

CASE 2886: Appli. of AMBASSADOR
OIL CORP. for a capacity water-
flood project, Eddy County, N.M.

1952/10.

2886

dictation, Transcript,

all Exhibits, Etc.

DRAFT



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. 2886

Order No. R- 2571

*Application of Ambassador
Oil Corporation for a
Capacity 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 Aug 21, 1963 at Santa Fe, New Mexico, before DSN 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 Sept day of 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, DSN, 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.

Order K-2571

Findings

JSU

1. Jurisdiction
2. That the applicant, Ambassador Oil Corp., is the owner and operator of the Federal "Q" Lease, comprising the NW¹/₄ of Sec 3, Twp 17 S, Rge 30 E, ~~West~~ ^{East} Square Lake Area, ~~Edley County, New Mexico,~~ which lease is offset to the North and to the West by a capacity-type water flood project ~~and~~ operated by Newmont Oil Corp.
3. That the applicant desires to institute a water flood project on said Federal "Q" Lease by the injection of water into the ~~Lower Grayburg and Upper San Andres formations through two wells located in Units D and E of said Section 3, and to that effect has entered into a~~ ^{Cooperative Water Flood Agreement with Newmont Oil Corp and with Water-Flood Associates, Inc., the latter being the operator of the NE¹/₄ of said Section 3.}
4. That the wells in the proposed project area are in an advanced state of depletion and should properly be classified as "stripper" wells
5. That the proposed water flood project is in the interest of conservation and should result in the recovery of otherwise unrecoverable oil,

thereby preventing waste.

6. That the subject application ^{to institute a wellfield project in} should be approved.

~~That the subject application should be approved.~~

7. That due to the size of the tract ~~involved~~ involved it is impracticable to create a buffer zone for allowable purposes in this instance and that wells in this project should be ~~authorized to produce~~ granted an allowance equal to their capacity to produce.

the Neg of
Section 3, Twp
17S, R9E, 30E

IT IS THEREFORE ORDERED:

(1) That the applicant, Ambassador Oil Corporation, is hereby authorized to institute a waterflood project in the Square Lake Pool, Eddy County, New Mexico, by the injection of water into the Lower Grayburg and Upper San Andres formations through the following-described injection wells:

Federal "Q" Well No. 1, NW/4 NW/4 of Section 3,
Federal "Q" Well No. 4, SE/4 NW/4 of Section 3,
Township 17 South, Range 30 East, NMPM, Eddy
County, New Mexico.

(2) That the operation of the waterflood project herein authorized shall in all respects be governed by the provisions of Rule 701 of the Commission Rules and Regulations with the exception that the provisions of Rule 701-E-3 regarding allowables shall in this case not be applicable, and the wells in this project shall be granted an allowable equal to their ability to produce.

(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 herein-above designated.

August 21ST 1963

7-30-63

Re: TF Jim Jennings

Application of Ambassador Oil Corp. for
a capacity waterflood project, Caddy County,
New Mexico. Applicant, in the above styled
Cause, seeks authority to institute ^{capacity waterflood} project on its Federal "Q" lease comprising
the NW/4 of Section 3 Township 17 South
Range 30 East by the injection of water
into the Square Lake Pool through 2 wells
located in the NW/4 of said Section 3.

7250
3750
1500
187.50

750
1863

538
— 183-4509 — went on 21st of June

11/11/11

Jim Jennings — main 28432

Ambassador Oil Corp institute
waterflood project on Federal & lease
NW/4 Sec. 3 T17S R30E
Square Lake Pool (adjacent to
Newmont flood, Order K-1110)
Bounded on N & W by Newmont acreage
Net capacity allowable

inject in 2 wells:
no 1 well NW/4 NW/4
no 2 " SE/4 NW/4
no 2
no 3

(see p 26 Byron Sec 10)

~~th 7026~~

Cur

Class of Service
This is a fast message unless its different character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

SYMBOLS	
DL	Day Letter
NL	Night Letter
LT	International Letter Telegram

W. P. MARSHALL, President

1934 (4-60)

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at destination.

LA116 D=390 =L
B FWC065 PD=FORT WORTH TEX 21 455P CST=
CHIEF ENGINEER=
NEW MEXICO OIL AND GAS COMMISSION SANTA FE NMEX=
AS OFFSET OPERATOR WE WISH TO SUPPORT THE AMBASSADOR
OIL COMPANY APPLICATION FOR WATER FLOOD IN SECTION
THREE, T17S, R30E, EDDY COUNTY, SQUARE LAKE FIELD=
WATER FLOOD ASSOCIATES INC CURTIS MCBROOM=

=T17S R30E=

AND COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

NEWMONT OIL COMPANY

FORT WORTH NATIONAL BANK BUILDING

FORT WORTH 2, TEXAS

August 20, 1963

Oil Conservation Commission
State of New Mexico
P. O. Box 871
Santa Fe, New Mexico

RE: EDDY COUNTY, NEW MEXICO
NW/4 Section 3-17S,30E

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

We have been advised of Ambassador Oil Corporation's application for a waterflood permit for their Federal "Q" lease located in the NW/4 Section 3, Township 17 South, Range 30 East, Eddy County, New Mexico, which constitutes a direct offset to properties operated by Newmont Oil Company.

Please be advised that Newmont Oil Company wishes to support the request for the issuance of said permit under the water-flood rules established for this field.

Very truly yours,

NEWMONT OIL COMPANY

C. W. Stumhoffer

C. W. Stumhoffer,
Co-ordinator Waterflood Operations

CWSt:ln

cc: Ambassador Oil Corporation
Fort Worth, Texas

Newmont Oil Company
Artesia, New Mexico

Case 2886

JAMES T. JENNINGS
ATTORNEY AT LAW
1012 SECURITY NATIONAL BANK BUILDING
ROSWELL, NEW MEXICO
MAIN 2-8432

ROGER L. COPPLE

1963 AUG 5 AM 10 31

August 5, 1963

Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: James M. Durrett, Jr.

RE: Ambassador Application to
Expand Waterflood

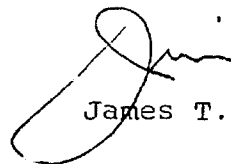
Gentlemen:

Confirming our telephone conversation of last week, I have prepared and you will find enclosed herewith an Application in triplicate for Ambassador Oil Corporation to expand the Square Lake Waterflood Project to include the NW $\frac{1}{4}$ Section 3, Township 17 South, Range 30 East. I hope that you will find the Application in order. If, however, I have overlooked something, please call me and I will make appropriate corrections. I am somewhat handicapped as my client has not yet furnished me with the requested material, but I hope that this will be sufficient to get the matter on the docket so that we can have the hearing as scheduled on August 21.

Your cooperation on this is certainly appreciated, and I hope that everything is in order. If not, call me collect and I will try to take care of it.

My boy is involved in a baseball tournament in El Paso for the next couple of days, but if you will call my office, they will put you in touch with me.

Yours very truly,



James T. Jennings

JTJ/mb

Encl.

DOCKET MADE

8903
[Handwritten initials]

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF)
AMBASSADOR OIL CORPORATION FOR AN)
ORDER AUTHORIZING THE EXPANSION OF)
THE SQUARE LAKE WATERFLOOD PROJECT)
TO INCLUDE THE NW $\frac{1}{4}$ SECTION 3,)
TOWNSHIP 17 SOUTH, RANGE 30 EAST,)
EDDY COUNTY, NEW MEXICO, AND PROVIDING)
FOR PROCEDURES FOR SUCH EXPANSION)

NO. 2886

APPLICATION

COMES NOW Applicant, Ambassador Oil Corporation by its attorney, James T. Jennings, and states:

1. That it is the owner and operator of the leasehold rights under the NW $\frac{1}{4}$ of Section 3, Township 17 South, Range 30 East, located in the Square Lake Pool, and that said tract is immediately adjacent to and offsets the Newmont Oil Company Waterflood Project in the Square Lake Pool heretofore authorized by this commission.

2. The presently developed area of the Newmont Oil Company's Square Lake Waterflood Project has established the feasibility of waterflooding the Grayburg and San Andres formations in said pool, and has further established that such flooding will result in increased ultimate recovery of oil and will, therefore, prevent waste.

3. That the Applicant has entered into a Cooperative Waterflood Agreement with Newmont Oil Company whereby the waterflood project area will be expanded to include the NW $\frac{1}{4}$ of Section 3, Township 17 South, Range 30 East. That Applicant's No. 1 well located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ and No. 4 well located in the SE $\frac{1}{4}$ NW $\frac{1}{4}$ will be injection wells, and Applicant proposes to produce from its No. 2 and No. 3 wells located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ and SW $\frac{1}{4}$ NW $\frac{1}{4}$, respectively.

4. That the entire area now located in the Newmont Square Lake Waterflood Project by Orders Nos. R-1110, R-1110-A, R-1110-B, R-1110-C and other orders was exempt from the allowable provisions of Rule 701-E, and this application involves an expansion of an existing waterflood project and should be exempt from the allowable provisions of Rule 701-E and should be granted a capacity allowable.

WHEREFORE, Applicant requests the Commission to set this matter down for hearing before an examiner at an early date, publish notices required by law and, after hearing, to issue its Order:

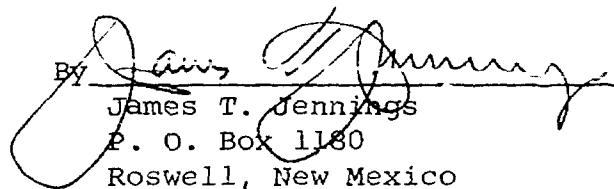
1. Expanding the limits of the Square Lake Pool Waterflood Project to include the NW $\frac{1}{4}$ of Section 3, Township 17 South, Range 30 East, Eddy County, New Mexico.

2. Establish rules for the expansion of the flood within said area.

3. Providing for capacity allowables for the area in a like manner as such allowables are now permitted in the remaining portion of the Square Lake Pool Waterflood Project.

Respectfully submitted,

AMBASSADOR OIL CORPORATION

By 
James T. Jennings
P. O. Box 1180
Roswell, New Mexico

Attorney for Applicant

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

EXAMINER HEARING

IN THE MATTER OF:

Application of Ambassador Oil Corporation
for a capacity waterflood project, Eddy
County, New Mexico. Applicant, in the
above-styled cause, seeks authority to
institute a capacity allowable waterflood
project on its Federal "Q" lease compris-
ing the NW/4 of Section 3, Township 17
South, Range 30 East, Eddy County, New
Mexico, by the injection of water into
the Square Lake Pool through 2 wells
located in the NW/4 of said Section 3.

Case No. 2886

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

August 21, 1963.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

SANTA FE, N. M.
PHONE 983-3871

ALBUQUERQUE, N. M.
PHONE 243-6691



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

SANTA FE, N. M.
PHONE 983-3971

ALBUQUERQUE, N. M.
PHONE 243-6691

MR. NUTTER: We will call Case 2886.

MR. PAYNE: Application of Ambassador Oil Corporation for a capacity waterflood project, Eddy County, New Mexico.

MR. JENNINGS: I'm James T. Jennings, appearing on behalf of Ambassador Oil Corporation, and I have one witness, Mr. E. A. Riley.

(Witness sworn.)

(Whereupon, Applicant's Exhibit No. 1 was marked for identification.)

E. A. RILEY

called as a witness, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. JENNINGS:

Q Would you state your name and occupation?

A E. A. Riley, Assistant Vice President, Manager of Secondary Recovery Division of Ambassador Oil general offices located in Fort Worth, Texas.

Q Have you had occasion to appear before the Oil Conservation Commission of the State of New Mexico in the past, and testify?

A Yes.

MR. JENNINGS: Mr. Examiner, do you wish me to further



qualify the witness?

MR. NUTTER: No, sir, Mr. Riley is qualified.

Q Mr. Riley, are you familiar with the application that has been filed here on behalf of Ambassador Oil Corporation covering the Northwest Quarter of Section 3, Township 17 South, Range 30 East to extend the existing waterflood project?

A Yes, I am.

Q Referring to Exhibit B of Exhibit 1, would you explain to the Commission generally what you propose and the way in which you propose to expand and operate your waterflood?

A Exhibit 1-B is a map showing the area of the subject application and is styled "Waterflood Pattern." On this map we have colored the three pertinent tracts' ownership owned by Waterflood Associates in red, Newmont Oil Company in blue, and Ambassador Oil Corporation in yellow. The present injection pattern is shown by wells that are circled and then joined with a solid black line. Those are being operated by Newmont Oil Company at this time.

The proposed expansion encompasses the well shown in a dashed circle, and the wells that are colored with red inside of the dashed circle are the wells that I will later refer to as those being concerned with the cooperative waterflood agreement which the three operators have consummated.



The plans are to expand the present Newmont pilot by adding the Newmont Oil Company Leonard B-3 and the Etz C-3 to the injection pattern, and Ambassador's Federal 2, 1 and 4 and Waterflood Associates Park 2 and 4. Newmont Oil Company Evans A-2 will be added as an injection pattern in the cooperative flooding venture at such time as that well qualifies for conversion to injection status under the present Commission's rules.

Q What is the present status of the production from the wells located on the tract which Ambassador proposes --

A The average production from the Federal "Q" lease is 2.6 barrels per well per day.

Q How about the other well?

A The Federal "Q" lease wells, the average for the two wells.

Q The two wells, excuse me.

A There are two active wells, Wells 1 and 4 are currently active. 2 and 3 are currently temporarily inactive. The average production from Wells 1 and 4 averages 2.6 barrels per day, this is stripper level production.

Q Have you prepared a schedule showing the production from these wells?

A Yes, sir, I have. It is presented as Exhibit E, which are the production curves for the individual Wells 1 through 4.



Q Generally what does this show?

A It shows the wells are currently at their stripper level of production in the range as previously mentioned of 2.6 barrels per well per day. In other words, they are at or near their economic limit at this time.

Q What has been the experience to date, if you know, in connection with the Newmont flood lying immediately north of the tract in question?

A It might be termed successful. They, at this time, currently have six wells that are responding with a top production being on their George Eitz "E" No. 1; according to the New Mexico Engineering Report that's producing 51 barrels of oil per day and 6 barrels of water.

Q How do you propose to flood this tract?

A By the terms of the cooperative waterflooding agreement we will deepen the wells into the upper San Andres to ascertain if that zone is productive as it is on the Newmont tract adjoining us to the north. If it is productive, we propose to run tubing and packer and inject into the lower Grayburg and upper San Andres. If possible, simultaneously, if not we propose to set the packer and dually inject into these two zones. This is covered in the cooperative waterflood agreement.

Q What kind of water do you propose to use?



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PHONE 243-6691

A We have contracted to purchase pressured water from Newmont's water station located to the north of our tract.

Q Are you familiar with the casing program that has been carried out in the existing well?

A The subject well's casing program is carried in the Exhibit L, pages 1-A and 2, on page 2, excuse me, the casing program consisted of setting 8- $\frac{1}{2}$ " casing at 512 to 525 feet, and cement it with 50 sacks of regular cement, then run a production string of 5- $\frac{1}{2}$ " casing to just above the pay zone generally occurring in the 2750 feet to 2795 feet interval and cementing that with 100 sacks of regular cement.

Q Do you feel that this will effectively shut off the water from any fresh water supply in the area?

A Yes, I do.

Q Do you know when the original Newmont flood was approved? I believe that was in connection with Order No. 1110.

A I think that order was approved in 1957. As I remember, the applicant at that time was Texas Consolidated Oil, who later sold to Cleo Thompson, and they in turn sold to Newmont Oil Company.

Q When was the Newmont flood instituted?

A In 1957.

MR. NUTTER: That's Order No. 1110?



MR. JENNINGS: 1110. I believe it's No. 1110, and I

might state there are four or five A, B, C, D, E.

Q (By Mr. Jennings) Do you know, Mr. Riley, if the original order and the original flood area has been extended from this time?

A Yes, it has.

Q Do you feel that the area described in our application in the Northwest Quarter of Section 3, as well as the Northeast Quarter, constituted a valid expansion of the original flood?

A Yes, sir. I feel that it does.

Q Do you think it's necessary to expand it in that manner to carry out the original plan of the original flood?

A Yes, I do.

Q Do you feel that this will be in the interest of conservation?

A Yes.

Q Is it necessary to protect the correlative rights of the parties involved?

A Definitely.

Q Did you prepare a cross section of the sands in the Square Lake Field?

A I did not prepare the cross section. That is an excerpt from the New Mexico Geological Symposium booklet and,



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PHONE 243-6691

as you can see, it borders the subject acreage on the east, and this booklet has been published and is a public record.

Q I believe you stated that you have entered into a cooperative waterflood agreement with the other operators in the area?

A Yes, we have.

Q Generally what area does it cover and who are the operators?

A The operators are Newmont Oil Company, Waterflood Associates and Ambassador Oil Corporation. It generally covers the area adjoining Section 3, Township 17 South, Range 30 East on the northern extremities.

Q Is this what is identified as F in Exhibit 1?

A Yes, it is.

Q This has been executed by all of the parties?

A All the parties.

Q Have you had any communication from the other operators concerning your application?

A Yes, I have. We have a letter from Newmont Oil Company which we are ready to submit to the Commission, and telephone conversation with Waterflood Associates. It is my understanding that they were to wire their concurrence to the Commission. I do not know whether that has been received.



Q Do you know whether or not the adjoining Newmont water-flood as covered by Orders 1110 and A, B, C, and D is operating under a capacity allowable?

A Yes, they are.

Q Do you feel that it is necessary that you be allowed to operate under the same provision?

A Yes, due to the smallness of the tract, we see no way that we could buffer the capacity allowable flood adjoining us to the north and to the west.

MR. JENNINGS: I don't believe I have anything further.

MR. NUTTER: Are there any questions of Mr. Riley?

Mr. Irby.

CROSS EXAMINATION

BY MR. IRBY:

Q Mr. Riley, on your Exhibit A of 1, I believe it is part 4, the injection, --

A Yes.

Q In what formation is this surface casing set?

A In what formation?

Q Yes.

A It's set approximately at the top of the salt formation.

Q Good. Is all injection to be through tubing and packer?

A It's scheduled to be through tubing and under packer,



yes, sir.

Q Good. Now, this source of water, you are getting it from the Newmont station?

A We purchase it from them, that is correct.

Q Under pressure. Do you know the original source of this water?

A It's Ogallala formation on the Caprock in the Lea County Basin.

MR. NUTTER: Does that come through one of those water pipelines down there?

A I suppose it is still identified as Yucca Water Company, is it not?

MR. JENNINGS: Yes, it's Yucca Water Company.

Q (By Mr. Irby) Will all of your water be recycled?

A Yes, it will be returned to Newmont's plant and they will repossess it and delivered back to wherever it terminates.

Q Is there to be anything in the annulus between the tubing and the casing?

A We will probably load the annulus with treated water corrosion inhibitor being added to it.

MR. IRBY: Thank you, that's all.

MR. NUTTER: Any further questions of Mr. Riley?

BY MR. NUTTER:



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Q Mr. Riley, referring to Exhibit 1, part B, you stated that the Newmont Etz "E" No. 1 was making 51 barrels a day?

A Yes.

Q That is an interior well there on a five-spot pattern?

A Yes.

Q What are some of the other wells making at the time?

A Their George Etz "A" 17 is currently producing at the last, at the time of the last engineering report, 50 barrels of oil and 1 barrel of water. The Leonard "B" No. 6, 40 barrels of oil and no water. Their 7, Leonard "B" 7, 30 barrels of oil and 2 water, their Etz "C" 2, 30 barrels of oil and 1 water.

Q Where is that one, that's in Unit I of Section 34?

A I believe that's right.

Q The Northeast of the Southeast?

A That is correct.

Q What was that?

A 30 oil and 1 water, and their Leonard "B" 9 "X", which is a redrill of their 9,8 oil and no water. Their George Etz "E" 4, 13 oil and 1 water. I might point out that although the flood has been carried on since 1957 there was a severe shortage of water for the project until Newmont was able to bring water into the area and only until recently did they incur any significant response.



Q So these are the maximum rates?

A At this time. And it's just beginning to respond, is what I'm trying to say.

Q I notice here in part F of Exhibit 1, being the contract that Ambassador waterflood and Newmont have executed, that it calls for five wells to be put on water injection. I believe these are the five that you have circled in red on part B?

A That is correct.

Q It calls for those wells to be placed on injection by July 1st of 1963, as I interpret it, except the Evans "A" No. 2?

A That is correct.

Q Has Newmont received approval for the conversion of their Etz "C" 3 and Etz "B" 3?

A It's my understanding that they have.

Q Based on the response of the wells to the north?

A They have applied for it. I do not know for sure whether they have received it.

Q And the Evans "A" No. 2 is the only one in which there is anticipated a delay in conversion?

A Well, it is also covered in the document that that well will be converted in later language at such time as the response has been obtained.

Q It's the only one that doesn't have a specific date?



A That is correct.

Q What is the Waterflood Associates project?

A I understand they have applied for a permit and it has been approved sometime in the past.

Q Did the Commission have a hearing on that particular case, do you know?

A Yes, sir, it's my understanding.

MR. JENNINGS: If you are interested, apparently the hearing was on June 21, 1962, Order No. R-2271.

Q That was for the Collier Park Well No. 2 and Well No. 4, which would be the two injection wells shown on that tract.

A I see.

MR. NUTTER: Are there any other questions of Mr. Riley? He may be excused.

(Witness excused.)

MR. JENNINGS: We would like to offer Exhibit No. 1.

MR. NUTTER: Applicant's Exhibit No. 1 will be entered in this case.

(Whereupon, Applicant's Exhibit No. 1 was offered and admitted in evidence.)

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

MR. JENNINGS: No, sir.

MR. NUTTER: Does anyone have anything they wish to



offer in Case 2886?

MR. PAYNE: We received a communication from Newmont Oil Company stating that they support the request for the issuance of this permit under this application.

MR. NUTTER: We'll take the case under advisement.

STATE OF NEW MEXICO)
) SS
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 14th day of September, 1963.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2886 heard by me on *Aug 21* 1963.

James R. Nutter Examiner
New Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

SANTA FE, N. M.
PHONE 983-3971

ALBUQUERQUE, N. M.
PHONE 243-6691



DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 21, 1963

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, as alternate examiner:

- CASE 2355: (Reopened and continued from August 7, 1963 examiner hearing)
In the matter of Case 2355 being reopened pursuant to the provisions of Order No. R-2051-A, which order extended the temporary 320-acre proration units for the Bluitt-Wolfcamp Gas Pool, Roosevelt 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 160-acre proration units.
- CASE 2883: Application of Pan American Petroleum Corporation for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a Tubb gas, Blinebry oil and Paddock gas triple completion, Fowler Field, at an unorthodox location for the Fowler Blinebry Oil Pool 990 feet from the South and West lines of Section 15, Township 24 South, Range 37 East, Lea County, New Mexico.
- CASE 2884: Application of Continental Oil Company for a pressure maintenance project, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project by the injection of water into the Dakota formation through its Table Mesa Well No. 25, located in Unit K, Section 34, Township 28 North, Range 17 West, Table Mesa Pool, San Juan County, New Mexico.
- CASE 2885: Application of John H. Trigg for four unorthodox locations, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of the following four unorthodox oil well locations in his waterflood project, Caprock Queen Pool, Chaves County, New Mexico, all in Section 4, Township 14 South, Range 31 East:
- 1320 feet from the North line and 2475 feet from the East line;
- 2764 feet from the North line and 2557 feet from the East line;
- 1320 feet from the North line and 1320 feet from the East line;
- 1320 feet from the North line and 1485 feet from the West line.
- CASE 2886: Application of Ambassador Oil Corporation for a capacity waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a capacity allowable waterflood project on its Federal "Q" lease comprising the NW/4 of Section 3, Township 17 South, Range 30 East, Eddy County, New Mexico, by the injection of water into the Square Lake Pool through 2 wells located in the NW/4 of said Section 3.

- CASE 2887:** Application of Apache Corporation for the creation of the West Kennitz Wolfcamp Oil Pool, and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Lower Wolfcamp production in Section 31, Township 16 South, Range 33 East, and the establishment of temporary rules therefor, including provisions for 80-acre spacing and restricted well locations.
- CASE 2888:** Application of the British American Oil Producing Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Jalmat Deep Unit Area comprising 10,568.81 acres of State land in Townships 21 and 22 South, Range 35 East, Lea County, New Mexico.
- CASE 2889:** Application of A. O. Wooden for the creation of a gas pool, 80-acre spacing therefor, and a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a Queen gas pool for his Harbold Well No. 16 located in Unit N of Section 26, Township 17 South, Range 27 East, Eddy County, New Mexico. Applicant also seeks the establishment of 80-acre spacing for said pool. Applicant further seeks approval of the dual completion (conventional) of the said Harbold Well No. 16 to produce oil from the Premier Sand of the Grayburg formation, Red Lake Pool, through the tubing, and to produce gas from the Penrose sand of the Queen formation through the casing-tubing annulus.
- CASE 2876:** (Continued from August 7, 1963 Examiner Hearing)
Application of Consolidated Oil & Gas, Inc. for an unorthodox location, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks permission to recomplete its Jicarilla No. 4-8 at an unorthodox Blanco-Mesaverde Pool location 1550 feet from the North line and 890 feet from the West line of Section 8, Township 26 North, Range 5 West, Rio Arriba County, New Mexico.

State of New Mexico
Oil Conservation Commission



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

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. 2886
Order No. R-2571**

**APPLICATION OF AMBASSADOR OIL CORPORATION
FOR A CAPACITY 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 August 21, 1963, 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 25th day of September, 1963, 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, Ambassador Oil Corporation, is the owner and operator of the Federal "Q" Lease, comprising the NW/4 of Section 3, Township 17 South, Range 30 East, NMPM, Square Lake Pool, Eddy County, New Mexico, which lease is offset to the north and to the west by a capacity-type waterflood project operated by Newmont Oil Corporation.

(3) That the applicant desires to institute a waterflood project on said Federal "Q" Lease by the injection of water into the Lower Grayburg and Upper San Andres formations through two wells located in Units D and F of said Section 3, and to that effect has entered into a Cooperative Waterflood Agreement with Newmont Oil Corporation and with Water-Flood Associates, Inc., the latter being the operator of the NE/4 of said Section 3.

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

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

(6) That the subject application to institute a waterflood project in the NW/4 of Section 3, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, should be approved.

(7) That due to the size of the tract involved it is impracticable to create a buffer zone for allowable purposes in this instance and that wells in this project should be granted an allowable equal to their capacity to produce.

IT IS THEREFORE ORDERED:

(1) That the applicant, Ambassador Oil Corporation, is hereby authorized to institute a waterflood project in the Square Lake Pool, Eddy County, New Mexico, by the injection of water into the Lower Graybury and Upper San Andres formations through the following-described injection wells in Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico:

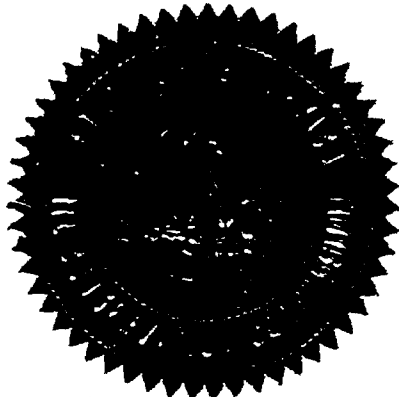
Federal "Q" Well No. 1, NW/4 NW/4 of Section 3,
Federal "Q" Well No. 4, SE/4 NW/4 of Section 3.

(2) That the operation of the waterflood project herein authorized shall in all respects be governed by the provisions of Rule 701 of the Commission Rules and Regulations with the exception that the provisions of Rule 701-E-3 regarding allowables shall in this case not be applicable, and the wells in this project shall be granted an allowable equal to their ability to produce.

(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

INTRODUCTION

THE ENCLOSED INFORMATION ON AMBASSADOR OIL CORPORATION'S FEDERAL "Q" LEASE, NW/4 SECTION 3, TOWNSHIP 17 SOUTH, RANGE 30 EAST IN EDDY COUNTY, NEW MEXICO IS PRESENTED IN SUPPORT OF THE APPLICATION FOR A WATERFLOOD PERMIT WITH CAPACITY ALLOWABLE PRIVILEGES.

THIS REQUEST IS BEING MADE WITH DUE RESPECT FOR AND FULL KNOWLEDGE OF THE CURRENT POLICY ON RESTRICTED ALLOWABLES BECAUSE OF THE FOLLOWING REASONS:

1. THE OFFSET ACREAGE HAS BEEN GRANTED CAPACITY ALLOWABLE PRIVILEGES.
2. THE SUBJECT TRACT IS VERY SMALL AND NO "BUFFERING" OF THE EFFECTS OF THE OFFSET CAPACITY ALLOWABLES FLOOD IS POSSIBLE WITHOUT LOSS OF OIL.
3. CORRELATIVE RIGHTS CANNOT BE PROTECTED WITHOUT THE SAME PRIVILEGES OF THE OFFSET OPERATION.
4. A COOPERATIVE WATERFLOOD AGREEMENT CALLING FOR EXTENSION OF THE SAME FLOODING PROCEDURE NOW IN USE ON THE OFFSET ACREAGE HAS BEEN CONSUMED.

BECAUSE OF THE ABOVE REASONS THE APPLICANT RESPECTFULLY REQUESTS THE COMMISSION GRANT THIS WATERFLOOD APPLICATION WITH CAPACITY ALLOWABLE PRIVILEGES.

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COOPERATIVE WATERFLOOD AGREEMENT	

NEW MEXICO OIL AND GAS COMMISSION
WATERFLOOD APPLICATION DATA

FIELD SQUARE LAKE - GRAYBURG - SA COUNTY EDDY
OPERATOR AMBASSADOR OIL CORPORATION DATE _____
LEASE FEDERAL Q - LC 029020 (M)
RESERVOIR GRAYBURG- SAN ANDRES

I. RESERVOIR AND FLUID CHARACTERISTICS

A. INFORMATION ON ENTIRE RESERVOIR

1. NAME OF FORMATION GRAYBURG- SAN ANDRES
2. ESTIMATED PRODUCTIVE AREA OF ENTIRE RESERVOIR 12,000 ACRES
3. COMPOSITION (SAND, DOLOMITE, LIMESTONE, ETC.) SAND AND DOLOMITE
4. TYPE OF STRUCTURE STRATIGRAPHIC TRAP - EASTWARD TRENDING NOSE AT QUEEN LEVEL
WITH POSSIBLE SMALL CLOSURE IN GRAYBURG SAN ANDRES. (INCLUDE CROSS-SECTION
AND STRUCTURE MAP)
5. TYPE DRIVE DURING PRIMARY PRODUCTION SOLUTION GAS DRIVE
6. ORIGINAL RESERVOIR PRESSURE EST. 950 PSI
7. WAS GAS CAP PRESENT ORIGINALLY NO AT PRESENT NO

B. INFORMATION ON PROPOSED PROJECT AREA

(INCLUDE MAP OF TWO MILE RADIUS OF LEASE, PLAT OF LEASE (S) TO BE FLOODED
SHOWING PRODUCING WELL, PROPOSED INJECTION PATTERN AND OFFSET WELLS).

1. NUMBER OF PRODUCTIVE ACRES IN LEASE(S) TO BE FLOODED 80
2. AVERAGE DEPTH TO TOP OF PAY (FEET) 2800
3. AVERAGE EFFECTIVE PAY THICKNESS (FEET) 12
4. AVERAGE POROSITY (%) 21
5. AVERAGE HORIZONTAL PERMEABILITY (MDS) 35 RANGE 10-100
6. CONNATE WATER CONTENT (% OF PORE SPACE) 30
7. GRAVITY OF OIL (API) 30 VISCOSITY 1.2 EST.

II. PRIMARY PRODUCTION HISTORY

1. DATE FIRST WELL COMPLETED IN FIELD NOVEMBER, 1941 ON LEASE APRIL 1942
2. OIL, GAS WATER PRODUCTION BY MONTHS SINCE DISCOVERY (GRAPHICALLY AS WELL
AS TABULAR FORM)
3. STAGE OF DEPLETION OF PROJECT AREA STRIPPER LEVEL
4. NUMBER OF PRODUCING WELLS ON EACH LEASE IN PROJECT AREA 2 ACTIVE AND
2 TEMPORARILY INACTIVE
5. AVERAGE DAILY OIL PRODUCTION PER WELL AT PRESENT TIME 2.6 B/W/D
6. CUMULATIVE OIL PRODUCTION TO DATE FROM LEASE(S) 134,982 BARRELS

III. RESULTS - EXPECTED

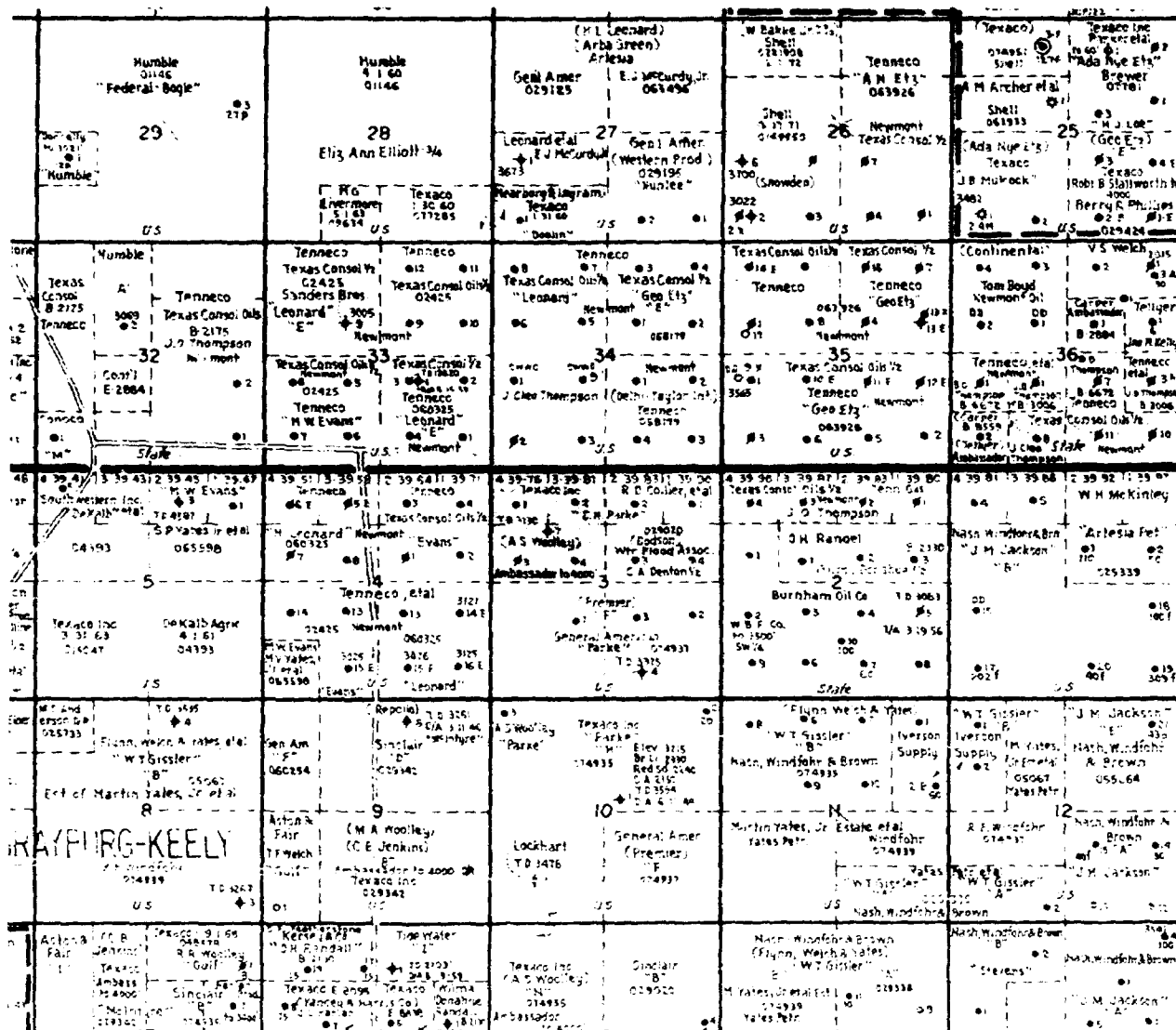
1. ESTIMATED ORIGINAL OIL IN PLACE (BBLs.) 1,120,000
2. ESTIMATED OIL SATURATION AT PRESENT TIME (% OF PORE SPACE) 50
3. ESTIMATED RESIDUAL OIL SATURATION AT ABANDONMENT 38
4. ESTIMATED ULTIMATE ADDITIONAL OIL THAT WILL BE RECOVERED AS A DIRECT RESULT
OF INJECTION (BBLs.) 135,000

IV. INJECTION

1. SOURCE OF INJECTED WATER - OFFSET OPERATOR (NEWMONT)
2. FRESH OR SALT WATER FRESH
3. FLOOD PATTERN AND SPACE 5 SPOT - 80 ACRE
4. INITIAL INJECTION PRESSURE TO BE USED (PSI) 750
5. ESTIMATED INITIAL PER WELL RATE OF INJECTION (BBLs.) 300
6. LIST COMPLETE INJECTION WELL DATA BELOW

LSE. NAME WELL NO.	FEDERAL Q - LC 029020 (M)			
	1 (INJ.)	2 (PROD.)	3 (PROD.)	4 (INJ.)
SURFACE CASING	SIZE <u>8 1/4" - 28#</u>	<u>8 1/4" - 28#</u>	<u>8 1/4" - 28#</u>	<u>8 1/4" - 28#</u>
	LENGTH <u>512'</u>	<u>518'</u>	<u>519'</u>	<u>525'</u>
	SACKS			
	CEMENT <u>50</u>	<u>50</u>	<u>50</u>	<u>100</u>
PROD. CASING	SIZE <u>5 1/2" - 17#</u>	<u>5 1/2" - 17#</u>	<u>5 1/2" - 17#</u>	<u>5 1/2" - 14#</u>
	LENGTH <u>2792'</u>	<u>2795'</u>	<u>2796'</u>	<u>2740'</u>
	SACKS			
	CEMENT <u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
TUBING	LENGTH <u>2742'</u>	<u>2758'</u>	<u>2750'</u>	<u>2700'</u>
	PACKER			
	SET <u>2745'</u>	<u>2750'</u>	<u>2750'</u>	<u>2700'</u>
INJECT- ION	DEPTH <u>2850'-3137'</u>	<u>2850'-2994'</u>	<u>2868'-2986'</u>	<u>2834'-2984'</u>
	THRU			
	CSG. OR TUBING	TUBING	TUBING	TUBING
	TUBING			

R 30 E



T
16
S

T
17
S

EXHIBIT "A"

AMBASSADOR OIL CORPORATION

WEST SQUARE LAKE FIELD
EDDY COUNTY, NEW MEXICO

MAP SHOWING 2 MILE RADIUS AROUND
SUBJECT PROPERTY

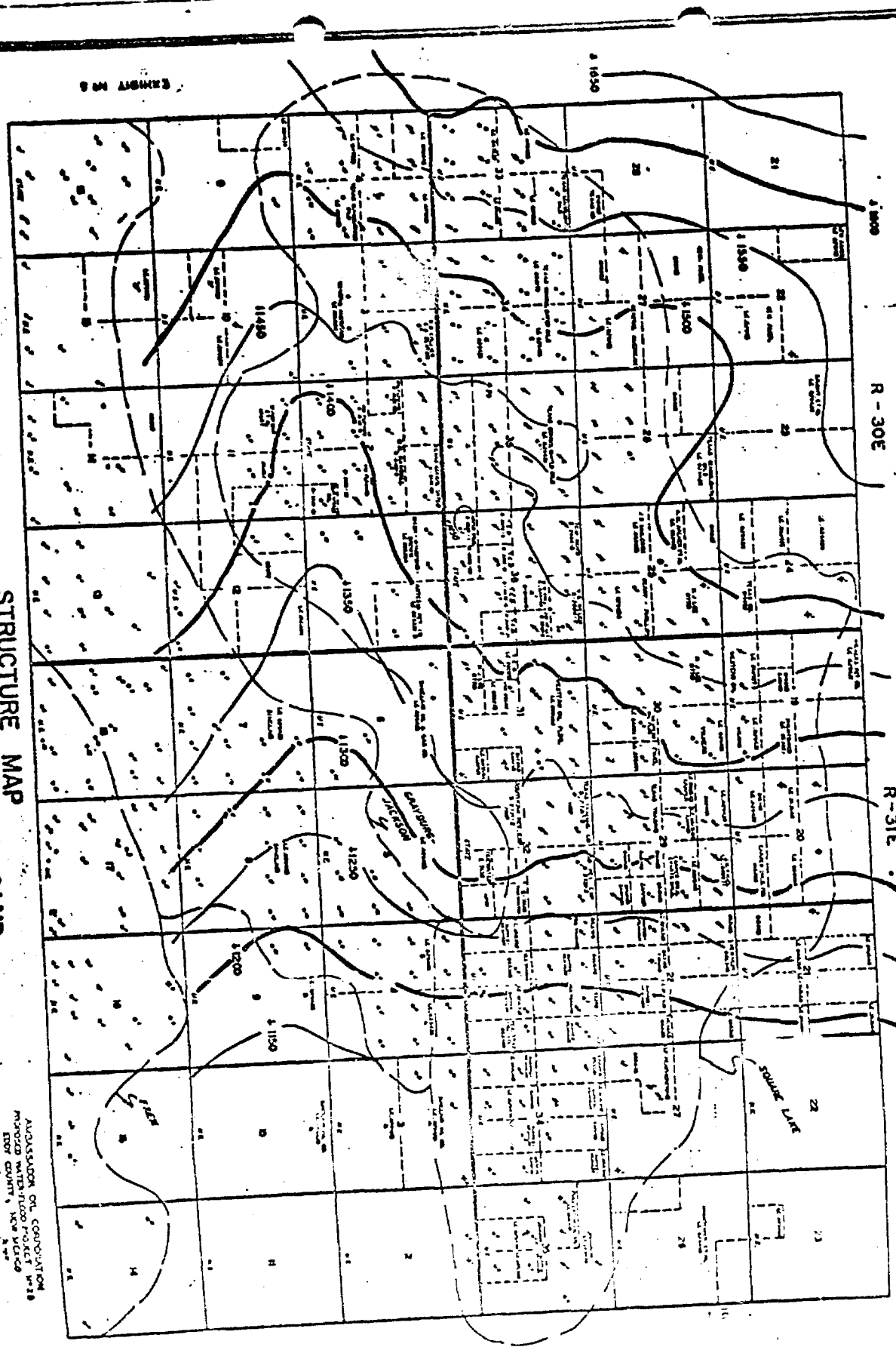
SCALE: 1" = 4000'

JULY 30, 1963

EXHIBIT "C"

STRUCTURE MAP
CONTOURED ON TOP OF RED SAND

ADJACENT TO COASTAL
PROPOSED WATER TREATMENT PLANT
ELEVATION 1000' MSL



T 16 S

T 17 S

COOPERATIVE WATER FLOOD AGREEMENT

THIS AGREEMENT made and entered into by and between NEWMONT OIL COMPANY (hereinafter called "Newmont"), AMBASSADOR OIL CORPORATION (hereinafter called "Ambassador"), and WATER-FLOOD ASSOCIATES, INC. (hereinafter called "Water-Flood"),

W I T N E S S E T H:

WHEREAS, each of the parties hereto represents that it is the owner of all or part of the working interest, and that it is the operator of the respective valid and subsisting oil and gas lease or leases set forth in Exhibit "A" which is attached hereto and made a part hereof, covering lands in the West Square Lake Field, Eddy County, New Mexico, as shown on the plat marked Exhibit "B" which is attached hereto and made a part hereof, and that it is currently producing oil from one or more of the formations identified as the Motex, Premier, and Lovington Sands through a well or wells located on the lands covered by its respective lease or leases; and,

WHEREAS, the parties desire to provide for the conversion of the hereinafter specified wells by the operator of the lease upon which each such well is located into water input wells as hereinafter set forth, for the purpose of instigating and conducting a cooperative water flooding program along the common boundary lines between said leases to the end that a greater ultimate recovery of oil may be obtained from the Motex, Premier, and Lovington Sands underlying the lands included within the leases operated by each party hereto;

NOW, THEREFORE, for and in consideration of the premises, and the mutual covenants and agreements hereinafter set forth, the parties hereto agree as follows:

I.

This agreement shall relate to and cover only the secondary recovery of oil in place by water flooding the formations known and referred to as the Motex, Premier, and Lovington Sands, as shown on

Exhibit "G" which is attached hereto and made a part hereof, which underlie the lands covered by the leases described in Exhibit "A".

II.

It is recognized that each party has individually received the required approval and permit from the New Mexico Conservation Commission to conduct water flooding operations in the Motex, Premier, and Lovington Sands underlying the lands covered by its respective lease or leases, and this agreement is made subject to the terms and provisions of said approval and permit, to all rules and regulations of said Oil Conservation Commission, and to the rules and regulations covering operations on leases granted by the United States of America, where applicable, and to the orders of any other governmental body having jurisdiction.

III.

Newmont, Ambassador, and Water-Flood each agrees that it will timely commence operations to convert the following specified wells (as shown on Exhibit "B") that are located upon its respective lease or leases, into water input wells through which water can be injected into the Motex, Premier, and Lovington Sands:

Exhibit
Evans "A" Lease - WI 02425
Well 42

Evans "A" Lease - WI 02427
Well 43

Lovington "B" Lease - WI 02427
Well 45

Exhibit
Premier "A" Lease - LC 022020(m)
Well 41

Exhibit
Motex "A" Lease - WI 022020(j)
Well 42

Each of such parties agrees that it shall, at its sole cost, risk and expense, continue the operations for which it is responsible as specified above in a diligent manner and in accordance with the provisions of Section 5 hereto until such operations have been completed

and the wells which it is to convert have been properly equipped as water input wells. The conversion operations hereto provided for shall be completed by ^{July 1, 1965} ~~May 31, 1965~~ except that Newmont's Evans "A" Well #2 is to be converted to water injection as soon as response has been obtained at an offset well and the New Mexico Oil Conservation Commission will grant administrative approval of such action under Rule 761.

In the event that any party specified above is for any reason unable to convert in the manner provided for any well which it is obligated to convert, then such party shall, at its own cost, risk and expense, and as near as possible to the location of such well, drill and equip a water input well to be used as a water input well in lieu of the well it was unable to convert.

IV.

Each party hereto agrees that each of the above specified wells shall be deepened, if necessary, through the Lovington Sand as a part of the conversion of said well and shall also be dually completed for injection, if necessary. To justify not completing a well for injection through the Lovington Sand, each party agrees to furnish a porosity log showing said sand to be non-commercial.

V.

In the conversion of the wells specified in Section III, the party responsible for the conversion of each such well, shall perform such work as is necessary so that the entire Hatch, Premier, and Lovington Sand intervals in each water input well shall be open (or perforated) and as clean as possible. Each party responsible for conversion shall take such steps as are necessary to provide that each of its water input wells will take the volume of water to be injected into the Hatch, Premier, and Lovington Sands existing in each such water input well at the rates and procedures hereinafter specified. Notwithstanding anything to this paragraph to the contrary, each party responsible for conversion operations shall be required to use only good quality materials and shall not be required to perform remedial work or other operations which are not required and in general shall conform to the following provisions which apply to all

operator would apply under the same or similar circumstances.

VI.

During the period of time in which the conversion operations specified above are being performed, each party responsible for performing any such operations shall keep the other parties hereto advised of the progress being made toward having its water input well or wells in operational order.

Each party who has converted a well into a water input well pursuant to Section III and Section IV hereof agrees to commence the injection of pressured and processed water into each of its water input wells on or before ^{August 1, 1963} ~~June 1, 1963~~, except that Newmont's Evans "A" Well #2 is to be governed by the specific provision applicable to it in Section III. Each such party further agrees to continue to operate each of its injection wells, to make such repairs and to take such remedial action as is necessary to maintain each of its input wells in operational order, and to inject processed and pressured water at the rates and pressures hereinafter specified into the Netex, Premier Sands and the Lovington Sands through each of its water input wells during the term of this agreement.

All cost and expense incident to the operation of each water injection well, specifically including the cost of processed and pressured water injected into each such input well and the cost of repairs and remedial work with regard to each well shall be borne by the owner of the lease upon which such well is located.

VII.

The water injected into the Netex, Premier, and Lovington Sands through each of the input wells provided for herein shall be injected for the first month at a rate of 200 barrels per day for the Netex and Premier Sands, and at a minimum rate of 100 barrels per day for the Lovington Sand. Thereafter, the water shall be injected at a minimum pressure of 1000 psi or as may be mutually

agreed upon by the parties hereto, provided however, that each party agrees to use its best efforts not to inject water into any of its input wells under such conditions so as to cause the bottom hole pressure for such well to exceed formation breakdown pressure.

VIII.

Each party agrees that it shall maintain records of the following with respect to all wells located upon its lease or leases as described in Exhibit "A", and that it shall furnish such information to the other parties monthly:

1. Completion data on water input wells operated by it;
2. Number of days operated, daily volume of water injected and injected pressures on each water input well operated by it; and,
3. Number of days operated, and daily volumes of oil and water produced from each oil well operated by it.

IX.

This agreement is not intended to affect, nor is it to be construed as affecting the rights and obligations of each party to produce oil from the wells located upon its lease or leases, and each party shall be entitled to all production from its own wells and leases. The duties, liabilities and obligations of the parties hereto are intended to be several and not joint or collective, and nothing herein contained shall ever be construed to impose a partnership obligation or liability with regard to any of the parties hereto. Each party shall be individually responsible only for its obligations as set out herein, and shall be liable only for its own costs and expenses incurred in complying with the terms of this agreement.

X.

It is understood and agreed among the parties hereto that the creation, or attempted creation of an artificial water drive by the injection of water through the oilfield water input wells into the Union, Western, and Oklahoma fields is a reasonable and proper method of protecting the rights of the parties hereto. It is further agreed

that no party hereto shall be deemed to be guilty of trespass by the injection of water into a water input well or wells upon its lease or leases, and that each party does hereby assume the risks incident to the cooperative water flood plan and, therefore, does hereby release the other parties from any or all damages, claims or causes of action relating to the water flood operations to be conducted hereunder.

When and if any party, who is not a party hereto and who owns an interest in a tract of land covered by this agreement, files or presents any claim for damages to such tract, surface or sub-surface, by reason of the operations thereon as provided hereunder, the party operating the lease or leases on any such tract and who is a party hereto shall be solely responsible and liable for any such claims for damages, and will hold the other parties hereto harmless therefrom, and will take whatever action is necessary to defend or settle any such claim or claims to the end that the other parties hereto incur no liability or expense in connection therewith.

In the event any such claim arises on a tract or tracts in which none of the parties hereto owns an operating interest, then the party or parties hereto operating a lease or leases on the tract or tracts, the operation of which under the terms hereof forms the basis for such claim, shall be solely responsible and liable for any such claim and shall defend or defend the same so that the other parties hereto shall not be liable therefor, or incur any expense in connection therewith.

III.

Force Majeure as that term is used herein shall mean an act of God, war, strike, lockout or other industrial disturbance, act of public enemy, war, blockade, public riot, lightning, fire, storm, flood, explosion, general lack of materials or labor, or failure of any of materials and equipment and any other cause which or causes the operation of the party or parties hereto to be interrupted or delayed or to be prevented from operating for a substantial period of time.

or in part to carry out its obligations under this agreement, the obligations of such party shall be suspended during, but not longer, than the continuance of the force majeure. Any party so prevented shall use due diligence and good faith in an attempt to eliminate the cause so preventing his compliance with this agreement. The requirement that any force majeure shall be remedied with due diligence shall not require the settlement of strikes, lockouts, or other labor difficulties by the party involved, contrary to its wishes; all such difficulties to be handled shall be entirely within the discretion of the party concerned.

XII.

If at any time after the expiration of twenty-four (24) months following the effective date hereof, any party hereto is of the opinion that the injection of water into the Moten and Preclear Sands and/or the Livingston Sand through a water input well located upon its lease and operated by such party, has ceased to economically aid in the recovery of oil in place from the said sands or sand under such lease and desires to plug and abandon said well or cease injecting water into the Moten and Preclear Sands and/or the Livingston Sand through such input well, such party (hereinafter in this Section XII referred to as the "discontinuing party") shall notify in writing the other operators of such fields. The parties so notified shall, within thirty (30) days from the receipt of such notice either elect to take over the operation of said input well and continue to inject water into the said sands or sand. If, within said thirty (30) day period, the parties so notified elect not to take over said well or cease when said well to take over such well, the discontinuing party shall, hereafter have the right to plug and abandon said well or cease to inject water into the Moten and Preclear Sands and/or the Livingston Sand through said well and otherwise utilize said well in any manner permitted by the applicable laws and regulations of the State of Texas.

If the parties so entitled, or any one of them should within said thirty (30) day period, elect to take over such well (such electing party or parties being hereinafter in this Section XII referred to as the "electing party", whether one or more), the abandoning party agrees to designate the electing party, or the party selected as operator by the electing party, as the operator of said well in accordance with the applicable government regulations and otherwise agrees to grant, insofar as it has the right to do so, to the electing party the right to continue to operate said well for the sole purpose of injecting water into the Netax and Premier Sands and/or Livingston Sand subject, however, to the terms and provisions of the oil and gas lease covering the lands upon which said water inject well is located and to the electing party obtaining from persons other than parties to this agreement any easements or additional rights which are necessary to the continued operation of said water inject well. Upon receipt of payment for the salvage value of the materials and equipment in and on said well, less the estimated cost of salvaging such material and equipment and of plugging and abandoning said well, the abandoning party shall assign its interest in such material and equipment to the electing party by an instrument in recordable form which grants to the electing party the operating rights described in the preceding sentence. The electing party agrees to operate said well in accordance with the terms and provisions of this agreement, and agrees to indemnify and save the abandoning party harmless against any and all claims and causes of action regarding or resulting in any manner from operation of said well by the electing party.

When the electing party should desire to plug and abandon said well, it shall give the abandoning party notice of such intent, and the abandoning party shall have fifteen (15) days after receipt of such notice within which to elect to re-compleat said well. If, within said fifteen (15) day period, such electing party elects to re-compleat said well, the electing party shall

upon receipt of payment for the salvable value in and on said well, less the estimated cost of salvaging such material and equipment and of plugging and abandoning said well, assign, by an instrument in recordable form, all of its interest in such material and equipment together with all right or interest that the electing party may have acquired in said well by virtue of the prior assignment with respect to such well from the abandoning party to the electing party, as hereinbefore provided. After the abandoning party has so re-acquired said well, the electing party shall be relieved of any future obligations hereunder with respect to said well and the abandoning party shall have the right to utilize said well in any manner permitted by the applicable laws and regulations. If, however, the abandoning party, within said fifteen (15) day period elects not to re-acquire said well or otherwise fails to elect to re-acquire said well, the electing party shall plug and abandon said well in accordance with the applicable rules and regulations.

If at any time any party hereto is of the opinion that a producing well located upon its lease has ceased to economically aid in the recovery of oil from one or more of the Hoken, Premier and Livingston Sands under such lease, such party shall have the right, at its sole cost and expense, to convert such well into a water injection well in accordance with the provisions of Section 1 hereof.

ART. 11.

The effective date of this agreement shall be the first day of the first month following the execution hereof by all parties. Each party shall be deemed to have accepted this agreement as of the date of its execution hereof.

ART. 12.

Subject to the other provisions of this agreement, this agreement shall remain in full force and effect as long as there is a producing well on the lease, and shall terminate upon the abandonment of the last producing well on the lease.

XV.

Any notice to be given hereunder shall be deemed to have been given when such notice in writing shall have been deposited in the United States mail, postage prepaid, and addressed to the parties at the following addresses:

Newmont Oil Company
1125 Fort Worth National Bank Bldg.
Fort Worth, Texas

Ambassador Oil Corporation
P. O. Box 9338
Fort Worth, Texas

Water-Flood Associates, Inc.
2211 Continental National Bank Bldg.
Fort Worth, Texas

Any party may change its address by giving appropriate written notice to the other parties hereto.

XVI.

The terms, covenants, and conditions hereof shall inure to the benefit of and be binding upon the respective parties hereto, and their respective successors and assigns.

This instrument may be executed in counterparts by all parties and shall have the same effect as if each party hereto has executed each of such counterparts.

ATTEST:
1944
J. L. Dyer
Secretary

NEWMONT OIL COMPANY

By [Signature]
Vice President

ATTEST:
J. H. Hallway
Secretary

AMBASSADOR OIL CORPORATION

By [Signature]
KENNETH L. SMITH SENIOR VICE-PRESIDENT

APPROVED:
LAND: <u>[Signature]</u>
LEGAL: <u>[Signature]</u>
OPER: <u>[Signature]</u>
ACCT: <u>[Signature]</u>

ATTEST:
J. L. Dyer
Secretary

WATER-FLOOD ASSOCIATES, INC.

By [Signature]
President

STATE OF TEXAS)
)
COUNTY OF TARRANT)

BEFORE ME, the undersigned, authority, on this day personally appeared
Charles C. Longden, known to me to be the person and officer
whose name is subscribed to the foregoing instrument and acknowledged to me that
the same was the act of the said Newmont Oil Company, a corporation, and that he
executed the same as the act of such corporation for the purposes and considera-
tion therein expressed, and in the capacity therein stated.

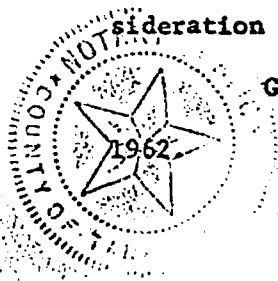


GIVEN UNDER MY HAND AND SEAL OF OFFICE this 11th day of April A.D.

Paul Bennett
Notary Public in and for Tarrant County,
Texas

STATE OF TEXAS)
)
COUNTY OF TARRANT)

BEFORE ME, the undersigned, authority, on this day personally appeared
Kenneth L. Smith, known to me to be the person and officer
whose name is subscribed to the foregoing instrument and acknowledged to me that
the same was the act of the said Ambassador Oil Corporation, a corporation, and
that he executed the same as the act of such corporation for the purposes and con-
sideration therein expressed, and in the capacity therein stated.



GIVEN UNDER MY HAND AND SEAL OF OFFICE this 16th day of July A.D.

Wm. L. Semmes
Notary Public in and for Tarrant County,
Texas

STATE OF TEXAS)
)
COUNTY OF TARRANT)

BEFORE ME, the undersigned, authority, on this day personally appeared
Curtis McBoone, known to me to be the person and officer
whose name is subscribed to the foregoing instrument and acknowledged to me that
the same was the act of the said Water-Flood Associates, Inc., a corporation, and
that he executed the same as the act of such corporation for the purposes and con-
sideration therein expressed, and in the capacity therein stated.



GIVEN UNDER MY HAND AND SEAL OF OFFICE this 19th day of July A.D.

Billie S. Van Hook
Notary Public in and for Tarrant County,
Texas

EXHIBIT "A"

Attached to and made a part of Cooperative Water Flood Agreement between Newmont Oil Company, Ambassador Oil Corporation and Water-Flood Associates, Inc.

1. Newmont's Oil and Gas Leases:

- A. Oil and Gas Lease bearing Serial No. NM 02425 from the United States of America to H. W. Evans, dated December 31, 1923, INSEPAR as said lease covers 17/6 Section 4, T-17-S, R-33-E, N.M.P.M.,ddy County, New Mexico. This lease is referred to as the Evans "A" Lease.
- B. Oil and Gas Lease bearing Serial No. NM 02427 from the United States of America to George Eas, dated December 31, 1923, INSEPAR as said lease covers 33/6 Section 34, T-16-S, R-33-E, N.M.P.M.,ddy County, New Mexico. This lease is referred to as the Eas "B" Lease.
- C. Oil and Gas Lease bearing Serial No. NM 02427 from the United States of America to George Eas, dated December 31, 1923, INSEPAR as said lease covers 33/6 Section 34, T-16-S, R-33-E, N.M.P.M.,ddy County, New Mexico. This lease is referred to as the Leonard "C" Lease.

2. Ambassador's Oil and Gas Lease:

Oil and Gas Lease bearing Serial No. NM 02425(a) from the United States of America to George Eas, dated December 31, 1923, recorded in Book 116, as said lease covers 17/6 Section 4, T-17-S, R-33-E, N.M.P.M.,ddy County, New Mexico. This lease is referred to as the Leonard "A" Lease.

3. Water-Flood's Oil and Gas Lease:

Oil and Gas Lease bearing Serial No. NM 02425(a) from the United States of America to William F. Evans, dated December 31, 1923, recorded in Book 116, as said lease covers 17/6 Section 4, T-17-S, R-33-E, N.M.P.M.,ddy County, New Mexico. This lease is referred to as the Leonard "A" Lease.