80	1329
Carbonate (CO_3^{--})	NOT	FOUND
Hydroxide (OH^-)	NOT	FOUND
Sulphate (SO_4^{--})	20.30	975
Chloride (Cl^-)	352.50	12,500
7.1 pH c @ 68° F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as CaCO_3	137.02	6851
Carbonate Hardness, as CaCO_3 (temporary)	21.80	1090
Non-Carbonate Hardness as CaCO_3 (permanent)	115.22	5761
Alkalinity as CaCO_3	21.80	1090
Specific Gravity c 68° F	1.010	

* mg/l = milligrams per Liter

* me/l = milliequivalents per Liter

BEFORE EXAMINED BY UTTER

CHEMICAL COMPANY

App. 5
CAB 3840

EXHIBIT NO. 5

~~~~~ Makes Water Work ~~~~~