

CASE 2966: Application of HARLAN  
PROD. CO. for a waterflood pro-  
ject in Grayburg-Jackson Pool.

322  
322  
322

CASE No.  
2966

Application,  
TRANSCRIPTS,  
SMALL Exhibits  
ETC.

OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

Date Jan 8, 1964

CASE 2966

Hearing Date 9 am Jan 8, 64

DSN @ SF

My recommendations for an order in the above numbered cases are as follows:

Enter an order authorizing Harlan  
production Co to institute a  
water flood project in the by  
the injection of water into  
the Queen Formation of the  
Grayburg Jackson Pool Eddy Co  
through the following wells

Etz - State # 2, 1980' FSL & 660' FWL 16-17S-30E  
Etz - State # 9 1370' FNL & 660' FWL 16-17S-30E  
Etz - State # 10 1370' FNL & 1980' FWL 16-17S-30E  
McIntyre "D" #7 1980' FNL & 660' FWL 17-17S-30E

use standard waterflood order,

Sam R. R. R.

OIL CONSERVATION COMMISSION  
P. O. BOX 871  
SANTA FE, NEW MEXICO

February 11, 1964

Mr. R. L. Stamets  
Oil Conservation Commission  
Drawer DD  
Artesia, New Mexico

Re: Case No. 2966  
Order No. R-2635

Dear Dick:

As Order No. R-2635 specifies the exact  
footage location for the Etz State Wells No.  
9 and 10, specific approval of unorthodox  
locations for these wells is not necessary.

Very truly yours,

J. M. DURRETT, Jr.  
Attorney

JMD/ear

SFOCC

# Memo

From

R. L. STAMETS  
GEOLOGIST AND DEPUTY  
OIL & GAS INSPECTOR

To Jim Durrett

Does Order R-2635 grant  
approval of unorthodox locations  
for Harlan Prod Co.'s Etz st  
No 9 & No 10, (wells to be  
drilled). It does not  
come right out and say no.

Dick

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

January 13, 1964

Mr. Jason Kellahin  
Kellahin & Fox  
Attorneys at Law  
Post Office Box 1713  
Santa Fe, New Mexico

Dear Sir:

Enclosed herewith is Commission Order No. R-2635, entered in Case No. 2966, approving the Harlan Production Grayburg Jackson Water-flood Project.

According to our calculations, when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 322 barrels per day.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

OIL CONSERVATION COMMISSION  
P. O. BOX 871  
SANTA FE, NEW MEXICO

-2-

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/DSN/ir

cc: Oil Conservation Commission  
Artesia, New Mexico

C  
O  
P  
Y

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. 2966  
Order No. R-2635

APPLICATION OF HARLAN PRODUCTION  
COMPANY FOR A WATERFLOOD PROJECT,  
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on January 8, 1964, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 13th day of January, 1964, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, 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, Harlan Production Company, seeks authority to institute a waterflood project in the Grayburg-Jackson Pool by the injection of water into the Queen formation through four wells in Sections 16 and 17, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico.

(3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(4) That the proposed waterflood project is in the interest of conservation and should result in recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That the subject application should be approved and the project should be governed by the provisions of Rule 701 of the Commission Rules and Regulations.



-2-

CASE No. 2966

Order No. R-2635

IT IS THEREFORE ORDERED:

(1) That the applicant, Harlan Production Company, is hereby authorized to institute a waterflood project in the Grayburg-Jackson Pool by the injection of water into the Queen formation through the following-described wells in Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico:

Section 16

Etz State Well No. 2, 1980 feet from the South line  
and 660 feet from the West line;  
Etz State Well No. 9, 1370 feet from the North line  
and 660 feet from the West line;  
Etz State Well No. 10, 1370 feet from the North line  
and 1980 feet from the West line.

Section 17

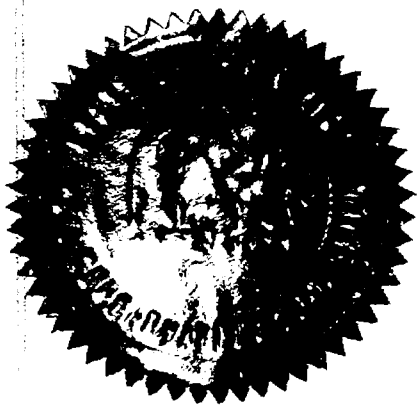
McIntyre "D" Well No. 7, 1980 feet from the North  
line and 660 feet from the East line.

(2) That the subject waterflood project shall be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including the allowable provisions thereof, and including the provisions with respect to expansion of the waterflood project.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1119 of the Commission Rules and Regulations.

(4) 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

*Jack M. Campbell*  
JACK M. CAMPBELL, Chairman

*E. S. Walker*  
E. S. WALKER, Member

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

asr/

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.  
PHONE 325-1182

SANTA FE, N. M.  
PHONE 983-3971

ALBUQUERQUE, N. M.  
PHONE 243-6691

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
January 8, 1964

EXAMINER HEARING

IN THE MATTER OF:

Application of Harlan Production Company  
for a waterflood project, Eddy County,  
New Mexico.

Case No. 2966

BEFORE: DANIEL S. NUTTER, EXAMINER

TRANSCRIPT OF HEARING



DEARNLEY, MEIER, WILKINS and CROWNOVER

General Court Reporting Service

Suite 1120 Simms Building Albuquerque, New Mexico Phone 243-6691

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
January 8, 1964

EXAMINER HEARING

IN THE MATTER OF:

Application of Harlan Production  
Company for a waterflood project,  
Eddy County, New Mexico.

CASE NO. 2966

BEFORE: DANIEL S. NUTTER, EXAMINER

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case 2966.

MR. DURRETT: Application of Harlan Production Company  
for a waterflood project, Eddy County, New Mexico.

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, Santa Fe,  
representing the applicant. We have one witness I would like to  
have sworn, please.

(Witness sworn)

N. T. EMANUEL,  
called as a witness herein, having been first duly sworn, was  
examined and testified as follows:

DIRECT EXAMINATION



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Suite 1120 Simms Building Albuquerque, New Mexico Phone 243-6601

BY MR. KELLAHIN:

Q Would you state your name, please?

A My name is N. T. Emanuel.

Q By whom are you employed and in what position?

A Harlan Production Company as a Petroleum Engineer at Monahans, Texas.

Q Have you ever testified before the Oil Conservation Commission?

A No, sir.

Q For the benefit of the Examiner, would you outline briefly your education and experience in the petroleum field?

A My education background is at the University of Oklahoma in the Petroleum Engineering School. My first engineering experience was with Continental Oil Company in Indiana and Illinois, beginning in 1945. Later, I joined Warren Petroleum in Wichita Falls, and later was employed with Gulf. I have actively engaged in engineering capacity with waterflood with Ambassador and Harlan Production Company. I have been employed with Harlan for the past seven years.

Q What kind of work have you done with Harlan?

A Petroleum Engineering and supervisory work.

Q Was your job with Continental Oil Company and Gulf and Warren Petroleum in the same field?

A Yes, sir.

Q As a Petroleum Engineer?



A Yes, sir.

Q How long have you worked in the New Mexico area, Mr. Emanuel?

A Approximately four years.

Q The area involved in Case Number 2966 under your supervision?

A Yes.

Q All right.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, they are.

Q (By Mr. Kellahin) Now, Mr. Emanuel, what is proposed by Harlan Production Company in Case 2966?

A We propose to initiate a waterflood in the Queen Sand found at approximately 2,075 feet under Sections 16 and 17, Township 17 South, Range 30 East, in the Grayburg-Jackson Field, Eddy County, New Mexico.

Q Now, Mr. Emanuel, referring to what has been marked as Exhibit Number One, would you identify that exhibit and discuss it?

A Exhibit Number One is a proposed plan of waterflood operation, and summary of production data.

Q Is that the same as the formal application that was submitted to the Commission?

A Yes.

Q Now, referring to what has been marked as Exhibit Number Two, unless you have something else to say in connection with this,



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would you refer to this- -

A I see.

Q Would you refer to Exhibit Number Two, and would you identify that exhibit and state what is shown there?

A Exhibit Number Two includes the area comprising approximately 400 acres; shown on this plat are wells that have established production, or have tested extensively the Queen or Red Sand.

Q There is no other production within a radius of three miles in which the Queen Sand is productive; this plat or exhibit covers the entire area?

A Yes.

Q Does the exhibit show all of the Queen Sand wells in the immediate vicinity; is that right?

A Yes, sir, it does.

Q Now, it shows the immediate offsetting operators; is that correct?

A There are two offset operators, Kersey and Company, and - who operate two wells on the Randall State Lease, and R. G. Collier, who operate one.

Q R. G. or R. D.?

A R. D. Other than these two operators, we operate all of the area under consideration.

Q And the Wooley well is plugged and abandoned?

A That is right.



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PAGE 6

Q And the Tidewater well and the O. H. Randall are both abandoned?

A Abandoned.

Q Have you line agreements with Kersey Company and R. D. Collier?

A Yes. Exhibits G through M.

Q This is attached to Exhibit Number One?

A Exhibit Number One. They are waivers from all offset operators. Now, referring back to Exhibit Number Two, does it also show the proposed injection wells?

A The proposed injection wells are shown on Exhibit Two. Etz State Number Two will be a proposed injection well. The Harlan McIntyre Number 7 is a proposed injection well. These two wells mentioned are converted producers. Unorthodox locations Number Nine and Ten shown on this exhibit are to be drilled. There will be four injection wells to initiate this program, which we propose to delay further development pending this pilot flood response.

Q Will all of the wells go on injection at approximately the same time?

A Yes.

Q That is your plan?

A That is right.

Q Now, referring to what has been marked as Exhibit Number Three, would you identify that exhibit and discuss it?

A Exhibit Number Three is an aerial map showing the Queen



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sand area bounded in yellow. As you can see, from this plat, a deeper production is in the immediate area, but none of these wells have tested commercial Queen or Red Sand production.

Q And to the best of your knowledge, there is no Queen production other than your own wells within the immediate vicinity of this projection?

A That is right.

Q Do you know what the closest Queen production would be?

A Approximately four or five miles northwest.

Q Now, referring to what has been marked as Exhibit Number Four, through Seven, would you discuss those exhibits?

A Exhibit Number Four is the proposed water injection Etz State Number Two. This well is an original producer drilled in 1936 by Etz Oil Company, at a total depth of 3270 feet, and for a period of time, produced from the lower Grayburg-Jackson zone or pays. This well was plugged back in 1961 to 2226 feet. We propose to inject water through two and three-eighths inch tubing below a packer set in the bottom joint of the seven inch casing. Exhibit Five is proposed water injection well, our D. W. McIntyre Number-D Number 7. This was an original producing well drilled by Repollo Oil Company in December, 1944. We propose to inject water through 2 3/8 inch tubing below a packer set in the bottom joint of the 8 5/8 inch oil string casing, which was cemented with 100 sax.

Exhibit Six is a proposed water injection well, Etz





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State Number 9, and an unorthodox location which we propose to cement 2 3/8 inch OD tubing at the top of the pay in open hole, at 2,078 feet, with a Halliburton full flow packer shoe, and circulate cement to the surface. We also plan to use a cement basket at the top of the salt. In case circulation is not obtained, we plan to spot cement from the top.

Exhibit Seven is a proposed water injection well, Etz State Number Ten. The completion of this well is identical to the one referred to in Exhibit Six.

Q Etz State 9 and 10 have not yet been drilled?

A That is right.

Q The other wells are - - will be converted producers?

A Yes.

Q Presently drilled?

A That is right.

Q Now, this land involved here, part of it is State and the McIntyre lease, is that State or Federal lease?

A Referring again to Exhibit Two, the west line of Section 16, and the east line of Section 17, is the boundary between Federal and State land. The McIntyre D & F leases, being on the Federal land.

Q Has your proposed waterflood program been submitted to the USGS?

A Yes, it has.

Q I have discussed this with Mr. Kanoff in the Artesia



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office and the proposal as shown causes equal distribution of water across the Federal-State lease line. And we feel that loss of oil will not occur one way or the other.

Q In other words, would you say that all of the interests involved here will be adequately protected by your proposed program?

A That is right.

Q What type of water will you use in this injection program?

A Fresh water from the Caprock Water Company line which brings water into this area from the Lea County Water Basin.

Q Do you have a contract with the Caprock Water Company?

A Yes, we do. And a line is connected to the lease at the present time.

Q What volume of water do you anticipate you will inject?

A We estimate approximately 200 barrels per well per day for the initial injection.

Q Has your proposed program been submitted to the office of the State Engineer?

A Yes, it has. We have a letter dated December 31, 1963 from Mr. Reynolds, State Engineer, and- -

Q By Mr. Frank Irby, is it not?

A By Mr. Frank Irby, yes. In which he refers- - reference is made to the application of Harlan Production Company, which seeks approval of their proposed plan of waterflood in Section 16 and 17, Township 17 South, Range 30 East, Grayburg-Jackson Field. The formation to be flooded is the Queen or Red Sand, found at



approximately 2,075 feet. It is noted in the application that each injection well will be equipped with tubing and packer, with a packer set in the bottom of the cemented oil string. The application and the exhibits attached thereto indicate that no threat of contamination to the fresh waters which may exist in the area will occur if the plan is followed. Therefore, this office offers no objection to the granting of the application.

Q Now, do you anticipate that they will be any expansion of this waterflood project in the future?

A Yes, we do. But, are not in the position to project what might be that development at this time.

Q Do you ask that in any order entered by the Commission make a provision for expansion of the project by administrative approval?

A Yes, we will.

Q Were Exhibits One through Seven prepared by you or under your supervision?

A They were prepared by me.

MR. KELLAHIN: At this time, I would like to offer in evidence Exhibits One through Seven.

MR. NUTTER: Applicant's Exhibits One through Seven will be admitted in evidence.

(Whereupon, Applicant's Exhibits One, through Seven were admitted into evidence by the Examiner)

MR. KELLAHIN: That is all I have on direct examination,



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Mr. Nutter.

MR. NUTTER: Anyone have any questions of Mr. Emanuel?

MR. DURRETT: Yes, I have a question.

CROSS EXAMINATION

BY MR. DURRETT:

Q Mr. Emanuel, are these wells which are marked Six and 2-J, which are southeast of your Number Ten that you have on your Exhibit Number Two, are those producing from the Queen?

A That is right.

Q Do you expect them to receive a response from your flood as you have your injection wells located?

A They undoubtedly will enter into the second phase of development of injection wells which we are not prepared to submit at this time.

Q But, at this time, you don't expect them to receive a response from the flood that you are proposing today necessarily, do you?

A We expect the principal response to be in well Number 8 and Number 7. Then, on the McIntyre F Number One, as a matter of information, on the sand conditions there, I might add that this is a small sand lens in which to the south there is a very definite pinch out as the structure becomes higher. Then, dipping to the north, the sand has a tendency to thicken. We are aware of water wet sand conditions down dip to the north, which may be a hazard



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Suite 1120 Simms Building  
Phone 243-6691

to our project. Sands to the north tend to become better developed and make- - may carry water down dip.

Q One other question, am I correct that your waterflood that you are proposing, you do propose that it be governed by Rule 701, the usual allowable provisions?

A Yes.

MR. DURRETT: Thank you.

\* \* \* \*

# EXAMINATION

BY MR. NUTTER:

Q Mr. Emanuel, referring to Exhibit Number Three, you have the yellow area outlined.

A Yes, sir.

Q Now, as far as you know, there is no other Queen production except within this yellow area?

A That is right.

Q Other than three or four miles to the west; is that correct?

A That is right. The High Lonesome Field which may be in excess of, oh, seven or eight miles northwest, to my knowledge, is the nearest Queen Sand production.

Q Now, when you mentioned that later on you may expand the waterflood project, you are not thinking of expanding outside the yellow area, you are just thinking of conversion of additional wells



within this yellow area; is that it?

A We think probably other injection wells may be - - may need to be drilled within the yellow boundaries that show there.

Q Is the Number 5-A presently abandoned or temporarily abandoned, or what is the status there?

A Number Five well originally produced from the Queen Sand approximately 17,000 barrels of oil.

Q And is currently plugged and abandoned?

A Yes.

Q Temporarily?

A Permanent plug.

Q It is P & A?

A Yes.

Q Mr. Emanuel, we received a waiver of objection from Mr. R. D. Collier on November 5th, he dated it November 4th, which he was waiving objection to a Number One W which was to be located in the extreme southwest corner of the 40 acre tract where Well Number Two is now. I note that he attached - - that attached to Exhibit Number One you have a waiver from Collier, but he is referring there to the injection of water into the Number Two. Have you abandoned plans for drilling that well in the extreme northwest quarter of that tract?

A Yes, we have. Number One W which was initially proposed was not acceptable to the United States Geological Survey. So, in order to balance injection across the line, we converted - - we



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propose to convert Number Two.

Q I see. This waiver of November 4th is of no effect any more?

A That is right. Exhibit M of Exhibit One is a waiver dated November 21, 1963, which properly identifies the plan as submitted.

Q And supersedes this previous one?

A Yes.

Q Good. Now, I note that you do have it contained in Exhibit One. I would like for it to be in the record, though. The area under consideration here has produced approximately 313,000 barrels on primary; is that correct?

A The Harlan operated leases have produced approximately 313,000 barrels primary.

Q You anticipate that the secondary recovery potential by flooding is approximately five hundred thousand barrels?

A That is right.

Q All right.

MR. NUTTER: Does anyone have any further questions of Mr. Emanuel? He may be excused. Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That is all, Mr. Nutter. Thank you.

MR. NUTTER: Does anyone have anything they wish to offer in Case 2966?

MR. DURRETT: Mr. Kellahin, did you introduce Mr. Irby's



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letter as an exhibit?

MR. KELLAHIN: No, I didn't. The original, of course, was directed to the Commission.

MR. DURRETT: If the Examiner please, I would like to state for the record that we have received the original of the letter from Mr. Irby that has been referred to in testimony here today, and that it will be placed in the file as part of the record.

MR. NUTTER: Thank you, Mr. Durrett. If there is nothing further in Case 2966, we will take that case under advisement.

\* \* \* \* \*

STATE OF NEW MEXICO X

COUNTY OF BERNALILLO I

I, ROY D. WILKINS, 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 of Office, this 10th day of January, 1964.

NOTARY PUBLIC

My Commission Expires September 6, 1967. I do hereby certify that the foregoing is a complete record of the proceedings in the Exam. hearing of Case No. 2966, heard by me on 1/8, 1964.

Examiner  
New Mexico Oil Conservation Commission

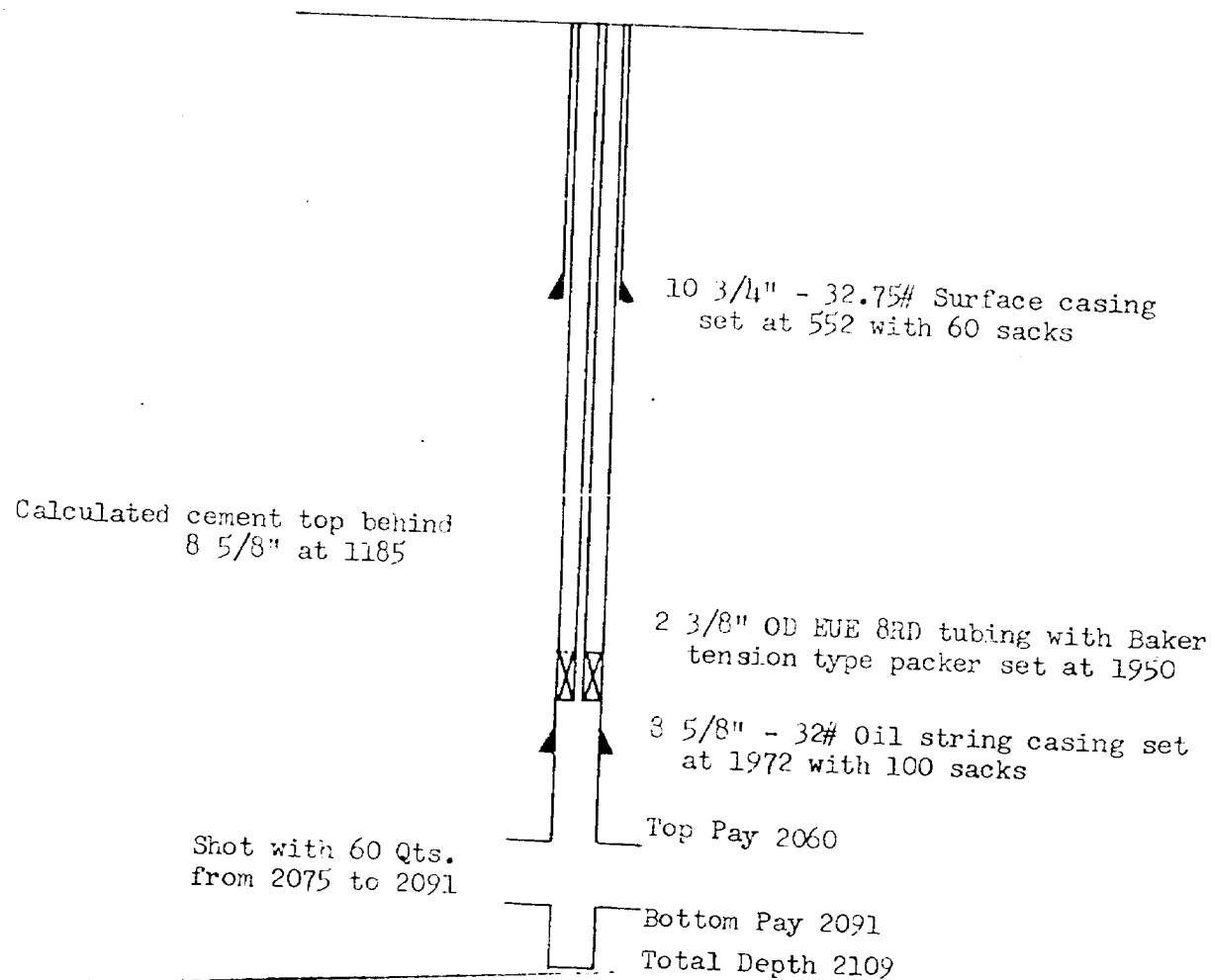




PROPOSED WATER INJECTION WELL

W.D. McIntyre "D" No. 7  
SE, NE, Sec. 17, T-17-S, R-30-E

Original Producing Well Drilled by  
Repollo Oil Co. 12/11/44



BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
APPLIC EXHIBIT NO. 5  
CASE NO. 2966

Exhibit "D"

PROPOSED WATER INJECTION WELL

Etz-State No. 10

Unorthodox Location  
1325 FNL & 1980 FWL, Sec. 16, T-17-S, R-30-E

Estimated top salt at 500

Cement basket at top of salt to support  
Cement spotted from surface if  
circulation not obtained

2 3/8" OD EUE tubing set in 6 1/4"  
hole cement circulated with 360  
cu.ft. Incor with 2% Gel

Estimated base of salt at 1300

Halliburton Full Flow Packer Shoe  
set at 2078 in 6 1/4" Hole

Est. Top Pay 2080

Est. Bottom Pay 2095

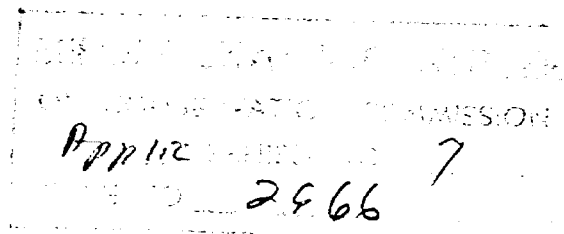


Exhibit "F"

PROPOSED WATER INJECTION WELL

Etz-State No. 9

Unorthodox location  
1325 FNL & 660 FNL, Sec. 16, T-17-S, R-30-E

Estimated top salt at 500

Cement basket at top of salt to  
support cement spotted from surface  
if circulation not obtained

2 3/8" OD EUE tubing set in 6 1/4"  
hole cement circulated with 360  
cu.ft. Incor with 2% Gel

Estimated base of salt at 1300

Halliburton Full Flow Packer Shoe set  
at 2078 in 6 1/4" Hole

Est. Top Pay 2080

Est. Bottom Pay 2095

BEFORE EXAMINER NOTED	
OIL CONSERVATION COMMISSION	
EXHIBIT NO	6
DATE NO	2966

Exhibit "E"

PROPOSED WATER INJECTION WELL

Etz-State No. 2  
NW, SW, Sec. 16, T-17-S, R-30-E

Original Producing Well Drilled By  
Etz Oil Co. 7/11/36

Calculated cement top behind 7"  
at 682

8 1/4" - 32# Surface casing set  
at 1320 with mud to surface.

2 3/8" OD EUE 8RD Tubing with Baker  
tension type packer set at 2000

7" - 20# Oil string casing set at  
2026 with 100 sacks

Top Pay 2075

Bottom Pay 2105

Plugged back to 2226 with 25 sacks  
cement plug 7/25/61

Bottom plug 2360

Original T.D. 3270 7/11/36

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
*Applied* EXHIBIT NO. 4  
CASE NO. 2966

Exhibit "C"

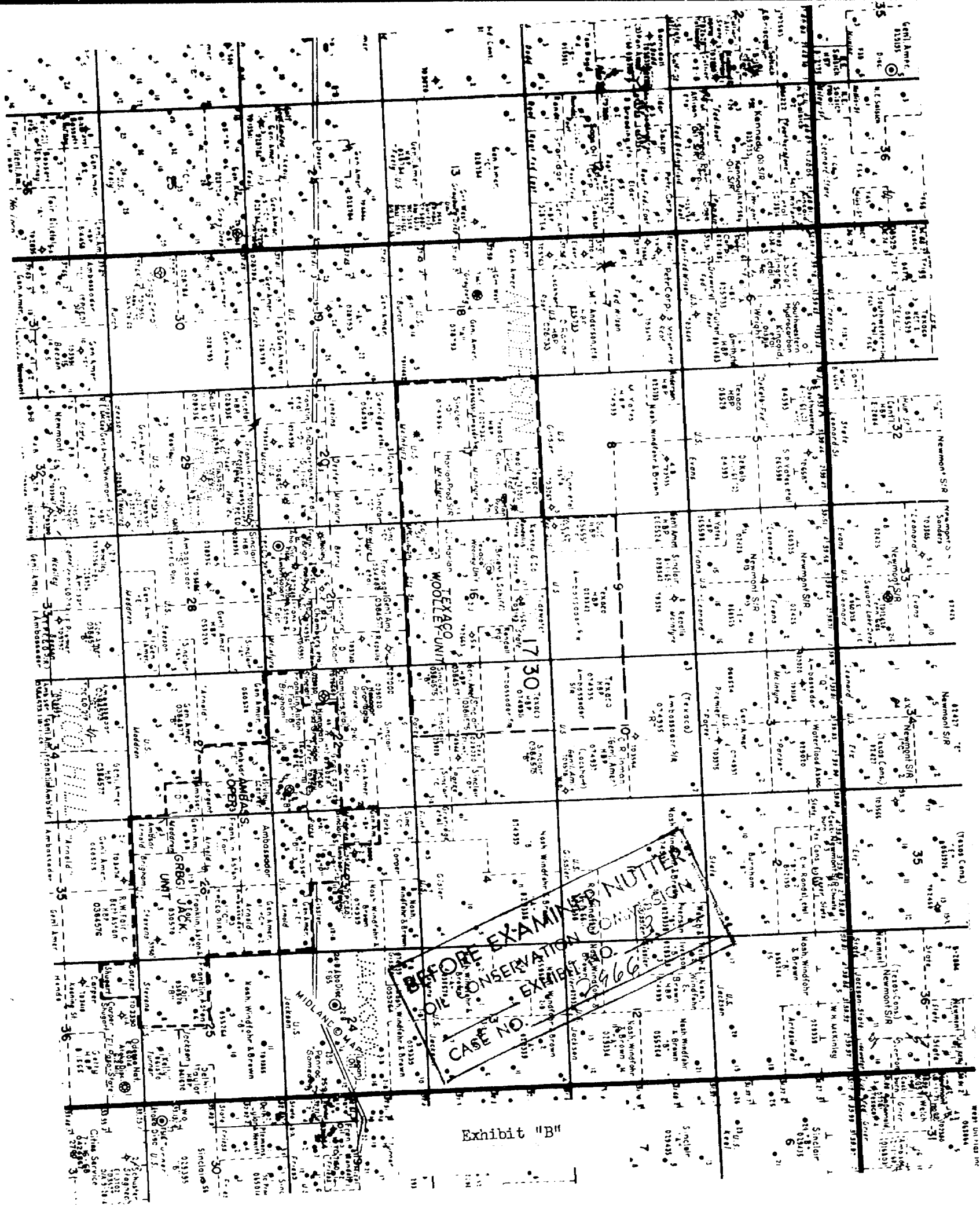
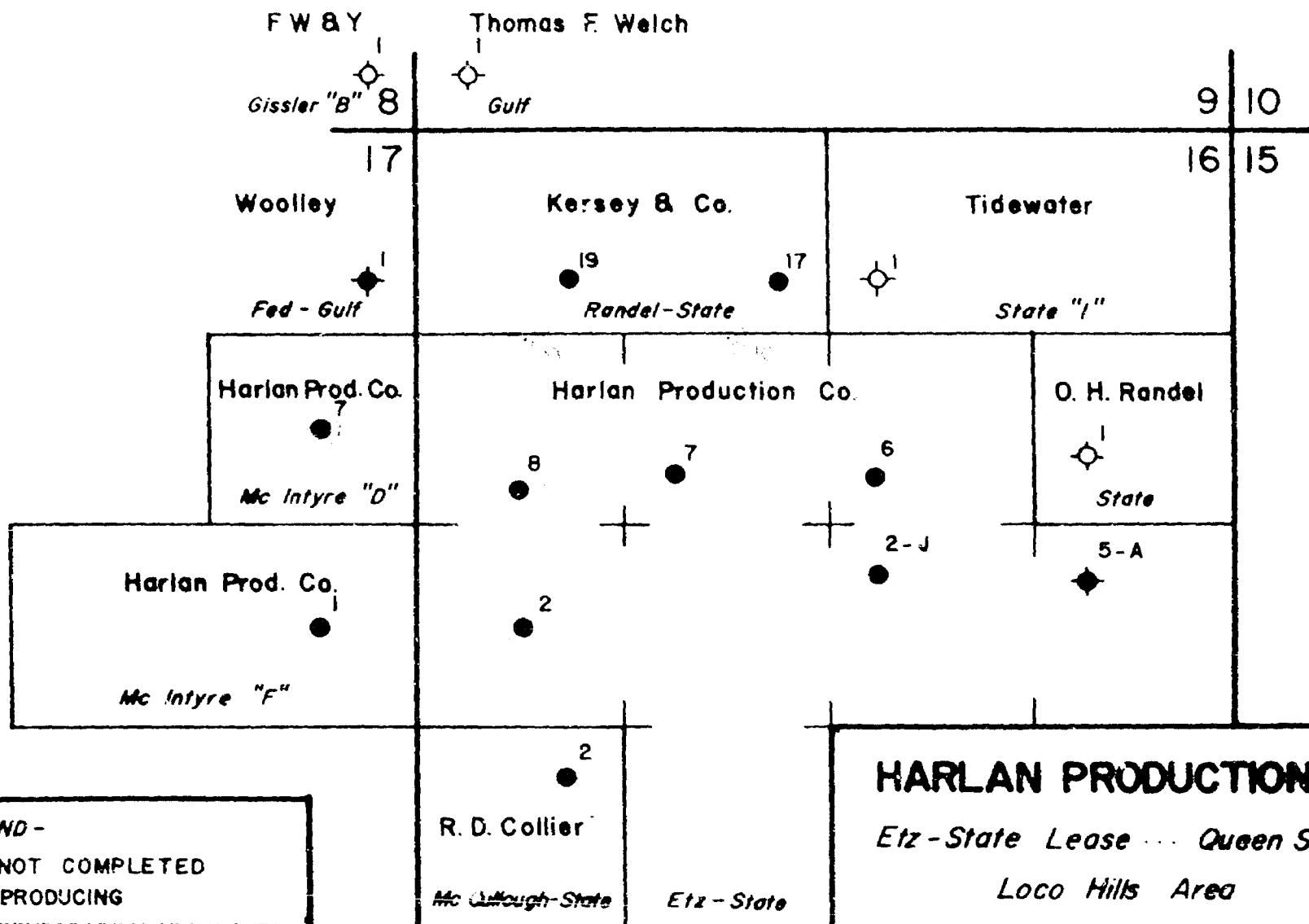


Exhibit "B"



**LEGEND -**

- NOT COMPLETED
- PRODUCING
- ⊙ TEMPORARILY ABANDONED
- ◆ PLUGGED & ABANDONED
- ⊕ DRY HOLE
- ⊗ PROPOSED INJECTION

**BEFORE EXAMINER NUTTER**  
**OIL CONSERVATION COMMISSION**  
 EXHIBIT NO. 2  
 CASE NO. 2966  
 Exhibit "A"

**HARLAN PRODUCTION CO.**

*Etz - State Lease ... Queen Sand  
 Loco Hills Area*

*Section 16 & 17, T-17-S, R-30-E*

*Grayburg Jackson Field*

*Eddy County, New Mexico*

7-14-52

Scale 1" = 1000'

New Mexico  
Oil Conservation Commission  
Santa Fe, New Mexico

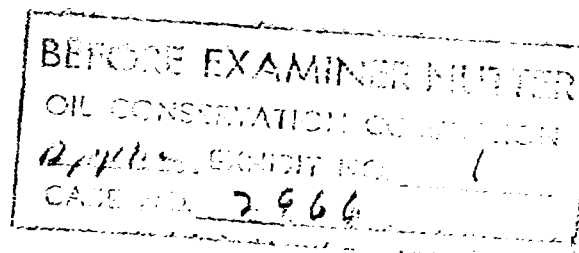
PROPOSED PLAN OF WATERFLOOD

Operations  
and  
Summary of Production Data

Submitted by:

Harlan Production Company

December 2, 1963



1. Plan of Operation

- A. The zone to be flooded is the Queen or Red sand found at approximately 2075 feet under Section 16 and 17, T-17-S, R-30-E, Grayburg Jackson Field, Pecos County, New Mexico.

Eleven wells comprising approximately 1440 acres have commercially produced from this pay section (Exhibit "A"). The Kersey and Company Randol State Lease (2 producing wells) and R. G. Collier McCullough State (1 producing well) are the only wells completed in the Queen sand owned by other operators. No other production from this zone is known within a radius of 3 miles (Exhibit "B").

This sand lays along the north flank of the Grayburg Jackson structure. Down dip and to the north there is evidence of thickening as the sand becomes water wet. One continuous zone of porosity indicates from 3 to 11 feet of oil saturation. All wells were drilled with cable tools, the first being completed in 1941. There are no cores or electric logs available.

- B. The Flood Plan is shown in Exhibit "A". Equal distribution of water injection across the Federal and State lease line (West line Section 16) is obtained by converting two producers. Two new drilled unorthodox locations are planned for injection wells. Final flood development will be made after pilot flood experience is known.

Waivers expressing no objections to this waterflood program from all offset operators are attached (Exhibit "C" through "H").

C. Input Wells

Harlan Production Company No. 2 is a producing well to be converted to injection. The well is located in Unit L 660' FWL and 1900' FSL, Section 16, T-17-S, R-30-E. We propose to inject through tubing and below packer set in bottom of cemented oil string casing (Exhibit "I").

Harlan Production Company McIntyre "D" (Federal) No. 7 is an inactive producing well to be converted to injection. The well is located in Unit H 660' FSL and 1980' FNL, Section 17, T-17-S, R-30-E. We propose to inject through tubing and below packer set in bottom of cemented oil string casing (Exhibit "D").



Harlan Production Company Etz-State No. 9 is an unorthodox location for a new water injection well. The location is in Unit E, 1370' FNL and 660' FNL, Section 16, T-17-S, R-30-E. We propose to inject through tubing with cement circulated to surface (Exhibit "D").

Harlan Production Company Etz-State No. 10 is an unorthodox location for a new water injection well. The location is Unit F, 1370' FNL and 1980' FNL, Section 16, T-17-S, R-30-E. Injection through tubing with cement circulated to surface is planned (Exhibit "E").

D. Producing Wells  
Etz-State No. 2-J Unit J, Section 16  
Etz-State No. 6 Unit G, Section 16  
Etz-State No. 7 Unit F, Section 16  
Etz-State No. 8 Unit E, Section 16  
McIntyre "F" Federal No. 1 Unit H, Section 17

E. The Caprock Water System line will furnish the project fresh water from the Lea County Water Basin.

F. Initial input rates of 200 barrels per well per day into the 4 injection wells is proposed.

## II. Summary of Production Data

The production ranges from 1/2 to 3 barrels oil and no water per well per day or 10 barrels per day for the 5 active pumping wells.

Primary production from the Harlan Production Company Queen sand producing area to January 1, 1963 is 313,620 barrels.

The secondary recovery potential by waterflooding is estimated at 500,000 barrels.

<u>Company</u>	<u>Lease and Well</u>	<u>Unit</u>	<u>Section Location</u>	<u>Cumulative Production to 1-1-63</u>
				54,641
		J	16	38,897*
Harlan	Etz-State No. 2-J	L	16	55,617
Harlan	Etz-State No. 2	G	16	17,153
Harlan	Etz-State No. 6	I	16	38,089
Harlan	Etz-State No. 5-A	F	16	55,239
Harlan	Etz-State No. 7	E	16	22,213*
Harlan	Etz-State No. 8	H	17	31,771
Harlan	McIntyre "D" No. 7	I	17	
Harlan	McIntyre "F" No. 1			313,620
			Total	
				25,337
		C	16	24,514
Kersey & Co.	Randel State 17	D	16	542
Kersey & Co.	Randel State 19	H	16	
R.G. Collier	McCullough State 2		Total	50,393

\*Proposed injection wells

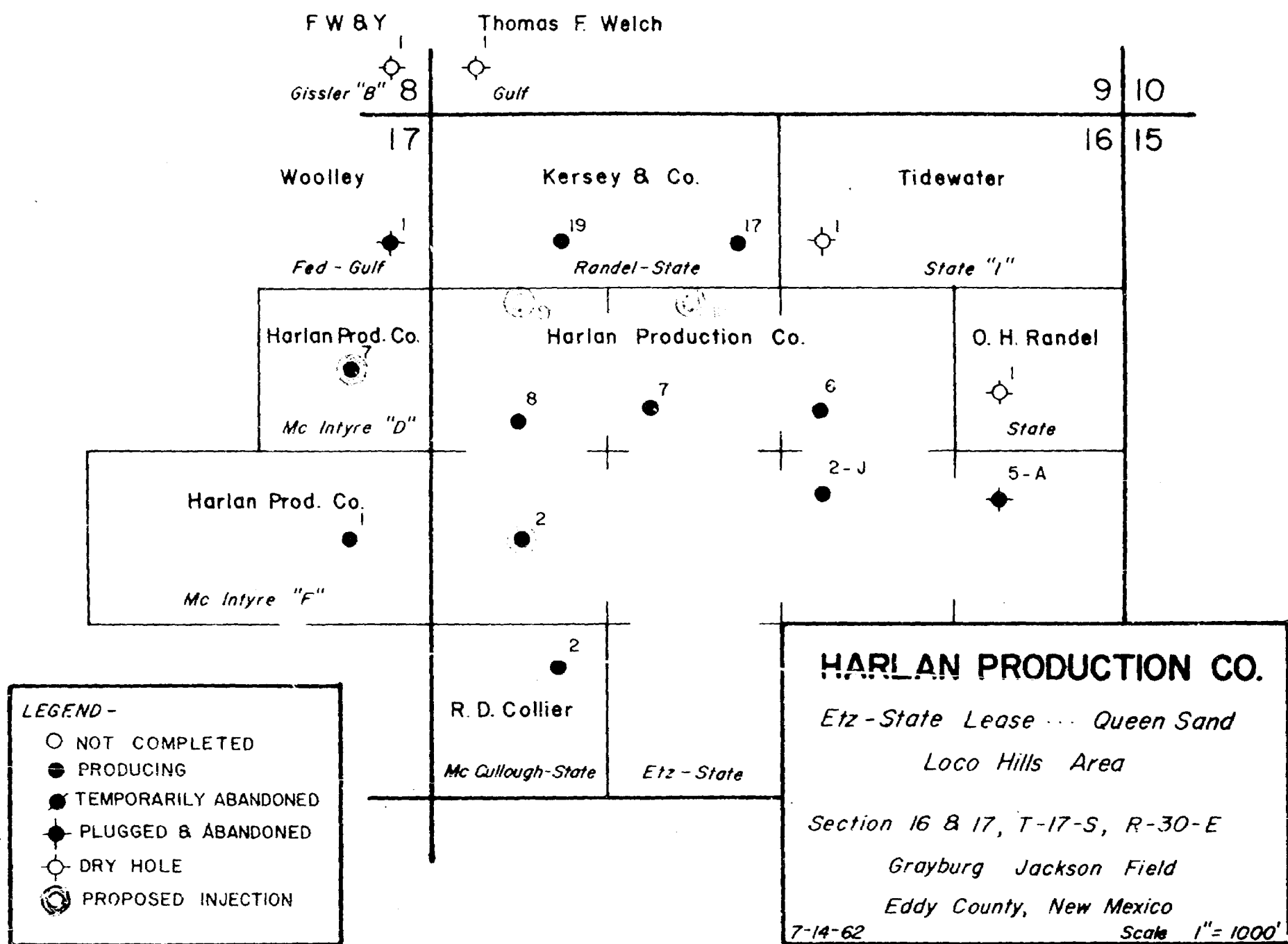
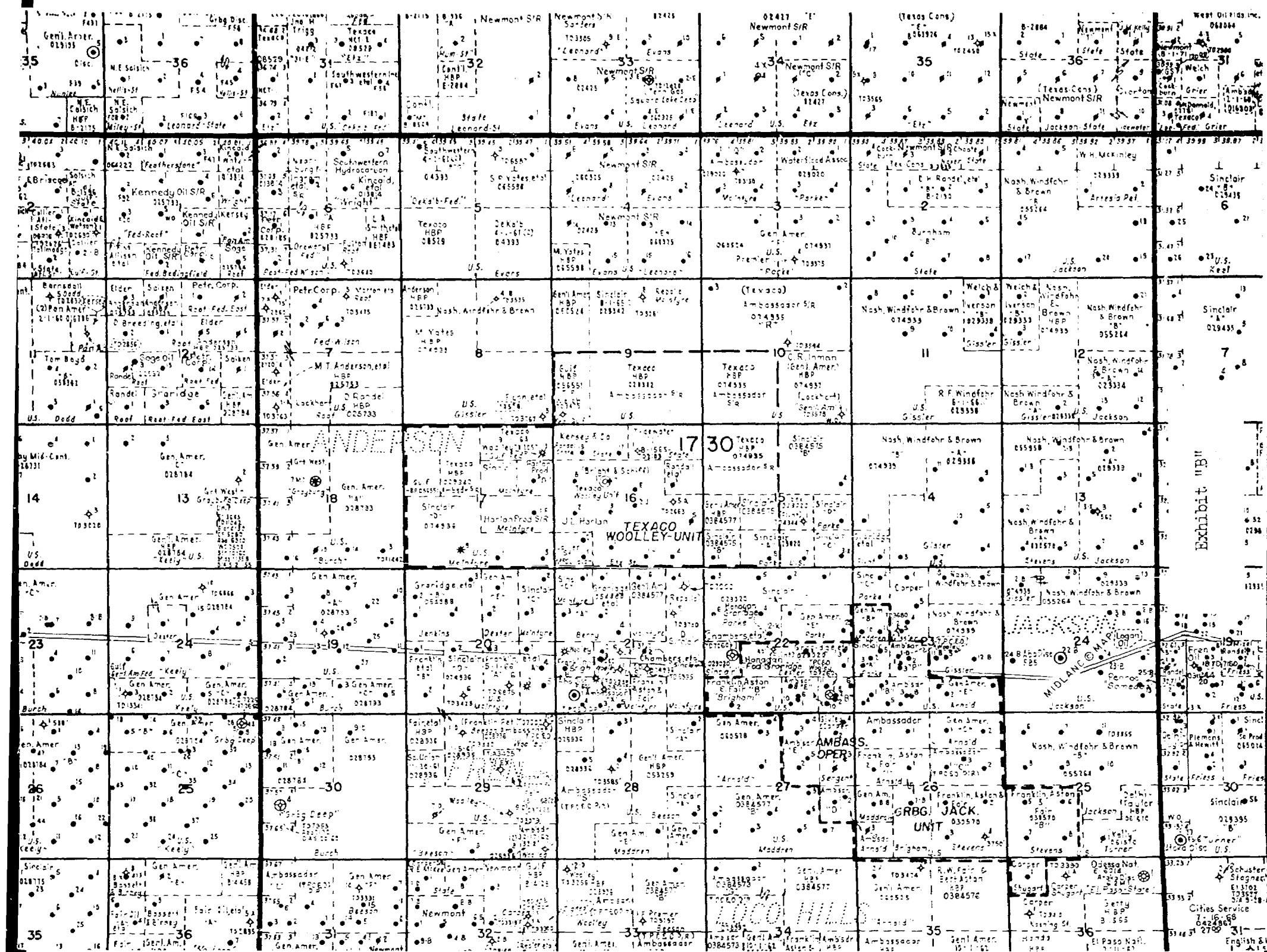


Exhibit "A"



PROPOSED WATER INJECTION WELL

Etz-State No. 2  
NW, SW, Sec. 16, T-17-S, R-30-E

Original Producing Well Drilled By  
Etz Oil Co. 7/11/36

Calculated cement top behind 7"  
at 682

8 1/4" - 32# Surface casing set  
at 1320 with mud to surface.

2 3/8" OD EUE 8RD Tubing with Baker  
tension type packer set at 2000

7" - 20# Oil string casing set at  
2026 with 100 sacks  
Top Pay 2075

Bottom Pay 2105

Plugged back to 2226 with 25 sacks  
cement plug 7/25/61  
Bottom plug 2360

Original T.D. 3270 7/11/36

Exhibit "C"

PROPOSED WATER INJECTION WELL

W.D. McIntyre "D" No. 7  
SE, NE, Sec. 17, T-17-S, R-30-E

Original Producing Well Drilled by  
Repollo Oil Co. 12/11/44

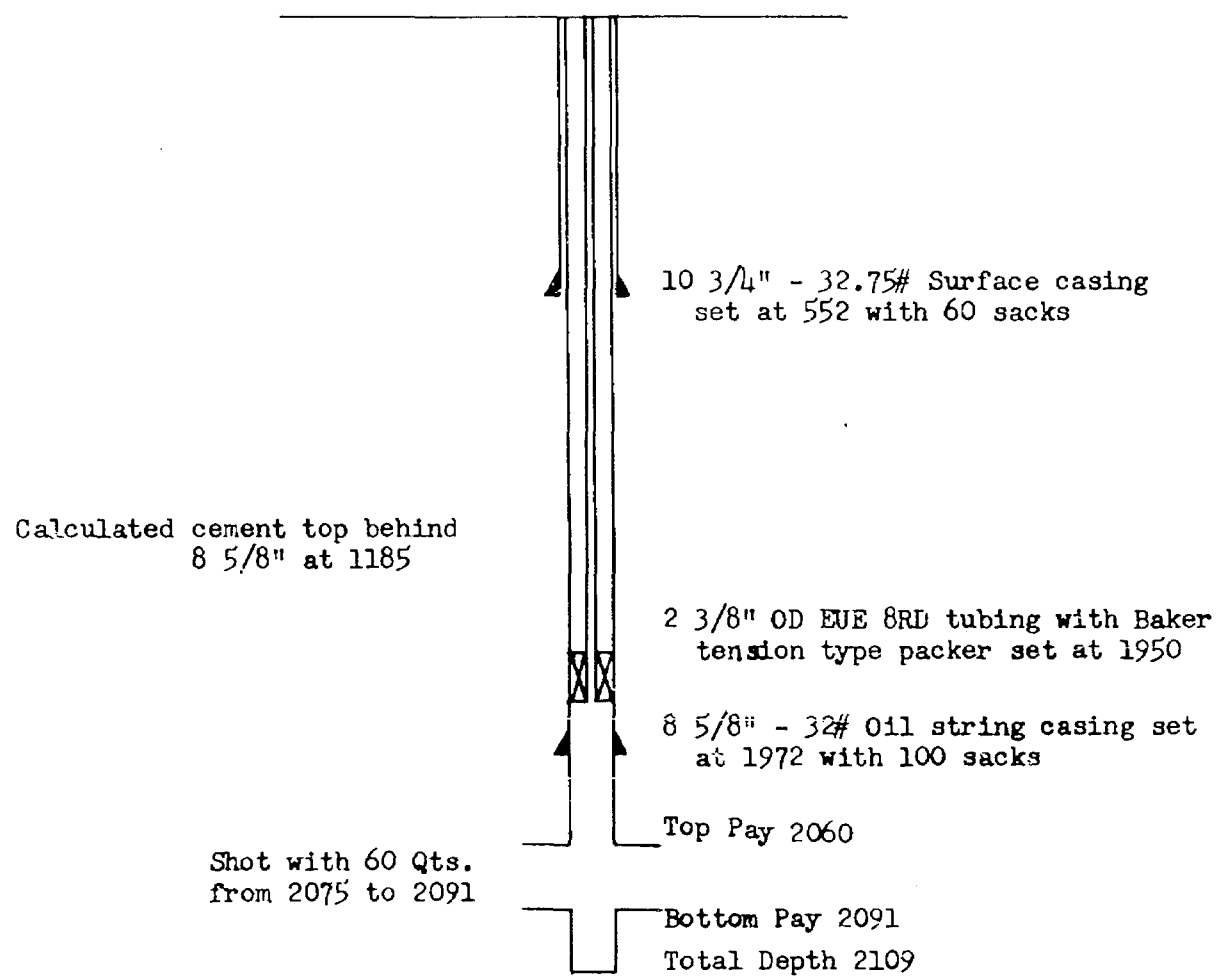


Exhibit "D"

PROPOSED WATER INJECTION WELL

Etz-State No. 9

Unorthodox Location  
1325 FNL & 660 FWL, Sec. 16, T-17-S, R-30-E

Estimated top salt at 500

Estimated base of salt at 1300

Cement basket at top of salt to  
support cement spotted from surface  
if circulation not obtained

2 3/8" OD EUE tubing set in 6 1/4"  
hole cement circulated with 360  
cu.ft. Incor with 2% Gel

Halliburton Full Flow Packer Shoe set  
at 2078 in 6 1/4" Hole

Est. Top Pay 2080

Est. Bottom Pay 2095

Exhibit "E"

PROPOSED WATER INJECTION WELL

Etz-Stats No. 10

Unorthodox Location  
1325 FNL & 1980 FWL, Sec. 16, T-17-S, R-30-E

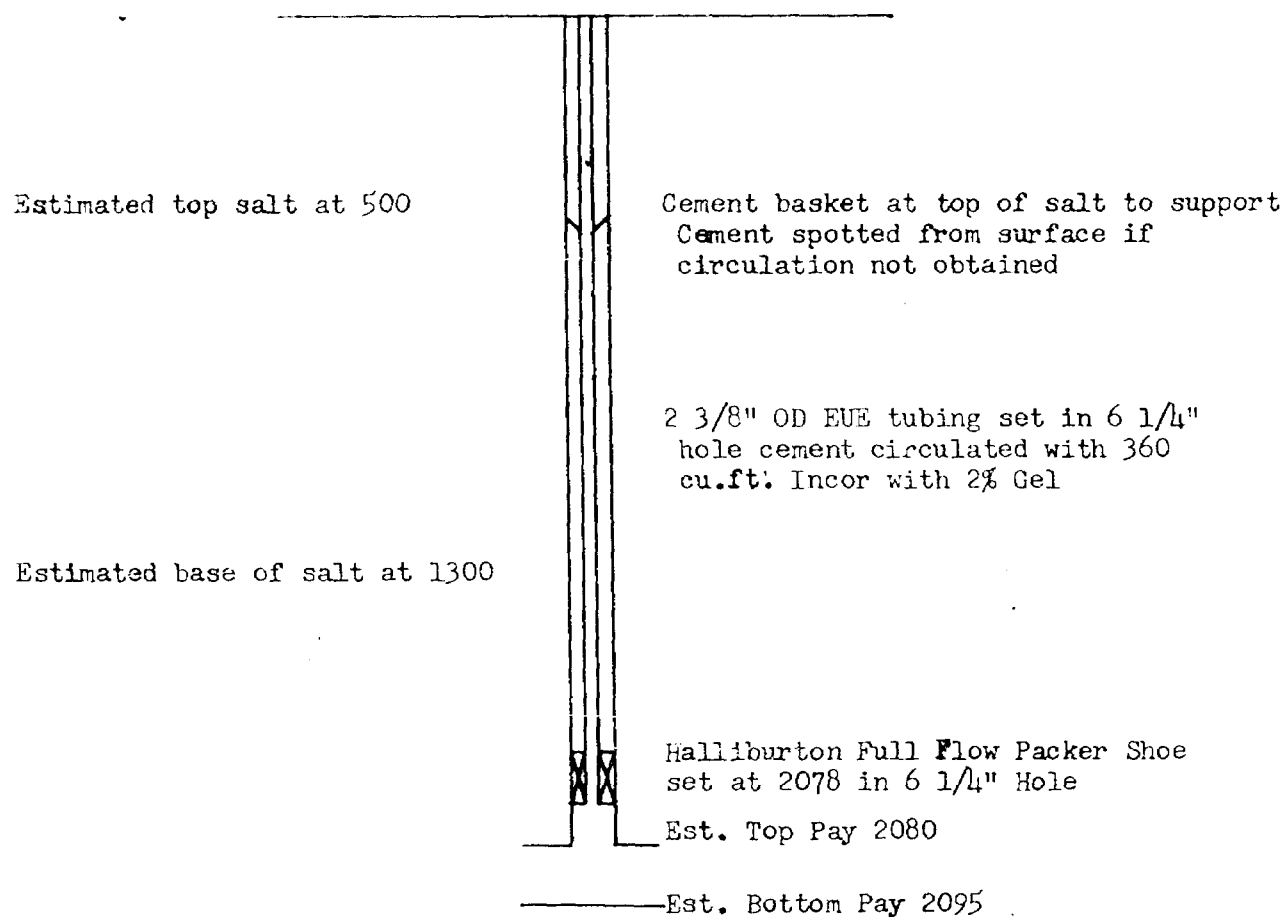


Exhibit "F"



EXHIBIT "G"

Harlan Production Company  
Suite 20, 10000

Continued:

Harlan Production Company has advised Kersey and Company that it plans to drill No. 9 and No. 10 on the 100-acre lease in the Greyburg-Jackson Field, Noddy County, New Mexico and requests a waiver of this application.

Well No. 9 is to be located 1370 feet from NL and 660 feet from WL, Section 16, T-17-S, R-30-E.

Well No. 10 is to be located 1370 feet from NL and 1980 feet from WL, Section 16, T-17-S, R-30-E.

Harlan Production Company also informed Kersey that these wells are to be drilled for water injection purposes only through the Queen Sand formation.

Kersey and Company waives notice of hearing and protest of this application.

Harold Kersey  
Kersey and Company

Nov. 19, 1963  
Date

Exhibit "G"

EXHIBIT "H"

**KERSEY & COMPANY**

DRILLING AND OIL PRODUCTION  
Phone SH 4-3671 • P. O. Box 316 • 400 W. Grand  
ARTESIA, NEW MEXICO 88210

November 12, 1963

Mr. R. D. Collier  
P. O. Box 798  
Artesia, New Mexico

Gentlemen:

Harlan Production Company runs the acreage to the south of our State No. 17-19 wells.

They want to start a water flood on this acreage and they will place two injection wells just south of our line and inject water into them at no cost to us. We will get all the benefits of the flood with none of the expense for flooding. A plat is enclosed showing their proposed plan.

This letter is written in duplicate. If you are agreeable to this plan please sign and return one copy of this to me.

Yours very truly,

KERSEY & COMPANY

  
Harold Kersey

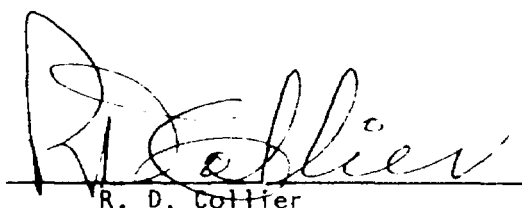
  
R. D. Collier

Exhibit "H"

EXHIBIT "I"

November 12, 1963

Mr. C. W. Hicks  
Rt. 1, Box 2468  
Roswell, New Mexico

Dear Charlie:

Harlan Production Company runs the acreage to the south of our State No. 17 & 19 wells.

They want to start a water flood on this acreage and they will place two injection wells just south of our line and inject water into them at no cost to us. We will get all the benefits of the flood with none of the expense for flooding. A plat is enclosed showing their proposed plan.

This letter is written in duplicate. If you are agreeable to this plan please sign and return one copy of this to me.

Yours very truly,

KERSEY & COMPANY

Harold Kersey

C. W. Hicks  
C. W. Hicks

EXHIBIT "J"

**KERSEY & COMPANY**

DRILLING AND OIL PRODUCTION  
Phone BR 6-6000 • P. O. Box 214 • 100 W. 1st St.  
ARTESIA, NEW MEXICO 88010

November 12, 1963

Mr. Roland McLean  
7061 E. 3rd St.  
Tucson, Arizona 85710

Dear Roland:

Harlan Production Company runs the acreage to the south of our State No. 17 & 19 wells.

They want to start a water flood on this acreage and they will place two injection wells just south of our line and inject water into them at no cost to us. We will get all the benefits of the flood with none of the expense for flooding. A plat is enclosed showing their proposed plan.

This letter is written in duplicate. If you are agreeable to this plan please sign and return one copy of this to me.

Yours very truly,

KERSEY & COMPANY

*Harold Kersey*  
Harold Kersey

*Roland McLean*  
Roland McLean

EXHIBIT "K"

**KERSEY & COMPANY**  
DRILLING AND OIL PRODUCTION  
Phone BR 6-8871 • P. O. Box 202 • 202 W. Grand  
ARTESA, NEW MEXICO 88010

November 12, 1963

Edward C. & Wilma Donohue  
P. O. Drawer 1372  
El Paso 48, Texas 79948

Dear Ed:

Harlan Production Company runs the acreage to the south of our State No. 17 & 19 wells.

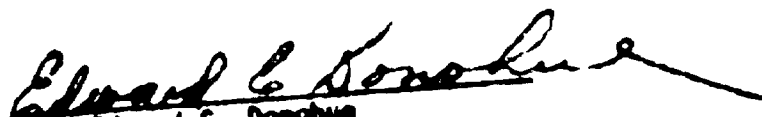
They want to start a water flood on this acreage and they will place two injection wells just south of our line and inject water into them at no cost to us. We will get all the benefits of the flood with none of the expense for flooding. A plat is enclosed showing their proposed plan.


This letter is written in duplicate. If you are agreeable to this plan please sign and return one copy of this to me.

Yours very truly,

KERSEY & COMPANY

Harold Kersey

  
Edward C. Donohue

  
Wilma E. Donohue

By her Attorney in fact.  
Wilma Donohue Moleen

CONFIDENTIAL

November 12, 1953

Mr. Glen F. Featherstone  
236 Petroleum Building  
Roswell, New Mexico 88201

Dear Mr. Featherstone:

Harlan Production Company runs the acreage to the south of our State No. 17 & 19 wells.


They want to start a water flood on this acreage and they will place two injection wells just south of our line and inject water into them at no cost to us. We will get all the benefits of the flood with none of the expense for flooding. A plat is enclosed showing their proposed plan.

This letter is written in duplicate. If you are agreeable to this plan please sign and return one copy of this to me.

Yours very truly,

KERSEY & COMPANY

Harold Kersey

  
Glen F. Featherstone

RECEIVED  
NOV 15 1953  
NEW MEXICO  
OFFICE

EXHIBIT "M"

New Mexico Oil Conservation Commission  
Santa Fe, New Mexico

Gentlemen:

Harlan Production Company has informed R. D. Collier that it plans to convert to water injection its Etz-State Well No. 2 in the Grayburg-Jackson Field, Eddy County, New Mexico and requests a waiver of this application.

Well No. 2 is located 1980 feet from SL and 660 feet from WL, Section 16, T-17-S, R-30-E.

Harlan Production Company also informed Mr. Collier that this well is to be used for water injection from 2067 to 2075 feet into the Queen Sand formation.

R. D. Collier waives notice of hearing and protest of this application.

  
R. D. Collier

Nov 21, 1963  
Date

Exhibit "M"

*By Mason Kellie*  
*Dec 29 1966*

New Mexico  
Oil Conservation Commission  
Santa Fe, New Mexico

PROPOSED PLAN OF WATERFLOOD  
Operations  
and  
Summary of Production Data

Submitted by:  
Harlan Production Company  
December 2, 1963

DOCKET MAILED

Date 12-26-63  
*[Signature]*



I. Plan of Operation

- A. The zone to be flooded is the Queen or Red Sand found at approximately 2075 feet under Section 16 and 17, T-17-S, R-30-E, Grayburg Jackson Field, Eddy County, New Mexico.

Eleven wells comprising approximately 440 acres have commercially produced from this pay section (Exhibit "A"). The Kersey and Company Randel State Lease (2 producing wells) and R. G. Collier McCullough State (1 producing well) are the only wells completed in the Queen sand owned by other operators. No other production from this zone is known within a radius of 3 miles (Exhibit B).

This sand lays along the north flank of the Grayburg Jackson structure. Down dip and to the north there is evidence of thickening as the sand becomes water wet. One continuous zone of porosity indicates from 3 to 18 feet of oil saturation. All wells were drilled with cable tools, the first being completed in 1941. There are no cores or electric logs available.

- B. The Flood Plan is shown in Exhibit "A". Equal distribution of water injection across the Federal and State lease line (West line, Section 16) is obtained by converting two producers. Two new drilled unorthodox locations are planned for injection wells. Final flood development will be made after pilot flood experience is known.

Waivers expressing no objections to this waterflood program from all offset operators are attached (Exhibit "G" through "M").

C. Input Wells

Harlan Production Company Etz-State No. 2 is a producing well to be converted to injection. The well is located in Unit L 660' FWL and 1980' FSL, Section 16, T-17-S, R-30-E. We propose to inject through tubing and below packer set in bottom of cemented oil string casing (Exhibit "C").

Harlan Production Company McIntyre "D" (Federal) No. 7 is an inactive producing well to be converted into injection. The well is located in Unit H 660' FEL and 1980' FNL, Section 17, T-17-S, R-30-E. We propose to inject through tubing and below packer set in bottom of cemented oil string casing (Exhibit "D").

Harlan Production Company Etz-State No. 9 is an unorthodox location for a new water injection well. The location is in Unit E, 1370' FNL and 660' FWL, Section 16, T-17-S, R-30-E. We propose to inject through tubing with cement circulated to surface (Exhibit "E").

Harlan Production Company Etz-State No. 10 is an unorthodox location for a new water injection well. The location is in Unit F, 1370' FNL and 1980' FWL, Section 16, T-17-S, R-30-E. Injection through tubing with cement circulated to surface is planned. (Exhibit "F")

D. Producing Wells

Etz-State No. 2-J	Unit J, Section 16
Etz-State No. 6	Unit G, Section 16
Etz-State No. 7	Unit F, Section 16
Etz-State No. 8	Unit E, Section 16
McIntyre "F" Federal No. 1	Unit H, Section 17

E. The Caprock Water System line will furnish the project fresh water from the Lea County Water Basin.

F. Initial input rates of 200 barrels per well per day into the 4 injection wells is proposed.

II. Summary of Production Data

The production ranges from 1/2 to 3 barrels oil and no water per well per day or 10 barrels per day for the 5 active pumping wells.

Primary production from the Harlan Production Company Queen sand producing area to January 1, 1963 is 313,620 barrels.

The secondary recovery potential by water flooding is estimated at 500,000 barrels.

<u>Company</u>	<u>Lease and Well</u>	<u>Unit</u>	<u>Section Location</u>	<u>Cumulative Production to 1-1-63</u>
			16	54,641
Harlan	Etz-State No. 2-J	J	16	38,897*
Harlan	Etz-State No. 2	L	16	55,617
Harlan	Etz-State No. 6	G	16	17,153
Harlan	Etz-State No. 5-A	I	16	38,089
Harlan	Etz-State No. 7	F	16	55,239
Harlan	Etz-State No. 8	E	16	22,213*
Harlan	McIntyre "D" No. 7	H	17	31,771
Harlan	McIntyre "F" No. 1	I	17	<u>313,620</u>
			Total	
			16	25,337
Kersey & Co.	Randel State 17	C	16	24,514
Kersey & Co.	Randel State 19	D	16	542
R.G. Collier	McCullough State 2	M	16	<u>50,393</u>
			Total	

\*Proposed injection wells

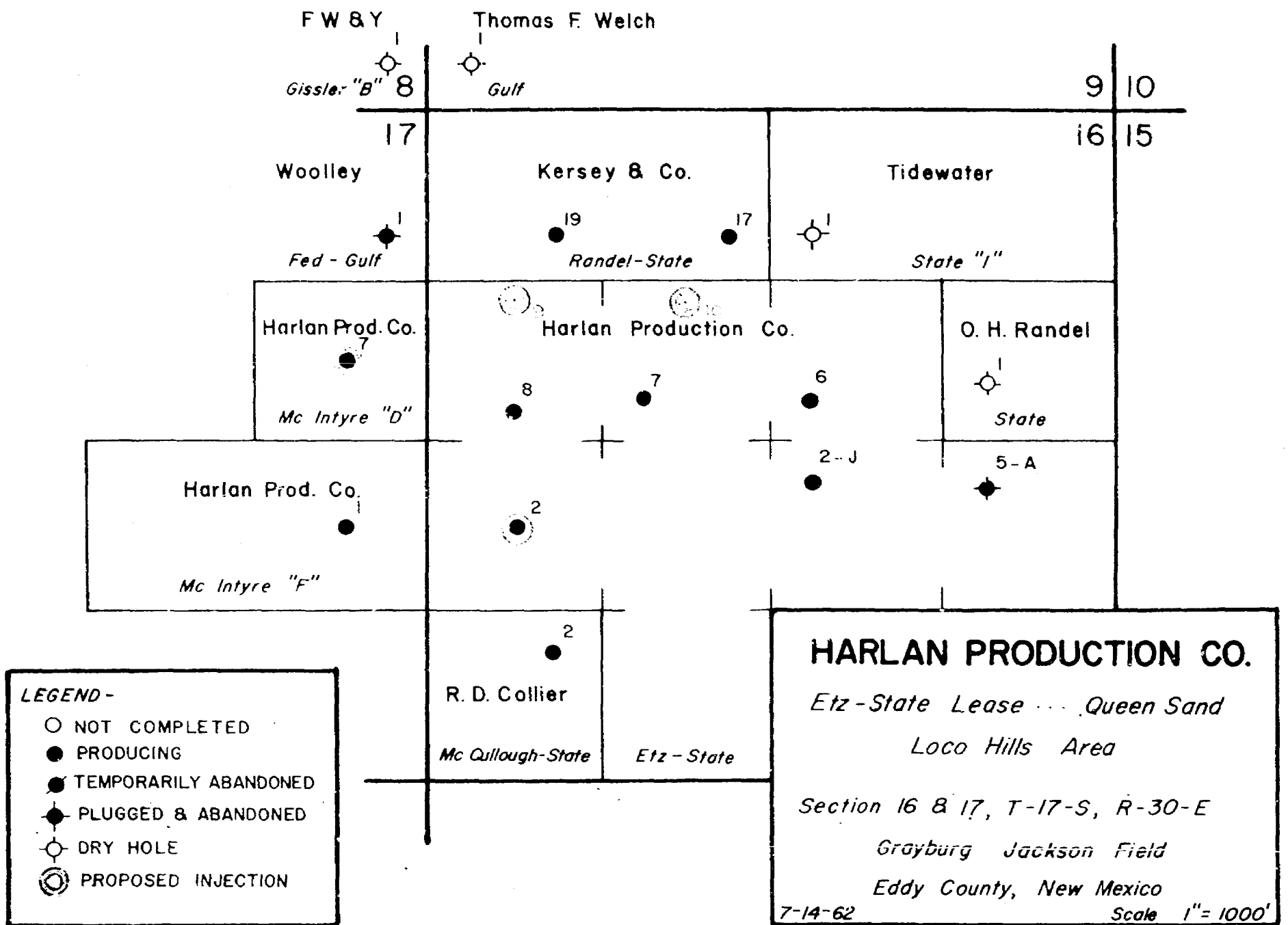


Exhibit "A"



PROPOSED WATER INJECTION WELL

Etz-State No. 2  
NW, SW, Sec. 16, T-17-S, R-30-E

Original Producing Well Drilled By  
Etz Oil Co. 7/11/36

Calculated cement top behind 7"  
at 682

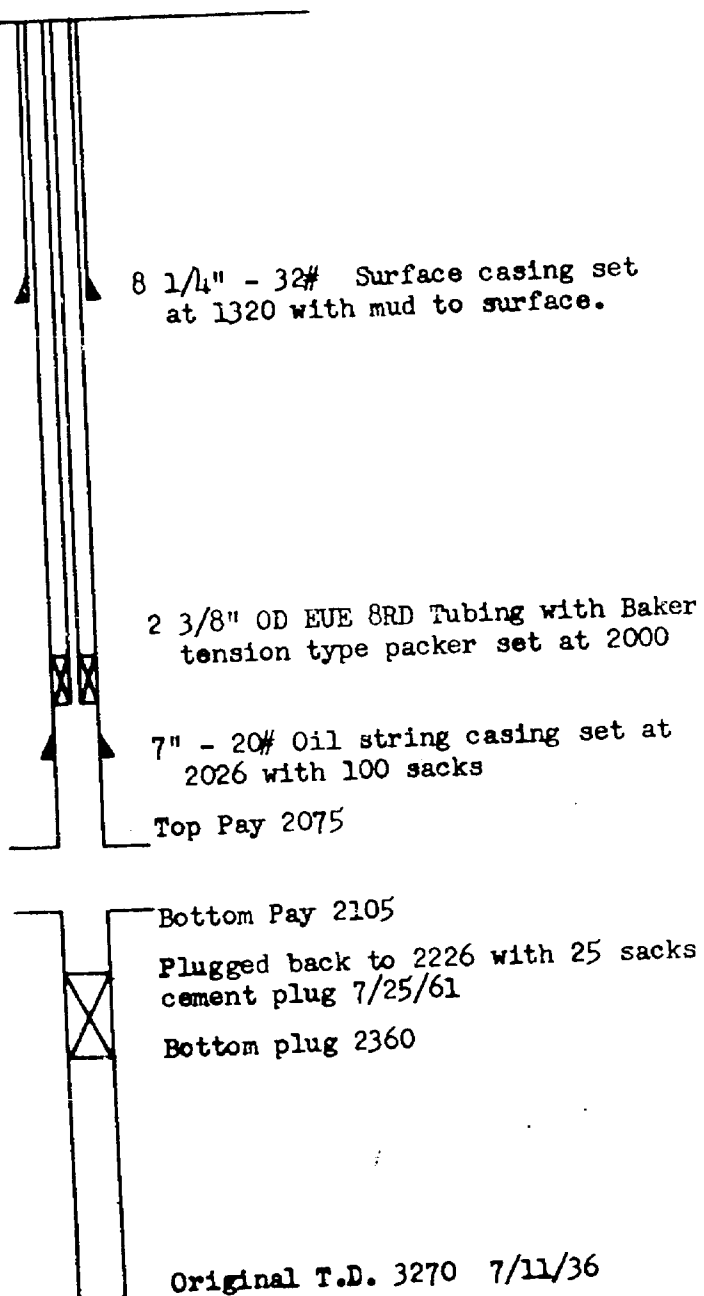


Exhibit "C"

PROPOSED WATER INJECTION WELL

W.D. McIntyre "D" No. 7  
SE, NE, Sec. 17, T-17-S, R-30-E

Original Producing Well Drilled by  
Repollo Oil Co. 12/11/44

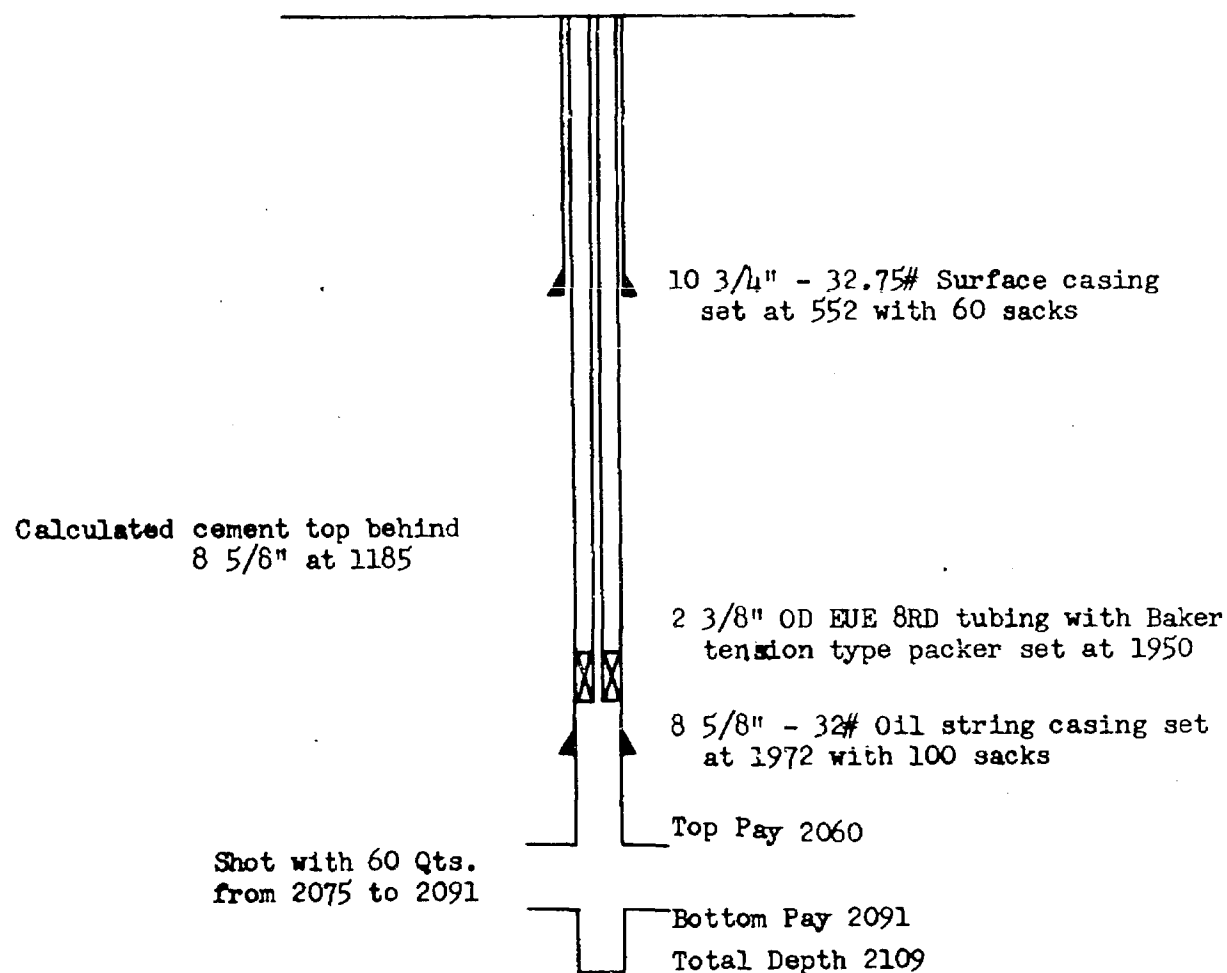


Exhibit "D"

PROPOSED WATER INJECTION WELL

Etz-State No. 9

Unorthodox Location  
1325 FNL & 660 FWL, Sec. 16, T-17-S, R-30-E

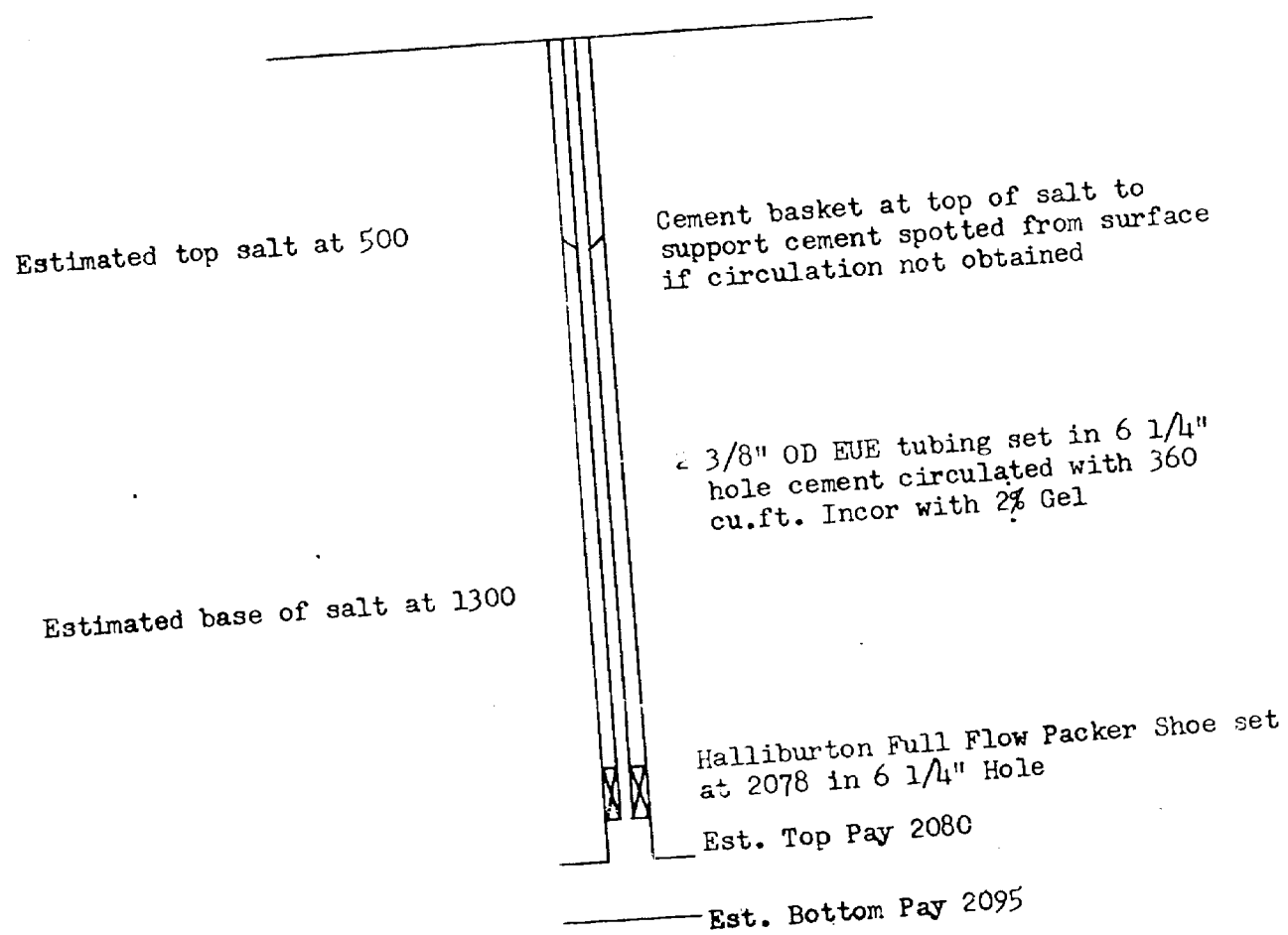


Exhibit "E"



PROPOSED WATER INJECTION WELL

Etz-State No. 10

Unorthodox Location  
1325 FNL & 1980 FWL, Sec. 16, T-17-S, R-30-E

Estimated top salt at 500

Cement basket at top of salt to support  
Cement spotted from surface if  
circulation not obtained

2 3/8" OD EUE tubing set in 6 1/4"  
hole cement circulated with 360  
cu.ft. Incor with 2% Gel

Estimated base of salt at 1300

Halliburton Full Flow Packer Shoe  
set at 2078 in 6 1/4" Hole

Est. Top Pay 2080

Est. Bottom Pay 2095

Exhibit "F"

EXHIBIT "G"

Harold Kusey

Nov. 19, 1963

Exhibit "G"

EXHIBIT "H"

**KERSEY & COMPANY**

DRILLING AND OIL PRODUCTION  
Phone SE 6-3671 • P. O. Box 316 • 800 W. Grand  
ARTESIA, NEW MEXICO 88210

November 12, 1963

Mr. R. D. Collier  
P. O. Box 798  
Artesia, New Mexico

Gentlemen:

Harlan Production Company runs the acreage to the south of our State No. 17-19 wells.

They want to start a water flood on this acreage and they will place two injection wells just south of our line and inject water into them at no cost to us. We will get all the benefits of the flood with none of the expense for flooding. A plat is enclosed showing their proposed plan.

This letter is written in duplicate. If you are agreeable to this plan please sign and return one copy of this to me.

Yours very truly,

KERSEY & COMPANY

  
Harold Kersey

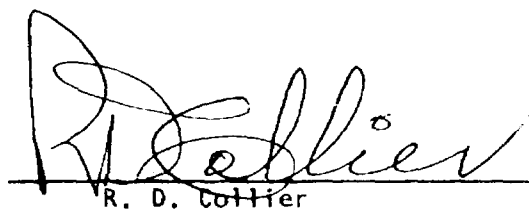
  
R. D. Collier

Exhibit "H"

EXHIBIT "I"

November 12, 1963

Mr. C. W. Hicks  
Rt. 1, Box 2468  
Roswell, New Mexico

Dear Charlie:

Harlan Production Company runs the acreage to the south of our State No. 17 & 19 wells.

They want to start a water flood on this acreage and they will place two injection wells just south of our line and inject water into them at no cost to us. We will get all the benefits of the flood with none of the expense for flooding. A plat is enclosed showing their proposed plan.

This letter is written in duplicate. If you are agreeable to this plan please sign and return one copy of this to me.

Yours very truly,

KERSEY & COMPANY

Harold Kersey

  
C. W. Hicks

Exhibit "I"

EXHIBIT "J"

**KERSEY & COMPANY**  
DRILLING AND OIL PRODUCTION  
Phone BR 6-3671 • P. O. Box 316 • 208 W. Grand  
ARTESIA, NEW MEXICO 88210

November 12, 1963

Mr. Roland McLean  
7061 E. 3rd St.  
Tucson, Arizona 85710

Dear Roland:

Harlan Production Company runs the acreage to the south of our State No. 17 & 19 wells.

They want to start a water flood on this acreage and they will place two injection wells just south of our line and inject water into them at no cost to us. We will get all the benefits of the flood with none of the expense for flooding. A plat is enclosed showing their proposed plan.

This letter is written in duplicate. If you are agreeable to this plan please sign and return one copy of this to me.

Yours very truly,

KERSEY & COMPANY

*Harold Kersey*  
Harold Kersey

*Roland McLean*  
Roland McLean

Exhibit "J"

EXHIBIT "K"

**KERSEY & COMPANY**  
DRILLING AND OIL PRODUCTION  
Phone BR 6-8971 • P. O. Box 884 • RR 17, Grand  
ARTESIA, NEW MEXICO 88010

November 12, 1963

Edward C. & Wilma Donohue  
P. O. Drawer 1372  
El Paso 48, Texas 79948

Dear Ed:

Kerley Production Company runs the acreage to the south of our State No. 17 & 19 wells.

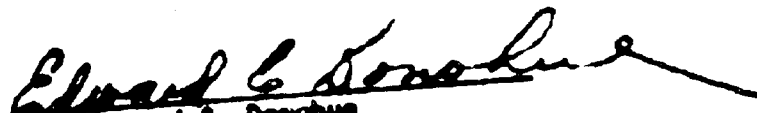
They want to start a water flood on this acreage and they will place two injection wells just south of our line and inject water into them at no cost to us. We will get all the benefits of the flood with none of the expense for flooding. A plat is enclosed showing their proposed plan.

This letter is written in duplicate. If you are agreeable to this plan please sign and return one copy of this to me.

Yours very truly,

KERSEY & COMPANY

Harold Kersey

  
Edward C. Donohue


  
Wilma E. Donohue  
By her Attorney in fact.  
Wilma Donohue Moleen

EXHIBIT "L"

November 12, 1963

Mr. Olen F. Featherstone  
236 Petroleum Building  
Roswell, New Mexico 88201

Dear Mr. Featherstone:

Harlan Production Company runs the acreage to the south of our State No. 17 & 19 wells.

They want to start a water flood on this acreage and they will place two injection wells just south of our line and inject water into them at no cost to us. We will get all the benefits of the flood with none of the expense for flooding. A plat is enclosed showing their proposed plan.

This letter is written in duplicate. If you are agreeable to this plan please sign and return one copy of this to me.

Yours very truly,

KERSEY & COMPANY

Harold Kersey

  
Olen F. Featherstone

RECEIVED  
NOV 15 1963  
OIL & GAS  
DIVISION  
SANTA FE, N.M.

EXHIBIT "M"

Re: Application for Extension  
of the Lease

Contents:

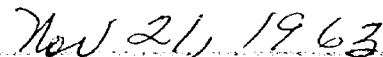
Verde River Production Company, Inc. advised R. D. Collier  
that it plans to extend the lease for the Verde River  
Well No. 2, B-1, Section 16, T-17-S, R-33-E, Pecos County, New Mexico,  
and requests extension of this application.

Well No. 2 is located 1500 ft. N. of the NE 1/4 Sec. 16, T-17-S, R-33-E.

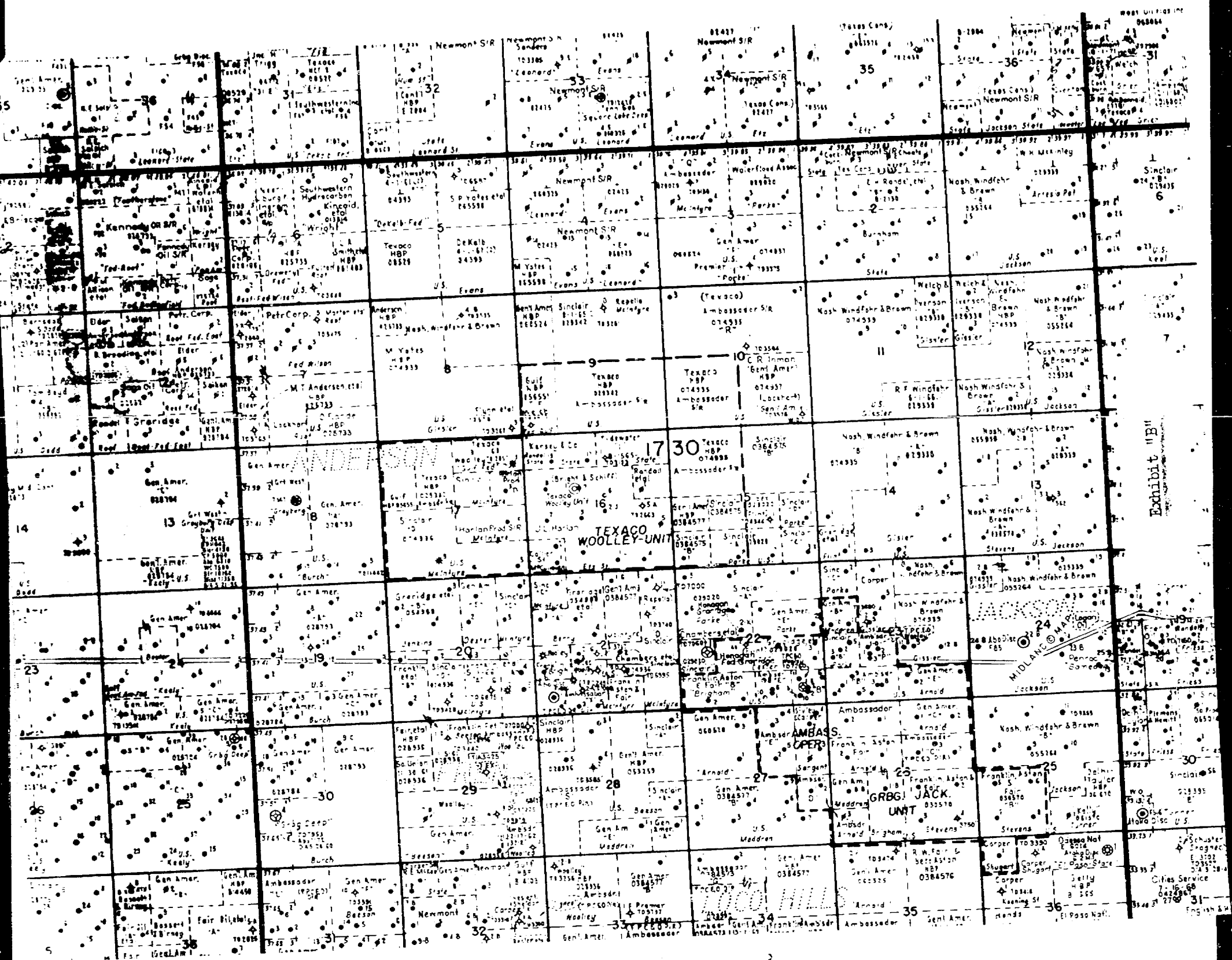
Verde Production Company also advised Mr. Collier  
that this well is to be used for water injection from 205' to  
207' feet into the Green Sand formation.

R. D. Collier waives notice of hearing and protest of  
this application.

  
R. D. Collier

  
Date





DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 8, 1964

9:00 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,  
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

---

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

- CASE 2963: Application of Tom Brown Drilling Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the West Antelope Sink Unit Area comprising 3680 acres, more or less, of State land in Township 19 South, Range 23 East, Eddy County, New Mexico.
- CASE 2964: Application of Socony Mobil Oil Company, Inc. for an exception to Rule 506, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the statewide limiting gas-oil ratio of 2,000 feet of gas per barrel of oil as promulgated by Commission Rule 506 for its State Bridges Well No. 96, located in Unit H of Section 26, Township 17 South, Range 34 East, Vacuum-Pennsylvanian Pool, Lea County, New Mexico.
- CASE 2965: Application of Stanley J. Stanley for rescission of Order No. R-2585, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order rescinding Order No. R-2585 and authorizing the applicant to assume ownership and operation of the Bunce-Federal Well No. 1, located 1586 feet from the North line and 1503 feet from the East line of Section 19, Township 29 North, Range 10 West, San Juan County, New Mexico.
- CASE 2966: Application of Harlan Production Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Grayburg-Jackson Pool, Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Sections 16 and 17, Township 17 South, Range 30 East.
- CASE 2720 (Reopened) : In the matter of Case No. 2720 being reopened pursuant to the provisions of Order No. R-2397, which order established special rules governing the production of oil and gas wells in the Double-X Delaware Pool, Lea County, New Mexico, including classification of wells as gas wells when the gas-liquid hydrocarbon ratio exceeds 30,000 to one.
- CASE 2682 (Reopened): In the matter of Case 2682 being reopened pursuant to the provisions of Order No. R-2375, which order established temporary 80-acre oil proration units for the Simpson-Gallup Oil Pool, San Juan County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 40-acre proration units.
- CASE 2967: Application of Standard Oil Company of Texas for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Jurnegan Point Unit Area comprising 7680 acres, more or less, of State and Fee land in Township 24 South, Ranges 24 and 25 East, Eddy County, New Mexico.

MAIL OFFICE 000

1963 NOV 5 PM 1:16

New Mexico Oil Conservation Commission  
Santa Fe, New Mexico


Gentlemen:

Harlan Production Company has informed R. D. Collier that it plans to drill Well No. 1-W on its Etz-State lease in the Grayburg-Jackson Field, Eddy County, New Mexico and requests a waiver of this application.

Well No. 1-W is to be located 1370 feet from S L and 50 feet from W L, Section 16, T-17-S, R-30-E.

Harlan Production Company also informed Mr. Collier that this well is to be drilled for water injection purposes only through the Queen Sand formation.

R. D. Collier waives notice of hearing and protest of this application.

  
R. D. Collier

  
Date

MAIN OFFICE 000

1953 NOV 5 PM 1:16

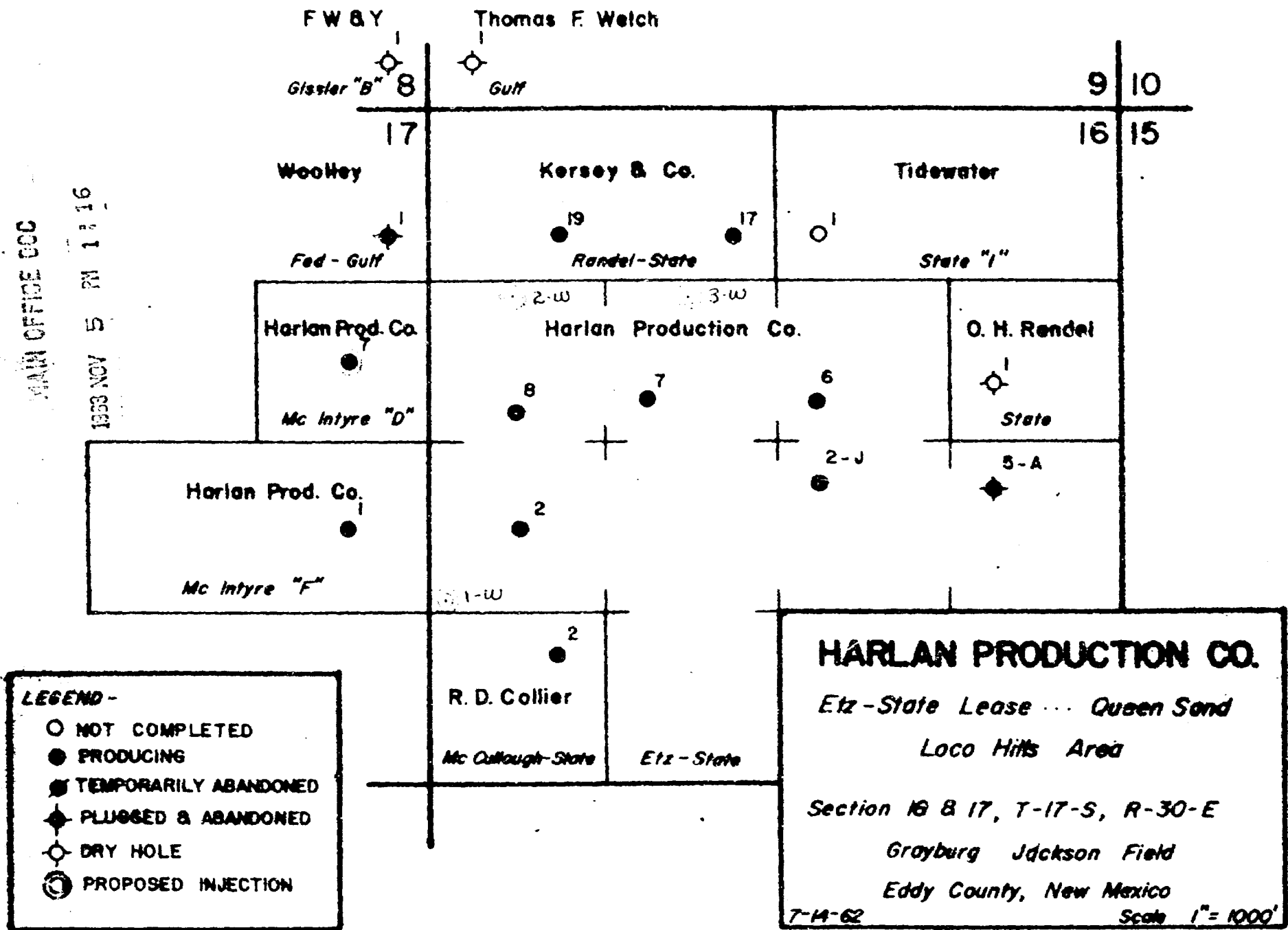


Exhibit "A"



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS  
STATE ENGINEER

December 31, 1963

ADDRESS CORRESPONDENCE TO:  
STATE CAPITOL  
SANTA FE, N. M.

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

Dear Mr. Porter:

Reference is made to the application of the Harlan Production Company which seeks approval of their proposed plan of water flood in Sections 16 and 17, Township 17 South, Range 30 East, Grayburg Jackson Field. The formation to be flooded is the Queen or Red Sand found at approximately 2075 feet. It is noted in the application that each injection well will be equipped with tubing and packer with the packer set in the bottom of the cemented oil string. The application and the exhibits attached thereto indicate that no threat of contamination to the fresh waters which may exist in the area will occur if the plan is followed. Therefore, this office offers no objection to the granting of the application.

Very truly yours,

S. E. Reynolds  
State Engineer

By:

*Frank E. Irby*  
Frank E. Irby  
Chief  
Water Rights Division

FEI/ma  
cc-Jason W. Kellahin  
F. H. Hennighausen

DRAFT

JMD/esr

*Need special  
ltr of transmittal  
allowance will fee  
322 bapd.*

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. 2966

Order No. R- 2635

APPLICATION OF HARLAN PRODUCTION  
COMPANY FOR A WATERFLOOD PROJECT,  
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on January 8, 1964, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this \_\_\_\_\_ day of January, 1964, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, 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, Harlan Production Company, seeks authority to institute a waterflood project in the Grayburg-Jackson Pool by the injection of water into the Queen formation through four wells ~~located~~ in Sections 16 and 17, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico.

(3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(4) That the proposed waterflood project is in the interest of conservation and should result in recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That the subject application should be approved and the project should be governed by the provisions of Rule 701 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Harlan Production Company, is hereby authorized to institute a waterflood project in the Grayburg-Jackson Pool by the injection of water into the Queen formation through the following-described ~~four~~ wells in Township 17 South, Range 30 East, NM PM, Cady County, New Mexico:

Section 16

City State well No 2, 1980 feet from the South line and 660 feet from the West line.

City State well No 9, 1370 feet from the North line and 660 feet from the West line.

City State well No 10, 1370 feet from the North line and 1980 feet from the West line.

Section 17

Mc Intyre "D" well No 7, 1980 feet from the North line and 660 feet from the East line.

(2) That the subject waterflood project shall be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including the allowable provisions thereof, and including the provisions with respect to expansion of the waterflood project.

(3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1119 of the Commission Rules and Regulations.

(4) 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.

HARLAN PRODUCTION COMPANY

315 SO. ALLEN

P. O. BOX 333

MONAHANS, TEXAS

1964 JUL 23 AM 7 41

July 16, 1964

Mr. A. L. Porter, Jr.  
Secretary-Director  
Oil Conservation Commission  
P.O. Box 871  
Santa Fe, New Mexico

Re: Case No. 2966  
Order No. R-2635  
HARLAN PRODUCTION COMPANY  
Waterflood Project  
Eddy County, New Mexico

Dear Sir:

On January 13, 1964 the above named order authorized Harlan Production Company to institute a waterflood project in the Grayburg-Jackson Pool by injection of water into the Queen formation through the following-described wells in Township 17 South, Range 30 East, NMPM Eddy County, New Mexico:

Section 16

Etz-State Well No. 2, 1980 feet from the South line and 660 feet from the West line;  
Etz-State Well No. 9, 1370 feet from the North line and 660 feet from the West line;  
Etz-State Well No. 10, 1370 feet from the North line and 1980 feet from the West line.

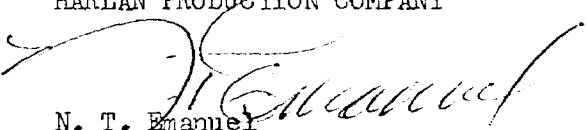
Section 17

McIntyre "D" Well No. 7, 1980 feet from the North line and 660 feet from the East line.

This is to advise that active injection was commenced into the above wells July 16, 1964. Monthly progress reports covering this project will be forthcoming.

Yours very truly,

HARLAN PRODUCTION COMPANY

  
N. T. Emanuel  
Petroleum Engineer

NTE/mm

cc: Oil Conservation Commission  
Artesia, New Mexico