

CASE 2533: Application of AMERADA
for a pressure maintenance

452 / 10.

2533

dition, Transcript,
all Exhibits, Etc.

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER



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

P. O. BOX 671
SANTA FE

May 8, 1962

Mr. Jason Kellahin
Kellahin & Fox
Box 1713
Santa Fe, New Mexico

Re: Case No. 2533
Order No. R-2236
Applicant:
Amerada Petroleum Corporation

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC

OTHER

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 2533
Order No. R-2236

APPLICATION OF AMERADA PETROLEUM
CORPORATION FOR A PRESSURE MAIN-
TENANCE PROJECT, LEA COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 25, 1962, at Santa Fe, New Mexico, before Elvis A. Utz, 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 8th day of May, 1962, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, 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, Amerada Petroleum Corporation, seeks permission to institute a pressure maintenance project in that portion of the Saunders Perno-Pennsylvanian Pool underlying the S/2 S/2 of Section 3 and the N/2 of Section 10, Township 15 South, Range 33 East, NMPM, Lea County, New Mexico, with the injection of water into the Pennsylvanian formation initially to be through the Amerada State "S-E" Well No. 1, located in Unit C of said Section 10.

(3) That no special rules or regulations governing said project are requested at this time.

(4) That approval of the subject application will neither cause waste nor impair correlative rights.

IT IS THEREFORE ORDERED:

(1) That Amerada Petroleum Corporation is hereby authorized to institute a pressure maintenance project in that portion of the

-2-

CASE No. 2533
Order No. R-2236

Saunders Permo-Pennsylvanian Pool underlying the S/2 S/2 of Section 3 and the N/2 of Section 10, Township 15 South, Range 33 East, NMPM, Lea County, New Mexico, with the injection of water into the Pennsylvanian formation initially through the Amerada State "S-E" Well No. 1, located in Unit C of said Section 10.

(2) 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.

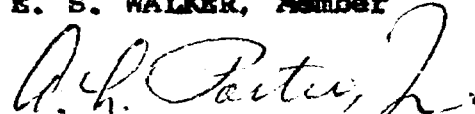
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



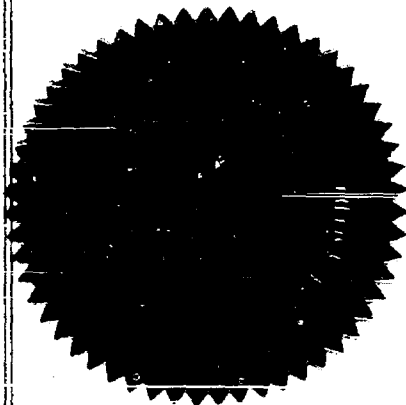
EDWIN L. MECHEM, Chairman



E. S. WALKER, Member



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



esr/

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 25, 1962

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

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

CASE 2532: Application of Zapata Petroleum Corporation for two additional injection wells, Maljamar Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to convert its Phillips 8-B Wells No. 3 and 5 located respectively in Units H and B, Section 19, Township 17 South, Range 33 East, Lea County, New Mexico, to water injection wells in its pilot waterflood project in the Maljamar (Grayburg-San Andres) Pool authorized by Order No. R-2157.

CASE 2533: Application of Amerada Petroleum Corporation for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to institute a pressure maintenance project in that portion of the Saunders Permo-Pennsylvanian Pool underlying the S/2 S/2 of Section 3 and N/2 of Section 10, Township 15 South, Range 33 East, Lea County, New Mexico, with the injection of water into the Pennsylvanian formation initially to be through one well located in the NE/4 NW/4 of said Section 10.

CASE 2534: Application of Amerada Petroleum Corporation for a quadruple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its State NJ "A" Well No. 3 located in Unit A of Section 2, Township 25 South, Range 37 East, Lea County, New Mexico, as a quadruple completion (combination) in the San Andres, Blinbry, Drinkard and Devonian formations in the North Justis Field with the production of oil from the Devonian and Drinkard formations to be through separate strings of 1 1/2-inch tubing set within parallel strings of 3 1/2-inch casing, and the production of oil from the Blinbry formation through a parallel string of 2 7/8-inch casing; applicant proposes to dispose of salt water into the San Andres formation through a parallel string of 2 3/8-inch casing.

CASE 2535: Application of Amerada Petroleum Corporation for a quadruple completion and a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its L. G. Warlick "A" Well No. 1, located in Unit I of Section 19, Township 21 South, Range 37 East, Lea County, New Mexico, as a quadruple completion

(combination) in the Eumont Gas, Blinebry Oil, Penrose-Skelly Oil and Drinkard Oil Pools with the production of oil from the Drinkard and Penrose-Skelly formations to be through parallel strings of 2 7/8-inch casing, the production of oil from the Blinebry formation through a string of 1 1/4-inch tubing set within another parallel string of 2 7/8-inch casing and the production of gas from the Eumont formation through the casing-tubing annulus. Applicant further seeks the establishment of a 160-acre non-standard gas proration unit in the Eumont Gas Pool comprising the S/2 NE/4 and the N/2 SE/4 of said Section 19, said unit to be dedicated to said L. G. Warlick "A" Well No. 1.

CASE 2536:

Application of William A. & Edward R. Hudson for a secondary recovery project, Maljamar Pool, Eddy County, New Mexico. Applicants, in the above-styled cause, seek permission to institute a secondary recovery project in the Maljamar Pool in an area underlying their Puckett "A" and "B" Leases located in Section 24, Township 17 South, Range 31 East, Eddy County, New Mexico, with the injection of water into the Grayburg-San Andres formation initially to be through six wells, said project to be governed by the provisions of Rule 701.

CASE 2537:

Application of J. C. Williamson for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Westates-Federal Well No. 8 located in Unit E of Section 1, Township 25 South, Range 37 East, Lea County, New Mexico, as a dual completion (conventional) in the North Justis-McKee Pool and an undesignated Montoya pool with the production of oil from both zones to be through parallel strings of tubing.

CASE 2538:

Application of Southwest Production Company for a non-standard oil proration unit, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 73.89-acre non-standard oil proration unit in the Cha Cha-Gallup Oil Pool comprising the NE/4 SE/4 and that portion of the NW/4 SE/4 lying North of the mid-channel of the San Juan River, of Section 16, Township 29 North, Range 14 West, San Juan County, New Mexico, said unit to be dedicated to the Foutz-State Well No. 1, located 1912 feet from the South line and 2310 feet from the East line of said Section 16.

CASE 2539: Application of Pan American Petroleum Corporation for an exception to Order No. R-333-E, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-333-E to permit the extension of the terminal date for the 1961 deliverability test period from December 15, 1961, to March 1, 1962, for ten wells located in Townships 27 and 28 North, Ranges 10 and 11 West, San Juan County, New Mexico.

CASE 2540: Application of Pan American Petroleum Corporation for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its State "CK" Well No. 2, located in the NE/4 SW/4 of Section 19, Township 21 South, Range 37 East, Lea County, New Mexico, as a triple completion in the Drinkard, Blinebry and Paddock Oil Pools with the production of oil from the Blinebry and Drinkard formations and the production of undetermined hydrocarbons from the Paddock formation.

CASE 2541: Application of J. Glenn Turner for a dual completion, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Ballard Well No. 11-15 located in Unit D of Section 15, Township 26 North, Range 9 West, San Juan County, New Mexico, as a dual completion (conventional) in the Basin-Dakota Gas Pool and an undesignated Gallup oil pool with the production of gas from the Dakota formation and the production of oil from the Gallup formation to be through parallel strings of 2 1/16-inch tubing.

CASE 2542: Application of La Plata Gathering System, Inc. for a dual completion, a non-standard gas proration unit, and an unorthodox gas well location, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete a gas well to be located at an unorthodox gas well location 1980 feet from the South line and 734 feet from the East and West lines of Section 19, Township 32 North, Range 5 West, Rio Arriba County, as a dual completion (conventional) in the Blanco-Mesaverde and Basin-Dakota Gas Pools with the production of gas from the Dakota formation to be through a string of 2 1/16-inch tubing and the production of gas from the Mesaverde formation to be through a parallel string of 1 1/2-inch tubing. Applicant further seeks the establishment of a 355.25-acre non-standard gas proration unit in the aforesaid pools comprising all of Sections 18 and 19, in said township to be dedicated to the above-described well.

- CASE 2543: Application of G. W. Strake for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its LeBow-Federal Well No. 6 located in Unit I of Section 25, Township 19 South, Range 30 East, Eddy County, New Mexico, as a dual completion (conventional) in the North Hackberry-Yates and Hackberry-Seven Rivers Pools with the production of oil from both formations to be through parallel strings of 2 1/16-inch tubing.
- CASE 2544: Application of Perry R. Bass for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Plains Unit Agreement embracing 7,198.01 acres, more or less, of federal lands in Township 19 South, Range 32 East, Lea County, New Mexico.
- CASE 2545: 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 Field-Yates Sand Unit Agreement embracing 2,760 acres, more or less, of State and fee lands in Township 22 South, Range 35 East, Lea County, New Mexico.
- CASE 2546: Application of The British American Oil Producing Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to institute a waterflood project in the Yates formation in the Jalmat Pool in an area underlying its proposed Jalmat Field-Yates Sand Unit Area, comprising 2,760 acres, more or less, in Township 22 South, Range 35 East, Lea County, New Mexico, with injection of water initially to be through 16 wells located within said unit area, the project to be governed by the provisions of Rule 701.

iqg/

Amerada
Case 2533
Heard 4-25-62
Rec. 4-26-62

1. Grant Amerada's request for a
secondary recovery project in
the Saunders Oil Pool.

2. The project will be:

155-33E,

Sec. 3, S/2 S/2,

" 10 N/2.

3. The injection well will be

Amerada-St. "SE" #1, unit C-10-155-33E.

4. All W.I. & Royalty is common.

Thos. W. F.

APPLICATION BEFORE THE CONSERVATION COMMISSION OF NEW MEXICO

Application of Amerada Petroleum
Corporation for Authority to
Establish a Pressure Maintenance
Program in the Saunders Field
Underlying the S/2 S/2 Section 3
and the N/2 Section 10, all in
Township 15 South, Range 33 East,
Lea County, New Mexico

Case No. 2533

APPLICATION

Applicant Amerada Petroleum Corporation alleges and states:

1. Applicant is owner and operator of the oil and gas leases covering:

Township 15 South, Range 33 East:
Section 3: S/2 S/2
Section 10: N/2
Lea County, New Mexico,

to be called the Project Area, as shown on the plat attached, marked EXHIBIT "A".

2. The Project Area is underlain by the Saunders Pool, which is the 9800' Oil Zone in the Pennsylvanian formation as shown on the log of the Amerada State SE No. 1 Well, attached and marked EXHIBIT "B".

3. Wells located in the Project Area showing producing capacities in the Saunders Pool based on averages taken during February, 1962, include:

<u>Well Name</u>	<u>Location</u>	<u>Daily Producing Capacity</u>
Amerada SC No. 2	NW NW Sec. 10	58 bbls.
Amerada SC No. 3	SE NW Sec. 10	50 bbls.
Amerada SE No. 1	NE NW Sec. 10	17 bbls.
Amerada SF No. 1	NW NE Sec. 10	15 bbls.
Amerada SD No. 2	SE SW Sec. 3	50 bbls.

4. Applicant proposes this pressure maintenance program in an effort to build up or maintain reservoir pressure in the pool which is now in the advanced primary stage of depletion and not in the advanced or "stripper" stage of depletion.

5. Applicant proposes in this program to convert the Amerada SE No. 1 Well and to inject at capacity but not to exceed 3500 barrels per day of water produced from the formation plus such additional fresh water as may be required, with the injection well having the following casing:

13 3/8" surface casing set at 297' and cemented with 250 sacks.
8 5/8" intermediate casing set at 4232' and cemented
with 1500 sacks, with the top of the cement at 1659'.
5 1/2" producing string set at 9975' and cemented with
600 sacks, with the top of the cement at 6738'.


Booke
4/12/62

6. The program here proposed will prevent waste and protect the rights of owners within the Project Area.

WHEREFORE, Applicant requests that this matter be set for hearing, that notice thereof be given as required by law and upon hearing the Commission enter an order approving the program here proposed.

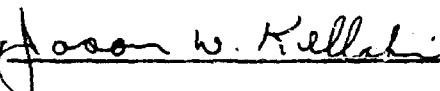
AMERADA PETROLEUM CORPORATION

By


H. D. Bushnell

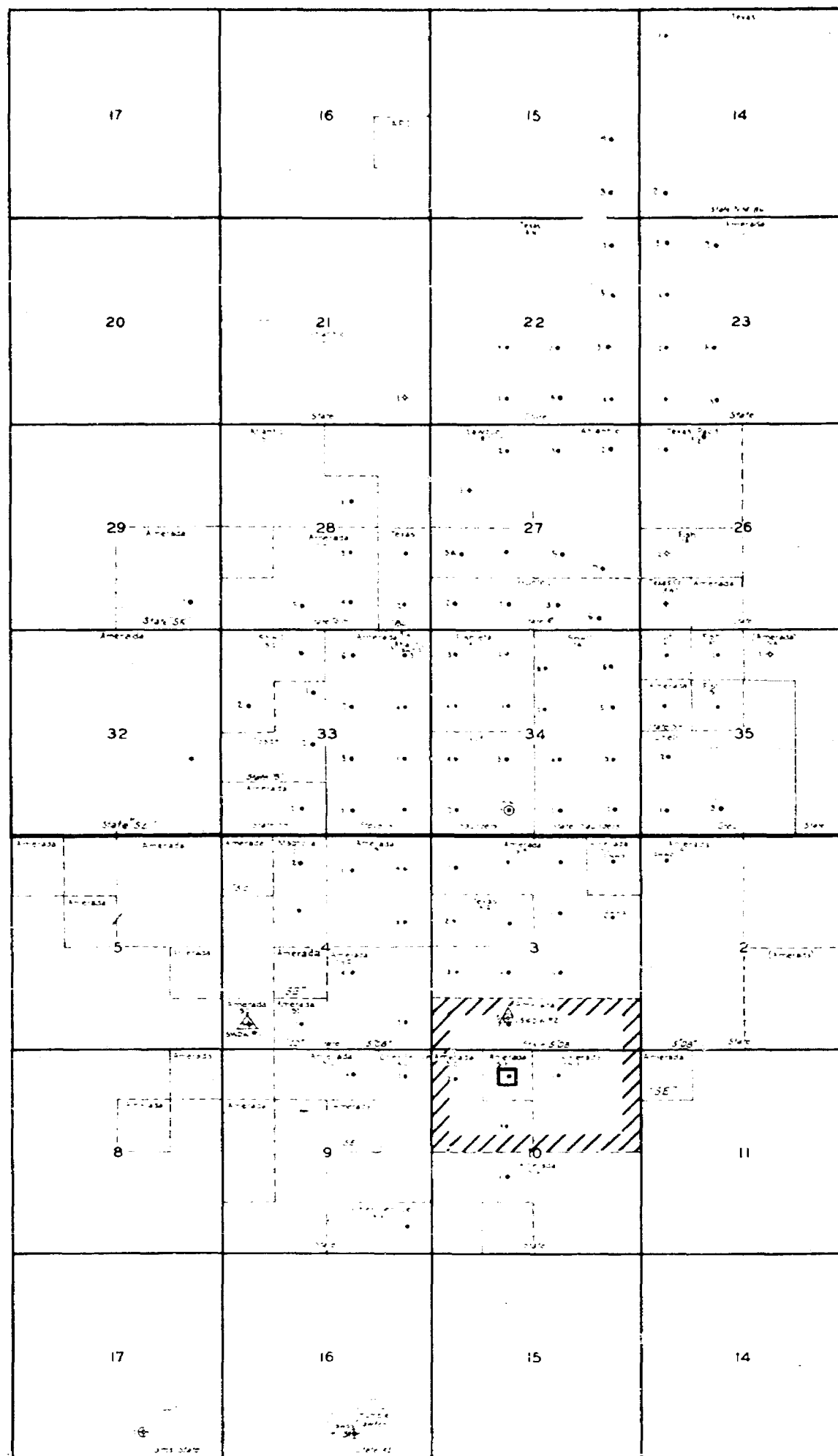
KELLAHIN AND FOX

By



ATTORNEYS FOR APPLICANT

R 33 E



T
14
S

T
15
S

■ INJECTION WELL
 //// UNIT AREA

SAUNDERS FIELD
 LEA CO. NEW MEXICO
 T. 14-15 S. R. 33 E.

EXHIBIT "A"

SCALE

15
BEFORE THE OIL CONSERVATION COMMISSION OF
THE STATE OF NEW MEXICO

APPLICATION OF AMERADA PETROLEUM
CORPORATION FOR A PRESSURE MAIN-
TENANCE PROJECT, LEA COUNTY, NEW
MEXICO.

Case No. 2533

APPLICATION OF AMERADA PETROLEUM
CORPORATION FOR A QUADRUPLE COM-
PLETION, LEA COUNTY, NEW MEXICO.

Case No. 2534

APPLICATION OF AMERADA PETROLEUM
CORPORATION FOR A QUADRUPLE COM-
PLETION AND A NON-STANDARD GAS
PRORATION UNIT, LEA COUNTY, NEW
MEXICO.

Case No. 2535

ENTRY OF APPEARANCE

Come and KELLAHIN & FOX, P. O. Box 1713, Santa Fe, New
Mexico, and enter their appearance in the above-captioned case
on behalf of Amerada Petroleum Corporation in association with
Mr. H. D. Bushnell, a member of the Oklahoma Bar.

Jason W. Kellahin
JASON W. KELLAHIN

KELLAHIN AND FOX

JASON W. KELLAHIN
ROBERT E. FOX

ATTORNEYS AT LAW
54 1/2 EAST SAN FRANCISCO STREET
POST OFFICE BOX 1713
SANTA FE, NEW MEXICO

YUCCA 3-9396
YUCCA 2-2991

APR 23 1962
April 23, 1962

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

Gentlemen:

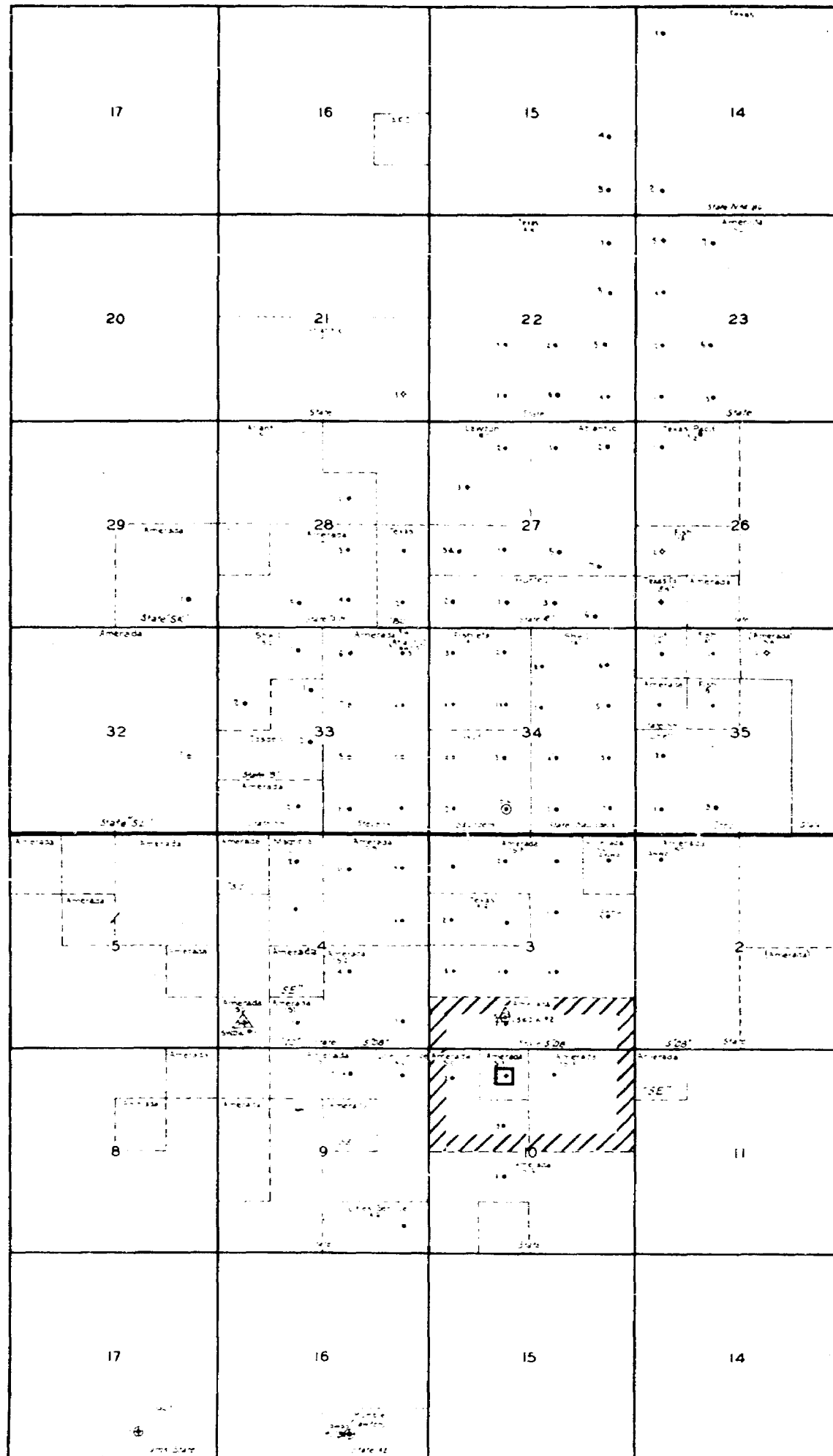
Enclosed find entries of appearance of Kellahin &
Fox in association with Mr. H. D. Bushnell of Amerada
Petroleum Corporation in Cases Nos 2533, 2534, 2535,
for filing.

Very truly yours,

Jason W. Kellahin
JASON W. KELLAHIN

jwk:mas
enclosures

R 33 E



□ INJECTION WELL

////// UNIT AREA

SAUNDERS FIELD

LEA CO. NEW MEXICO

T. 14-15 S. R. 33 E.

Case No 2533

Ex No 1

SCALE

BEFORE EXAMINER UTZ

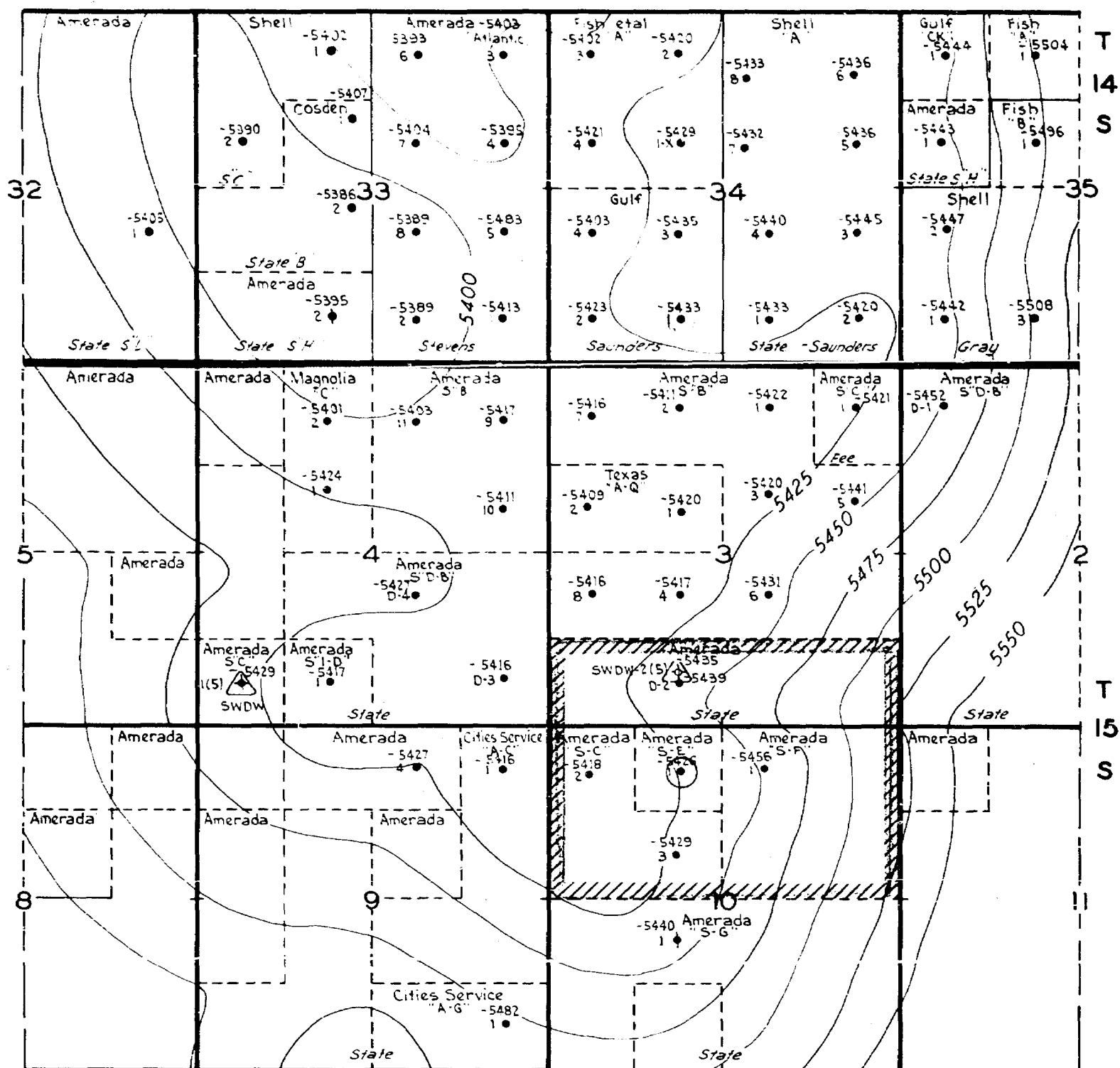
OIL CONSERVATION COMMISSION

EXHIBIT NO.

CASE NO.

2533

R 33 E



- ////// PROJECT AREA
- INJECTION WELL
- DISC. WELL

BEFORE EXAMINER UTZ
 GIL CONSERVATION COMMISSION
 EXHIBIT NO. 2
 CASE NO. 2533

SAUNDERS FIELD
 PILOT PROJECT AREA
 CONTOURS ON AXX DATUM
 CONTOUR INTERVAL 25 FT.
 LEA COUNTY, NEW MEXICO

Case No 2533

EXHIBIT NO. 2

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

April 25, 1962

EXAMINER HEARING

IN THE MATTER OF:

Application of Amerada Petroleum Corporation for
a pressure maintenance project, Lea County, New
Mexico. Applicant, in the above-styled cause,
seeks permission to institute a pressure maint-
enance project in that portion of the Saunders
Permo-Pennsylvanian Pool underlying the S/2
S/2 of Section 3 and N/2 of Section 10, Town-
ship 15 South, Range 33 East, Lea County, New
Mexico, with the injection of water into the
Pennsylvanian formation initially to be through
one well located in the NE/4 NW/4 of said
Section 10.

CASE NO.
2533

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 2533.

MR. MORRIS: Application of Amerada Petroleum
Corporation for a pressure maintenance project, Lea County, New
Mexico.

MR. BUSHNELL: H. D. Bushnell appearing for Amerada
in association with Kellahin and Fox. We have one witness.

(Witness sworn.)

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

MR. BUSHNELL: Mr. Examiner, the purpose of this
application is for Amerada to seek approval of a pressure main-

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6691



tenance program for the purpose of maintaining reservoir pressure in a portion of the Saunders field.

A. E. SNYDER,

called as a witness herein, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. BUSHNELL:

Q Would you state your name and company for which you are employed?

A A. E. Snyder. Amerada Petroleum Corporation, District Engineer in southeast New Mexico at Hobbs.

Q Have you testified in that capacity in prior Hearings before this Commission which has accepted your qualifications?

A Yes, sir.

(Whereupon, Applicant's Exhibit
No. 1 Marked for Identification.)

Q I hand you what has been identified as Exhibit No. 1 and ask you to identify and explain generally what is shown on this exhibit.

A Exhibit No. 1 is an ownership plat of the Saunders Pool located in the general vicinity of Township 14 and 15 South, Range 33 East, Lea County, New Mexico. On this plat is shown the location of all of the wells, the leasehold and the proposed pilot injection area.

Q As indicated by the legend on the bottom of the exhibit,



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1192

ALBUQUERQUE, N. M.
PHONE 243-6611

is that correct?

A Yes.

Q Would you summarize for the Examiner, and for the record, the history of the development of the Saunders field?

A The Saunders Pool was discovered in January of 1950 when completion was made in the Permo-Pennsylvanian formation at about ninety-eight hundred feet deep. Drilling developed rather rapidly for about 4 years and then there was a leveling off of the drilling at which time, in 1957, another drilling program was commenced and currently there are one hundred five producing wells in the Pool. The maximum monthly rates of production occurred, just a little over 200,000 barrels per month, in 1953; then, after the second series of drilling in the latter part of 1959, the maximum production was 215,000 barrels per month. Since that time production has steadily declined and as of December, 1961, production was 144,000 barrels per month. The top allowable in the Pool at this time is 132 barrels per day per well. The average allowable in the Pool that is assigned to the wells is only 55 barrels, and the wells are actually only producing 43 barrels, showing that the Pool is in an advanced state of primary depletion. The cumulative production from the Pool to January 1st, 1962 was 20.3 million barrels or an average of slightly under 200,000 barrels per well. The bottom hole pressure history, initially, was 3,660 pounds and has shown a steady decline to the last measured pressure in September of 1960,



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6091

it was 911 pounds on a ten well average. Since that time there have been a number of isolated pressures taken, but most of the wells are on artificial lifts so there have been no pool-wide pressures taken. The pressure decline should be on the order of some 700 pounds at the present time. The gas-oil ration, initially, was slightly under 1,500 to 1 and has shown very little increase. At the present time it's 2,060 on the produced gas basis. The decline in bottom hole pressure shows that the pool has produced primarily by means of an expansion of the gas entrained within the oil or solution gas drive reservoir. Cumulative recovery, as I mentioned, has been 20.3 million barrels. Extrapolation of the decline curve indicates that we might expect another 6.5 million barrels of primary recovery, making a total ultimate of 26.8 million barrels which would be about 18 percent of the initial oil in place in the reservoir.

MR. UTZ: What was that total figure?

A 26.8 million will be ultimate primary.

MR. UTZ: Your future was what?

A 6.5.

Q (By Mr. Bushnell) Is there anything you have to add to this summary of the history of your development?

A One thing I might point out, the 18 percent primary recovery, of course, will leave many millions of barrels of oil in the reservoir at the end of primary operation.

(Whereupon, Applicant's Exhibit
No. 2 Marked for Identification.)



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182ALBUQUERQUE, N. M.
PHONE 243-6651

Q Now, in connection with the proposed project area, I hand you what has been identified as Exhibit No. 2, and ask you to state what it is and what it shows.

A Exhibit No. 2 is a plat of a smaller portion of the south portion of the Saunders Pool showing structure on top of the, what we call the "A double X" zone, it's a zone that's easily identifiable over the entire area. It is somewhat above the pay interval in the Saunders Pool. The plat shows the discovery well, Gulf's Maude Saunders Number 1, located in Unit N, Section 34, Township 14 South, Range 33 East. It shows the area of the proposed injection program outlined in red, the proposed injection well being the Amerada State S.E. No. 1 located in Unit C., Section 10, Township 15 South, Range 33 East, with four offsetting wells being the producing wells for the pilot area.

Q Now, for the purposes of the record, the project area outlined on this exhibit covers the South Half of the South Half of Section 3 and the North Half of Section 10, 33 East, 15 South, is that correct?

A Yes, sir.

Q Inside this project area you have indicated thereon five producing wells. Would you name, locate and give the production data on those wells?

A The injection well, as I mentioned, would be the Amerada State S.E. No. 1, located in the Northeast, Northwest of



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6651

Section 10. Its current rate of production is 17 barrels of oil per day. The cumulative production to March the 1st, 1962 was 89,406 barrels. The perforated interval is 9833 to 9920. The four producing wells would be Amerada State SC, located in the Northwest Northwest of Section 10, it is currently producing 58 barrels per day, its cumulative production to March the 1st, 1962, is 437,331 barrels, its perforated interval is 9800 to 9914; the second producing well would be the Amerada State SC, Number 3, located in the Southeast Northwest of Section 10, currently producing 50 barrels per day, with cumulative production to March the first, 1962 of 337,490 barrels, the perforated interval from 9790 to 9970; the third producing well would be the Amerada State SD, Number 2, located in the Southeast Southwest of Section 3, currently producing 50 barrels per day, with cumulative production to March the 1st, 1962 of 455,408 barrels, and a perforated interval of 9780 to 9908. The fourth producing well would be the Amerada State SF, Number 1, located in the Northwest Northeast of Section 10, currently producing 15 barrels per day with a cumulative production of 114,804 barrels, and a completion interval 9840 to 9990.

MR. PORTER: Was that 214 --

A Pardon?

MR. PORTER: That cumulative production?

A 114,804.

Q (By Mr. Bushnell) Does the daily producing capacity of



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1142

ALBUQUERQUE, N. M.
PHONE 243-6691

these four wells support your conclusion that the field is in the advanced stage of depletion and not in the stripper stage?

A Yes, sir.

(Whereupon, Applicant's Exhibit No. 3 Marked for Identification)

Q Now, referring further to the proposed injection well inside this proposed project area, I hand you what has been identified as Amerada's Exhibit No. 3 and ask you to state what that is and what it shows.

A Exhibit No. 3 is the Electric Log of the proposed injection well, Amerada State SE, No. 1, and on this log, the bottom portion of it, we have shown the top of the "A double X" zone, the zone that we have correlated on to make the structure map for Exhibit 2. Shows 9,627 feet in this well. The top of the Saunders Permo-Pennsylvanian pay at 9,804 feet.

Q Does this exhibit also show the Micro Log pay section?

A Yes, sir.

Q What is that casing program in the proposed injection well?

A The well has 13-3/8 inch surface casing set at 297 feet cemented with 250 sacks of cement. 8-5/8 intermediate casing set at 4,232 feet, cemented with 1500 sacks of cement, with the top of the cement at 1659. 5-1/2 inch producing string was set at 9,975, cemented with 600 sacks of cement and the top of the cement was found at 6738.



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1192

ALBUQUERQUE, N. M.
PHONE 243-6691

Q Now, referring back to Exhibit No. 2, and the proposed project area, how do you propose to conduct this project?

A The project proposal considers that in the injection well we will run two and three-eighth inch tubing set on a packer above the perforation in the well and that water rates, about 3000 to 3500 barrels a day, will be injected into the well. We anticipate that, initially, it will go in on vacuum, that as fill-up occurs, pressure will increase. We're designing the system to handle 3000 pounds per square inch pressure. The water for this pilot injection program will come from the Saunders salt water disposal system which has produced water in the Saunders area and it ranges from 3000 to 3500 barrels per day.

Q Is Amerada the sole owner of the interest inside the proposed project area?

A Yes, sir.

Q What is the estimated cost of this project?

A We have estimated that the initial expense in the pilot area will be fifty-six thousand dollars.

Q Is it your intention that if this proposed project is successful that you would extend the operations to other portions of the Saunders Field?

A Yes. It is assumed that it would be extended if the project is successful.

Q If you were required to do so, would it be required that you obtain additional water source?



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243 6691

A Yes, additional water on the order of about 45,000 barrels a day would be required. Amerada has currently made application with the State Engineer's Office for fresh water rights in that amount in the Saunders area.

Q Those rights have not been granted, but the Hearing is pending?

A Yes, sir.

Q If this project is not successful, does it necessarily mean that you would abandon such a project in the Saunders Field?

A No, not necessarily. With the amount of oil that is present that could be recoverable effectively that it would not necessarily condemn if this particular project is not successful.

Q Is the purpose of this project to increase the ultimate recovery of oil?

A Yes, sir.

Q Why did you propose the project area at this particular location?

A This particular location is the only area in the entire pool where Amerada could start the pilot project on their own leases where the working ownership would be the same, the royalty is all State leases, we have four wells to produce that would surround the injection well in this area; we propose to consolidate our testing facilities and batteries so we could keep very close track of the results of the injection program so if there are any adverse effects we would be the first one to realize it before it



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6691

gets on someone else's lease and creates some damage.

Q You say the ownership, both working interest and royalty, is common throughout the proposed area?

A Yes, sir.

Q Were these exhibits prepared by you or by someone under your supervision?

A Yes, sir.

MR. BUSHNELL: I offer Exhibits 1 through 3.

(Whereupon, Applicant's Exhibits No. 1 through 3, offered in Evidence.)

MR. UTZ: Without objection the Exhibits 1 through 3 will be entered into the record of this case.

Q (By Mr. Bushnell) Do you have any further testimony that you want to give, Mr. Snyder?

A No, I believe not.

MR. BUSHNELL: That's all we have.

MR. UTZ: Are there questions of the witness?

MR. MORRIS: Yes, sir.

MR. UTZ: Mr. Morris.

CROSS EXAMINATION

BY MR. MORRIS:

Q Mr. Snyder, you have not proposed any special rules or regulations to govern your small pressure maintenance project here in the pilot stages. How would you recommend to the Commission that they handle the problems of the allowables or



credits for gas-oil ratio? Are you asking for any special treatment?

A No, sir, we are asking for no special treatment whatsoever in this pilot project.

Q If the pilot should be expanded, then I presume at that time you might come in with some special rules?

A Yes, sir. The thing that we might ask at that time would be dependent upon the depletion stage of the entire reservoir at the time and other factors.

Q Assuming that your project is successful, would efforts be made to unitize?

A Yes, sir. Amerada is currently studying the reservoir. We have been for some time, there has been no cooperative effort towards unitization at this point, but those efforts would be made.

MR. MORRIS: I believe that's all.

MR. UTZ: Mr. Porter.

BY MR. PORTER:

Q I believe you testified that there are currently 105 wells in the pool. I believe those wells were drilled in two stages of development of the pool?

A Yes.

Q One in the early '50's and one beginning about '57?

A Yes.

Q These -- the wells in this particular area, were they in the original part of the pool?



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6691

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

ALBUQUERQUE, N. M.
PHONE 243-6691

A Yes.

Q Do you know approximately how many wells of the total that the Amerada owns?

A Amerada operates 43, I believe, of the total 105 wells.

MR. PORTER: Thank you.

MR. UTZ: Are there other questions? Mr. Irby.

BY MR. IRBY:

Q Frank Irby, State Engineer's Office. Is the injection going directly through the casing or through tubing and packer?

A No, we would set a tubing on a packer.

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

MR. UTZ: I don't recall whether this is open hole?

A No, it's perforated.

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

(Witness excused)

MR. UTZ: Are there any statements in this case?

The case will be taken under advisement.



STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached transcript of Hearing was reported by me in Stenotype and that the same was reduced to typewritten transcript under my personal supervision and contains a true and correct record of said Proceedings, to the best of my knowledge, skill and ability.

Ada Dearnley
 NOTARY PUBLIC

My Commission Expires:

June 19th, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2532, heard by me on Apr. 25, 1962.

Thomas G. J. J., Examiner
 New Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
 PHONE 325-1182

ALBUQUERQUE, N. M.
 PHONE 243-6651

