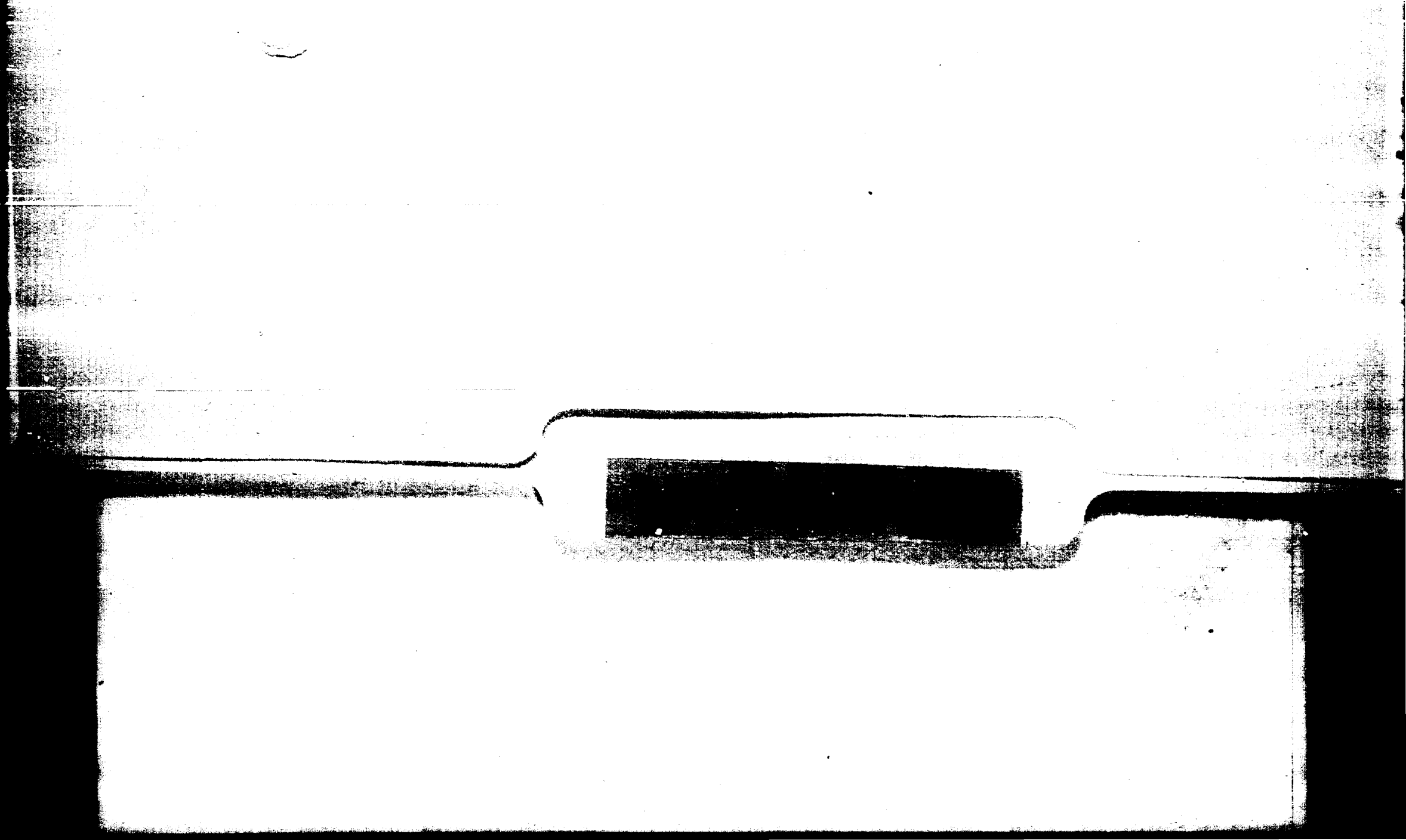


Case No.

1796

Application, Transcript,
Small Exhibits, Etc.

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. 1790
Order No. R-1504

APPLICATION OF EL PASO NATURAL
GAS PRODUCTS COMPANY FOR THE
ESTABLISHMENT OF A NON-STANDARD
OIL PRORATION UNIT AND FOR AP-
PROVAL OF AN UNORTHODOX WELL
LOCATION IN THE HORSESHOE-
GALLUP OIL POOL, SAN JUAN
COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 7, 1959, 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 21st day of October, 1959, 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 is the operator of a 40-acre tract in the E/2 W/2 of Section 28, Township 31 North, Range 16 West, NMPM, San Juan County, New Mexico, more particularly described as follows:

> Beginning at the Southwest corner of the SE/4 SW/4 of said Section 28; thence North 3,023.65 feet; thence West 560.90 feet; thence South 3,023.65 feet; thence East 593.79 feet to the point of beginning.

(3) That the applicant proposes the establishment of a non-standard oil proration unit in the Horseshoe-Gallup Oil Pool, comprising the above-described 40-acre tract.

(4) That the applicant proposes to dedicate the above-described non-standard oil proration unit to the Horseshoe Ute Well No. 27 to be drilled at an unorthodox location 330 feet from the South line and 4,430 feet from the East line of said Section 28.

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

IT IS THEREFORE ORDERED:

(1) That a 40-acre non-standard oil proration unit in the Horseshoe-Gallup Oil Pool be and the same is hereby established in the E/2 W/2 of Section 28, Township 31 North, Range 16 West, NMPM, San Juan County, New Mexico, being more particularly described as follows:

> Beginning at the Southwest corner of the SE/4 SW/4 of said Section 28; thence North 3,023.65 feet; thence West 560.90 feet; thence South 3,023.65 feet; thence East 593.79 feet to the point of beginning.

(2) That the applicant be and the same is hereby authorized to dedicate the above-described non-standard oil proration unit to the Horseshoe Ute Well No. 27 hereby authorized to be drilled at an unorthodox location 330 feet from the South line and 4,430 feet from the East line of said Section 28.

DONE at Santa Fe, New Mexico on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1790

TRANSCRIPT OF HEARING

OCTOBER 7, 1959

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
OCTOBER 7, 1959

IN THE MATTER OF:

CASE 1790 Application of El Paso Natural Gas Products Company for a non-standard oil proration unit and an unorthodox oil well location. Applicant, in the above-styled cause, seeks the establishment of a 40-acre non-standard oil proration unit in the Horseshoe-Gallup Oil Pool consisting of a portion of the E/2 W/2 of Section 28, Township 31 North, Range 16 West, San Juan County, New Mexico, to be dedicated to a well on an unorthodox location at a point 1980 feet from the South line and 4430 feet from the East line of said Section 28.

BEFORE:

Elvis A. Utz, Examiner.

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: The next case will be 1790.

MR. PAYNE: Case 1790. Application of El Paso Natural Gas Products Company for a non-standard oil proration unit and an unorthcdox oil well location.

MR. SPANN: For the record, Charles C. Spann, Grantham, Spann & Sanchez, Albuquerque, New Mexico, representing the applicant. We have one witness, Mr. Vandiver.

(Witness sworn)

JAMES C. VANDIVER,

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

DIRECT EXAMINATION

BY MR. SPANN:

Q Will you state your name, residence and employment?

A James C. Vandiver, Farmington, New Mexico, Division Landman, El Paso Natural Gas Products Company.

Q Have you previously testified before this Commission and had your qualifications accepted?

A I have.

MR. SPANN: Are there objections to the witness' qualifications?

MR. UTZ: Pardon?

MR. SPANN: Are there objections to the witness' qualifications?

MR. UTZ: No, sir. The witness is qualified.

Q Mr. Vandiver, you are familiar with the application of El Paso Natural Gas Products Company for an unorthodox location, non-stardard proration unit in the Horseshoe-Gallup Pool, San Juan County, New Mexico?

A I am.

Q In connection with that application, you attached an Exhibit showing the location of the proposed well. Now, as I understand it, there has been a change, or you wish an amendment to that plat showing the proposed location, and that has resulted

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Phone CHapel 3-6691

from conferences with the U.S.G.S..

A That's right, and with Atlantic Refining Company.

Q Atlantic is the offset operator, and this is all Indian acreage, I think?

A Yes, it is. It is Ute Indian acreage.

Q And there are no other persons or companies concerned except the U.S.G.S., and you have the Indians, Atlantic and yourself?

A That is correct, in this immediate area.

Q Now, would you just state to the Examiner how you wish to amend your plat?

A We wish our application to read, rather than 1980 feet from the South line -- we wish to amend that to read 660 feet from the South line.

Q South line of what?

A Section 28, Township 31 North, Range 16 West.

MR. UTZ: It was 1980?

A Yes, it was 1980, and we wish to amend it to 660. I wish to state at this time that the terrain in this vicinity is very rough. We may have to move that a few feet one way or the other.

MR. UTZ: Was it rough at your previous location?

A Yes, sir, it sure was, but we were able to make the location at that footage.

MR. PAYNE: You mean some five feet or so you might

have to move it, or more than that?

A Oh, we hope not any more than that. We'll try to stay as close to those footages as we possibly can, and it may be we can locate on the footage that we desire.

MR. SPANN: We would like to amend our Exhibit A attached to the application to conform with the new location as described by Mr. Vandiver.

MR. UTZ: Is there objection to counsel's request for amendment of the application? If not, the application will be so amended.

Q (By Mr. Spann) Do you happen to have a map showing the new location?

A No, I don't.

MR. SPANN: May I inquire if the Commission would like a map prepared and submitted to you, or is this sufficient?

MR. UTZ: For what purpose?

MR. SPANN: Well, just to substitute it as an Exhibit to show in the records that there has been -- just where the location is on the plat.

MR. UTZ: No, sir, this will be all right with your amendment.

Q (By Mr. Spann) The area involved in your non-standard unit will be the same as shown on Exhibit A, I take it?

A It will be, there will be no change.

Q There will be 40 acres dedicated to this well?

A Yes, sir.

Q Now, will you just tell the Commission the reason that this unorthodox location is needed, and why this well needs to be located where it is?

A We conferred with Mr. Anderson with the U.S.G.S., and at his request we have moved the well location from the original location to 660 feet from the South line in Section 28; and we feel that a well there will economically drain the lands around the location.

Q And do you feel this area, or this unit will be productive of oil?

A We do.

Q Based upon the drilling that has been done in the area, I take it?

A That's right.

Q Now, how about your non-standard unit, why is it necessary that that be established as you have applied?

A Well, the non-standard unit, as you know, the acreage on the East side of the boundary line is owned by the Navajos and the Utes, and we establish an agreement to use the acreage on our side of the line, on the Ute land, so that we can properly produce that acreage.

Q And will the establishment of this non-standard unit prevent waste and protect correlative rights?

A It certainly will, in our opinion.

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Phone CHapel 3-6691

Q And you did notify -- well, Atlantic is actually here, but you did notify the offset operators of your application?

A Yes, they received notice by registered mail.

MR. SPANN: That's all the questions I have.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Vandiver, what do you propose to number this well?

A It will be Horseshoe Ute No. 27.

QUESTIONS BY MR. UTZ:

Q Mr. Vandiver, can you tell me how close the well is to the West line of this unit?

A Within a hundred feet.

Q This is not an even section, is it?

A No, sir. You mean a 640-acre section?

Q Yes.

A No.

Q 5280. Is it within a hundred feet or less than a hundred feet?

A Within a hundred feet.

Q That could mean less than a hundred feet?

A It could mean less than a hundred feet, but I'm sure that we have stayed a hundred feet away from that line.

MR. PAYNE: You own the adjoining property to the East, anyway, don't you?

A Yes, sir.

MR. UTZ: Are there any other questions of the witness? If there are none, the witness may be excused.

(Witness excused)

MR. UTZ: Are there any other statements to be made in this case? If there are none, the case will be taken under advisement.

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GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
Phone CHapel 3-6691

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, J. A. Trujillo, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in Stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this, the 22nd day of October, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
NOTARY PUBLIC

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1790, heard by me on Oct. 7, 1959.

....., Examiner
New Mexico Oil Conservation Commission

DEARNLEY - MEIER & ASSOCIATES
GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
Phone CHapel 3-6691

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

October 21, 1960

COPY

Mr. Charles C. Spann
Box 1681
904 Simms Building
Albuquerque, New Mexico

Dear Mr. Spann:

On behalf of your client, El Paso Natural Gas Products Company, we enclose two copies of Order No. R-1504 issued by the Oil Conservation Commission in Case No. 1790.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures: (2)

DOMESTIC SERVICE

Check the class of service desired; otherwise this message will be sent as a fast telegram

TELEGRAM

DAY LETTER

NIGHT LETTER

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1206 (4-55)

INTERNATIONAL SERVICE

Check the class of service desired; otherwise this message will be sent at the FULL RATE

NO. WDS.	CL. OF SVC.	PD. OR COLL.	CASH NO.	CHARGE TO THE ACCOUNT OF
				COLLECT

Send the following message, subject to the terms on back hereof, which are hereby agreed to

OCTOBER 24, 1955

MR. WM. MAHAN
[redacted] GAS PRODUCTS COMPANY
FARMINGTON, NEW MEXICO

ORDER SIGNED THIS DATE IN CASE 1790 APPROVING NON-STANDARD UNIT AND UNORTHODOX WELL LOCATION 550 FEET FROM SOUTH LINE AND 4430 FEET FROM EAST LINE OF SECTION 28.

A. L. PORTER, JR.,
SECRETARY-DIRECTOR
OIL CONSERVATION COMMISSION

THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN REGION
R. T. COX, MANAGER
T. S. PACE, LAND MANAGER
A. D. KLOKIN, OPERATIONS MANAGER

WYOMING NAT'L. BANK BLDG.
MAILING ADDRESS
P. O. BOX 520
CASPER, WYOMING

October 15, 1959

Case 1790

Mr. A. L. Porter
Secretary-Director
New Mexico Oil & Gas Conservation Commission
Mabry Hall
Santa Fe, New Mexico

RE: El Paso Natural Gas Products Co.
Horseshoe-Gallup NSP Hearing
Case 1790

Dear Mr. Porter:

We have been advised by telephone that El Paso Natural Gas Products Company has asked to move their Horseshoe-Ute No. 27 location from 660' FSL and 4430' FEL of Section 28, T 31N - R 16W, San Juan County, New Mexico to 330' FSL and 4430' FEL of Section 28. The Atlantic Refining Company has no objection to moving this location for topographic reasons.

Yours very truly,
THE ATLANTIC REFINING COMPANY

Robert T. Cox
Regional Manager

RTC/hsc
cc: Mr. E. N. Walsh
El Paso Nat. Gas Prod. Co.
P. O. Box 1565
Farmington, New Mexico

EL PASO NATURAL GAS PRODUCTS COMPANY

EL PASO, TEXAS

October 16, 1959

ADDRESS REPLY TO
POST OFFICE BOX 1565
FARMINGTON, NEW MEXICO

Mr. A. L. Porter, Jr.
Secretary-Director
N. M. Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

Dear Mr. Porter:

We request your approval of a change in location for our Horseshoe Ute No. 27. We had previously planned to drill this location 1980' from the South Line and 4430' from the East Line of Section 28, Township 31N, Range 16W.

During the Examiner Hearing held October 7, 1959, Case No. 1790, we requested that this location be changed to 660' from the South Line and 4430' from the East Line, Section 28, Township 31N, Range 16W. At that time we had not staked the location and, since that time, we have staked the location and on the 660' footage from the South Line it would take approximately $10,000.00 to build a road to and make the location. We tried to move the location to the north and, in doing so, we had to go 990' from the South Line to even have a possible building site. In order to build the location 990' from the South Line it would take approximately $5,000.00 to build a road to and make the location.

We staked a location 330' from the South Line and 4430' from the East Line of Section 28, Township 31N, Range 16W. It will be possible to make a location on this footage without going to a great expense.

Our Land Department has talked to the U.S.G.S. and they do not have any objection to moving the location to the 330' from the South Line and 4430' from the East Line of Section 28, Township 31N, Range 16W. They have also talked to the Atlantic Refining Company and they have no objection to moving the location. The Atlantic Refining Company will send a letter to the Conservation Commission stating that they will have no objection.

We request your approval as soon as possible so that we might be able to drill the well while we have a rig drilling in that immediate area.

Very truly yours,

Ewell N. Walsh

Ewell N. Walsh
Division Petroleum Engineer

ENW:EW

cc: Mr. Bruce Vernor
Atlantic Refining Co.
P. O. Box 520
Casper, Wyoming

Mr. J. C. Vandiver

GRANTHAM, SPANN AND SANCHEZ
ATTORNEYS AT LAW
904 SIMMS BUILDING
POST OFFICE BOX 1031
ALBUQUERQUE, NEW MEXICO

EVERETT M. GRANTHAM
CHARLES C. SPANN
MAURICE SANCHEZ
FRED M. STANDLEY

TELEPHONE
CHAPEL 3-3525

Case file for Oct. 7

September 24, 1959

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

Re: Application of El Paso Natural Gas Products Company for Non-Standard Oil Proration Unit and Unorthodox Well Location in the SE/4 Section 28, Township 31 North, Range 16 West, N.M.P.M. Horseshoe-Gallup Oil Pool, San Juan County, New Mexico

Gentlemen:

El Paso Natural Gas Products Company hereby submits its Application for an order approving a non-standard oil proration unit and an unorthodox well location in the Horseshoe-Gallup Oil Pool, San Juan County, New Mexico, and in support of said application states:

(1) That the non-standard oil proration unit will consist of that portion of the SW/4, Sec. 28, Twp. 31 N. Range 16 W., N.M.P.M. being more particularly described as follows:

Case No. Order No.

Commencing at the Southwest corner of the SE/4 of the SW/4 of Section 28, Township 31 North, Range 16 West, N.M.P.M.; thence North 3023.65 feet to a point which is the Northwest corner of the unit; thence West 560.90 feet to a point on the boundry line of the Ute-Navajo Reservation, which point is the Northwest corner of the tract or unit; thence South along said boundry line 3023.65 feet to the South line of said Section 28 and the Southwest corner of the tract; thence East along the South line of Section 28, 593.79 feet to the point of beginning; said tract containing 40 acres more or less.

(2) That the proposed unorthodox well location will be 1980 feet from the South line and 4430 feet from the East line of Section 28, Township 31 North, Range 16 West, N.M.P.M. and 101 feet East from the Reservation line.

(3) That applicant proposes to dedicate the acreage hereinabove described to the well for which the unorthodox location is sought by this application.

(4) That there is attached hereto and made a part hereof as Exhibit "A" a plat showing the non-standard proration unit and the unorthodox well location hereinabove described which said Exhibit by reference is made a part of this application.

(5) That the proposed non-standard oil proration unit may reasonably be presumed to be productive of oil and that said unit and said proposed well are located within the Horseshoe-Gallup Oil Pool or within one mile from said pool.

(6) That the applicant believes that the non-standard oil proration unit and unorthodox well location are necessary due to the shape of the strip of land described herein and that the drilling of said well and the establishing of said non-standard proration unit will prevent waste and protect correlative rights including those of royalty owners.

(7) That all operators owning interests in acreage offsetting the proposed non-standard proration unit are being notified by Registered Mail of this application.

Yours very truly,

EL PASO NATURAL GAS PRODUCTS CO.

By _____
GRANTHAM, SPANN AND SANCHEZ

A copy of the foregoing was
forwarded by Registered
Mail, return receipt requested,
to the following listed parties:

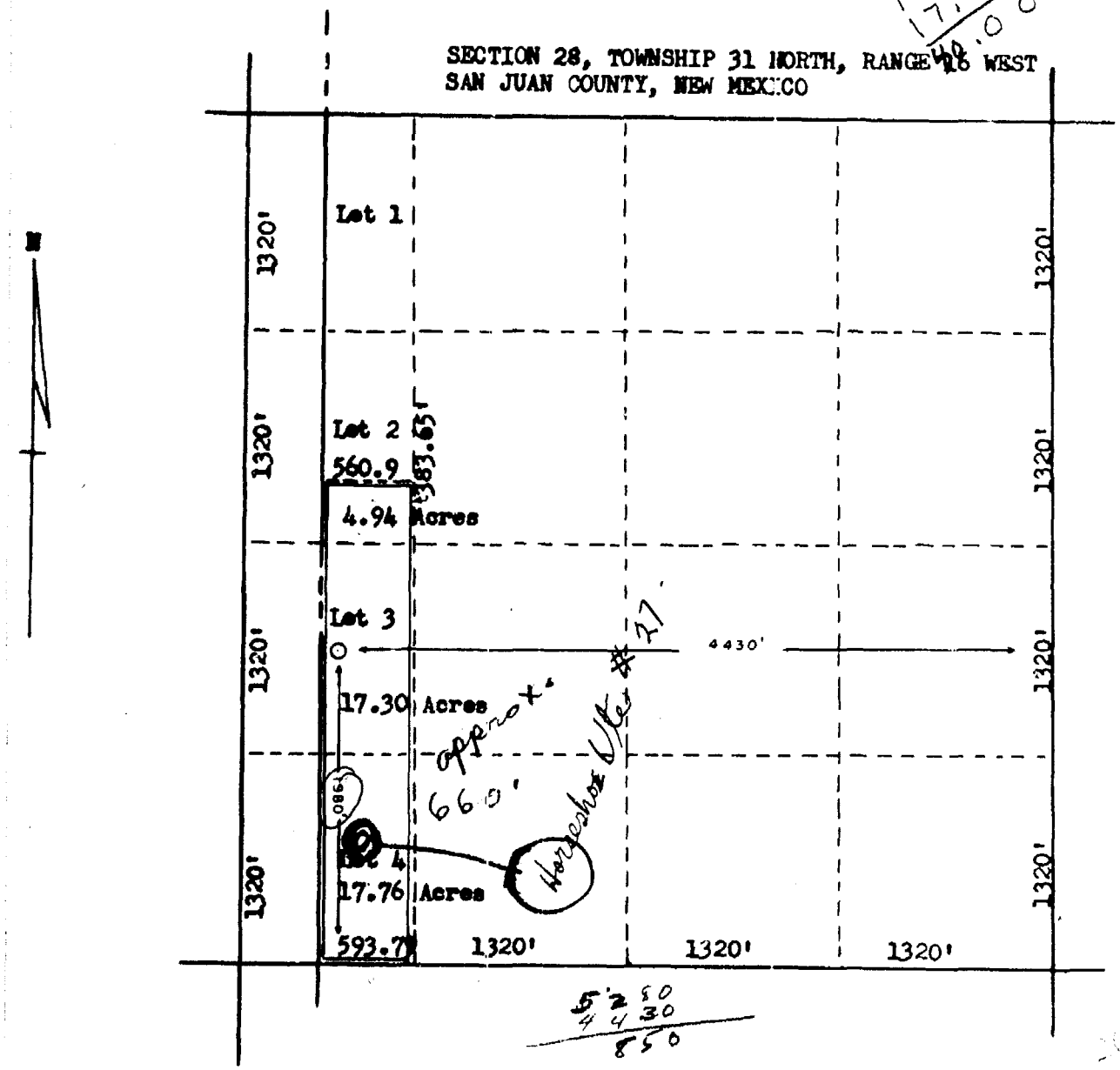
Atlantic Refining Company
P. O. Box 520
Casper, Wyoming

SURVEY PLAT
for
EL PASO NATURAL GAS PRODUCTS Co.

EXHIBIT "A"

4.94
17.30
17.76
40.00

SECTION 28, TOWNSHIP 31 NORTH, RANGE 16 WEST
SAN JUAN COUNTY, NEW MEXICO



This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

James P. Leese
Reg. Land Surveyor
N. Mex. Reg. No. 1463

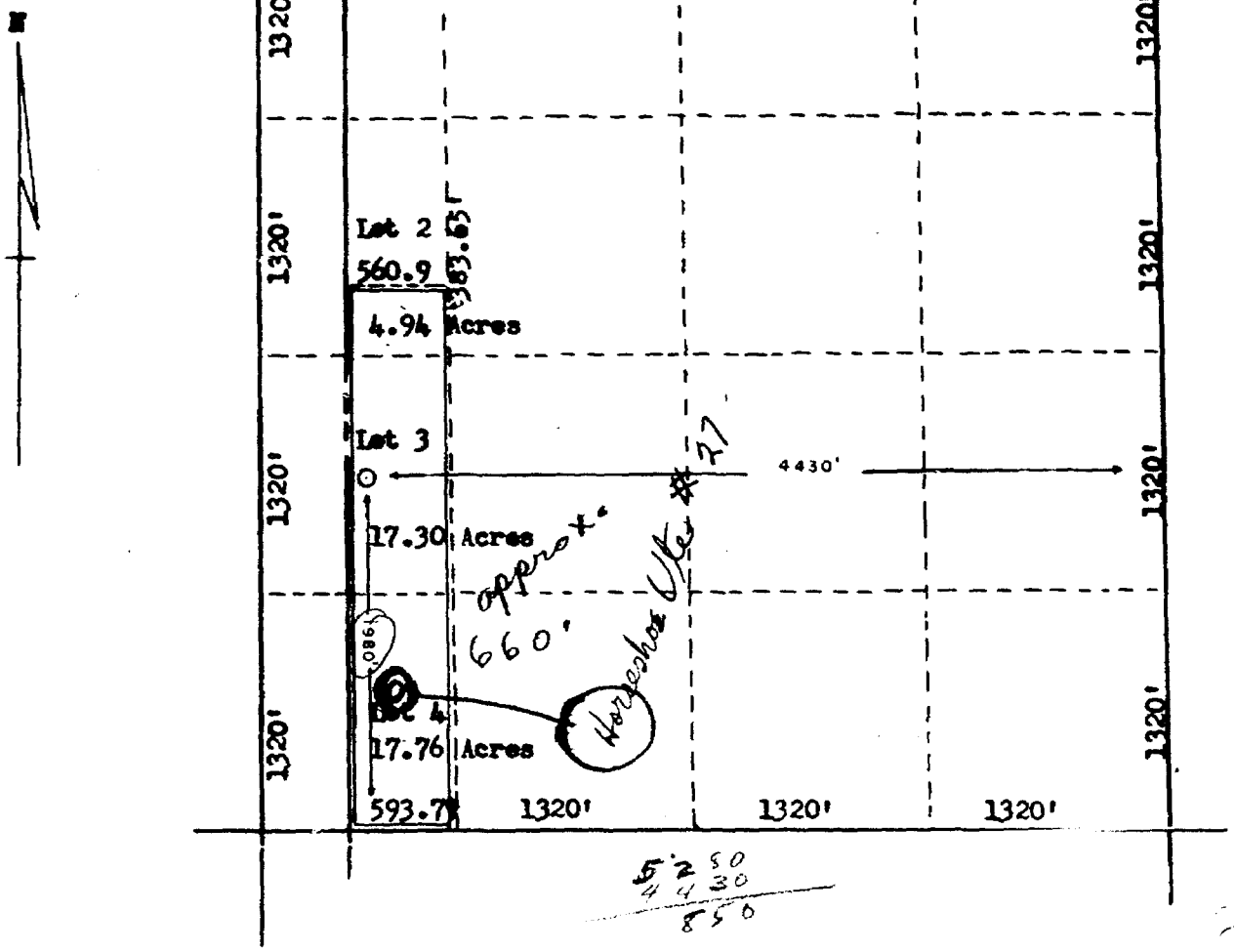
Scale: 1" = 1,000'

SURVEY PLAT
for
EL PASO NATURAL GAS PRODUCTS Co.

EXHIBIT "A"

4.94
17.30
17.76
40.00

SECTION 28, TOWNSHIP 31 NORTH, RANGE 15 WEST
SAN JUAN COUNTY, NEW MEXICO



5250
4430
820

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

James P. Leese
Reg. Land Surveyor
N. Mex. Reg. No. 1463

Scale: 1" = 1,000'

No. 34-59

DOCKET: EXAMINER HEARING OCTOBER 7, 1959

OIL CONSERVATION COMMISSION - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Elvis A. Utz, Examiner, or A. L. Porter, Jr., Secretary-Director.

CASE 1782: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Eunice King Well No. 10, located 660 feet from the North line and 1980 feet from the East line of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock Pool and the production of oil from the Wantz-Abo Pool through parallel strings of tubing.

CASE 1783: Application of Skelly Oil Company for an amendment of Order No. R-1237. Applicant, in the above-styled cause, seeks an order amending Order No. R-1237 to provide that new wells in the Otero-Gallup Oil Pool in Rio Arriba County be given 60 days after completion in which to make beneficial use of the produced casinghead gas.

CASE 1784: Application of Tennessee Gas Transmission Company for an oil-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Glen Callow Well No. 8, located 890 feet from the South line and 1850 feet from the East line of Section 27, Township 29 North, Range 13 West, San Juan County, New Mexico, in such a manner as to permit the production of oil from an undesignated Gallup oil pool and the production of gas from an undesignated Dakota gas pool through parallel strings of tubing.

CASE 1785: Application of Whitehall Oil Company, Inc., for an unorthodox oil well location. Applicant, in the above-styled cause, seeks an order authorizing an unorthodox oil well location adjacent to the Allison-Pennsylvanian Pool, at a point 1980 feet from the North line and 660 feet from the West line of Section 14, Township 9 South, Range 36 East, Lea County, New Mexico.

CASE 1786: Application of The Atlantic Refining Company for two non-standard oil proration units and for two unorthodox oil well locations. Applicant, in the above-styled cause, seeks the establishment of two 40-acre non-standard oil proration units in the Horseshoe-Gallup Oil Pool, one to consist of a portion of the W/2 W/2 of Section 33, the other to consist of a portion of the W/2 SW/4 of Section 28, both in Township 31 North, Range 16 West, San Juan County, New Mexico. The respective unit wells are to be located on unorthodox locations 1980 feet from the South line and 386 feet from the West line of said Section 33 and 660 feet from the South line and 386 feet from the West line of said Section 28.

CASE 1778: Application of Olsen Oils, Inc., for an exception to the over-production shut-in provisions of Order R-520, as amended by Order R-967, for four wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:

Docket No. 34-59

Case 1778: (Cont.)

Cooper B Well No. 2, NE/4 NW/4 of Section 14,
T-24-S, R-36-E.

Myers B Well No. 1, SE/4 NW/4 of Section 13,
T-24-S, R-36-E,

S. R. Cooper Well No. 1, SE/4 NE/4 of Section 23,
T-24-S, R-36-E,

Winningham Well No. 3, NE/4 SE/4 of Section 30,
T-25-S, R-37-E,

All in Lea County, New Mexico.

CASE 1779: Application of Jal Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for seven wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:

Legal Well No. 2, NE/4 SE/4 of Section 21,
Dyer Well No. 3, SE/4 NE/4 of Section 31,
Jenkins Well No. 1, SW/4 SW/4 of Section 29,
Jenkins Well No. 2, NE/4 SW/4 of Section 29,
Owens Well No. 1, SW/4 SW/4 of Section 21,
Repollo Well No. 1, SW/4 NW/4 of Section 28,

all in Township 25 South, Range 37 East, and the
Watkins Well No. 2, SE/4 NE/4 of Section 25,
Township 24 South, Range 36 East, all in Lea
County, New Mexico.

ig/

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

SUPPLEMENT TO DOCKET NO. 34-59
OCTOBER 7, 1959 HEARING

CASE 1790: Application of El Paso Natural Gas Products Company for an non-standard oil proration unit and an unorthodox oil well location. Applicant, in the above-styled cause, seeks the establishment of a 40-acre non-standard oil proration unit in the Horseshoe-Gallup Oil Pool consisting of a portion of the E/2 W/2 of Section 28, Township 31 North, Range 16 West, San Juan County, New Mexico, to be dedicated to a well on an unorthodox location at a point 1980 feet from the South line and 4430 feet from the East line of said Section 28.

No. 34-59

DOCKET: EXAMINER HEARING OCTOBER 7, 1959

OIL CONSERVATION COMMISSION - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Elvis A. Utz, Examiner, or A. L. Porter, Jr., Secretary-Director.

CASE 1782: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Eunice King Well No. 10, located 660 feet from the North line and 1980 feet from the East line of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock Pool and the production of oil from the Wantz-Abo Pool through parallel strings of tubing.

CASE 1783: Application of Skelly Oil Company for an amendment of Order No. R-1237. Applicant, in the above-styled cause, seeks an order amending Order No. R-1237 to provide that new wells in the Otero-Gallup Oil Pool in Rio Arriba County be given 60 days after completion in which to make beneficial use of the produced casinghead gas.

CASE 1784: Application of Tennessee Gas Transmission Company for an oil-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Glen Callow Well No. 8, located 890 feet from the South line and 1850 feet from the East line of Section 27, Township 29 North, Range 13 West, San Juan County, New Mexico, in such a manner as to permit the production of oil from an undesignated Gallup oil pool and the production of gas from an undesignated Dakota gas pool through parallel strings of tubing.

CASE 1785: Application of Whitehall Oil Company, Inc., for an unorthodox oil well location. Applicant, in the above-styled cause, seeks an order authorizing an unorthodox oil well location adjacent to the Allison-Pennsylvanian Pool, at a point 1980 feet from the North line and 660 feet from the West line of Section 14, Township 9 South, Range 36 East, Lea County, New Mexico.

CASE 1786: Application of The Atlantic Refining Company for two non-standard oil proration units and for two unorthodox oil well locations. Applicant, in the above-styled cause, seeks the establishment of two 40-acre non-standard oil proration units in the Horseshoe-Gallup Oil Pool, one to consist of a portion of the W/2 W/2 of Section 33, the other to consist of a portion of the W/2 SW/4 of Section 28, both in Township 31 North, Range 16 West, San Juan County, New Mexico. The respective unit wells are to be located on unorthodox locations 1980 feet from the South line and 386 feet from the West line of said Section 33 and 660 feet from the South line and 386 feet from the West line of said Section 28.

CASE 1778: Application of Olsen Oils, Inc., for an exception to the over-production shut-in provisions of Order R-520, as amended by Order R-967, for four wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the Jalmat Gas Pool to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:

Case No.
1791

Application, Transcript,
Small Exhibits, Etc.

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. 1791
Order No. R-1508

APPLICATION OF EL PASO NATURAL
GAS PRODUCTS COMPANY FOR AN
ORDER AUTHORIZING IT TO PRORATE
ITS OIL PURCHASES IN THE HORSE-
SHOE-GALLUP OIL POOL AND THE
VERDE-GALLUP OIL POOL IN SAN
JUAN COUNTY, NEW MEXICO, DUE
TO THE INSTALLATION OF A LARGER
PIPELINE SYSTEM

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 14, 1959, at Roswell, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 15th day of October, 1959, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, 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 due to the installation of a larger pipeline system, the applicant may be unable, during October and November, 1959, to purchase all oil authorized to be produced from the wells from which it purchases in the Horseshoe-Gallup Oil Pool and the Verde-Gallup Oil Pool, San Juan County, New Mexico.

(3) That, should it become necessary, the applicant should be permitted to ratably reduce its purchases from proration units from which it purchases oil in the above-mentioned oil pools; provided, however, that in order to preclude premature abandonment, the applicant should be required to make 100 percent purchases from proration units with a daily oil production of 10 barrels or less.

IT IS THEREFORE ORDERED:

(1) That should it become necessary the applicant be and the same is hereby authorized to reduce its purchases of oil in the Horseshoe-Gallup Oil Pool and the Verde-Gallup Oil Pool, San Juan County, New Mexico, below the amount legally authorized to be produced from the wells from which it purchases in said pools.

PROVIDED HOWEVER, That reduction in purchases of oil from wells in said pools shall be ratable.

PROVIDED FURTHER, That the applicant shall not reduce its purchases from any proration unit to an amount less than 10 barrels daily if the unit well is capable of producing that amount.

(2) That the effective date of this order is 7 o'clock a.m., Mountain Standard Time, October 15, 1959.

(3) That the authorization for pipeline prorationing provided for herein shall terminate on November 18, 1959, or upon completion of the expansion of pipeline facilities, whichever occurs first.

(4) That if pipeline prorationing is still in effect or if the likelihood of such prorationing still exists on November 18, 1959, the applicant shall appear at the regular Commission hearing on that date and advise the Commission as to why continued purchaser prorationing is necessary.

DONE at Santa Fe, New Mexico on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

lcr/

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

October 27, 1959

COPY

Mr. Charles C. Spann
Box 1831
904 Simms Building
Albuquerque, New Mexico

Dear Mr. Spann:

On behalf of your client, El Paso Natural Gas Products, we enclose two copies of Order No. R-1508 in Case No. 1791 issued by the Oil Conservation Commission on October 15, 1959.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir

Enclosures: (2)

(w) Extend the Wantz-Abo Pool to inlcude therein:

TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM
Section 13: NE/4

CASE 1789: Northwestern New Mexico nomenclature case calling for an order for the extension of existing pools in San Juan, Sandoval and Rio Arriba Counties, New Mexico

(a) Extend the Blanco-Pictured Cliffs Pool to include therein:

TOWNSHIP 29 NORTH, RANGE 9 WEST, NMPM
Section 8: W/2

(b) Extend the Tapacito-Pictured Cliffs Pool to include therein:

TOWNSHIP 26 NORTH, RANGE 5 WEST, NMPM
Section 1: NW/4

(c) Extend the Horseshoe-Gallup Oil Pool to include therein:

TOWNSHIP 30 NORTH, RANGE 16 WEST, NMPM
Section 13: NE/4 SW/4

TOWNSHIP 31 NORTH, RANGE 16 WEST, NMPM
Section 20: N/2 SW/4
Section 28: S/2 & E/2 NE/4

(d) Extend the Verde-Gallup Oil Pool to include therein:

TOWNSHIP 31 NORTH, RANGE 14 WEST, NMPM
Section 29: NW/4 SE/4

(e) Extend the Angels Peak-Dakota Pool to include therein:

TOWNSHIP 28 NORTH, RANGE 10 WEST, NMPM
Section 17: All
Section 20: All
Section 21: All
Section 28: W/2
Section 29: All
Section 34: E/2

(f) Extend the West Kutz-Dakota Pool to include therein:

TOWNSHIP 27 NORTH, RANGE 13 WEST, NMPM
Section 13: E/2

(g) Extend the Ballard-Pictured Cliffs Pool no extension.

CASE 179?: In the matter concerning purchaser prorationing by El Paso Natural Gas Products Company in the Horseshoe-Gallup Oil Pool and the Verde-Gallup Oil Pool in San Juan County, New Mexico.

pj/

(n) Extend the Chambers-Wolfcamp Pool to include therein:

TOWNSHIP 15 SOUTH, RANGE 35 EAST, NMPM
Section 35: N/2

(o) Extend the Coyote-Queen Pool to include therein:

TOWNSHIP 11 SOUTH, RANGE 27 EAST, NMPM
Section 14: NW/4
Section 15: N/2
Section 21: SW/4
Section 28: NW/4

(p) Extend the Empire-Abo Pool to include therein:

TOWNSHIP 18 SOUTH, RANGE 27 EAST, NMPM
Section 1: SE/4

(q) Extend the Four Lakes-Pennsylvanian Pool to include therein:

TOWNSHIP 12 SOUTH, RANGE 34 EAST, NMPM
Section 2: SE/4

(r) Extend the Justis-Blinebry Pool to include therein:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM
Section 14: SE/4

(s) Extend the Justis-McKee Pool to include therein:

TOWNSHIP 25 SOUTH, RANGE 38 EAST, NMPM
Section 19: SW/4

(t) Extend the Langlie-Mattix Pool to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
Section 31: NE/4

TOWNSHIP 23 SOUTH, RANGE 37 EAST, NMPM
Section 22: SE/4

(u) Extend the Lynch Pool to include therein:

TOWNSHIP 20 SOUTH, RANGE 34 EAST, NMPM
Section 26: NW/4

(v) Extend the Ranger Lake-Pennsylvanian Pool to include therein:

TOWNSHIP 12 SOUTH, RANGE 34 EAST, NMPM
Section 23: W/2 NW/4
Section 25: NE/4 NW/4
Section 26: N/2 SW/4
Section 34: NE/4

(e) Create a new oil pool for Devonian production, designated as the West White Ranch-Devonian Pool, and described as:

TOWNSHIP 19 SOUTH, RANGE 28 EAST, NMPM
Section 1: NE/4

(f) Create a new oil pool for Yates and Seven Rivers production, designated as the San Miguel-Yates and Seven Rivers pool, and described as:

TOWNSHIP 20 SOUTH, RANGE 34 EAST, NMPM
Section 4: NE/4

(g) Create a new oil pool for Wolfcamp production, designated as the Tonto Deep-Wolfcamp Pool, and described as:

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM
Section 22: SW/4

(h) Abolish the Grayburg-Keely Pool in Eddy County, New Mexico, described as:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM
Section 14: S/2 SW/4
Section 15: S/2 SE/4
Section 22: All
Section 23: All
Section 26: All
Section 27: All

(i) Extend the vertical limits of the Grayburg-Jackson Pool to include the Lower San Andres formation.

(j) Extend the Allison-Pennsylvanian Pool to include therein:

TOWNSHIP 9 SOUTH, RANGE 36 EAST, NMPM
Section 1: E/2 NW/4
Section 14: N/2
Section 15: NE/4

(k) Extend the Artesia Pool to incluce therein:

TOWNSHIP 19 SOUTH, RANGE 28 EAST, NMPM
Section 8: NE/4

(l) Extend the Bluitt-Pennsylvanian Pool to include therein:

TOWNSHIP 8 SOUTH, RANGE 37 EAST, NMPM
Section 21: SW/4

(m) Extend the Caprock-Queen Pool to include therein:

TOWNSHIP 15 SOUTH, RANGE 31 EAST, NMPM
Section 20: NE/4

DOCKET: REGULAR HEARING OCTOBER 14, 1959

Oil Conservation Commission 9 a.m., Elks Club, 200 North Richardson Avenue

ROSWELL, NEW MEXICO

Allowable: (1) Consideration of the oil allowable for November, 1959.

(2) Consideration of the allowable production of gas for November, 1959, from six prorated pools in Lea County, New Mexico, also consideration of the allowable production of gas from seven prorated pools in San Juan, Rio Arriba and Sandoval Counties, New Mexico.

NEW CASES

CASE 1787: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider the promulgation of statewide rules governing the operation of water flood projects including the assignment of project or unit allowables.

CASE 1788: Southeastern New Mexico nomenclature cas calling for an order creating, extending and abolishing existing pools in Chaves, Eddy, Lea and Roosevelt Counties, New Mexico

(a) Create a new oil pool for Delaware production, designated as the El Mar Delaware Pool, and described as:

TOWNSHIP 26 SOUTH, RANGE 32 EAST, NMPM
Section 24: S/2
Section 25: All
Section 26: All
Section 34: E/2 Partial Section
Section 35: All Partial Section
Section 36: All Partial Section

(b) Create a new oil pool for Paddock production, designated as the Justis-Paddock Pool, and described as:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM
Section 13: SE/4

(c) Create a new oil pool for Tubb production, designated as the Justis-Tubb Pool, and described as:

TOWNSHIP 25 SOUTH, RANGE 38 EAST, NMPM
Section 30: NW/4

(d) Create a new oil pool for San Andres production, designated as the East Millman-San Andres Pool, and described as:

TOWNSHIP 19 SOUTH, RANGE 28 EAST, NMPM
Section 22: NE/4

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER CONCERNING PURCHASER PRORATIONING BY EL PASO NATURAL GAS PRODUCTS COMPANY IN THE HORSESHOE-GALLUP OIL POOL, THE CHIMNEY ROCK-GALLUP OIL POOL, THE FOUR CORNERS PARADOX OIL POOL, AND THE VERDE-GALLUP OIL POOL, SAN JUAN COUNTY, NEW MEXICO

EMERGENCY ORDER NO. E-22

NOW, on this 30th day of September, 1959, the Oil Conservation Commission of New Mexico, a quorum being present, having considered the application of El Paso Natural Gas Products Company, for an emergency order and being fully advised in the premises,

FINDS:

(1) That an emergency exists which requires the promulgation of an order by the Commission without notice and hearing.

(2) That due to a pipeline break and the installation of a larger pipeline system, the applicant will be unable, during September, 1959, and possibly during October, 1959, to purchase all oil authorized to be produced from the wells from which it purchases in the Horseshoe-Gallup Oil Pool, the Verde-Gallup Oil Pool, the Chimney Rock-Gallup Oil Pool, and the Four Corners Paradox Oil Pool, San Juan County, New Mexico.

(3) That the reductions in purchases of oil by the applicant in said pools should be proportionate among all proration units from which it purchases; provided, however, that in order to preclude premature abandonment, the applicant should be required to make 100 percent purchases from proration units with a daily oil production of 10 barrels or less.

IT IS THEREFORE ORDERED:

(1) That El Paso Natural Gas Products Company be and the same is hereby authorized to reduce its purchases of oil in the Horseshoe-Gallup Oil Pool, the Verde-Gallup Oil Pool, the Chimney Rock-Gallup Oil Pool, and the Four Corners Paradox Oil Pool, San Juan County, New Mexico, below the amount legally authorized to be produced from the wells from which it purchases in said pools.

PROVIDED HOWEVER, That the reduction in purchases of oil from wells in said pools shall be proportionate among all of the wells.

PROVIDED FURTHER, That El Paso Natural Gas Products Company shall not reduce its purchases from any proration unit to an amount less than 10 barrels daily if the unit well is capable of producing that amount.

(2) That the effective date of this order is 7 o'clock a.m., Mountain Standard Time, September 30, 1959.

(3) That a hearing be held on October 14, 1959, at Roswell, New Mexico, to determine whether continued purchaser prorationing by the applicant is necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

ler/

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

COPY

September 30, 1959

Mr. J. M. McMatt
El Paso Natural Gas Products Company
El Paso, Texas

Dear Mr. McMutt:

Enclosed herewith are two copies of Emergency Order No. E-22, issued by the Oil Conservation Commission on this date.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures (2)

Copy sent to
Foster
Ogden
-6 Chas. Spann

1791

EL PASO NATURAL GAS PRODUCTS COMPANY

POST OFFICE BOX 1161, EL PASO, TEXAS

September 25, 1959

New Mexico Oil Conservation Commission
State of New Mexico
Santa Fe, New Mexico

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

Gentlemen:

In accordance with Rule 503 (f) of the Commissions General Rules, you are hereby notified that El Paso Natural Gas Products Company, as purchaser of crude oil in the Verde Gallup-Horseshoe Gallup Oil Pools of New Mexico, proposes to institute pipeline proration in its purchases of crude oil tendered to it during the month of September, 1959.

Our records indicate that we will purchase approximately seventeen thousand five hundred (17,500) barrels of crude oil per day. The total allowable and supplements issued during the month, show the daily allowable of Chimney Rock, Four Corners Paradox, Horseshoe Gallup and Verde Gallup Oil Pools of being approximately nineteen thousand nine hundred and nine (19,909) barrels per day, which will result in pipeline proration of approximately 12%.

We plan to prorate all productive wells on a ratable basis and under our proration schedule all wells which are producing at the rate of ten (10) barrels or less per day will not be prorated.

Pipeline prorationing was caused by operational difficulties during the month by our Verde Gallup Gathering System. A pipeline break which accurred September 10, 1959, resulted in the system being out of operation for approximately two (2) days, however, at that time our pipeline department contemplated no difficulties in moving all oil tendered to it for the balance of the month. During the past week we have been in the process of looping the six (6") inch line from the pump station to our connection to Four Corners Pipeline and adding additional pumping facilities, which has caused an interruption in the movement of oil from the area.

At our Show Cause hearing September 16, 1959 we requested the Commission to grant back allowables to all producers who may have been prorated during the months of July and September, 1959, provided such deficiencies could be made up during November, 1959. Since our construction on the gathering system will not be completed until November, 1959, there is a possibility prorationing may continue during the month of October, 1959. We anticipate we will be able to receive all allowable oil during November, plus any back allowables so requested.

Yours very truly,

J. M. McNutt
Manager
Crude Oil Purchasing

JMMcN:zc

PIPELINE PRORATION INFORMATION FOR SEPTEMBER

VERDE GALLUP POOL

Operator	Lease	1 Sept. 1959 Allow.	2 Prod.	3 Total Purch.	4 Storage In & Out	5 % of Allow. Prod. 2÷1	6 % of Allow. Purch. 3÷1	7 % of Prod. Purch. 3÷2	8 % of Sept. 1959 Allow. 8÷1.	9 Aver. Prod. Aver. Allow. Apr. May June 1959	10 Aver. Prod. Purch. Apr. May June 1959	Remarks
Aztec Oil & Gas	Ute Indian	1890	1291	1278	/ 13	68.3	67.5	98.9	76.2	71.7	14.42	
" " " "	" " A	3180	1420	1398	/ 22	44.6	44.0	98.4	58.7	57.3	31.40	
" " " "	" " C	1620	1121	1460	- 339	69.1	90.0	130.2	71.0	77.0	11.5[illegible]	
" " " "	" " D	11340	11287	11500	- 213	99.5	101.0	101.8	57.0	83.3	64.68	4 new wells
" " " "	" " E	12390	12000	12052	- 52	91.8	97.2	100.4	63.4	97.1	78.56	3 " "
" " " "	" Mtn.Fed.&Fed.A	18690	15843	14148	/ 1695	84.7	75.6	89.3	81.8	96.8	153.00	1 " "
C.M. Carroll	Malco Copple	7410	7148	6395	/ 753	96.4	86.3	89.4	101.0	96.0	74.85	
E.P.N.G. Products	Ute Mtns Fed.	6570	4993	4200	/ 793	75.9	64.0	84.1	76.2	71.2	50.09	1 " "
" "	S.W. Barker Dome	360	342	261	/ 81	95.0	72.5	76.3	89.4	38.2	3.22	
Gulf Oil Corp.	Ute Indian	1620	1645	1645	-0-	101.5	101.5	100.0	98.9	99.9	16.27	
Humble Oil & Refining	" " B	1620	1620	frac recovery 1845	- 225	100.1	113.8	113.8	103.6	93.1	16.79	
" " " "	Ute Mtn.	7242	7242	7400	- 158	100.0	102.1	102.1	28.1	101.5	20.39	4 " "
Magnolia Pet.	E.	3240	3397	3014	/ 383	104.8	93.0	88.7	101.7	99.6	32.97	
Pan American Pet.	Ute Mtn. A	3510	2198	2578	- 380	62.5	73.4	117.2	92.4	80.6	32.45	
" " "	" " C	2340	2263	2210	/ 53	96.7	94.4	97.6	110.0	87.9	25.78	Loss to GOR test
" " "	" " E	4860	4460	4405	/ 55	91.7	90.6	98.7	104.2	99.9	50.66	
" " "	" " F	1620	1643	1623	/ 20	101.4	100.1	98.7	-0-	104.2	-0-	Drilled in Aug.
" " "	Ute Mtn. Fed.	34950	35078	33011	/ 2067	100.3	94.4	94.1	79.5	95.0	277.93	4 " " " "
Pubco Pet. Corp.	Ute A	2850	1996	1846	/ 150	70.0	64.7	70.0	74.8	63.2	21.32	
Skelly Oil												

PIPELINE PRORATION INFORMATION FOR SEPTEMBER

VERDE GALLUP POOL

Operator	Lease	1 Sept. 1959 Allow.	2 Prod.	3 Total Purch.	4 Storage In & Out	5 % of Allow. Prod. 2÷1	6 % of Allow. Purch. 3÷1	7 % of Prod. Purch. 3÷2	8 % of Sept. 1959 Allow. 8÷1	9 Aver. Prod. Aver. Allow. Apr. May June 1959	10 Aver. Prod. Purch. Apr. May June 1959	Remarks
Southern Union	Ute 15	3240	2989	3324	- 335	91.2	102.5	111.2	102.5	103.8	33.21	
" "	Ute 17-20	7710	7695	7419	/ 276	99.8	96.2	96.4	53.8	71.0	41.55	3 new wells
" "	Ute 23-24	13950	12215	12503	- 288	87.5	89.6	102.3	105.4	94.1	147.07	Loss to GOR test
Standard of Texas	Ute Mtn. 2-29	8100	7675	7734	- 59	94.7	95.4	100.7	79.8	100.6	64.66	1 new well
" " "	" " 1-1	150	104	TFO 150	- 46	69.3	100.0	144.2	264.6	65.4	3.97	Loss to GOR test
" " "	" " Fed. 12	2160	2351	1764	/ 587	108.9	81.6	75.00	94.7	101.1	20.47	
" " "	" " " 13 C-126	961	397	182	/ 215	-0-	18.9	45.8	-0-	-0-	-0-	1 new well
Tenn. Gas Transm.	Ute. Mtn. A	3480	1937	2206	- 269	55.6	63.3	113.8	70.4	36.3	24.52	Prod. drooping at 10% per mo.
" " "	" " B	7770	7100	7081	/ 19	91.3	91.0	99.7	105.5	94.7	81.98	Loss to GOR test
Three States Natural	Ute Mtn. Tribal	6480	6480	6572	- 92	100.0	101.4	101.4	89.3	98.7	57.87	1 new well
		180342	165930	161022	/ 4700	92.0	89.0	97.0	80.6	84.6	1454.59	

Horseshoe & Verde 596032 534883 89.7 85.2

89% 6 mo. average total runs of total allowable.

PIPELINE PRORATION INFORMATION FOR SEPTEMBER

HORSESHOE CANYON GALLUP POOL

Operator	Lease	1 Sept. 1959 Allow.	2 Prod.	3 Total Purch.	4 Storage In & Out	5 % of Allow. Prod. 2÷1	6 % of Allow. Purch. 3÷1	7 % of Prod. Purch. 3÷2	8 % of Sept. 1959 Allow. 8÷1	9 Aver. Prod. Aver. Allow. Apr. May June 1959	10 Aver. Prod. Purch. Apr. May June 1959		Remarks
J.R. Abraham	Federal	8748	8010	7942	/ 68	91.5	90.7	99.2	17.8	53.6	1561	5	new wells
Atlantic Refining	Navajo	91380	91275	91077	/ 179	99.8	99.6	98.7	73.8	97.4	67443	14	" "
" "	" B	24366	21063	19334	/ 1729	86.4	79.3	91.7	43.3	100.5	10554	5	" "
" "	Ute	840	720	679	/ 41	85.7	80.8	94.3	-0-	-0-	-0-		
Banner Drilling	Ute Indian	8244	5184	5184	-0-	62.8	62.8	100.0	60.2	56.6	4970	2	" "
E.P.N.G. Products	Chimney Rock A	24330	24502	23289	/ 1213	100.7	95.7	95.0	69.1	103.3	16827	3	" "
" "	Horseshoe Canyon	20880	19944	19911	/ 33	95.5	95.3	99.8	104.2	103.2	21764		Loss to GOR test
" "	" " A	1440	949	734	/ 215	65.9	50.9	77.3	-0-	97.4	-0-		Drilled in July
" "	" " B	5250	4825	4749	/ 76	91.9	90.4	98.4	99.8	92.9	5242		
" "	" Navajo	9600	9572	9055	/ 517	99.7	94.3	94.5	87.2	99.6	8379		2 new wells
" "	" Ute	31471	29857	32661 (600 frac oil)	- 2804	94.8	103.7	109.3	53.3	95.1	16788	7	" "
" "	Williams	3240	2506	2854	- 348	77.3	88.0	113.8	47.4	102.4	1536	1	" "
" "	" A	690	569	648	- 79	82.4	93.9	113.8	93.4	47.3	645		
" "	Burrough State C-126	1691	-0-	938	-0-	-0-	55.4	-0-	-0-	-0-	-0-		Recovering frac oil
J. Felix Hickman	Navajo	570	300	260	/ 40	52.6	45.6	86.6	107.8	61.0 GOR Test	615		
" " "	" Lowe	360	270	390	- 120	75.0	108.3	144.4	98.8	30.8	356		
Magnolia Pet.	" A	29496	29757	28385	/ 1372	100.8	96.2	95.3	26.9	100.6	7941	11	new wells

PIPELINE PRORATION INFORMATION FOR SEPTEMBER

HORSESHOE CANYON GALLUP POOL

Operator	Lease	1 Sept. 1959 Allow.	2 Prod.	3 Total Purch.	4 Storage In & Out	5 % of Allow. Prod. 2÷1	6 % of Allow. Purch. 3÷1	7 % of Prod. Purch. 3÷2	8 % of Sept. 1959 Allow. 8÷1	9 Aver. Prod. Aver. Allow. Apr. May June 1959	10 Aver. Prod. Purch. Apr. May June 1959	Remarks
		Truck to Bloomfield										
Monsanto Chemical	State E	300	-0-	142	-0-	-0-	47.3	-0-	-0-	24.6	-0-	To Bloomfield
Pan American Pet.	Aidlin A	6480	6577	6103	/ 474	101.4	94.1	92.7	99.9	99.4	6477	
" " "	" B	3240	3291	3435	- 144	101.5	106.0	104.3	99.0	99.8	3209	
" " "	" C	1620	1650	1733	- 83	101.8	106.9	105.0	92.5	99.4	1500	
" " "	" D	570	306	-0-	/ 306	53.6	-0-	-0-	-0-	-0-	-0-	
" " "	J.V. Fritts	3240	3281	3456	- 175	101.2	106.6	105.3	53.8	100.7	1746	2 new wells
" " "	O.J. Hoover B	8520	8658	8622	/ 36	101.6	101.1	99.5	97.1	97.4	8277	
" " "	" " C	1620	1632	1731	- 99	100.7	106.8	106.0	96.8	99.4	1569	
" " "	J.J. Lamori A	6100	7803	6824	/ 979	96.3	84.2	87.4	51.2	116.8	4151	3 new wells
" " "	" " B C-125	805	-0-	528	-0-	-0-	65.5	-0-	-0-	-0-	-0-	Recovering frac oil
" " "	L.W. Swarty	3240	3300	3268	/ 32	101.8	100.8	99.0	-0-	100.5	-0-	Drilled July
Petro-Atlas	Horseshoe Canyon A	3240	3514	3345	/ 169	108.4	103.2	95.1	104.4	105.5	3384	
" "	" " B	3240	3059	3082	- 23	94.4	95.1	100.7	105.8	106.6	3431	
" "	" " C	2130	636	474	/ 162	29.8	22.2	74.5	10.9	30.5	234	
									Over Prod.			
" "	" " D	12960	11042	10342	/ 700	85.2	79.7	93.6	50.9	101.8	6599	4 new wells
" "	" " E	3240	3173	3062	/ 111	97.9	94.5	96.5	98.3	100.4	3185	
" "	" " F	2880	2311	2359	- 48	80.2	81.9	102.0	103.3	103.4	2977	

PIPELINE PRORATION INFORMATION FOR SEPTEMBER

HORSESHOE CANYON GALLUP POOL

Operator	Lease	1 Sept. 1959 Allow.	2 Prod.	3 Total Purch.	4 Storage In & Out	5 % of Allow. Prod. 2÷1	6 % of Allow. Purch. 3÷1	7 % of Prod. Purch. 3÷2	8 % of Sept. 1959 Allow. 8÷1	9 Aver. Prod. Aver. Allow. Apr. May June 1959	10 Aver. Prod. Purch. Apr. May June 1959	Remarks
Petro-Atlas	Horseshoe Canyon G	3240	912	999	- 87	28.1	30.8	109.5	50.0	99.4	1622	2 new wells
" "	Ute Navajo	6480	Frac 1400 4336	3460	- 524	66.9	53.3	117.8	31.8	65.0	2066	
Sohio Oil	Bolack Fed.	21060	21000	20719	/ 281	99.7	98.3	98.6	98.6	100.6	20778	
Humble Oil & Refining	Navajo F & G	53695	42760	40952	/ 1808	79.6	76.2	95.6	40.6	87.8	21801	13 new wells
Honolulu Oil	Navajo	3510	2164	1903	/ 261	61.6	54.2	61.6	54.2	64.0	1905	1 " "
Skelly	Navajo M	660	420	378	/ 42	63.6	57.2	90.0	-0-	44.0	-0-	Drilled in June
Standard of Texas	Navajo 80-1	1530	1134	682	/ 452	74.1	44.5	60.1	-0-	83.0	-0-	Drilled in June
		[illegible],690	382,252	373,861	-/ 8391	91.9	89.9	97.5	62.8	85.7	261,109	

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Roswell, New Mexico
October 14, 1959

IN THE MATTER OF:

In the matter concerning purchaser prorationing by El Paso Natural Gas Products Company in the Horseshoe-Gallup Oil Pool and the Verde-Gallup Oil Pool in San Juan County, New Mexico.

Case No. 1791

BEFORE:

Honorable John Burroughs
Mr. A. L. Porter
Mr. Murray Morgan

TRANSCRIPT OF HEARING

MR. PAYNE: In the matter concerning purchaser prorationing by El Paso Natural Gas Products Company in the Horseshoe-Gallup Oil Pool and the Verde-Gallup Oil Pool in San Juan County, New Mexico.

MR. PORTER: Are there other appearances to be made in this case besides El Paso, Mr. Spann?

MR. SPANN: Mr. Porter, I have two witnesses, Mr. John Woodward and Mr. James Lowry.

MR. PORTER: Would you have them stand and be sworn, please?

(Witnesses sworn.)

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ALBUQUERQUE, NEW MEXICO PHONE CH 3-6691

MR. SPANN: My first witness will be Mr. Woodward.

JOHN A. WOODWARD

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

DIRECT EXAMINATION

BY MR. SPANN:

Q Would you state your name for the record, please?

A John A. Woodward.

Q Would you state your occupation and employment and in what capacity?

A I am an attorney for El Paso Natural Gas Products Company in El Paso, Texas.

Q Have you previously testified before this Commission, Mr. Woodward?

A I have.

Q Now, would you just state in your own words the position of El Paso Natural Gas Products Company in connection with the Case No. 1791?

A I shall. The following statement of El Paso Natural Gas Products Company is in the nature of a progress report and a forecast with respect to pipeline proration in the Verde-Gallup and Horseshoe-Gallup Oil Pools of Northwest New Mexico.

At the statewide hearing of this Commission in September, El Paso was directed to state whether it had instituted pipeline

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prorationing in these pools during the month of July, and if so, whether it had purchased ratably from all producers in those pools. El Paso appeared and testified that its purchasers were approximately 103% of actual current production during the month, but that it had experienced some mechanical difficulties in the operation of its system, which together with a late tender of frack oil, may have deprived some producers of the opportunity of producing their allowable as they might have otherwise have done.

This is not an easy matter for determination. The purchaser does not know at the time of purchase how much oil in a particular lease tank is current production and how much is frack oil or storage oil. The producer does not sell his oil on formal tenders as in some other states. He simply fills his storage and relies on the purchaser to drain it with sufficient regularity to permit full production up to the assigned allowable. Frequently the producer does not know until the end of the month whether delays in draining his storage has reduced his authorized production. Of course the purchaser is not aware of such a situation until it is so notified by the producer.

In August Petro-Atlas applied to the Commission for back allowable accruing during the month of July. At the statewide hearing in September Magnolia made a similar request. As a result of these applications the Commission authorized the production of 2,012 barrels of back allowable during the month of

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October and deferred authorization for the production of the remaining 1947 barrels until a later date. At the September hearing El Paso recommended that the Commission permit the makeup of all production lost during July, August and September because of pipeline failures, provided such makeup be completed by the end of November.

By this means El Paso proposed to take all of the allowable production from these pools which could be produced. No permanent pipeline proration or loss of allowable was contemplated. Under these circumstances we saw no purpose in restricting purchases from marginal wells at all. Naturally we desired to share the burden of interim prorations as equitably as possible among the good wells.

In any event, we expected all producible underage to be made up by the end of November. On September 25, 1959 El Paso notified the Commission that due to mechanical difficulties it would be required to restrict its purchases to 88% of the allowable assigned to the Verde-Gallup and Horseshoe Canyon Pools during the month of September. This did not mean that it proposed to purchase 88% of the allowable assigned to each well. Had it done so El Paso would have purchased less than 60% of the oil it actually moved. In this connection I'm sure that the Commission is aware that assigned allowables exceed the productive capacity of many wells which should properly be considered marginal.



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As a consequence a very high percent of the allowable, sustained top allowable wells must be taken to produce a field average of 88%. Unfortunately the purchaser can not determine the exact ratable share due to that allowable well in advance unless it has accurate information as to the productive capacity of all marginal wells.

Two evils are inherent in the assignment of excessive allowables to these marginal wells in our opinion. First, it encourages overproduction of good wells into common lease storage. Second, it makes impossible the institution of an effective and equitable ratable take plan on short notice.

Returning to the situation in the Verde-Gallup and Horseshoe Pools during the month of September, El Paso actually purchased 89.7% of the total allowable compared with purchases of 85.2% of the average allowable assigned to these pools during the months of April, May and June long before there was any question of pipeline proration. Since those months of April, June, or April, May and June, the total pool allowable has greatly increased by reason of new wells. Nevertheless, El Paso took a substantially increased percentage of the higher allowable in September. This does not indicate to us that any great amount of production was shut in during September because of pipeline prorationing.

In only one instance have we received evidence that mechanical difficulties prevented the production of all allowable oil

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which could have been produced during the month. Apparently Humble Navajo F and G Lease was restricted because of a shutdown required to remove air from the system. How much production they lost is a matter for Humble to establish. In any event El Paso, as a field purchaser, is in no position to compare the productive capacities of the various wells and leases in these pools with their actual production.

Certainly it would be dangerous in many cases to authorize makeup of the differences between assigned allowable and actual production. Some leases can never make up such a deficiency and others can do it only by overproducing good wells. In each case we feel the Commission should require the Applicant for back allowable to show that his production was restricted through no fault of his own as a result of some form of pipeline prorationing, and that his wells have a capacity to make up the back allowable assigned to them while producing their full current allowable.

As far as the future, we believe that we can take all production tendered to us in October, barring further pipeline failures, and that we can handle in November all properly assigned back allowables accruing during July and September.

Now, we have instituted a statistical study of each lease in the Verde-Gallup and Horseshoe Canyon Field on the basis of the information that was available to us in recent days. This statistical study contains some typographical errors. We ask leave

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to furnish the Commission with a revised or corrected data sheet. Basically this statistical study is designed to compare the percentage of the allowable which individual leases made in the month of September with the percentage of the same allowable which those leases made during this average period of April, May and June, during which there was no question of pipeline prorationing.

We aren't contending that these figures indicate that anybody is or is not entitled to any back allowable, but we think they will reveal the difficulty of instituting pipeline prorationing on a uniform percentage basis as long as many of the assigned allowables exceed the productive capacity of the wells. We also think this is an index as to productive capacity in what may be considered a normal period subject to such comments and revisions and explanations as the producers may have in showing cause why they should be permitted to make up such allowable.

That is all I have at this time.

MR. PORTER: Does anyone have a question of Mr. Woodward? Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q Do you propose, Mr. Woodward, to take all the assigned allowable during October? Now El Paso is operating under an emergency order at the present time which I believe expires at

seven o'clock in the morning.

A No, we have never taken all of the assigned allowable. What we have done is to take all of the production available to us. The assigned allowable has consistently exceeded the productive capacity of these fields by some 11 or 12%.

Q But in your opinion then, continued pipeline prorationing will be unnecessary in October?

A We are operating our facilities at absolute maximum capacity at this time, and barring a pipeline break of any kind, we feel that we can take all of the oil that will be produced during the month of October.

MR. PORTER: You don't feel that anyone will incur underproduction because of El Paso's not taking the oil?

A We believe we can handle all that they have to tender in the way of production.

MR. PORTER: And there will be no necessity for further continuance of the order in effect?

A That's a difficult question to answer. I think that a continuance of the order to take care of a continuing situation may be a very wise move because as I pointed out, any small shutdown in this system at this time could throw us off.

Q You are running on a thin margin?

A On a very thin margin. We have another witness who will indicate to you just how thin it is.

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BY MR. PAYNE:

Q As I understand your proposal, Mr. Woodward, when operators apply for back allowable, it's your thinking that they should come before the Commission and establish that this back allowable was incurred due to the failure of the purchaser to take the oil?

A That is correct. And secondly that they are wells of the capacity to produce current allowable plus a makeup of this back allowable.

MR. PORTER: One other question, Mr. Woodward.

BY MR. PORTER:

Q Do I take it that you are opposed to the Commission granting the back allowable as recommended by Mr. Captinner which has previously been incurred?

A No, we are opposed to granting any back allowable without the showing which we have mentioned. We feel that that should be the responsibility of the operator to come forward and establish that this assignment of back allowable will in fact assist him, that you are simply not freezing allowable in assigning them to wells that can not or should not make up such an allowable.

Q But are you aware that the present rules of the Commission do not contemplate such action?

A I am.

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Q That it can be granted merely upon the application?

A Now we have made no recommendation here as to the procedure. We're simply requesting that the Commission be satisfied either by hearing or by administrative action that the wells were deprived of some production that they could otherwise have made and that they have the capacity to make it up. We have no recommendation as to the procedure on that score.

Q Well, what I'm trying to do here is to establish a record so that we can properly determine what to do with the applications which we have already received about which Mr. Captinner has testified.

MR. PORTER: Mr. Nutter, I believe you have a question.

BY MR. NUTTER:

Q Mr. Woodward, now the Commission in its proration schedule for October, 1959, authorized 2,012 barrels of back allowable for production during October. I believe you stated that you will be able to take the oil that was tendered to you up to the allowable during October. Will you also be able to take the 2,012 barrels of back allowable that was authorized?

A Yes, I think barring a breakdown in the system we can also take that amount. It's a very small amount for the month.

Q Those applications for back allowable were screened and all of the applications for wells that weren't top allowable wells were eliminated, and presumably all of these wells are

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capable of producing the allowable plus an excess of the allowable, being the back allowable, and you will be able to take the 2,012 in October?

A We believe that we will.

Q During the month of November we have an additional 1947 of last month's back allowable which has to be authorized, plus we had an additional 360 barrels applied for, all of which was for top allowable wells according to the proration schedule. Will you be able to take the 1947 plus the 360 barrels during November as far as you can tell at this time?

A Assuming that the revisions in our pipeline system can be made as scheduled, there will be no question of making up such a small amount during the month of November.

MR. MUTTER: I see, thank you.

MR. PORTER: Does anyone else have a question of the witness? Mr. Woodward, you may be excused.

(Witness excused.)

MR. SPANN: I would like to call Mr. James Lowry.

JAMES LOWRY

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

DIRECT EXAMINATION

BY MR. SPANN:

Q Would you state your name for the record, please?

A James E. Lowry.

Q By whom are you employed and in what capacity?

A El Paso Natural Gas Products Company, Pipeline Superintendent.

Q For how long have you been so employed?

A Three years.

Q Have you previously testified before this Commission?

A I have not.

Q Would you state briefly your educational background and experience in the petroleum business?

A Well, my experience in the petroleum business goes, or in the pipeline business I should say, for twenty years. I was with the El Paso Natural Gas for going on sixteen years now. With the time with the Products Company that is, and I spent quite a bit of study in the, not so much in petroleum but in the gas business and pipeline. Petroleum production I do not know too much about.

Q Are you familiar with the pipeline facilities in the Verde-Gallup and Horseshoe Canyon Pools which are operated by El Paso Products?

A I am.

Q Do you have information as to the original capacity of this gathering system and also information as to the increase in the amount of production that the facility has been required to handle over a period of time?

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A We originally built, designed this system for 7500 barrels a day.

Q When was that?

A That was in April, 1958. The present capacity of it normally, under normal operating conditions, would probably be 15,000 barrels per day.

Q How much oil were you taking into the line in May of '58 according to your records?

A May of '58 we were taking 3300 barrels a day, or the total for the month of May, 102,300 barrels.

Q How much were you handling on January 1st, of 1959?

A January the 1st we were handling 7,779 barrels per day, total for the month, 241,178.

Q And how much did you handle in September of 1959?

A September we handled 17,779 barrels per day for a total of 533,388 barrels.

Q What mechanical difficulties have you experienced during the months of July and September?

A In the month of July we experienced, heat was quite a problem due to, as I said, this sytem has a, normally would have a capacity of about 15,000, and I believe in July we ran 24 hours for the day. We experienced a lot of heat difficulty due to running these motors on red line. These motors with pump, we ran through everything we could and we were down some forty hours

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during the month on account of heat magnetor trouble, various small things that normally wouldn't make any difference, but due to running full capacity, why you have no opportunity to make up any loss that you have whether it's ten minutes or two days.

August, no appreciable time down; September, on September 5th we lost the stuffing box out of one of these pumps, which this pump was down for some 70 hours. The rest of the station total was down for about ten, and for about six hours they were down 60% percent of the capacity of the station. September the 18th we were down on account of Four Corners Pipeline Company, 23rd we were down on account of the Four Corners Pipeline Company. That's a total of about five hours. Of course in five hours that means some 3500 barrels that you have no opportunity to make up.

Q In other words, some of this inability to take the, or to operate the system, resulted from other persons other than yourselves, for example Four Corners Pipeline Company?

A Small amount of the time, yes.

Q What plans do you have for, or do you have now in operation for increasing the capacity of your system?

A Our present plans call for modification of about 100% on this system. That is the transmission part of it, that's where the bottleneck has been. We're looping the main line out to Four Corners line and adding about 50% more horsepower, which will give this system a daily pumping average of about 30,000 barrels.

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That, of course, could be increased from that, but 30,000 is what we plan on.

Q What is the present status of those installations? I mean what has been done up to date?

A The pipeline is about 95% done. The reason it isn't done is lack of delivery in some of the materials, steel materials, mainly valves. The station is only about 20% completed due to the materials. Some of the materials' shipping date has been delayed until October the 26th, if there is any further delay, of course, our schedule will be a little behind. At that we are still close on our schedule for November.

Q When are you scheduled to complete this increase in facility?

A November the 15th.

Q You would expect it would be in operation at that time?

A We are. We expect it to and we're certainly hoping so.

Q What circumstances could prevent your taking from wells in those fields capable of producing all the allowable oil they are capable of producing?

A Well, it would be a number of circumstances. It could be the producer cleaning his well or overhauling it for various reasons. It could be inadequate storage on the leases. It could be inadequate storage in the gathering system or overloading the gathering systems, mechanical trouble, or in the transmission

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lines that we overload them and adequate storage, or it could be in the refineries, some cutback that they may have which would overload the transmission systems, which in turn would overload the gathering system and revert right back to these wells.

Q Well, now, when you have completed the expansion of your facilities, as you have just described them here, is it your opinion that you can take all of the oil that is produced and tendered to you in the Verde-Gallup and Horseshoe Canyon Pools?

A It is. We would have a margin of operation there that would enable us to slug this oil, and we shouldn't experience any difficulties whatsoever in moving this oil after these modifications are made.

MR. SPANN: I believe that's all.

MR. PORTER: Does anyone have a question of the witness?

The witness may be excused.

(Witness excused.)

MR. SPANN: That's all we have, Mr. Porter.

MR. PORTER: Does anyone have anything further to offer in this case, Case 1791? It's necessary that the Commission make a ruling in this case due to the fact that the present order expires today. Obviously we aren't going to have much opportunity to write an order today. It is the decision of the Commission, however, that the provisions of the present order shall remain in effect through November 18, or until the work on the system is

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completed, whichever occurs first, so that the operator who may have legitimate cause for back allowable may be protected. So El Paso is hereby authorized to continue to operate until November 15, or until the work on the system is completed, whichever occurs first. If the thing has not been resolved at that time, it can be heard on the 18th, which is the date of our next regular hearing.

We'll take up next case, Southeastern Nomenclature Case 1788.

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 30th day of October, 1959.

Ada Dearnley
Notary Public - Court Reporter

My Commission expires:

June 19, 1963.

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

7.16

Case No.

1792

Application, Transcript,
Small Exhibits, Etc.

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. 1792
Order No. R-1526-A

APPLICATION OF AMERADA PETROLEUM
CORPORATION FOR AN OIL-OIL DUAL
COMPLETION IN THE BRONCO SILURO-
DEVONIAN POOL AND IN AN UNDESIG-
NATED MISSISSIPPIAN POOL, AND FOR
THREE NON-STANDARD OIL PRORATION
UNITS IN SAID POOLS IN LEA COUNTY,
NEW MEXICO

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to an ambiguity in the testimony, Order No. R-1526, dated November 12, 1959, does not state the intended order of the Commission in one particular,

IT IS THEREFORE ORDERED:

(1) That the non-standard oil proration unit in the Bronco Silure-Devonian Pool to be dedicated to the Federal "B" Well No. 1 be and the same is hereby re-described as follows:

Starting at a point 30.42 feet West of the Southwest corner of the NE/4 of said Section 11; thence North 1719.59 feet; thence East 1013.26 feet; thence South 1719.59 feet; thence West 1013.26 feet to the point of beginning.

(2) That the correction set forth in this order be entered nunc pro tunc as of November 12, 1959.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

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

COPY

December 17, 1959

Mr. Jason Kellahin
P. O. Box 1713
Santa Fe, New Mexico

Dear Mr. Kellahin:

On behalf of your clients, Amerada Petroleum Corporation, Cities Service Oil Company and Continental Oil Company, we enclose two copies of Order No. R-1528-A in Case 1792, Order No. R-1326-A in Case 1822, Order No. R-1440-A in Case 1825 and Order No. R-1445-A in Case No. 1826. These orders were issued by the Oil Conservation Commission on December 16, 1959.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures

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. 1792
Order No. R-1526

APPLICATION OF AMERADA PETROLEUM
CORPORATION FOR AN OIL-OIL DUAL
COMPLETION IN THE BRONCO SILURO-
DEVONIAN POOL AND IN AN UNDESIG-
NATED MISSISSIPPIAN POOL, AND FOR
THREE NON-STANDARD OIL PRORATION
UNITS IN SAID POOLS IN LEA COUNTY,
NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 28, 1959, 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 12th day of November, 1959, 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 is the owner and operator of the Federal "B" Well No. 2, located approximately 1983 feet from the North line and approximately 548.46 feet from the East line of Section 11, Township 13 South, Range 38 East, N.M.P.M., Lea County, New Mexico.

(3) That the applicant proposes to dually complete the above-described Federal "B" Well No. 2 in such a manner as to permit the production of oil from the Bronco Siluro-Devonian Pool and the production of oil from an undesignated Mississippian Pool through parallel strings of 2-3/8 inch EUE tubing and 2-1/16 inch Hydril tubing.

(4) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(5) That the applicant is the owner and operator of the Federal "B" Well No. 1 located approximately 1983 feet from the North line and approximately 1538.46 feet from the East line of the above-mentioned Section 11.

(6) That the applicant proposes the establishment of a 40-acre non-standard oil proration unit in the Bronco Siluro-Devonian Pool to be dedicated to said Federal "B" Well No. 1, and consisting of the following-described acreage:

> Starting at the Southwest corner of the NE/4 of said Section 11; thence North 1719.59 feet; thence East 1013.26 feet; thence South 1719.59 feet; thence West 1013.26 feet to the point of beginning.

(7) That the applicant proposes the establishment of one 40-acre non-standard proration unit in the Bronco Siluro-Devonian Pool and another in an undesignated Mississippian Pool to be dedicated to the proposed dually completed Federal "B" Well No. 2, and both consisting of the following-described acreage:

> Starting at the Southeast corner of the NE/4 of Section 11; thence West approximately 1203.66 feet; thence North approximately 1719.59 feet; thence East approximately 337.16 feet; thence South approximately 416.23 feet; thence East approximately 890.34 feet to the East line of Section 11; thence in a southerly direction along the New Mexico-Texas State line to the point of beginning.

(8) That the need for said non-standard oil proration units is occasioned by a deviation in the United States Public Land Survey along the State line.

(9) That creation of the proposed non-standard proration unit for applicant's Federal "B" Well No. 1, as described in Finding No. 6, will require approval of the location of said well as a non-standard location, and that such approval should be granted.

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

(11) That Order No. R-533 establishing a 66.61-acre non-standard oil proration unit in the Bronco Siluro-Devonian Pool for the Federal "B" Well No. 1 should be rescinded.

IT IS THEREFORE ORDERED:

(1) That the applicant be and the same is hereby authorized to dually complete the Federal "B" Well No. 2, located approximately 1983 feet from the North line and approximately 548.46 feet from the East line of Section 11, Township 13 South, Range 38 East, NMPM, Lea County, New Mexico, in such a manner as to permit the production of oil from the Bronco Siluro-Devonian Pool and the production of oil from an undesignated Mississippian pool through parallel strings of 2-3/8 inch EUE tubing and 2-1/16 inch Hydril tubing.

PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Gas-Oil Ratio Test Period for the Bronco Siluro-Devonian Pool.

IT IS FURTHER ORDERED: That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order, after proper notice and hearing, the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

(2) That one 40-acre non-standard oil proration unit in the Bronco Siluro-Devonian Pool and another in an undesignated Mississippian pool, be and the same are hereby established consisting of the following described acreage:

> Starting at the Southeast corner of the NE/4 of said Section 11; thence West approximately 1203.66 feet; thence North approximately 1719.59 feet; thence East approximately 397.16 feet; thence South approximately 416.23 feet; thence East approximately 890.34 feet to the East line of said Section 11; thence in a southerly direction along the New Mexico-Texas State line to the point of beginning.

Said units are to be dedicated to the Federal "B" Well No. 2, herein authorized to be dually completed.

(3) That a 40-acre non-standard oil proration unit in the Bronco Siluro-Devonian Pool be and the same is hereby established consisting of the following acreage in said Section 11:

Starting at the Southwest corner of the NE/4 of Section 11, thence North approximately 1719.59 feet; thence East approximately 1013.26 feet; thence South approximately 1719.59 feet; thence West approximately 1013.26 feet to the point of beginning.

Said unit is to be dedicated to the Federal "B" Well No. 1, located at an unorthodox location approximately 1983 feet from the North line and approximately 1538.46 feet from the East line of said Section 11.

(4) That Order No. R-533 establishing a 66.61 acre non-standard oil proration unit in the Bronco Siluro-Devonian Pool for the said Federal "B" Well No. 1 be and the same is hereby rescinded.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

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

COPY

November 12, 1959

Mr. Jason Kellahin
P. O. Box 1713
Santa Fe, New Mexico

Dear Mr. Kellahin:

On behalf of your client, Amerada Petroleum Corporation, we enclose two copies of Order No. R-1526 in Case 1792 issued by the Oil Conservation Commission on this date.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures: (2)

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Amerada Petroleum Corporation for an oil-oil dual completion and for three non-standard oil proration units. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Federal "B" Well No. 2, located approximately 1983 feet from the North line and approximately 548.5 feet from the East line of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico, in such a manner as to produce oil from the Bronco Siluro-Devonian Pool and oil from an undesignated Mississippian pool. Applicant further proposes the establishment of three 40-acre non-standard oil proration units in the NE/4 of said Section 11. Two of such units are to be dedicated to the said Federal "B" Well No. 2, one in the Bronco Siluro-Devonian Pool, the other in an undesignated Mississippian pool. The third proposed unit is to be in the Bronco Siluro-Devonian Pool and is to be dedicated to applicant's Federal "B" Well No. 1, located approximately 1983 feet from the North line and approximately 1538.46 feet from the East line of said Section 36.

Case 1792

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: The next case will be Case 1792.

MR. PAYNE: Application of Amerada Petroleum Corporation for an oil-oil dual completion and for three non-standard oil proration units.

MR. KELLAHIN: Jason Kellahin, if the Examiner please, of Kellahin and Fox, Santa Fe, New Mexico, representing the Applicant. We will have one witness.

(Witness sworn.)

(Marked Applicant's Exhibits Nos. 1 through 6, for identification.)

HERBERT D. MILLER

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Herbert D. Miller.

Q By whom are you employed and what position, Mr. Miller?

A Amerada Petroleum, Proration Engineer.

Q Have you testified before this Commission in the past and had your qualifications as an expert engineer accepted?

A I have.

MR. KELLAHIN: Are the qualifications of the witness acceptable?

MR. NUTTER: Yes, sir. Please proceed.

Q Are you familiar with the application in Case 1792?

A Yes, sir, I am.

Q Would you state briefly what was proposed in this

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application?

A We're proposing to deepen the Federal "B" No. 2 well and dually complete it in the Mississippian and the Devonian formations, and also dually complete the well and assign 40 acres to the No. 2 well and 40 acres to the No. 1 well in the Devonian and 40 acres to the No. 2 well in the Mississippian.

Q Is the reason for this application necessitated by the existence of the survey line between the States of New Mexico and Texas?

A Yes, sir. The Bronco Siluro-Devonian, Mississippian and Wolfcamp Pools are located in Lea County, New Mexico and Yoakum County, Texas. Referring to our Exhibit No. 2 it will be noted the east line of Sections 11 and 14 coincides with the boundary line between New Mexico and Texas, and because of the adjustment of the survey on the east line, the SE/4 of Section 11 contains only 131.07 acres, the NE/4 of Section 11 contains 133.93 acres and the NE/4 of Section 14 contains only 128.20 acres. This deficiency in acreage results in lots of less than 40 acres being formed along the boundary line in New Mexico.

Q Is Amerada the owner of a lease in that area?

A Yes, sir, we own oil and gas leases covering the W/2 and SE/4 of the NE/4 of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico, and also we own the Federal "B" No. 2 well located on a governmental lot of 26.61 acres,

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approximately 1983 feet from the north line and 348.46 feet from the east line of Section 11, The well is presently completed in the Bronco Wolfcamp Pool with top of perforations at 9446 feet.

Q What do you propose to do with that well?

A We propose to deepen the well, as will be shown on the exhibit, diagramatic sketch of proposed dual completion, to 11,870 feet. This would be an approximate depth.

Q I believe that has been marked as Exhibit No. 3?

A That's correct.

Q Referring to what has been marked as Exhibit No. 3 now, would you describe what is proposed to be done?

A The well is, currently has a total depth of 9660 with 7" casing set at 9652 with the top of the cement at 6854. We have 13 and 3/8ths casing set at 318 feet. We have 9 and 5/8ths inch casing set at 4536 feet, with the top of the cement at 2604. We propose to drill the well down to the new total depth, set a liner which will have the top at 9440 to a total depth of 11,770. That will be a 5½" liner. Prior to setting the liner we will squeeze off the Wolfcamp perforations. Then we will run a Baker Model "D" production packer between the Mississippian and Devonian and run parallel strings of tubing and produce the Devonian out of the lower string and the Mississippian out of the upper string.

We will run 2 and 3/8ths inch tubing on both strings to the

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Devonian and squeeze the tubing down to 2-1/16 inch Hydril tubing inside the liner. I believe this type dual completion is standard in the industry and it complies with all the rules of the statewide and field rules for the Bronco Field.

Q Do you know what depth you would encounter the Mississippian and Devonian?

A I would render a guess.

Q But at the present time you have no accurate information?

A No, sir, I could give an approximate depth. I would estimate the top of the Mississippian at 11,130 feet. Top of the Devonian, 11,780 feet.

Q The structure will be described later in your testimony?

A Yes, sir.

Q Would you be willing to furnish the Commission with further information on formation depth and the actual completion when it has been made, in the event this application is approved?

A Yes, sir. Of course we'll file, of course, our amended dual completion application with the exact depths on it.

Q Now, referring to Amerada's L. W. Ward No. 2 well, will you discuss that well, please, as to its location and completion?

A The L. W. Ward No. 2 well is a dual completion in the Devonian and the Mississippian, which is the two zones that we propose on the Federal "B" 2. It's located in the NE/4 of the SE/4 of Section 11, and it was authorized, the dual was authorized

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by Commission Order No. R-1387 dated May 7, 1959.

MR. KELLAHIN: We will ask the Commission to take notice of the Order No. R-1387 which has been attached as an unmarked exhibit in the folder handed to the Examiner.

MR. NUTTER: We will consider that order number.

Q Does the Bronco-Mississippian Pool, as presently delineated, cover the area which is proposed to be dedicated to the subject well?

A No, sir. The Bronco-Mississippian Pool now covers the SE/4 of Section 11, Township 13 South, Range 38 East. That was by Order No. R-1441 dated July 21, 1959.

Q Is that order likewise included in the folder handed to the Examiner?

A Yes, it is.

MR. KELLAHIN: We ask the Commission to take notice of that order also.

MR. NUTTER: We will consider that order, Mr. Kellahin.

Q Units have already been established for the Siluro-Devonian production in this area, have they not, Mr. Miller?

A Yes, sir.

Q Would it be necessary to change that order, and would you give the order number and discuss it?

A Order No. R-533 dated October 4, 1954, established a 66.61 acre unit for the Federal "B" No. 1, and that was shown on

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our original plats of the lease. I believe that's Exhibit 4. It's marked Exhibit G on the folder.

MR. NUTTER: That's identified as Exhibit 4.

A That was prior to the drilling of the well, the Federal "B" No. 2 well.

MR. NUTTER: Now, Mr. Miller, the acreage ascribed to the well you are discussing now, the Federal "B" 1?

A Yes, sir.

MR. NUTTER: It comprises what's marked as a 40-acre lot?

A Plus the 26.61.

MR. NUTTER: Plus the 26.61?

A Yes.

MR. NUTTER: That entire acreage is dedicated at the present time?

A Yes.

MR. KELLAHIN: That is by Order R-533.

MR. NUTTER: Yes.

Q Do you recommend that order be rescinded and the acreage be reallocated?

A I recommend that the order be rescinded and the acreage be reallocated as is shown on Exhibit No. 1.

Q What would the acreage then consist of?

A 40 acres for the No. 2 well and 40 acres for the No. 1 well. The only difference between the two plats is we assigned

an additional 416.23 feet to the north here, in which both 40-acre tracts take in part of that.

Q That would be as shown on Exhibit No. 1?

A That is correct.

Q Is that in accordance with the special rules for the Bronco Siluro-Devonian Pool?

A Yes. Yes, the Bronco Siluro-Devonian Pool presently describes diagonals of 2,000 feet or 2100 feet rather, which the diagonal on the No. 1 well, or the No. 2 well is 2,098.99 and No. 1, 1995.92. Now the statewide rules for distance from unit lines is 330. You'll note that on the No. 1 well, we will be 322.84, which would be an exception. We will ask the Commission to take notice of that.

Q It would require no exceptions for No. 2 for that phase of the order?

A No, sir, the No. 1 would be the exception.

Q Are you requesting the same units for the Mississippian production from the well No. 2?

A Yes, sir, we are.

Q Would that be identical to the unit recommended for the Devonian production?

A Yes, sir, it is.

Q Would that require an exception to statewide Rule 104(c)?

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A Yes, sir, it does.

Q Have you any information on the drill stem tests in this area?

A Yes, sir. We have drill stem tests on all the wells around the Federal "B" 2 well. Referring to Exhibit No. 2, the L. R. Weems No. 3 well is east of the Federal "B" 2 well, and we had a drill stem test 6-5-53. Do you want me to read these into the record? They are in exhibit form.

MR. NUTTER: I think we have sufficient data to just indicate that you did have some production.

A There's one other drill stem test that's not on that tabulation, that's a drill stem test on this Sinclair Harris well. They also tested oil on drill stem test in the Mississippian.

Q Now, have you prepared a contour map on the Devonian, Mr. Miller?

A Yes, sir, the Geological Department has prepared one.

Q Would you discuss that briefly, please, that is Exhibit No. 6?

A Yes, sir, that's 6.

MR. NUTTER: Yes.

Q Would you discuss Exhibit No. 6?

A It's a contour map on top of the Devonian with the contour interval of 100 feet. Our Production Department estimates the water level in the Devonian at 8,077, and from the contour map

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you can see that all the acreage that we're proposing to be dedicated is shown as productive in the Devonian.

Q In other words, all of the acreage proposed to be dedicated in the Devonian will fall --

A Fall above the water level.

Q -- above the water-oil contact?

A Or water-oil contact, that's correct.

Q Now, in the Devonian Pool is all of the acreage proposed to be dedicated located within the Devonian, Siluro-Devonian Pool as presently delineated?

A Yes, sir, it is. Order No. 328 dated June 10, 1953 which created the Bronco-Siluro-Devonian Pool, Lea County, New Mexico is described as follows: All of Sections 11 and 14, Township 13 South, Range 38 East.

Q Were any non-standard units formed in the Mississippian Pool in Section 11?

A Yes, sir, referring to Exhibit 2, there were three 43.69-acre units formed in accordance with Order R-1453 dated July 31, 1959.

Q All of the acreage in that area has been dedicated for Mississippian?

A Mississippian, that's correct, yes, sir. This Ward lease offsets the Federal "B" to the south there.

Q Now, as I understand it, Mr. Miller, you presently

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do have some production from the Wolfcamp Pool in the Well No. 2, is that correct?

A Yes, sir, we do.

Q Will you discuss the situation as to oil production from the Wolfcamp, briefly?

A The Federal "B" 2 well currently is making 13 barrels a day on the pump. The wells surrounding Federal "B" 2 in the Wolfcamp are Weems 8 to the east, currently producing 8 barrels per day and Ward No. 5 to the southwest producing 11 barrels per day, and Ward No. 2 or No. 4 rather, to the south, producing 11 barrels a day.

Q What is the producing mechanism in those wells?

A They're all pumping.

Q Is it a gas solution reservoir?

A It's a solution gas reservoir, yes, sir.

Q Will the squeezing off of the Wolfcamp in the Well No. 2 result in any ultimate loss of recovery from the Wolfcamp production, in your opinion?

A No, sir. Ultimately a study will have to be made on the feasibility of secondary recovery for the Wolfcamp, and at that time it can be evaluated and possibly a secondary recovery project instigated to recover what oil might be lost by shutting the well down now.

Q Were Exhibits 1 through 6 inclusive prepared by you or

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under your direction and supervision?

A Yes, sir, they were.

MR. KELLAHIN: At this time we would like to offer in evidence Exhibits 1 through 6.

MR. NUTTER: Amerada's Exhibits 1 through 6 will be admitted.

Q In your opinion is all the acreage proposed to be dedicated to the Federal "B" No. 2 well productive of oil from the Mississippian formation?

A Yes.

Q In your opinion is all the acreage to the Well No. 2 productive of oil from the Devonian formation?

A Yes.

Q Would a well located as proposed in this application efficiently and economically drain the acreage proposed to be dedicated to it?

A Yes, sir, it will.

Q Would your answer be the same as to the acreage proposed to be dedicated to the Federal "B" well No. 1?

A Yes.

Q In your opinion is all of that acreage productive?

A Yes, it is.

Q Do you have anything further you wish to bring to the Commission?

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A No, sir.

MR. KELLAHIN: That's all the questions I have.

MR. NUTTER: Any questions of Mr. Miller?

MR. PAYNE: Yes, sir.

MR. NUTTER: Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q What pool is the Sinclair Harris No. 1 well completed in?

A It's a Devonian well. Exhibit No. 2 has the various formations circled.

Q So the Barnes No. 1, Texas Company No. 1 Barnes is Wolfcamp, is that correct?

A That's right.

Q What indication do you have that the northwest quarter of the northeast quarter of Section 11 is productive of oil from the Mississippian?

A I wouldn't have any indication of the northwest of the northeast.

Q Is that a portion of what you propose to dedicate here to the No. 2 well?

A No, sir. It would be the south portion, well, a portion of that. Next to that is the Harris tested oil in the Mississippian, and it's also Devonian well too, and we feel that at least that 416 feet there is productive, as to what beyond that

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would be productive we couldn't say.

Q The drill stem test did show that the Harris No. 1 was, would have been productive in the Mississippian?

A Yes, sir.

Q Could you describe these units for me, Mr. Miller, these proposed units?

A The Federal, referring to Exhibit No. 1, the unit for the Federal "B" 1 well is 1013.26 feet on the south side. It's 1719.59 feet on the east and west side.

MR. NUTTER: Is that a true north line that runs 1719?

A Yes, sir.

MR. NUTTER: This 1013 foot line, is that a true east-west line?

A Yes, sir, I believe it is. And the other unit, the Federal "B" 2 unit would be, starting at the northwest corner, would be 337.16 feet along the north, the farthest north line, south 416.23 feet, east 890.34 feet, and the south would be the difference between 416.23 and 1719.59, and the south line would be 1203.66 feet.

MR. NUTTER: Then back to the point of origin?

A Then back to the point of origin, yes, sir.

MR. NUTTER: How about on the unit that you dedicated to your No. 1 well, is the north boundary of that unit the same width as the south boundary?

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A Yes, sir.

MR. NUTTER: So in describing the unit, we could say that you go back to the west 1013.26 feet?

A That's correct.

MR. NUTTER: Then is this line coming back to the point of origin a true north-south line?

A Yes, sir, I believe it is.

MR. NUTTER: It would be 1719.59 feet?

A That's correct.

Q (By Mr. Payne) Now, you give the wells' approximate location in your application. Do you have any reason to believe that these approximate locations aren't correct? On your Exhibit 1 you show the exact location.

A I would say they're correct, the wells were surveyed in.

MR. PAYNE: All right, sir.

BY MR. NUTTER:

Q What, Mr. Miller, does Amerada actually request here today? They request that an order which established a 66.21 acre, or 66.61 acre unit be rescinded?

A That's correct.

Q Is that the first thing?

A Yes, sir. And the formation of two new units as outlined.

Q Ask that one order be rescinded, the old order setting

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up the 66 acre unit?

A Yes.

Q They ask that two new non-standard units be established?

A That's correct.

MR. PAYNE: Three.

Q Three?

A Actually there would be three with the dual completion.

Two Devonian, one Mississippian.

Q They ask for the dual completion of a well?

A Yes, sir.

Q They ask for a non-standard location for a well?

MR. PAYNE: For the No. 1 well.

Q Being less than 330 feet from the boundary of the unit?

A Yes, sir.

Q Does that cover everything that is requested here?

A I believe so.

MR. KELLAHIN: The only thing I should add is that present acreage is not within the present limits of the pool as defined.

Q It will require the extension of the pool at a later nomenclature hearing. Referring to the dual completion, Mr. Miller, do you have any data on the bottomhole pressures that are available in these two zones?

A I don't have data with me. The Devonian is extremely

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good water drive and it had a bottomhole pressure of some 4400, but I don't have the exact figures. The Mississippian we just started producing it, it has a fairly high bottomhole pressure, but as to what it is, I don't have that figure.

Q How about the gravity of the two zones?

A The gravity is similar of the two. The Mississippian, incidently it doesn't have the water drive that the Devonian does. We don't anticipate any water drive there.

Q How about the GOR of the two zones?

A The GOR's, the Devonian is very low and the Mississippian so far is low. It probably will increase though.

Q The Commission has authorized the dual completion in the Mississippian and Devonian of your Ward No. 2 well, has it not?

A Yes, sir.

Q You expect that conditions in this Federal "B" No. 2 will be similar to the Ward No. 2?

A Very similar, yes, sir.

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

(Witness excused.)

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

MR. KELLAHIN: That's all I have.

MR. NUTTER: Does anyone have anything further for

Case No. 1792? We'll take the case under advisement and take next Case 1794.

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 4th day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the ~~foregoing is~~ a complete record of the proceedings in the Examiner hearing of Case No. 1792, heard by me on 10-28, 1959.

....., Examiner
~~New~~ Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF AMERADA PETROLEUM CORPORATION FOR AN ORDER AUTHORIZING AN OIL-OIL DUAL COMPLETION IN THE BRONCO MISSISSIPPIAN AND IN THE BRONCO SILURO-DEVONIAN POOLS, LEA COUNTY, NEW MEXICO; AND FOR THE ESTABLISHMENT OF 40-ACRE UNITS FOR EACH ZONE

CASE NO. 1192

APPLICATION

COMES NOW Amerada Petroleum Corporation and alleges and states the following:

1. Applicant is owner of oil and gas leases covering the W½ and the SE¼ of the NE¼ of Section 11, Township 13 South, Range 38 East, N.M.P.M., Lea County, New Mexico.

2. Applicant is owner of the Federal "B" No. 2 Well located on a governmental lot of 26.61 acres, approximately 1983 feet from the North line and 548.46 feet from the East line of said Section 11, presently completed in the Bronco Wolfcamp Pool.

3. Applicant proposes to plug off the Wolfcamp formation and drill to the Siluro-Devonian and recomplete as a dual in the Mississippian and Siluro-Devonian formations.

4. That the Applicant's L. W. Ward No. 2 Well located in the NE¼ of the SE¼ of Section 11 is a dual completion in the Bronco Mississippian and Bronco Siluro-Devonian, authorized by the Commission under Order No. R-1387, dated May 7, 1959.

5. That the Bronco Mississippian Pool is now delineated as the SE¼ of Section 11, Township 13 South, Range 38 East by Order No. R-1441 dated July 21, 1959.

6. That Order No. R-533 dated October 4, 1954, establishing a 66.61-acre unit for Federal "B" No. 1 be rescinded and proration units for Siluro-Devonian production be established for Federal "B" No. 1 and "B" No. 2 in accordance with Rule 2 of the Special Rules of the Bronco Siluro-Devonian Pool issued as Order No. R-510 dated July 15, 1954; the size and shape of the units to be outlined as shown on the attached plat identified as Exhibit "A."

7. Applicant further requests assignment of 40 acres to Federal "B" No. 2 for Mississippian production, the size and shape of the unit to be identical with the unit recommended for Siluro-Devonian production. This will be an exception to Statewide Rule 104(c).

WHEREFORE, Applicant requests that this matter be set for hearing and that notice thereof be given as required by law, and upon hearing that an order be issued covering the matters herein proposed.

AMERADA PETROLEUM CORPORATION

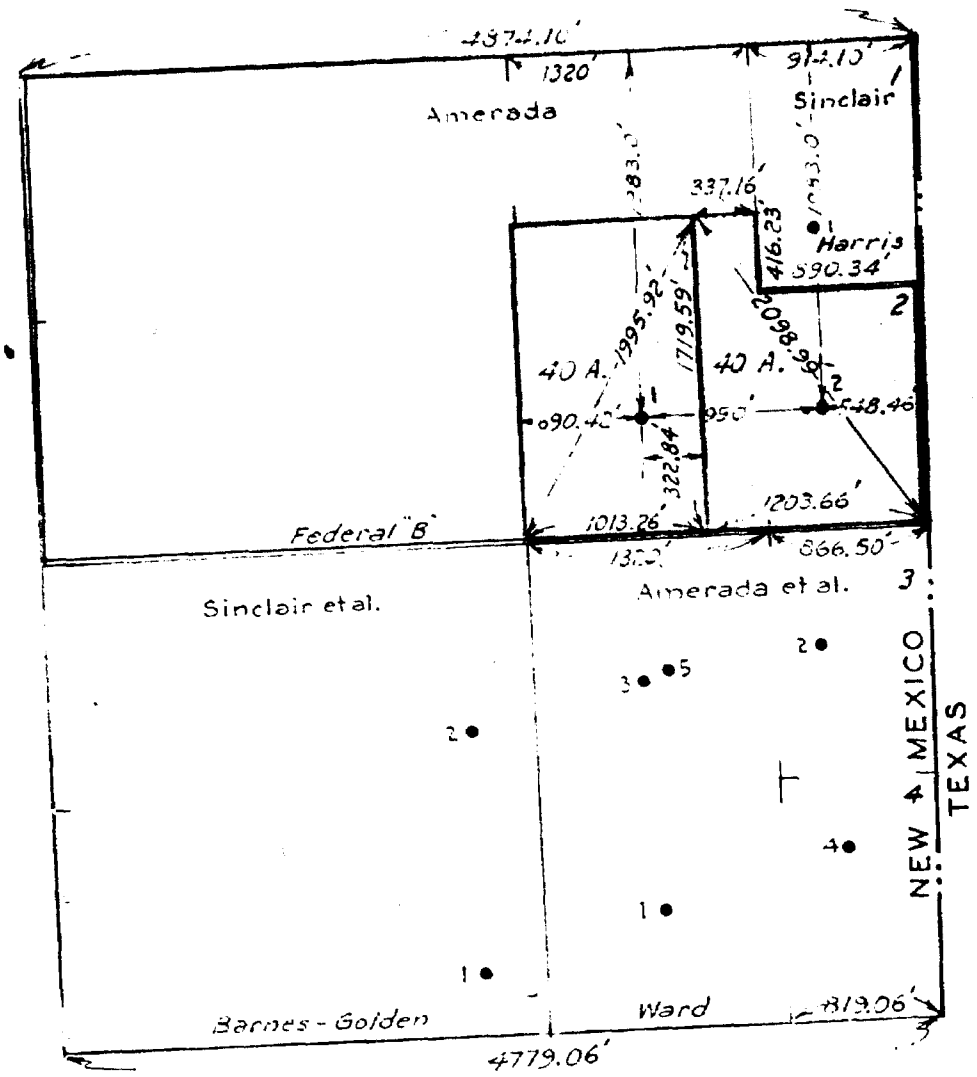
By Harold J. Fisher
Harold J. Fisher

KELLAHIN AND FOX

By Jason W. Kellahin
Jason W. Kellahin

Attorneys for Applicant

Received Mailed 10-8-59



Sec. 11, T. 13 S., R. 38 E., New Mexico

FEDERAL "B" LEASE
BRONCO FIELD
LEA CO. NEW MEXICO

SCALE 1" : 1000'

EXHIBIT "A"

No. 37-59

DOCKET: EXAMINER HEARING OCTOBER 28, 1959

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary.

CONTINUED CASES

CASE 1761: Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

CASE 1782: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Eunice King Well No. 10, located 660 feet from the North line and 1980 feet from the East line of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock Pool and the production of oil from the Wantz-Abo Pool through parallel strings of tubing.

NEW CASES

CASE 1792: Application of Amerada Petroleum Corporation for an oil-oil dual completion and for three non-standard oil proration units. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Federal "B" Well No. 2, located approximately 1983 feet from the North line and approximately 548.5 feet from the East line of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico, in such a manner as to produce oil from the Bronco Siluro-Devonian Pool and oil from an undesignated Mississippian pool. Applicant further proposes the establishment of three 40-acre non-standard oil proration units in the NE/4 of said Section 11. Two of such units are to be dedicated to the said Federal "B" Well No. 2, one in the Bronco Siluro-Devonian Pool, the other in an undesignated Mississippian pool. The third proposed unit is to be in the Bronco Siluro-Devonian Pool and is to be dedicated to applicant's Federal "B" Well No. 1, located approximately 1983 feet from the North line and approximately 1538.46 feet from the East line of said Section 36.

CASE 1793: Application of Argo Oil Corporation, for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its B. T. Lanehart Well No. 1, Unit H, Section 21, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

CASE 1794: Application of Argo Oil Corporation for a 160-acre non-standard gas proration unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the E/2 NE/4 of Section 21 and the W/2 NW/4 of Section 22, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, said unit to be dedicated to its B. T. Lanehart Well No. 1, located 2310 feet from the North line and 990 feet from the East line of said Section 21.

CASE 1795: Application of Cities Service Oil Company and Late Oil Company for a 320-acre non-standard gas proration unit. Applicant, in the above-styled cause, seek the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the S/2 of Section 17, Township 24 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to Late Oil Company's Thomas Well No. 1, located 660 feet from the South and West lines of said Section 17.

CASE 1796: Application of Graridge Corporation for a capacity allowable for one well in a water flood project. Applicant, in the above-styled cause, seeks an order authorizing a capacity allowable for its Ventures State Well No. 306, located in the NE/4 NE/4 of Section 28, Township 18 South, Range 28 East, Artesia Water Flood Project No. 2, Eddy County, New Mexico.

CASE 1797: Application of Graridge Corporation for a dual injection-producing well. Applicant, in the above-styled cause, seeks permission to dually complete its Western-Yates State Well No. 14, located in the SW/4 NE/4 of Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico, in such a manner as to permit the injection of water into the "first" zone of the Grayburg formation in the Artesia Pool through the casing-tubing annulus and the production of oil from the "Lovington" zone in the Artesia Pool through tubing.

CASE 1798: Application of Great Western Drilling Company for approval of a unit agreement and for approval of a pilot water flood project. Applicant, in the above-styled cause, seeks an order approving its Rock Queen Unit Agreement which unit comprises approximately 4940 acres in Township 13 South, Ranges 31 and 32 East, Chaves and Lea Counties, New Mexico. Applicant proposes to institute a pilot water flood project on said Rock Queen Unit in the Caprock-Queen Pool by the injection of water into the Queen formation through six injection wells located in Sections 22 and 27, Township 13 South, Range 31 East. Applicant further seeks the establishment of an administrative procedure whereby additional wells in the unit may be converted to water injection.

CASE 1799: Application of Magnolia Petroleum Company for permission to commingle the production from six separate pools. Applicant, in the above-styled cause, seeks authority to commingle the production from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz-Abo Pool, Blinebry Gas Pool and Tubb Gas Pool underlying its E. O. Carson Lease comprising the W/2 SW/4 and SE/4 SW/4 of Section 28 and the SW/4 NE/4 and the NW/4 of Section 33, all in Township 21 South, Range 37 East, Lea County, New Mexico. Applicant proposes to separately meter the production from each pool prior to commingling.

CASE 1800: Application of Sunray Mid-Continent Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its D. Hardy Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Penrose-Skelly Pool and the production of oil from the Drinkard Pool through parallel strings of tubing.

CASE 1801: Application of Texaco Inc., for an order force pooling the interests in a 241-acre non-standard gas proration unit in the Eumont Gas Pool. Applicant, in the above-styled cause, holder of a 241-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the NE/4 of Section 5, Township

20 South, Range 37 East, and the S/2 SE/4 of Section 32, Township 19 South, Range 37 East, all in Lea County, New Mexico, seeks an order force-pooling all of the interests in said unit within the vertical limits of the Eumont Gas Pool, including interests of the following persons who have not consented to communitization: Kenneth F. Duncan; Walter L. Gockley; Eudeana B. Newcomb; Roy H. Nicolai, Administrator of Hal M. Nicolai Estate; Mrs. Frances L. Kramer; J. L. Reed; Estate of Dr. Ralph Sullivan, Edward A. Golden, Administrator; G. T. Hanners.

CASE 1802: Application of John H. Trigg for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Caprock-Queen wells on its Federal Trigg Lease in Sections 4 and 9, Township 14 South, Range 31 East, Chaves County, New Mexico.

STATEMENTS FOR CASE 1792

The Bronco Siluro-Devonian, Mississippian and Wolfcamp Pools are located in Lea County, New Mexico and Yoakum County, Texas. Referring to Exhibit "B" it will be noted the east line of Sections 11 & 14 coincides with the boundary line between New Mexico and Texas, and because of the adjustment of the survey on the east line, the NE/4 of Section 11 contains only 131.07 acres, the SE/4 of Section 11 contains 133.93 acres and the NE/4 of Section 14 contains only 158.80 acres. This deficiency in acreage results in lots of less than 40 acres being formed along the boundary line in New Mexico.

Amerada is owner of oil and gas leases covering the W/2 and SE/4 of the NE/4 of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico and is owner of the Federal "B" No. 2 well located on a governmental lot of 26.61 acres, approximately 1983 feet from the north line and 548.46 feet from the east line of Section 11, presently completed in the Bronco Wolfcamp Pool with top of perforations at 9446 feet.

We propose to plug off the Wolfcamp formation and drill to the Siluro-Devonian to an approximate total depth of 11870 feet, run surveys, set 5 1/2" liner from 9450 to 11870 feet, perforate approximately 25 feet in the Mississippian, 40 feet in the Devonian, acidize the Mississippian with 2000 gallons and the Devonian with 1000 gallons and dual complete as shown on the diagrammatic sketch of the proposed dual completion installation, Exhibit "C" (Proposed).

The Amerada's L. V. Ward No. 2 well is located in the NE/4 of the SE/4 of Section 11 and is a dual completion in the Bronco Mississippian and Bronco Siluro-Devonian, authorized by the Commission under Order No. R-1387 dated May 7, 1959, Exhibit "D".

The Bronco Mississippian Pool is now delineated as the SE/4 of Section 11, Township 13 South, Range 38 East by Order No. R-1441 dated July 21, 1959, Exhibit "E".

Order No. R-533 dated October 4, 1954, Exhibit "F", established a 66.61 unit for Federal "B" No. 1 as shown on the original plats of that lease, Exhibit "G". This order should be rescinded and proration units for Siluro-Devonian production should be established for Federal "B" No. 1 and "B" No. 2 in accordance with Rule 2 of the Special Rules of the Bronco Siluro-Devonian Pool issued as Order No. R-510, Exhibit "H", dated July 15, 1954; the size and shape of the units to be outlined as shown on the plat identified as Exhibit "A".

Amerada further requests assignment of 40 acres to Federal "B" No. 2 for Mississippian production, the size and shape of the unit to be identical with the unit recommended for Siluro-Devonian production. This will require an exception to statewide Rule 104(e).

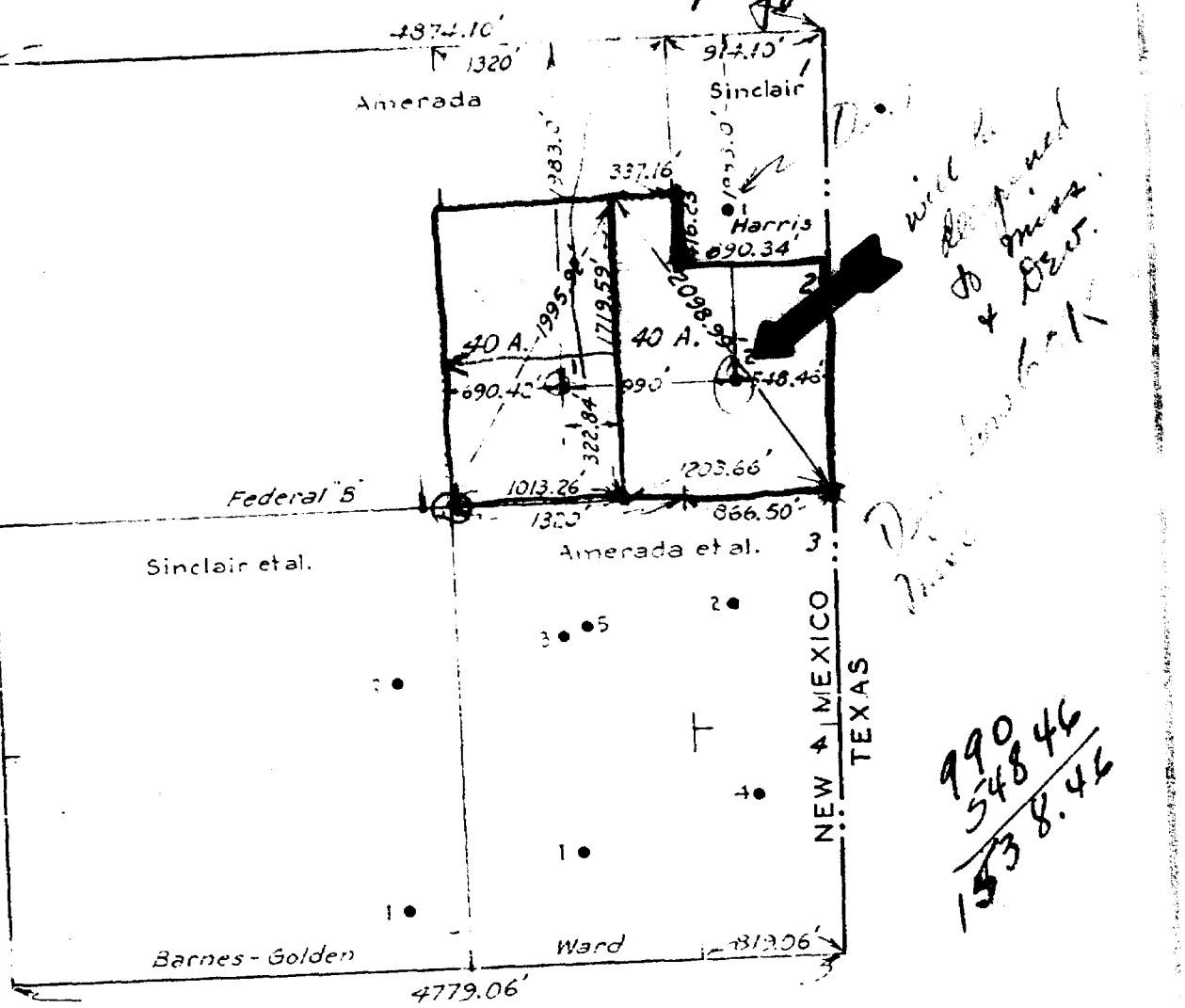
Exhibit "I" is a copy of drill stem tests of wells surrounding the Federal "B" No. 2 well which establish the Mississippian as productive in the 40 acre tract of Federal "B" No. 2.

Exhibit "J" is a contour map on the top of the Devonian to show that the proposed 80 acres to be assigned, 40 acres to each Federal "B" No. 1 and Federal "B" No. 2, is productive in the Devonian.

Amend "E" to Order No. R-368 dated June 10, 1953 which created the Bronco-Strawn-Devonian Pool, Lea County, New Mexico described as follows: All Sections 3 & 10, T 13 S, R 38 E, NMPM.

Amend "E" to Order No. R-1021 dated July 31, 1959 which established three additional non-standard oil proration units in the Monument-Blinebry Oil Pool, Lea County, New Mexico, described as follows: Units are 40-acre units and are as follows: The E/2 NW/4 which adjoins the Monument "B" Lease to the north.

Amend "E" to Order No. R-1283 dated June 20, 1955 which established special oil allowable for the Bronco-Wolfcamp Oil Pool.



Sec. 11, T. 13 S., R. 38 E., New Mexico

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Appl. EXHIBIT NO. 1
CASE NO. 1792

FEDERAL "B" LEASE
BRONCO FIELD
LEA CO. NEW MEXICO

SCALE 1" : 1000'

Ex A

R 38 E

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Appl. EXHIBIT NO. 2
CASE NO. 1792

NEW MEXICO
TEXAS

Texas Co

N

Amerada
Sinclair
133.33
Harris
Barnes
Amerada
16.61
U.S.A.
Federal "B"
Sinclair
Amerada
T 13 S
43.69 Ac.
131.07
43.69 Ac.
43.69 Ac.
Weems
Amerada
Barnes & Golden
L.W. Ward
Amerada
Amerada
Amerada
128.20
Weems
Linam
Schenck
14
Federal "A"

LEGEND
- WOLFCAMP WELL
- MISSISSIPPIAN WELL
- DEVONIAN WELL
- DUAL MISSISSIPPIAN-DEVONIAN

BRONCO FIELD

YOAKUM CO, TEXAS - LEA CO., NEW MEXICO
SCALE: 1 INCH = 1000 FEET

— — — UNIT OUTLINE

Ex B

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. 1649
Order No. R-1387

APPLICATION OF AMERADA PETROLEUM
CORPORATION FOR AN ORDER AUTHORIZING
AN OIL-OIL DUAL COMPLETION IN AN
UNDESIGNATED MISSISSIPPIAN POOL AND
IN THE BRONCO-DEVONIAN POOL, 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 22, 1959, 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 7th day of May, 1959, 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, Amerada Petroleum Corporation, is the operator of the L. W. Ward Well No. 2, located 1983 feet from the South line and 520 feet from the East line of Section 11, Township 13 South, Range 38 East, NMPM, Lea County, New Mexico.

(3) That the applicant proposes to dually complete the said L. W. Ward Well No. 2 in such a manner as to permit the production of oil from an undesignated Mississippian pool and the production of oil from the Bronco-Devonian Pool through parallel strings of 2-1/16-inch Hydril CS joint tubing.

(4) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(5) That approval of the subject application will not cause waste nor impair correlative rights.

Ex D

IT IS THEREFORE ORDERED:

That the applicant, Amerada Petroleum Corporation, be and the same is hereby authorized to dually complete its L. W. Ward Well No. 2, located 1983 feet from the South line and 520 feet from the East line of Section 11, Township 13 South, Range 38 East, NMPM, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Mississippian pool and the production of oil from the Bronco-Devonian Pool through parallel strings of 2-1/16-inch Hydril CS joint tubing.

PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That applicant shall take packer-leakage tests upon completion and annually thereafter during the Gas-Oil Ratio Test Period for the Bronco-Devonian Pool.

IT IS FURTHER ORDERED: That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order, after proper notice and hearing the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

S E A L

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10

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 1723
Order No. R-1441

THE APPLICATION OF THE OIL
CONSERVATION COMMISSION UPON
ITS OWN MOTION FOR AN ORDER
CREATING AND EXTENDING CERTAIN
POOLS IN CHAVES, EDDY, ROOSEVELT,
AND LEA COUNTIES, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 o'clock a.m. on July 15, 1959, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 21st day of July, 1959, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, 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 there is need for the creation of a new pool in Lea County, New Mexico, for the production of oil from the Mississippian formation, said pool to bear the designation "Bronco-Mississippian Pool." Said Bronco-Mississippian Pool was discovered by Amerada Petroleum Corporation, L. W. Ward No. 2 Oil Well, located in the SE/4 of Section 11, Township 13 South, Range 38 East, NMPM. It was completed May 7, 1959. The top of perforations is at 10,939 feet.

(3) That there is need for certain extensions to the Caprock-Queen Pool and the Coyote-Queen Pool, both in Chaves County, New Mexico; and to the Dayton-Abo Pool and the Robinson Pool, both in Eddy County, New Mexico; and to the Justis-Drinkard Pool, the Ranger Lake-Pennsylvanian Pool, and the Shoe Bar-Pennsylvanian Pool, all in Lea County, New Mexico; and to the Bluitt-Pennsylvanian Pool in Roosevelt County, New Mexico.

IT IS THEREFORE ORDERED:

(a) That a new pool in Lea County, New Mexico, classified as an oil pool for Mississippian production, be and the same is hereby created and designated as the Bronco-Mississippian Pool, consisting of the following described area:

TOWNSHIP 13 SOUTH, RANGE 38 EAST, NMPM
Section 11: SE/4

(b) That the Bluitt-Pennsylvanian Pool in Roosevelt County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 8 SOUTH, RANGE 37 EAST, NMPM
Section 20: S/2 and NE/4

(c) That the Caprock-Queen Pool in Chaves County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 14 SOUTH, RANGE 31 EAST, NMPM
Section 4: SW/4
Section 29: W/2 NE/4

(d) That the Coyote-Queen Pool in Chaves County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 11 SOUTH, RANGE 27 EAST, NMPM
Section 22: NW/4

(e) That the Dayton-Abo Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM
Section 27: S/2 SE/4

(f) That the Justis-Drinkard Pool in Lea County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM
Section 26: NE/4

(g) That the Ranger Lake-Pennsylvanian Pool in Lea County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 12 SOUTH, RANGE 34 EAST, NMPM
Section 23: SW/4
Section 26: NW/4
Section 27: E/2

(h) That the Robinson Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 17 SOUTH, RANGE 31 EAST, NMPM
Section 1: S/2
Section 2: SE/4

(i) That the Shoe Bar-Pennsylvanian Pool, in Lea County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 16 SOUTH, RANGE 35 EAST, NMPM
Section 26: SE/4

IT IS FURTHER ORDERED:

That the effective date of this order and all creations and extensions included herein shall be August 1, 1959.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

SEAL

MURRAY E. MORGAN, Member

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

vem/

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. 756
Order No. R-533

THE APPLICATION OF AMERADA PETROLEUM
CORPORATION FOR AN ORDER ESTABLISHING
AN UNORTHODOX PRORATION UNIT IN THE SOUTH
HALF OF THE NORTHEAST QUARTER OF SECTION 11,
TOWNSHIP 13 SOUTH, RANGE 38 EAST, NMPM,
BRONCO-SILURO-DEVONIAN POOL, LEA COUNTY,
NEW MEXICO, BEING THE SW/4 AND LOT 2 OF SAID
QUARTER SECTION, CONTAINING 66 61 ACRES OF
LAND, MORE OR LESS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 18, 1954, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 4th day of October, 1954, the Commission, a quorum being present, having considered the testimony adduced and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

(1) That due notice of the time and place of hearing and the purpose thereof having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the S/2 of the NE/4 of Section 11, Township 13 South, Range 38 East, NMPM, Lea County, New Mexico, is composed of the SW/4 NE/4 containing 40 acres of land and Lot 2 containing 26.61 acres of land.

(3) That the acreage in question lies within the defined limits of the Bronco-Siluro-Devonian Pool

(4) That a well drilled on Lot 2 would be entitled to only approximately 27/40 of the allowable assigned to a full 40-acre unit.

(5) That the land in question lies adjacent to the State line between Texas and New Mexico, and that approval of this application would not be contrary to the provisions of the Bronco-Siluro-Devonian Pool rules as adopted by the Railroad Commission of Texas and this Commission.

Ex F

(6) That Amerada Petroleum Corporation is the owner of an oil and gas lease covering, among other lands the S/2 of the NE/4 of Section 11, Township 13 South, Range 38 East, NMPM, Lea County, New Mexico, and that applicant has heretofore completed a well in the SW/4 NE/4 of said Section 11, the well known as the Federal "B", No. 1, being completed in the common source of supply hereinafore designated as the Bronco-Siluro-Devonian Pool

(7) That applicant's well, Federal "B", No. 1, will efficiently and economically drain the proposed proration unit; that the formation of the proposed unit will not result in waste, but will prevent the drilling of unnecessary wells and will protect correlative rights

IT IS THEREFORE ORDERED

(1) That the application of Amerada Petroleum Corporation for approval of an unorthodox proration unit consisting of the following acreage:

TOWNSHIP 13 South, RANGE 38 East, NMPM
Lot 2 and the SW/4 NE/4 of Section 11

be, and the same hereby is approved, and a proration unit of the aforesaid acreage is hereby created

(2) That applicant's well, Federal "B", No. 1, located in the SW/4 NE/4 of Section 11, Township 13 South, Range 38 East, NMPM, shall be granted an allowable effective October 1, 1954, in the proportion that the above-described 66.61-acre unit bears to the standard proration unit for said pool

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

W. B. MACEY, Secretary and Member

SEAL

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Gospel EXHIBIT NO. 4
CASE NO. 1792

R 38 E

LEA COUNTY

YOAKUM CO.

358

Texas

N. MEXICO — TEXAS

Amerada

Sinclair 1

1

Barnes

Amerada

403

Harris

2

1

40 Ac.

26.61 Ac.

JOHN H. GIBSON BLK D.

T

Federal "B"

Federal "B"

13

Amerada

Amerada

3

2

5

2

S

404

Weems

43.69 Ac.

Amerada

L. W. Ward

1

Weems

43.69 Ac.

L. W. Ward

OPERATOR OF LEASE Amerada Petroleum Corporation NAME OF LEASE Federal "B"

TOTAL ACRES IN LEASE 266.61 ACRES COVERED BY THIS PLAT 66.61

DESCRIPTION OF PROPERTY All of N/2 of Sec. 11, Less Lot 1, 27.32 Ac.

COUNTY Lea-Yoakum FIELD Bronco-Siluro-Devonian Pool

SCALE OF PLAT 1" = 1000'

STATE OF

COUNTY OF

I HEREBY CERTIFY THAT I AM FAMILIAR WITH THE CONDITIONS AS THEY ACTUALLY EXIST ON THIS LEASE THAT THE ABOVE PLAT WHICH IS DRAWN TO THE SCALE INDICATED HEREON IS TO THE BEST OF MY KNOWLEDGE TRUE AND CORRECT, THAT IT ACCURATELY REFLECTS SAID LEASE WITH ALL WELLS THEREON, AND THAT THE NUMBER AND LOCATION OF WELLS THEREON ARE AS INDICATED ON THE PLAT

SUBSCRIBED AND SWORN TO BEFORE ME THIS DAY OF 195

NOTARY PUBLIC IN AND FOR

COUNTY

AMERADA P-289

Ex 6

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

Bronco

IN THE MATTER OF THE HEARINGS
HELD JOINTLY BY THE NEW MEXICO
OIL CONSERVATION COMMISSION AND
THE RAILROAD COMMISSION OF TEXAS
FOR THE PURPOSE OF CONSIDERING:

CASE NO. 672
Order No. R-510

THE MATTER OF PRORATION METHODS,
MAXIMUM EFFICIENT RATE OF PRODUCTION,
AND SPECIAL POOL RULES FOR OIL AND GAS
POOLS EMBRACING LANDS WITHIN THE STATES
OF TEXAS AND NEW MEXICO: NAMELY, THE
BRONCO-SILURO-DEVONIAN POOL IN LEA
COUNTY, NEW MEXICO (THE TEXAS PORTION
OF WHICH LIES IN YOAKUM COUNTY AND IS
TERMED THE BRONCO POOL.)

ORDER OF THE COMMISSION

BY THE COMMISSION:

WHEREAS, After due notice, the Railroad Commission of Texas and the New Mexico Oil Conservation Commission held a joint hearing in Santa Fe, New Mexico, on February 26, 1954, to consider the adoption of rules and regulations to govern the drilling, completion and operation of wells in the Bronco-Siluro-Devonian Pool, Lea County, New Mexico, and Yoakum County, Texas; and

WHEREAS, After due notice, the Railroad Commission of Texas and the New Mexico Oil Conservation Commission held a joint hearing in Austin, Texas, on April 2, 1954, to consider the adoption of rules and regulations to govern the drilling, completion and operation of wells in the Bronco-Siluro-Devonian Pool, Lea County, New Mexico, and Yoakum County, Texas; and

NOW, on this 15th day of July, 1954, the Oil Conservation Commission of New Mexico, a quorum being present, having considered the records and testimony adduced, and being fully advised in the premises,

FINDS:

(1) That due notice of the time and place of hearing and the purpose thereof having been given as required by law, it has jurisdiction of this case and the subject matter thereof.

(2) That waste will take place in said pool unless rules are adopted by the Commission for the prevention thereof, and that the rules and regulations hereinafter set forth are necessary to prevent such waste and to provide for a more orderly development and operation of said field.

Ex H

14

IT IS THEREFORE ORDERED, by the Oil Conservation Commission of New Mexico that the following rules, in addition to such of the Commission's general rules and regulations as are not in conflict herewith, be and the same are hereby adopted to govern the drilling, completion and operation of wells in the Bronco-Siluro-Devonian Pool, Lea County, New Mexico.

RULE 1. The permitted gas-oil ratio for all wells shall be two thousand (2,000) cubic feet of gas per barrel of oil produced. Any oil well producing with a gas-oil ratio in excess of two thousand (2,000) cubic feet of gas per barrel of oil shall be allowed to produce daily only that volume of gas obtained by multiplying the daily oil allowable of such well as determined by the applicable rules of the Commission by two thousand (2,000) cubic feet. The gas volume thus obtained shall be known as the daily gas limit of such well. The daily oil allowable therefor shall then be determined and assigned by dividing the daily gas limit by its producing gas-oil ratio.

RULE 2. The acreage assigned to the individual oil well for the purpose of allocating allowable oil production thereto shall be known as a proration unit. No proration unit shall consist of more than forty (40) acres except as hereinafter provided, and the two farthermost points in any proration unit shall not be in excess of twenty-one hundred (2100) feet removed from each other; provided, however, that in the case of long and narrow leases or in cases where, because of the shape of the lease, such is necessary to permit the utilization of tolerance acreage, the Commission may, after proper showing, grant exceptions to the limitations as to the shape of proration units as herein contained. All proration units, however, shall consist of continuous and contiguous acreage which can reasonably be considered to be productive of oil.

If after the drilling of the last well on any lease and the assignment of acreage to each well thereon in accordance with the regulations of the Commission, there remains an additional unassigned lease acreage of less than forty (40) acres, then and in such event the remaining unassigned lease acreage up to and including a total of twenty (20) acres may be assigned to the last well drilled on such lease or may be distributed among any group of wells located thereon so long as the proration units resulting from the inclusion of such additional acreage meet the limitations prescribed by the Commission.

Operators shall file certified plats of their properties in the pool, which plats show all those things pertinent to the determination of the acreage claimed for each well hereunder.

RULE 3: The casing program of all wells hereafter drilled in said pool shall include at least three (3) strings of pipe set in accordance with the following program:

(a) The surface casing shall consist of new or reconditioned pipe with an original mill test of not less than one thousand (1000) pounds per square inch, and shall be set and cemented below the top of the red beds; provided, however, that not less than three hundred (300) feet of surface string shall be set. Cement shall be by the pump and plug method, and sufficient cement shall be used to fill the annular space back of the pipe to the surface of the ground or the bottom of the cellar. Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug. The casing shall be tested by pump pressure

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of at least five hundred (500) pounds per square inch applied at the well head. If at the end of thirty (30) minutes the pressure shows a drop of one hundred and fifty (150) pounds per square inch, or more, the casing shall be condemned. After the corrective operations, the casing shall again be tested in the same manner.

(b) The intermediate string shall consist of new or reconditioned pipe that has been tested to two thousand (2000) pounds per square inch, and shall be set no higher than the top of the San Andres formation at an approximate depth of forty-five hundred (4500) feet. Sufficient cement shall be used to fill the calculated annular space back of the pipe to at least as high as the bottom of the surface pipe. Cement shall be by the pump and plug method, and the cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before initiating tests or drilling the plug. The casing shall be tested by pump pressure of at least one thousand (1000) pounds per square inch applied at the well head. If at the end of thirty (30) minutes the pressure shows a drop of one hundred and fifty (150) pounds per square inch, or more, the casing shall be condemned. After the corrective operations, the casing shall again be tested in the same manner.

(c) The producing or oil string shall be new or reconditioned pipe that has been tested to three thousand (3000) pounds per square inch, and shall be set no higher than the top of the producing formation. Cement shall be by the pump and plug method, and sufficient cement shall be used to fill the calculated annular space behind the pipe to a point at least thirty-three hundred (3300) feet above the shoe. Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests. The casing shall be tested by pump pressure of at least fifteen hundred (1500) pounds per square inch applied at the well head. If at the end of thirty (30) minutes the pressure shows a drop of two hundred (200) pounds per square inch, or more, the casing shall be condemned. After the corrective operations, the casing shall again be tested in the same manner.

At the option of the operator, a liner may be run in lieu of a full length producing or oil string, such liner to extend not less than 200 feet above the shoe of the next larger casing string. The liner shall be secured to the next larger casing string in a manner approved by the New Mexico Oil Conservation Commission through a duly authorized representative or the District I Oil and Gas Inspector. Such liner shall be tested in the manner prescribed above for the testing of producing or oil strings.

RULE 4: The production allowable for said pool within New Mexico shall be, and the same hereby is fixed at 227 barrels of oil per day beginning at 7 o'clock a.m., M.S.T. on June 1, 1954, and continuing until further order.

RULE 5: The datum reservoir pressure of all wells in the pool shall be determined annually and the testing period shall be during the months of October and November; the results thereof to be reported to the Commission on or before the fifteenth (15th) of December of each year. All pressure determinations shall be reported at a datum of eight thousand (8000) feet below sea level. Prior to testing, all wells

shall be shut in for a period of not less than forty-eight (48) hours or more than seventy-two (72) hours. All offset operators shall be notified at least forty-eight (48) hours before such test is made on any well, and any operator in the pool shall have the privilege of witnessing such pressure determinations. Said pressures shall be taken on all flowing wells with subsurface pressure gauge or other method of equal accuracy and may be taken on pumping wells with sonic devices or other method of equal accuracy.

RULE 6: All operators shall take a GOR test not sooner than 30 days nor later than 60 days following the completion or recompletion of an oil well. A GOR test shall be made annually on all oil wells producing from the Bronco-Siluro-Devonian reservoir pool. Such tests shall be made in accordance with Commission Rule 301, and shall be taken during the months of April and May of each calendar year. Results of such tests shall be reported on Commission Form C-116 not later than June 15 of the year in which the test was made.

IT IS FURTHER ORDERED, That this cause be held open on the docket for such other and further orders as may be 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

R. R. SPURRIER, Secretary and Member

SEAL

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DRILL-STEM TEST DATA
MISSISSIPPIAN FORMATION
BRONCO FIELD

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 1792

L. R. Noyes Et Al #3

6-5-53 Test #2 from 11,135' to 11,216', 4" drill pipe, 5/8" bottom and 1" top choke, used 2068' water blanket - Opened tool at 5:00 a.m. with weak blow of air increasing to strong blow - Gas to surface in 1 hour and 27 minutes, Gas volume 13,500 cubic feet per day. Gas volume at: 7 a.m. - 13,500 cubic feet per day
8 a.m. - 20,500 cubic feet per day
9 a.m. - 32,900 cubic feet per day
Closed tool at 9 a.m. - Recovered 585' water blanket cut with 5% mud; 5170' dry pipe - Unloaded 1518' water blanket; 2309' of oil cut 25% mud; 567' free oil, gravity 40.2 corrected and 882' salt water. Amerada Hydrostatic Pressure - In hole - 5,360# - Out of hole - 5,295#. Initial Flow Pressure - 965# - Final Flow Pressure 1,925# - 1/4 Hour Build-up - 3,755#

Federal "B" #1

11-28-53 DST #6 - 9 hours drill-stem test from 11,088' to 11,200', 4-1/2" drill pipe, using 2068' water blanket, opened tool at 4:40 a.m. on 5/8" bottom and 1" top chokes with fair blow of air increased to good blow - no gas or fluid to surface at 8 a.m. - Tool still open. 4-hour test, 4-1/2" drill pipe - closed tool at 8:40 a.m. No gas or fluid to surface - recovered 306' of dry pipe, 7460' of gas in drill pipe, 2068' of gas and mud cut water blanket, and 1221' of heavy oil and gas cut mud, estimated 2% oil. Amerada Hydrostatic Pressure - In hole 4920#; Out of hole 4830#. Initial Flow Pressure - 970# - Final Flow Pressure 1330# - 1/4 Hour Build-Up 1600#.

L. W. Ward #2

9-5-53 DST #4 from 10,870' to 11,044' - 3 hour test - 4-1/2" drill pipe - 5/8" bottom and 1" top chokes - used 1860' water blanket - opened tool at 2 p.m. with good blow of air - water blanket to surface in 40 minutes - oil in 54 minutes - turned to tanks at 2:45 p.m. Flowed 163.93 bbls oil, .26 bbls mud and no water in 2 hours 6 minutes - drill pipe pressure 280# - gas volume 2,019,000 cubic feet per day - gas-oil ratio 1025 - gravity 43.2 corrected.

Gauges:

Time	Bbls. Fluid	% Mud
2:54 to 3 p.m.	Filling flow line and separator	
4 p.m.	94.91	.2
5 p.m.	69.28	.1

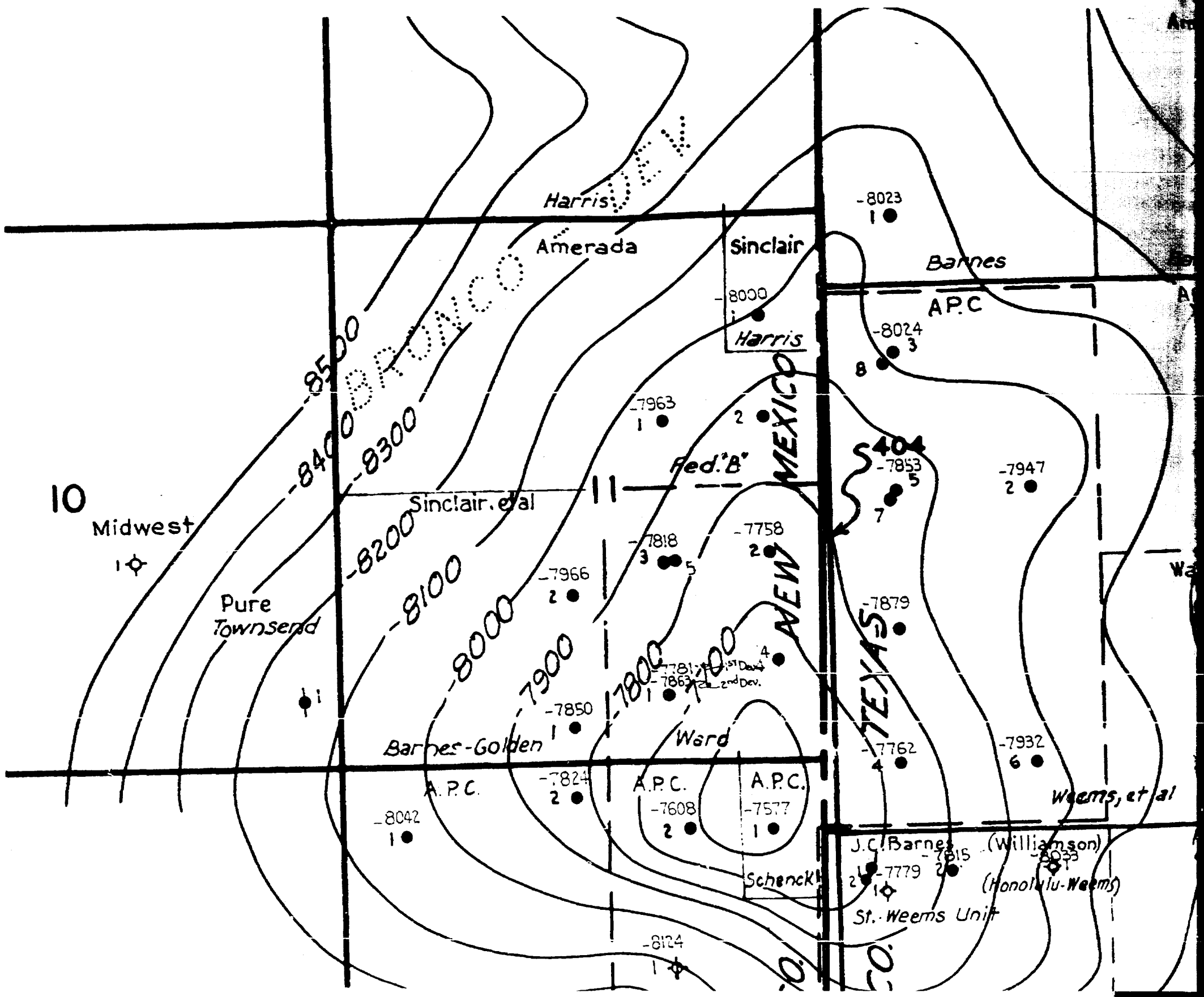
Closed tool at 5 p.m. and reversed out 55.42 bbls oil, 1.2% mud and no water - drill pipe unloaded from below circulating sub 279' oil, 2% mud - recovered 93' free oil, 5% mud - no show of formation water.

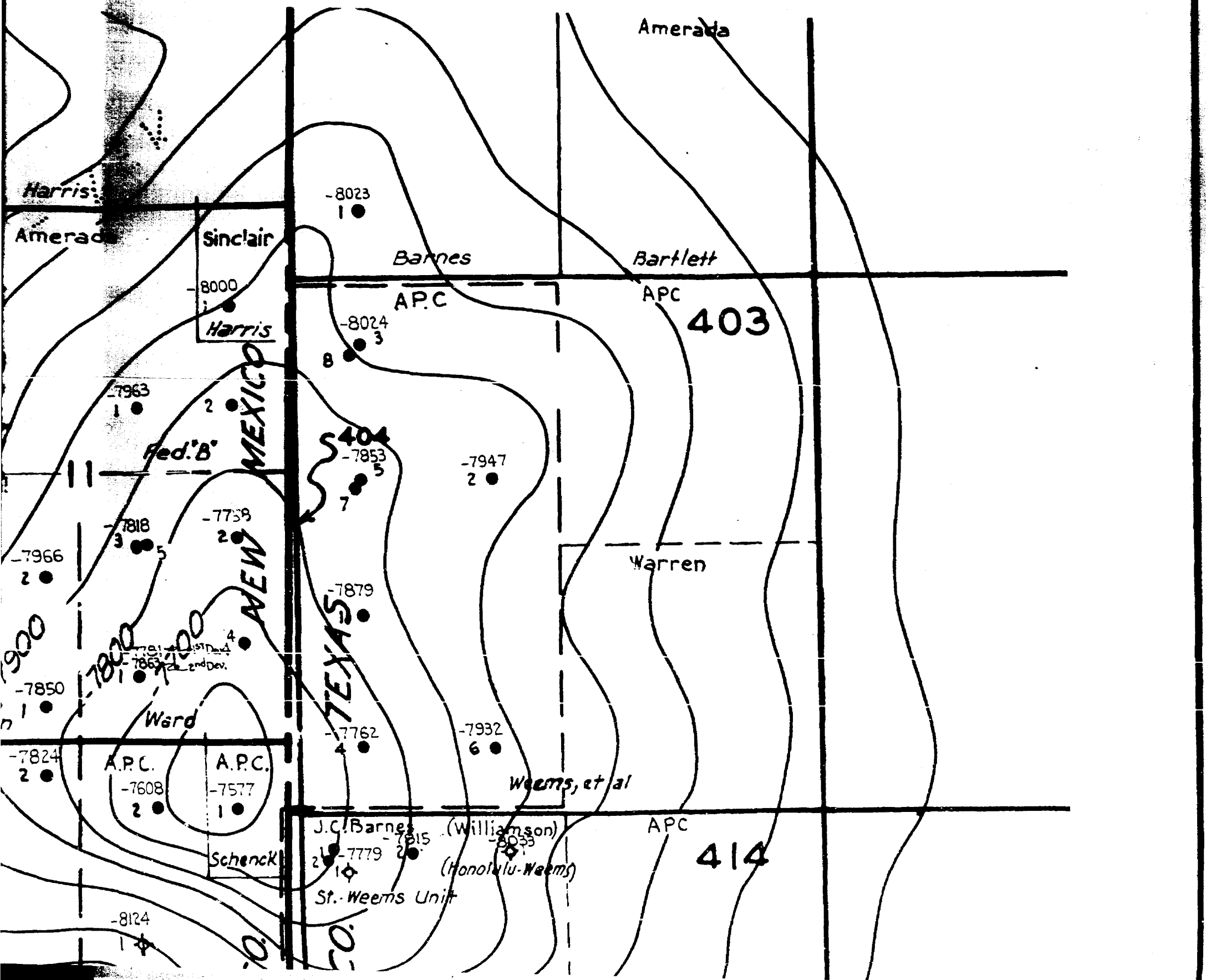
L. M. Hunt #2 (Cont'd)

Amerada Hydrostatic Pressure - In and out of hole - 5,200#
Initial Flow Pressure - 1,360#; Final Flow Pressure - 2,275#;
1/4 Hour Build-Up - 3,900#

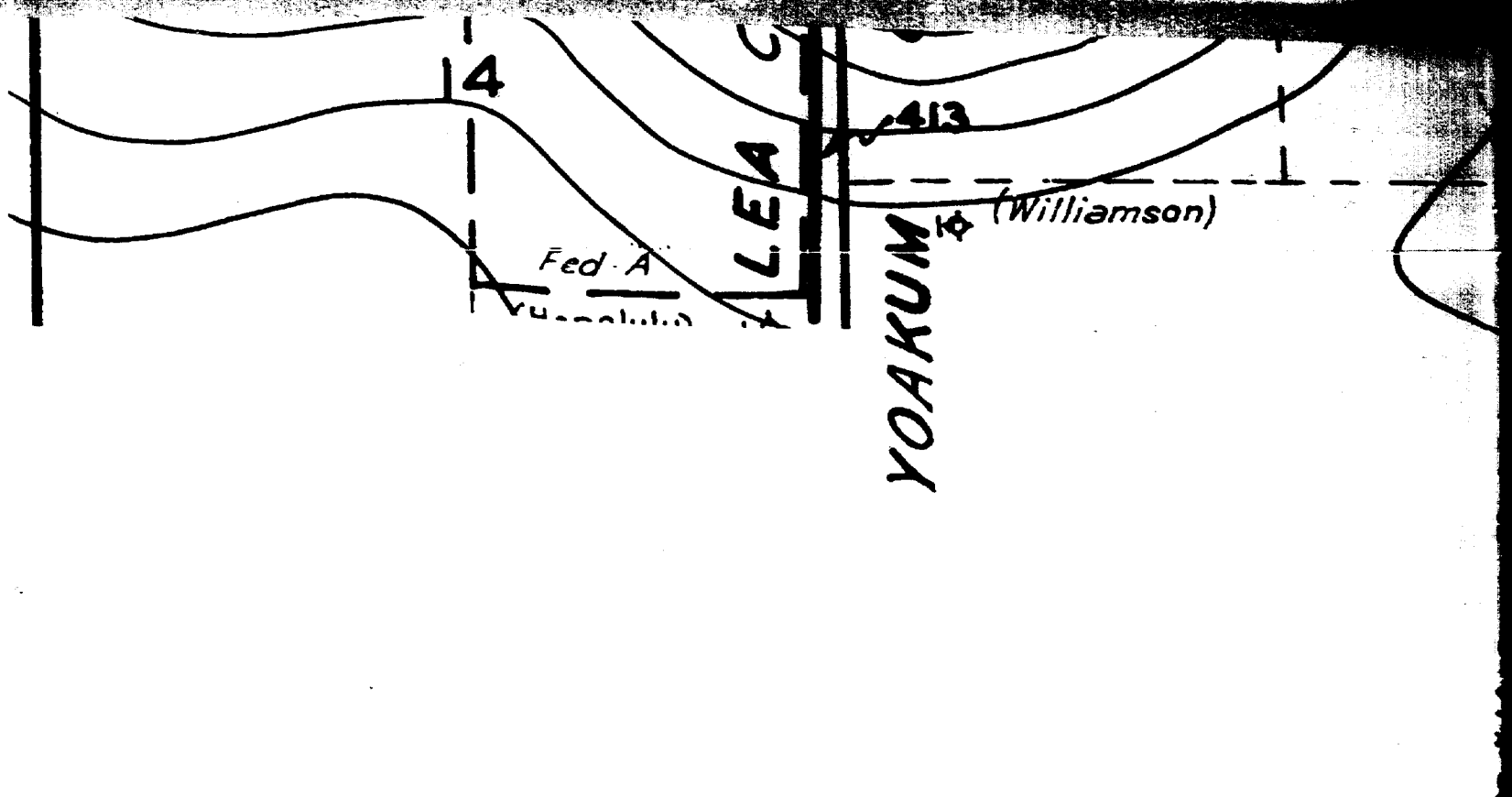
L. M. Hunt #3

2-21-54 DST #2 from 10,960' to 11,085', 4 hour test, 4-1/2" drill pipe, 5/8" bottom and 1" top chokes, used 1811' water blanket - opened tool at 9:06 a.m. with fair blow of air which increased to strong blow in 49 minutes - gas to surface in 2 hours and 29 minutes - gas volume too small to measure throughout test - no fluid to surface - recovered 1811' slightly oil and gas cut water blanket, estimated 1% oil and 92' heavy oil and gas cut mud, estimated top oil - no show of formation water. Amerada Hydrostatic - In hole 9975' - out of hole 9950#; Initial Flow Pressure - 880#; Final Flow Pressure - 1080#; 1/4 Hour Build-Up - 1550#.

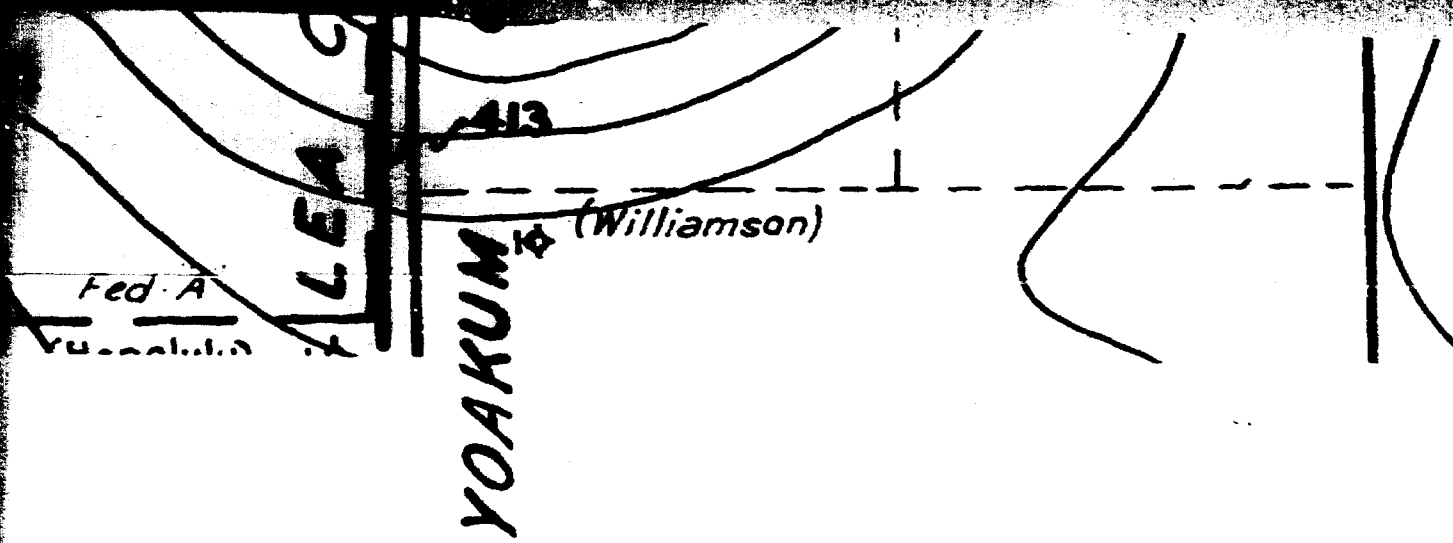

10
Midwest
Pure
Townsend
Harris
Amerada
Sinclair
Barnes
A.P.C
-8023
-8000
Harris
-8024
-8500
-8400
-8300
-8200
-8100
-8000
-7900
-7800
-7100
-7963
-7966
-7818
-7758
Red "B"
Sinclair, et al
MEXICO
404
-7853
-7947
-7879
-7781
-7863
-7850
Barnes-Golden
Ward
-7762
-7932
Weems, et al
A.P.C.
-7824
A.P.C.
-7608
A.P.C.
-7577
-8042
J.C. Barnes
-7779
(Williamson)
-7815
(Honolulu-Weems)
Schenck
St. Weems Unit
-8124
TEXAS


Amerada
Harris
Amerada
Sinclair
-8023
1
Barnes
Bartlett
APC
APC
403
-8000
Harris
-8024
3
8
-7963
1
2
Fed."B"
MEXICO
404
-7853
5
7
-7947
2
11
-7818
3
5
-7738
2
-7966
2
Warren
-7879
1
WEMS
TEXAS
4
-7850
1
Ward
-7762
4
-7932
6
-7824
2
A.P.C.
-7608
2
A.P.C.
-7577
1
Weems, et al
J.C. Barnes
-7779
2
1
-7815
2
(Williamson)
-8033
1
APC
414
Schenck
(Honolulu-Weems)
St.-Weems Unit
-8124
1

15



DEV & DATA



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 12
CASE NO. 1292

BRONCO FIELD

LEA COUNTY, NEW MEXICO

YOAKUM COUNTY, TEXAS

DATUM TOP OF DEVONIAN

CONTOUR INTERVAL 100 FT.

SCALE: 1 INCH = 1000 FEET

0 1/4 1/2 MILE

EX J

DEV. & DATA from GEOL. MAP 10-9-59

BEFOR[redacted] THE OIL CONSERVATION CO[redacted]MISSION
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. 539
Order No. R-328

THE APPLICATION OF THE OIL CONSERVATION COMMISSION OF NEW MEXICO UPON ITS OWN MOTION FOR AN ORDER FOR THE CREATION OF NEW POOLS, EXTENSION OF EXISTING POOLS, OR THE CHANGING OF PREVIOUSLY DESIGNATED POOL NAMES IN LEA AND CHAVES COUNTIES, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. May 19, 1953, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 10th day of June, 1953, the Commission, a quorum being present, having considered the testimony adduced and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

(1) That due notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That a new pool should be created in Lea County, New Mexico, classified as an oil pool for Devonian production, designated as the Anderson Ranch-Devonian Pool, and described as:

Township 16 South, Range 32 East, NMPM
SW/4 Section 1, S/2 Section 2,
All Section 11, W/2 Section 12,
W/2 of NW/4 Section 13, N/2 Section 14,

the establishment of said pool resulting from the discovery of Continental Oil Company's Anderson Ranch Unit No. 1 Well, SE/4 NE/4 Section 11, Township 16 South, Range 32 East, completed as a producer in the Devonian formation on March 26, 1953, with casing perforations 13,374-13,474 feet.

Ex K

(3) That a new pool should be created in Lea County, New Mexico, classified as an oil pool for Siluro-Devonian production, designated the Bronco-Siluro-Devonian Pool, and described as:

Township 13 South, Range 38 East, NMPM
All Sections 11 and 14,

the establishment of said pool resulting from the discovery of Amerada Petroleum Corporation's H. D. Schenck Well No. 1, Lot 1, Section 14, Township 13 South, Range 38 East, NMPM, completed as a producer from the Siluro-Devonian formation on April 4, 1953, with casing perforations 11,700-11,890 feet.

(4) That a new pool should be created in Chaves County, New Mexico, classified as an oil pool for Siluro-Devonian production, designated as the White Ranch-Siluro-Devonian Pool, and described as:

Township 11 South, Range 29 East, NMPM
All Sections 27, 28, 33 and 34,

the establishment of said pool resulting from the discovery of Republic Natural Gas Company's White Ranch No. 1 Well, SE/4 NW/4 Section 34, Township 11 South, Range 29 East, NMPM, completed as a producer from the Siluro-Devonian formation on April 6, 1953, with casing perforations 8719 - 8769 feet.

(5) That the West Dollarhide-Drinkard Pool boundary in Lea County, New Mexico, as heretofore classified, defined and described, should be extended to include therein:

Township 24 South, Range 38 East, NMPM
All Section 30

(6) That the West Dollarhide-Queen Pool boundary in Lea County, New Mexico, as heretofore classified, defined and described, should be extended to include therein:

Township 24 South, Range 38 East, NMPM
N/2 Section 32

(7) That the East Lovington-Pennsylvanian Pool boundary in Lea County, New Mexico, as heretofore classified, defined and described, should be extended to include therein:

Township 16 South, Range 37 East, NMPM
All Section 19

(8) That the Moore-Devonian Pool boundary in Lea County, New Mexico, as heretofore classified, defined and described, should be extended to include therein:

Township 11 South, Range 32 East, NMPM
S/2 Section 14

(9) That the Saunders Pool boundary in Lea County, New Mexico, as heretofore classified, defined and described, should be extended to include therein:

Township 15 South, Range 33 East, NMPM
SW/4 Section 4

(10) That the names of the following pools as heretofore classified, defined and described should be changed as follows:

West Dollarhide to Dollarhide-Ellenburger;
West Dollarhide-Devonian to Dollarhide-Devonian;
West Dollarhide-Drinkard to Dollarhide-Drinkard;
West Dollarhide-Fusselman to Dollarhide-Fusselman;
West Dollarhide-Queen to Dollarhide-Queen.

IT IS THEREFORE ORDERED:

That the application of the Oil Conservation Commission be, and the same hereby is approved as follows:

(1) That a new pool be, and the same hereby is created, designated for oil production, denominated the Anderson Ranch-Devonian Pool, Lea County, New Mexico, and described as follows:

Township 16 South, Range 32 East, NMPM
SW/4 Section 1, S/2 Section 2,
all Section 11, W/2 Section 12,
W/2 of NW/4 Section 13, N/2 Section 14

(2) That a new pool be, and the same hereby is created, designated for oil production, denominated the Bronco-Siluro-Devonian Pool, Lea County, New Mexico, and described as follows:

Township 13 South, Range 38 East, NMPM
All Sections 11 and 14

(3) That a new pool be, and the same hereby is created, designated for oil production, denominated the White Ranch-Siluro Devonian Pool, Chaves County, New Mexico, and described as follows:

Township 11 South, Range 29 East, NMPM
All Sections 27, 28, 33 and 34

(4) That the boundaries of the West Dollarhide-Drinkard Pool, Lea County, New Mexico, be and the same hereby are extended to include:

Township 24 South, Range 38 East, NMPM
All Section 30

(5) That the boundaries of the West Dollarhide-Queen Pool, Lea County, New Mexico, be and the same hereby are extended to include:

Township 24 South, Range 38 East, NMPM
N/2 Section 32

(6) That the boundaries of the East Lovington-Pennsylvanian Pool, Lea County, New Mexico, be and the same hereby are extended to include:

Township 16 South, Range 37 East, NMPM
All Section 19

(7) That the boundaries of the Moore-Devonian Pool, Lea County, New Mexico, be and the same hereby are extended to include:

Township 11 South, Range 32 East, NMPM
S/2 Section 14

(8) That the boundaries of the Saunders Pool, Lea County, New Mexico, be and the same hereby are extended to include:

Township 15 South, Range 33 East, NMPM
SW/4 Section 4

(9) That the names of previously described and designated pools be changed as follows:

West Dollarhide to Dollarhide-Elleburger;
West Dollarhide-Devonian to Dollarhide-Devonian;
West Dollarhide-Drinkard to Dollarhide-Drinkard;
West Dollarhide-Fusselman to Dollarhide-Fusselman;
West Dollarhide-Queen to Dollarhide-Queen.

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

R. R. SPURRIER, Secretary

S E A L

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. 1693
Order No. R-1453

APPLICATION OF AMERADA PETROLEUM CORPORATION FOR THREE 43.69-ACRE NON-STANDARD OIL PRORATION UNITS IN AN UNDESIGNATED MISSISSIPPIAN POOL, LEA COUNTY, NEW MEXICO, AND FOR ONE UNORTHODOX OIL WELL LOCATION

Bronco

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 8:00 o'clock a.m. on June 24, 1959, 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 31st day of July, 1959, 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, is the owner and operator of the SE/4 of Section 11, Township 13 South, Range 38 East, NMPM, Lea County, New Mexico, which quarter section contains 131.07 acres.

(3) That the applicant proposes to divide the SE/4 of said Section 11 into three 43.69-acre non-standard oil proration units in an undesignated Mississippian pool, the first of which would comprise the easternmost 43.69 acres of the SE/4 of said Section 11, with the other two units comprising the north 43.69 acres of the remaining acreage in the SE/4 of Section 11 and the south 43.69 acres of the remaining acreage in the SE/4 of said Section 11, respectively.

Ex 6

(4) That the applicant proposes to dedicate the first of the above-described non-standard oil proration units to a well to be drilled at an unorthodox location 1983 feet from the South line and 520 feet from the East line of said Section 11; further, that the applicant proposes to dedicate the two remaining non-standard oil proration units to wells to be located 1982 feet from the South line and 1515 feet from the East line of said Section 11 and 660 feet from the South line and 1479 feet from the East line of said Section 11, respectively.

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

IT IS THEREFORE ORDERED:

(1) That three 43.69-acre non-standard oil proration units in an undesignated Mississippian pool be and the same are hereby established in the SE/4 of Section 11, Township 13 South, Range 38 East, NMPM, Lea County, New Mexico; the first such non-standard oil proration unit shall comprise the easternmost 43.69 acres of the SE/4 of said Section 11 and shall be dedicated to a well which is hereby authorized to be drilled at an unorthodox location 1983 feet from the South line and 520 feet from the East line of said Section 11; the second such non-standard oil proration unit shall comprise the N/2 of the remaining acreage in the SE/4 of said Section 11 and shall be dedicated to a well to be drilled 1982 feet from the South line and 1515 feet from the East line of said Section 11; the third such non-standard oil proration unit shall comprise the S/2 of the remaining acreage in the SE/4 of said Section 11 and shall be dedicated to a well to be drilled 660 feet from the South line and 1479 feet from the East line of said Section 11.

(2) That the allowable assigned to each of the above-described 43.69-acre non-standard oil proration units shall bear the same ratio to a standard allowable in the same common source of supply as the acreage in each of said units bears to the acreage in a standard unit in the same common source of supply.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

S E A L

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

vem/

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

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARINGS HELD JOINTLY BY THE NEW MEXICO OIL CONSERVATION COMMISSION OF TEXAS FOR THE PURPOSE OF CONSIDERING:

CASE NO. 880
Order No. R-649

THE APPLICATION OF AMERADA PETROLEUM CORPORATION FOR AN ORDER ESTABLISHING SPECIAL POOL RULES FOR THE BRONCO-WOLFCAMP OIL POOL, LEA COUNTY, NEW MEXICO, EMBRACING LANDS WITHIN THE STATES OF TEXAS AND NEW MEXICO, AND FOR THE ESTABLISHMENT OF EQUITABLE WITHDRAWALS THEREFROM.

ORDER OF THE COMMISSION

BY THE COMMISSION:

WHEREAS, After due notice, the Railroad Commission of Texas and the New Mexico Oil Conservation Commission held a joint hearing in Austin, Texas, on April 13, 1955, to consider the adoption of rules and regulations to govern the drilling, completion and operation of wells in the Bronco-Wolfcamp Pool, Lea County, New Mexico, and Yoakum County, Texas; and

WHEREAS, After due notice, the New Mexico Oil Conservation Commission held a hearing in Santa Fe, New Mexico, on April 20, 1955, to consider the adoption of rules and regulations to govern the drilling, completion and operation of wells in the Bronco-Wolfcamp Pool of Lea County, New Mexico and Yoakum County, Texas,

NOW, on this 20 th day of June, 1955, the New Mexico Oil Conservation Commission, a quorum being present, having considered the record and testimony adduced, and being fully advised in the premises,

FINDS:

(1) That due notice of the time and place of hearing and the purpose thereof having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the adoption of the rules and regulations hereinafter set forth is necessary to prevent waste and to provide for more orderly development and operation of said pool.

Ex M

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IT IS THEREFORE ORDERED:

That the following rules, in addition to such of the general rules of the Commission as are not in conflict herewith, be, and the same are hereby adopted to govern the drilling, completion and operation of wells in the Bronco-Wolfcamp Pool, Lea County, New Mexico.

RULE 1: The surface casing shall consist of new or reconditioned pipe with an original mill test of not less than one thousand (1,000) pounds per square inch, and shall be set and cemented below the top of the red beds; provided, however, that not less than three hundred (300) feet of surface string shall be set. Cementing shall be done by the pump and plug method, and sufficient cement shall be used to fill the annular space back of the pipe to the surface of the ground or the bottom of the cellar. Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug. The casing shall be tested by pump pressure of at least five hundred (500) pounds per square inch applied at the wellhead. If at the end of thirty (30) minutes the pressure shows a drop of one hundred and fifty (150) pounds per square inch, or more, the casing shall be condemned. After corrective operations, the casing shall again be tested in the same manner.

RULE 2: The acreage assigned the individual oil well for the purpose of allocating allowable oil production thereto shall be known as a proration unit. No proration unit shall contain more than forty (40) acres except as hereinafter provided, and the two points farthermost removed one from the other and contained within any proration unit shall not be in excess of twenty-one hundred (2100) feet apart; provided, however, that in the case of long and narrow leases or in cases where because of the shape of the lease such is necessary to permit the utilization of tolerance acreage the Commission may, after proper showing, grant exceptions to the limitation as to the shape of the proration units as herein contained. All proration units, however, shall consist of acreage which can reasonably be considered to be productive of oil.

If after the drilling of the last well on any lease and the assignment of acreage to each well thereon, in accordance with the regulations of the Commission, there remains an additional unassigned lease acreage of less than forty (40) acres, then and in such event, the remaining unassigned lease acreage up to and including a total of twenty (20) acres may be assigned to the last well drilled on such lease or may be distributed between any group of wells located thereon, so long as the proration unit or units resulting from the inclusion of such additional acreage meet the limitations prescribed by the Commission.

Operators shall file certified plats of their properties in the field, which plats shall show all of those things pertinent to the determination of the acreage claimed for each well hereunder.

RULE 3: The production allowable for oil wells in said pool within the State of New Mexico shall be, and the same hereby is fixed at 125 barrels of oil per day beginning at 7 o'clock a. m., on July 1, 1955, and continuing until further order of the Commission.

RULE 4: The permitted gas-oil ratio for all wells shall be two thousand (2,000) cubic feet of gas per barrel of oil produced. Any oil well producing with a gas-oil ratio in excess of two thousand (2,000) cubic feet of gas per barrel of oil shall be allowed to produce daily only that volume of gas obtained by multiplying the daily oil allowable of such well as determined by the applicable rules of the Commission by two thousand (2,000) cubic feet. The gas volume thus obtained shall be known as the daily gas limit of such well. The daily oil allowable therefore shall then be determined and assigned by dividing the daily gas limit by its producing gas-oil ratio.

RULE 5: Gas-oil ratio tests shall be conducted annually on all wells during the months of April and May, the results thereof to be reported to the Commission on Form C-116 on or before the fifteenth (15th) day of June of each calendar year. Such tests shall be made in accordance with the provisions of Commission Rule 301.

RULE 6: The datum reservoir pressure of all flowing wells in the field shall be determined annually and the testing period shall be during the months of October and November, the results thereof to be reported to the Commission on or before the fifteenth (15th) of December of each year. All pressure determinations shall be reported at a datum of fifty-eight hundred (5800) feet below sea level. Prior to testing, all wells shall be shut-in for a period of not less than forty-eight (48) hours or more than seventy-two (72) hours. All offset operators shall be notified at least forty-eight (48) hours before such test is made on any well, and any operator in the field shall have the privilege of witnessing such pressure determinations. Said pressures shall be taken on all flowing wells with subsurface pressure gauge or other method of equal accuracy and may be taken on pumping wells with sonic devices or other method of equal accuracy.

DONE at Santa Fe, New Mexico on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN F. SIMMS, Chairman

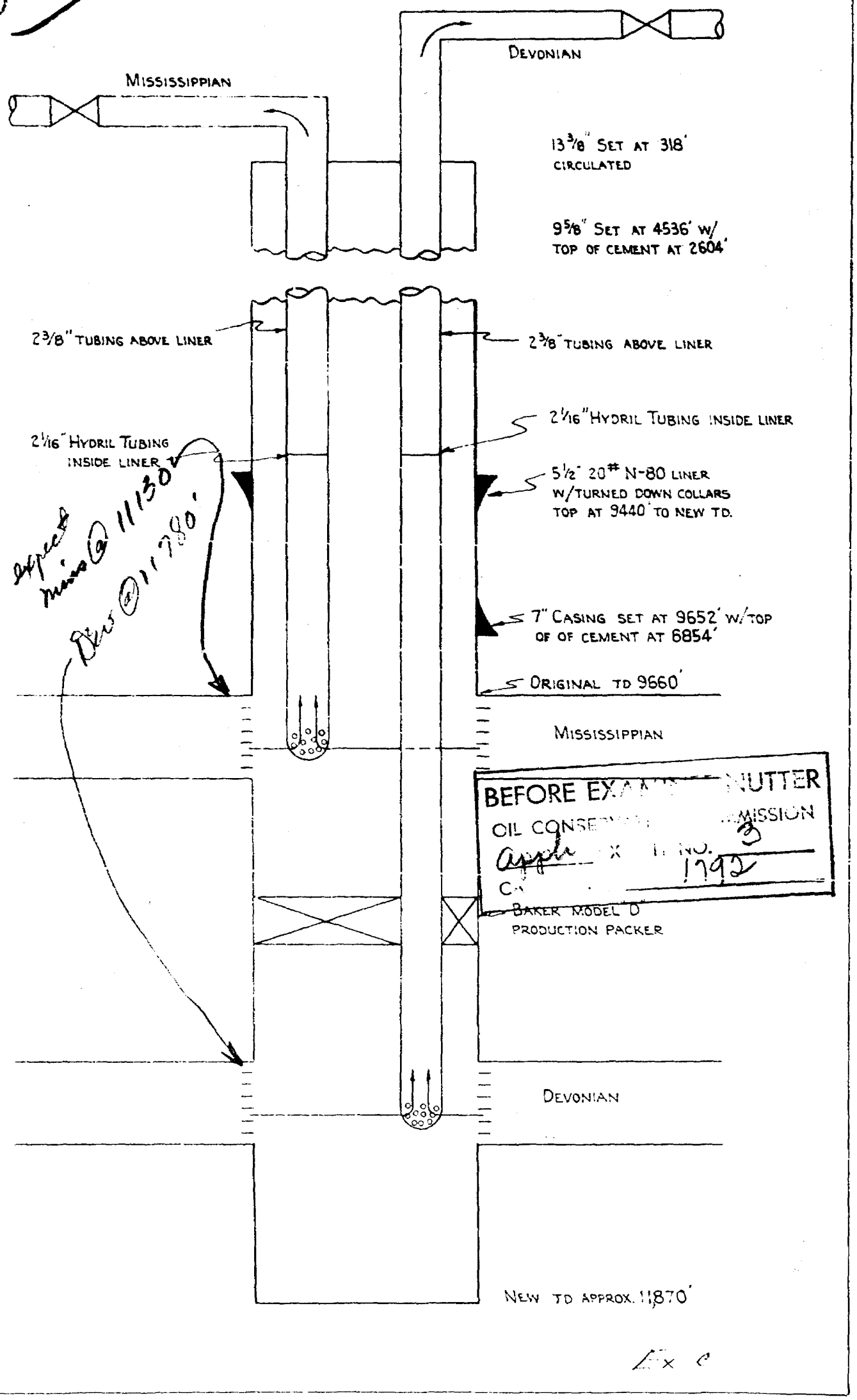
E. S. WALKER, Member

W. B. MACEY, Member and Secretary

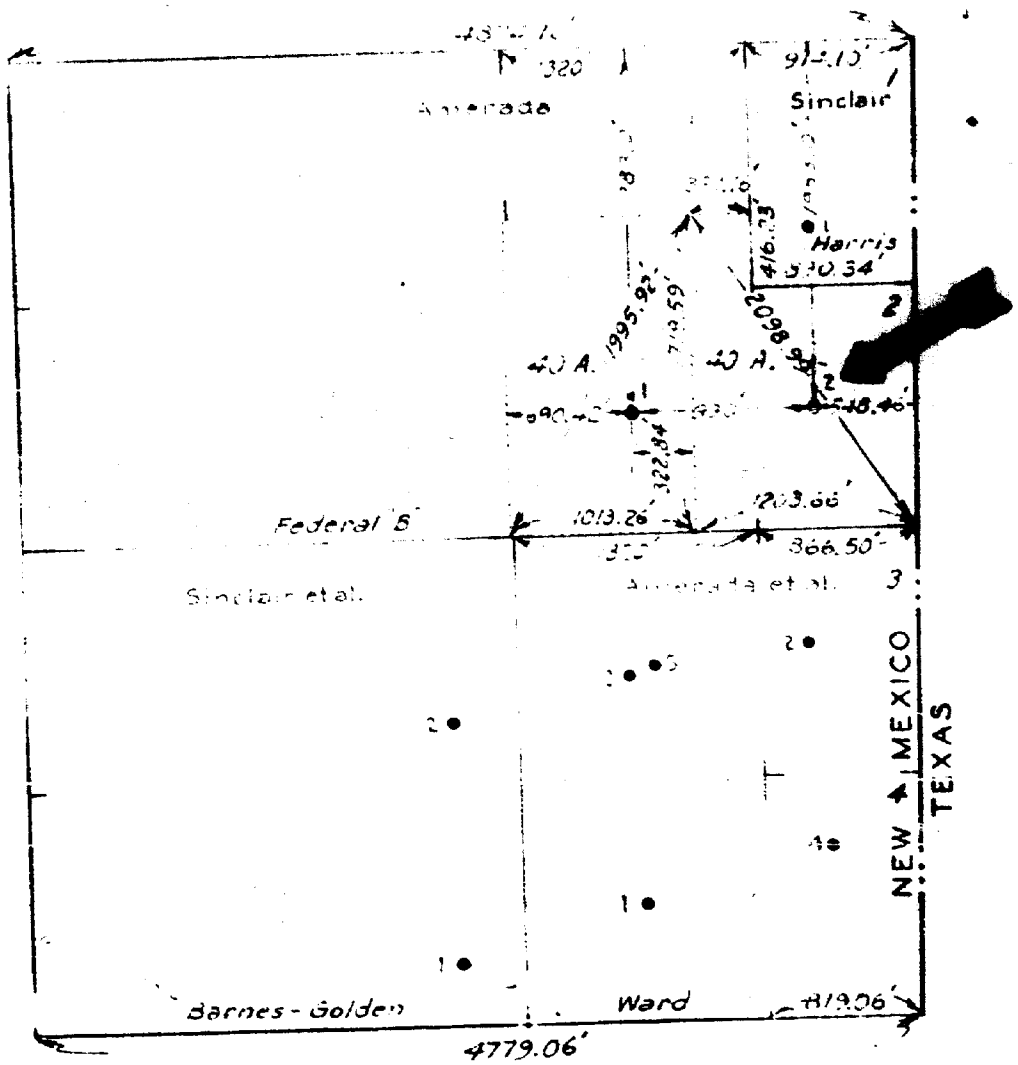
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DIAGRAMMATIC SKETCH
PROPOSED DUAL COMPLETION INSTALLATION
COMPANY: AMERADA PETROLEUM CORPORATION
LEASE: FEDERAL "B" NO. 2
BRONCO FIELD
LEA COUNTY, NEW MEXICO



BEFORE EX[illegible]NUTTER
OIL CONSE[illegible]MISSION
Appli[illegible] X [illegible]. NO. 3
C[illegible] 1792



Sec. 11, T. 13 S., R. 35 E., New Mexico

FEDERAL "B" LEASE
BRONCO FIELD
LEA CO. NEW MEXICO

SCALE 1" : 1000'

Ex A

R 38 E

NEW MEXICO

TEXAS

Texas Co.

Proposed location NW/4 NE/4

Devonian

Amerada

Sinclair

Barnes

Harris

Amerada

U.S.A.

Federal "B"

Sinclair

Amerada

Well with by R.O. 1887

T 13 S

43.69 Ac.

43.69 Ac.

43.69 Ac.

Weems

Amerada

Barnes & Golden

L. W. Ward

Amerada

Amerada

Amerada

Weems

Linam

Schenck

LEGEND

- WOLFCAMP WELL
- MISSISSIPPIAN WELL
- DEVONIAN WELL
- DUAL MISSISSIPPIAN-DEVONIAN

14

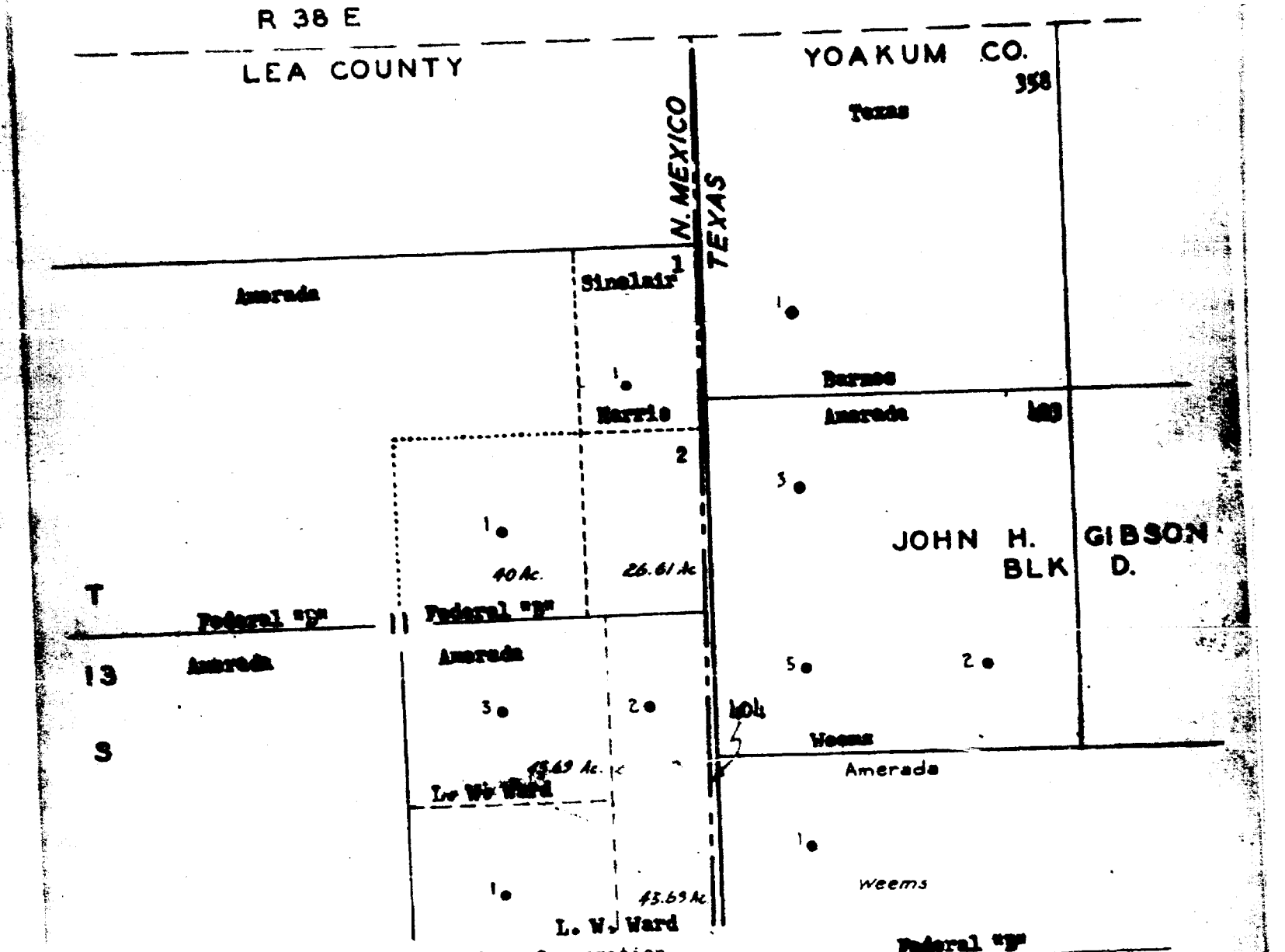
Federal "A"

BRONCO FIELD

YOAKUM CO., TEXAS – LEA CO., NEW MEXICO

SCALE: 1 INCH = 1000 FEET

Ex B



OPERATOR OF LEASE Amerada Petroleum Corporation NAME OF LEASE Federal "gr"

TOTAL ACRES IN LEASE 266.61 ACRES COVERED BY THIS PLAT 66.61

DESCRIPTION OF PROPERTY All of W/2 of Sec. 11, Less Lot 1, 27.32 Ac.

COUNTY Lea-Yoakum FIELD Bronco-Siluro-Devonian Pool

SCALE OF PLAT 1" = 1000'

STATE OF _____

COUNTY OF _____

I HEREBY CERTIFY THAT I AM FAMILIAR WITH THE CONDITIONS AS THEY ACTUALLY EXIST ON THIS LEASE THAT THE ABOVE PLAT WHICH IS DRAWN TO THE SCALE INDICATED HEREON IS TO THE BEST OF MY KNOWLEDGE TRUE AND CORRECT: THAT IT ACCURATELY REFLECTS SAID LEASE WITH ALL WELLS THEREON AND THAT THE NUMBER AND LOCATION OF WELLS THEREON ARE AS INDICATED ON THE PLAT

_____

SUBSCRIBED AND SWORN TO BEFORE ME THIS _____ DAY OF _____ 195__

_____

NOTARY PUBLIC IN AND FOR

_____ COUNTY

AMERADA P-288

Ex G



L. R. [illegible]

6-3-53 Test #5 from 11,135' to 11,226', 4" drill pipe, 5/8" bottom and 1" top chokes, used 2000' water blanket - Opened tool at 5:00 a.m. with weak blow of air increasing to strong blow - Gas to surface in 1 hour and 27 minutes, Gas volume 13,500 cubic feet per day. Gas volume at: 7 a.m. - 13,500 cubic feet per day
8 a.m. - 20,300 cubic feet per day
9 a.m. - 32,900 cubic feet per day
Closed tool at 9 a.m. - Recovered 595' water blanket cut with 5% mud; 5170' dry pipe - Unloaded 1518' water blanket; 2309' of oil cut 25% mud; 367' free oil, gravity 40.2 corrected and 882' salt water. Amerada Hydrostatic Pressure - In hole - 5,360# - Out of hole - 5,295#. Initial Flow Pressure - 965# - Final Flow Pressure 1,925# - 1/4 Hour Build-up - 3,775#

Federal "B" #1

11-28-53 DST #6 - 9 hours drill-stem test from 11,088' to 11,209', 4-1/2" drill pipe, using 2000' water blanket, opened tool at 4:40 a.m. on 5/8" bottom and 1" top chokes with fair blow of air increased to good blow - no gas or fluid to surface at 8 a.m. - Tool still open. 4-hour test, 4-1/2" drill pipe - closed tool at 8:40 a.m. No gas or fluid to surface - recovered 306' of dry pipe, 7460' of gas in drill pipe, 2068' of gas and mud cut water blanket, and 1221' of heavy oil and gas cut mud, estimated 25% oil. Amerada Hydrostatic Pressure - In hole 4980#; Out of hole 4830#. Initial Flow Pressure - 970# - Final Flow Pressure 1330# - 1/4 Hour Build-Up 1600#.

L. W. Ward #2

9-5-53 DST #4 from 10,870' to 11,044' - 3 hour test - 4-1/2" drill pipe - 5/8" bottom and 1" top chokes - used 1860' water blanket - opened tool at 2 p.m. with good blow of air - water blanket to surface in 40 minutes - oil in 54 minutes - turned to tanks at 2:45 p.m. Flowed 163.93 bbls oil, .26 bbls mud and no water in 2 hours 6 minutes - drill pipe pressure 280# - gas volume 2,019,000 cubic feet per day - gas-oil ratio 1025 - gravity 43.2 corrected.

Gauges:

Time	Bbls. Fluid	% Mud
2:54 to 3 p.m.	Filling flow line and separator	
4 p.m.	94.91	.2
5 p.m.	69.28	.1

Closed tool at 5 p.m. and reversed out 55.42 bbls oil, 1.2% mud and no water - drill pipe unloaded from below circulating sub 279' oil, 2% mud - recovered 93' free oil, 5% mud - no show of formation water.

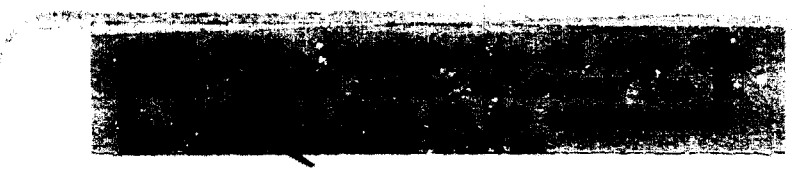
Ex I

L. W. Ward #2 (Cont'd)

Amerada Hydrostatic Pressure - In and out of hole - 5,000#
Initial Flow Pressure - 1,360#; Final Flow Pressure - 2,875#;
1/4 Hour Build-Up - 3,900#

L. W. Ward #3

2-21-54 DST #2 from 10,960' to 11,085', 4 hour test, 4-1/2" drill pipe, 5/8" bottom and 1" top chokes, used 1811' water blanket - opened tool at 9:06 a.m. with fair blow of air which increased to strong blow in 49 minutes - gas to surface in 2 hours and 29 minutes - gas volume too small to measure throughout test - no fluid to surface - recovered 1811' slightly oil and gas cut water blanket, estimated 1% oil and 527' heavy oil and gas cut mud, estimated 50% oil - no show of formation water. Amerada Hydrostatic - In hole 5075' - out of hole 5050#; Initial Flow Pressure - 880#; Final Flow Pressure - 1080#; 1/4 Hour Build-Up - 1555#.



Case No.

193

Application, Transcript,
Small Exhibits, Etc.

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. 1793
Order No. R-1523

APPLICATION OF ARGO OIL CORPO-
RATION FOR AN ORDER PERMITTING
ONE OVER-PRODUCED GAS WELL IN
THE JALMAT GAS POOL, LEA COUNTY,
NEW MEXICO, TO COMPENSATE FOR
SUCH OVER-PRODUCTION AT A LESSER
RATE THAN COMPLETE SHUT-IN IN
EXCEPTION TO ORDER NOS. R-520
AND R-967

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 28, 1959, 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 12th day of November, 1959, 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 B. T. Lanehart Well No. 1, located in Unit H, Section 21, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, is more than six times over-produced and is therefore subject to complete shut-in under the provisions of Order Nos. R-520 and R-967.

(3) That due to severe liquid problems, the applicant seeks an order permitting the over-production to be made up at a lesser rate than complete shut-in in order to preclude permanent injury to the subject well.

(4) That the applicant should be permitted to produce the subject well at a monthly rate equal to fifty percent of the well's current monthly allowable or at a monthly rate equal to fifty percent of the well's average monthly allowable for the preceding six-month proration period, whichever is greater.

(5) That the curtailed rate of production to compensate for over-production as hereinabove prescribed should be adequate to prevent permanent injury to the well or producing formation.

(6) That an administrative procedure should be established whereby the Secretary-Director of the Commission may authorize the operator to compensate for over-production at a lesser rate than that provided in this order upon a satisfactory showing that the rate prescribed herein would result in permanent damage to the well and/or producing formation.

IT IS THEREFORE ORDERED:

(1) That the operator be and the same is hereby authorized to compensate for the over-production of the E. T. Lanehart Well No. 1, a Jalmat gas well located in Unit H, Section 21, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, by producing it at a monthly rate equal to fifty percent of the well's current monthly allowable or at a monthly rate equal to fifty percent of the well's average monthly allowable for the preceding six-month proration period, whichever is greater.

PROVIDED HOWEVER, That an administrative procedure be and the same is hereby established wherein the Secretary-Director is authorized to set the percentage of curtailment at a lesser rate than that herein prescribed upon a satisfactory showing by the operator that the rate for compensating for over-production as set forth in this order, would result in permanent damage to the well and/or producing formation.

(2) That the effective date of this order is November 1, 1959.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

ver/

ARGO OIL CORPORATION
(A DELAWARE CORPORATION)
[illegible] BUILDING
SAN ANTONIO 5, TEXAS

GENERAL OFFICES
1700 BROADWAY
DENVER 2, COLORADO

Oct. 25

September 23, 1959

Case 1793

NM-1115
Argo Oil Corporation
B. T. Lanehart Well No. 1
Jalmat Field
Lea County, New Mexico

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

Dear Mr. Porter:

Argo Oil Corporation's No. 1 B. T. Lanehart (Unit R, Section 21, T-25-S, R-37-E) is currently over-produced six times its current allowable. This over-production was caused by the changing of the well from Marginal Status to a Non-Marginal Status effective July 1, 1958 by Supplement No. SF-544 dated May 26, 1959.

Argo Oil Corporation hereby requests an exception to the over-production shut-in provision of Order R-520, as amended by Order R-967, in order that this well might be produced at a decreased rate to make up its over-production without being shut-in in order to prevent waste and permanent damage to the well. Order R-520, as amended by Order R-967, states in part:

> "The Commission may allow overproduction to be made up at a lesser rate than would be the case if the well were completely shut-in upon a showing at public hearing after due notice that complete shut-in of the well would result in material damage to the well."

The request for this exception was delayed as Argo has an additional 80 acres which adjoins this well that has been tied up in legal proceedings. This acreage has now been released and we are now making application to include it in the B. T. Lanehart Unit which will increase our allowable and more rapidly reduce our over-production.

Very truly yours,

Chas. W. Johnson

CDH:rj

cc: R. R. Ullstrom/Denver
R. O. Price/Midland

El Paso Natural Gas Company
P. O. Box 1384
Jal, New Mexico

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Argo Oil Corporation, for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its B. T. Lanehart Well No. 1, Unit H, Section 21, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

Case 1793

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. PAYNE: Application of Argo Oil Corporation, for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool.

MR. CAMPBELL: Jack M. Campbell, Campbell and Russell, Roswell, New Mexico, appearing on behalf of the applicant, and have associated with me, Mr. Bryce Parker, attorney for Argo Oil Corporation, San Antonio, Texas.

If the Examiner please, this application involves the same well as was involved in Case 1794. I will assume that the Commission will take administrative notice insofar as it is appropriate

and necessary, of the testimony offered by this witness in Case 1794 insofar as it relates to this particular application to avoid some duplication.

MR. NUTTER: The Commission will do that.

(Witness sworn.)

HARRY C. WINSLOW

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

DIRECT EXAMINATION

BY MR. CAMPBELL:

Q Mr. Winslow, are you acquainted with the application of Argo Oil Corporation in Case No. 1793 relating to an exception for the overproduction shut-in provisions of the Jalmat Gas Pool proration orders?

A Yes, sir, I am.

Q You have, in your prior testimony, related to Case No. 1794, stated that there was some reworking effort on this well. I wonder if you would, for the record in this particular application, again state when that took place and what was done.

A Argo Oil Corporation reworked their B. T. Lanehart No. 1 well in September of 1958, and we reentered the well and ran a string of tubing and we did not treat the formation in any manner.

(Marked Applicant's Exhibits Nos. 1 & 2, for identification.)

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PHONE CH 3-6691

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PHONE CH 3-6691

Q I hand you what has been identified as Argo's Exhibit No. 1 in this case and ask you to state what that is, please.

A Exhibit No. 1 is the back pressure test, deliverability test, conducted on the well in March, 1958, and this shows a calculated deliverability of 15.71 MCF per day.

Q I now hand you what has been identified as Argo's Exhibit No. 2 in this case and ask you to state what that is.

A Exhibit No. 2 is the deliverability test run in March, 1959 after Argo had reentered the Lanehart well, and this exhibit shows a calculated deliverability of 446.7 MCF per day.

Q Were those deliverability tests taken on essentially the same basis, or do you know?

A No, sir, they were not. The first was the deliverability calculated against a back pressure of 198.56 pounds per square inch absolute. The second test was the deliverability calculated against a deliverability pressure at 356.2 pounds per square inch absolute. So in reality, the ratio of improvement is greater than that that is shown by the two deliverabilities on the same basis. The deliverability of the tests run in March of this year would be greater than this 446.7 MCF per day.

Q Was there anything done to the well between the time you installed the tubing in September, 1958 and the time of the taking of the March, 1959 deliverability test?

A Nothing was done mechanically. Actually we had handled

the water that was being produced in a better fashion.

Q Essentially the installation of the tubing alone resulted in at least a 30-fold increase in deliverability in that particular well during that particular time, is that correct?

A Yes, sir, that is correct.

Q What was the reason you installed the tubing?

A My reason for that was the low deliverability with which we were faced at that time.

Q What effect did the presence of fluids in the well have upon that situation?

A Well, they accumulate in the well bore and they exert a back pressure upon the formation and prevent the free flow of gas.

Q Does that situation still exist in regard to your well?

A We are still making water, yes, but the velocity of flow through a string of tubing is so much greater than through the casing that we can more readily keep the well bore cleared of fluid.

Q Do you believe that if the well were completely shut-in that it would result in an accumulation of liquids that might ultimately result in waste?

A Yes, sir, I do. I believe that permanent damage would result and that waste would occur.

Q Do you think that same thing might occur to perhaps a lesser extent on a very low rate of production?

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PHONE CH 3-6691

A I believe that if an exceedingly low rate of production were in force that damage would occur under those circumstances.

Q You are seeking here some method of adjusting your overproduction other than a complete shut-in of the well or cutting it back to a very low rate of production, is that right?

A Yes, sir, that is correct.

Q Do you have any estimates as to what rate of production you feel would be required to prevent the waste that you referred to? Do you have any way of establishing that?

A I think that in all probability any rate of production less than that at which we were producing when this overproduction occurred will show less desirable producing characteristics for this well, and it is difficult to say what rate must be maintained. The only basis we have is the rate of production since having reentered the well and run tubing it was sufficient to keep the well producing on a satisfactory manner.

Going to the other extreme, what rate less than that would be such that harm would not occur, I think that is something that can not be calculated, it would be an observation matter.

Q It would be essentially a matter of degree as to how far it could be cut back or should be cut back to make up the overproduction over a reasonable period of time?

A Yes, sir.

Q Some of the overproduction was accumulated between the

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time you did the rework and increased your deliverability and deliverability test was taken and credit for your deliverability?

A Yes, sir, approximately seven months elapsed there between the time the work was reworked and the March deliverability test was run.

Q Approximately how much is this well overproduced at this time?

A As of July 1st it was overproduced 140,466 MCF.

MR. NUTTER: How much was that?

A 140,466 MCF.

Q That is based on a calculation on the deliverability in March, 1959, is it?

A No, sir. That was using the deliverability factor established in March, 1958 of approximately 15 MCF per day. That also was based upon acreage factor of 80 acres.

Q If the deliverability factor of March, 1959 were used and the additional 80 acres added to this unit, of course the length of time required to make up the overproduction would be reduced, would it not?

A Yes, sir, it would be.

MR. CAMPBELL: I believe that's all I have.

MR. NUTTER: Does anyone have any questions of Mr. Winslow?

MR. PAYNE: Yes, sir.

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PHONE CH 3-6691

MR. NUTTER: Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Winslow, how much fluid is this well making at present?

A Mr. Payne, we have never gauged that. The Lanehart well now is produced by El Paso Natural Gas Company, for a number of years it was necessary that Argo send a man out from their Midland office periodically to vent the well to atmosphere to blow the water out, but approximately five years ago El Paso informed us that they would perform that service for us. At that time that that was done no measure was made, it was simply blown to the atmosphere.

Q Now, when you attribute the additional 80 acres to this well, how much will that increase the allowable for the well, assuming that the allowable remains constant?

A Well, sir, following the formula, as I understand it, the acreage factor is 25% of the allowable as based upon the acreage factor, so I haven't put a pencil to it, Mr. Payne. I would guess about 12½% or some magnitude of that nature, based upon the acreage factor alone, and then of course, as I understand too, at their 75% is based upon the product of acreage and deliverability, so it would be reflected there also. I don't think it would constitute doubling the current allowable. I think

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it would be something less than that.

Q Do you feel that if this well was allowed to produce 50% of its current allowable, and by current allowable now I'm speaking of the allowable that will be assigned on the basis of 160-acre units and the 1959 deliverability, do you feel that producing at 50% of that rate will prevent the loss of this well, permanent damage to the well?

A That would probably, Mr. Payne, result in an allowable comparable to that currently assigned for the month of October of this year which is based upon 80 acres, and deliverability of 447 MCF per day, 50% of the new calculated allowable or just slightly over a hundred thousand cubic feet per day. Again, I can't answer that, that is something that we will have to observe when the well has produced at that restricted rate.

Q Assuming it were produced at that restricted rate, you can make test to determine whether it had to be produced at a higher rate or whether that was sufficient?

A Yes, I think something could work out so that we could periodically unload the well of water. I am sure water will accumulate at the lower rate, periodically get the water out and see if it comes back to its producing rate before it was restricted.

Q I assume that Argo will make some kind of arrangement of the moneys to be paid the various interest holders, taking

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PHONE CH 3-6691

notice of the fact that the production is now being made up of the joining 80 acres?

A Yes, sir.

MR. PAYNE: That's all I have.

BY MR. NUTTER:

Q Let me see if I have the history of the well correct. Originally completed in 1936 and shut it in to 1941?

A Yes.

Q It was put on production and started making water in 1945?

A Yes, sir.

Q Did the production constantly go down from 1941 when it was opened up until the first water was produced in 1945, or was it maintaining a pretty good rate of production until it did start making water?

A It was maintaining a fairly constant rate of production at that time. Of course we were prorated simply by pipeline. Their take from the well was relatively low. However, between 1941 and 1945 when the well started to make some water, the production characteristics were nearly the same. They didn't vary a whole lot and the production was simply governed by the pipeline take.

Q Now, what about when it started making water in '45 until you tubed the well in September of '58, was the water

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PHONE CH 3-6691

production constantly increasing and the gas deliverability going down all at the same time?

A Again, Mr. Examiner, we did not at any time gauge the quantity of water, but deliverability and production characteristics varied, they would sag and then perhaps the next test they would be increased, and I believe that is due to the rate of production prior to any one test. If we had been producing at a low rate or had not blown the water from the well bore, why the rate, the deliverability test was low and the shut-in wellhead pressures were low. However, immediately prior to any deliverability test if we had blown the water from the casing, why the characteristics were improved.

Q Well, now, you stated that when you reentered the well and tubed it in September of 1958, that the deliverability increased, but you didn't give that figure. What did the increase amount to?

A The first test we have after our rework, Mr. Examiner, was the test in March, 1959.

Q You didn't get a test immediately after tubing it then?

A No, sir, we didn't.

MR. PAYNE: So you incurred considerable overproduction in the interim production from the rework of the well until you took another deliverability at the time?

A Yes, sir, we did.

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

Q Are you aware of the provisions of the Jalmat Pool rules that provides that you can take a retest after a workover?

A I am now, Mr. Examiner. However, at the time I was not.

Q So this well was being carried from the time you re-completed it or tubed it in September of 1958 until March of 1959 with the old 1958 deliverability factor of 15.71 MCF per day?

A Yes, sir.

Q Now, does the well make any liquids right now?

A Yes, sir, it does.

Q Is that liquid hydrocarbons or water?

A No, sir, it is water.

Q But you don't know how much?

A No, sir.

Q If the Commission, Mr. Winslow, should grant an order authorizing this well to be produced at some rate in excess of complete shut-in, would Argo Oil Corporation be willing to conduct a series of tests and determine what the minimum rate of production would be possible to prevent the well from loading up with liquid and being killed?

A Yes, sir, we would.

MR. NUTTER: Does anyone have any further questions of Mr. Winslow?

MR. CAMPBELL: I am not sure whether I offered exhibits, Argo Exhibits 1 and 2 in this case in evidence.

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

MR. NUTTER: Argo's Exhibits 1 and 2 in Case 1793 will be entered. If there are no further questions of Mr. Winslow he may be excused. Do you have anything further, Mr. Campbell?

MR. CAMPBELL: No, sir.

(Witness excused.)

MR. NUTTER: Does anyone have anything further for Case 1793? We will take that case under advisement and take next Case 1795.

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 4th day of November, 1959.

Ada Dearnley
Notary Public - Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1793, heard by me on 10/28, 1959.

....., Examiner
New Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 1
CASE NO. 1793

Argus Oil Corporation
1750 Milam Building, San Antonio 5, Texas
Attn: J. Gartlefield

Gentlemen:

We have received your application for approval of the Unit Agreement for the development and operation of the Eumont Gas Area, Lea County, New Mexico, which application was received by us on the 14th day of March, 1957.

The Unit Agreement has been approved by this office as of this date and is hereby designated as New Mexico Unit Agreement No. 3.

Very truly yours,

A. L. Porter, Jr.
Secretary-Director

cc: Oil Conservation Commission
Hobbs, New Mexico

cc: Oil and Gas Supervisor
Roswell, New Mexico

14

...O OIL ... CONSERVATION COMMISSION

One-Point Back Pressure Test For Gas Wells

(Deliverability) **CORRECTED REPORT**

Form C-122-C

4-1-54

Pool **Jalmat** Formation **Yates** County **Lea**

Initial **-** Annual **X** Special **-** Date of test **March 7 - 14, 1958**

Company **Argo Oil Corporation** Lease **B. T. Leonhart** Well No. **1**

Unit **H** Sec. **21** Twp. **25S** Rge. **37E** Purchaser **El Paso Natural Gas Company**

Casing **8-5/8"od** Wt. **28#** I.D. **8.003** Set at **2690'** Perf. **-** To

Tubing ____ Wt. ____ I.D. ____ Set at ____ Perf. ____ To

Gas Pay: From **3025** To **3072** L **3049** x G **.660** = GL **2012** Bar.Press. **13.2**

Producing Thru: Casing **Yes** Tubing **No** Type Well **Single Completion**

Single- Bradenhead-G.G. or G.O. Dual

FLOW DATA

Started Date	Started Time	Taken Date	Taken Time	Duration Hours	Type Taps	Line Size	Orifice Size	Quartz Differ- ential	Flow Press.	Flow Temp.
3-7-58	9:00 AM PM	3-8-58	9:00 AM PM	24	Flange	4"	.750	86.2	1.00	40°F

FLOW CALCULATIONS

Static Pressure (Pt)	Differential h_w	Meter Extension $P_f h_w$	24-Hour Coeff-icient	Gravity Factor F_g	Temp. Factor F_t	Compress-ability F_{pv}	Rate of Flow MCF/Da. @ 15.?? psia
86.2	1.00	9.284	3.435	.9535	1.0198	0	31.00

SHUT-IN DATA

Shut-in Date	Shut-in Time	Press. Taken Date	Press. Taken Time	Duration Hours	Wellhead Pressure (Pc) psia Tubing	Wellhead Pressure (Pc) psia Casing	W.H. Working Pressure (Pw) psia Tubing	W.H. Working Pressure (Pw) psia Casing
March 6, 1958	9:00 AM	Mar. 9		24	-	170.2		
		Mar. 10	9:00 AM	48	-	264.2		
		Mar. 11, 1958		72	-	248.2		86.2
			PM					

FRICTION CALCULATIONS(if necessary)

Pool average .771 For N

SUMMARY

P_c = 264.2

P_w = 31.00

P_t = 86.2

P_c^2 = 211.36

$P_c^2 - P_w^2$ = 15.38

log = 9.6955-10

n = 1.4914

antilog = 1.1869

$P_c^2 - P_w^2$ = 15.38

DELIVERABILITY CALCULATIONS

86.2 P_t 264.2 $P_w \div P_c$ .326268

.673732 $1 + \frac{P_w}{P_c}$ 1.326268 $1 - \frac{P_w}{P_c}$ .673732 $\left(1 + \frac{P_w}{P_c}\right) = M$ .893549

M .402888 log 9.6051-10 x (n) .771

Argo Oil Corporation
1728 Milam Building, San Antonio 5, Texas

TITLE Ass't. Div. Supt.

J. T. Littlefield
El Paso Natural Gas Company

Ex # 1 Cas # 1793 (before re-work)

jf

Form C-1[illegible]
4-1-[illegible]

NEW MEXICO OIL CONSERVATION [illegible]
Multi-Point Back Pressure Test [illegible]
(Gas-Oil Ratio Test)

Pool Jalmat Formation Yates County Lea
Initial Annual X Special Date of test 3-6/3-13/1959
Company Argo Oil Corporation Lease B. T. Lanehart Well No. 1
Unit H Sec. 21 Twp. 25S Rge. 37E Purchaser El Paso Natural Gas Company
Casing 8 5/8 Wt. 28.0 I.D. 8.003 Set at 2690 Perf. -
Tubing 2 3/8 Wt. 4.7 I.D. 1.995 Set at 3025 Perf. -
Pay: From 3025 To 3072 L 3025 x G .667 = H 2018 Bar. Pres.
Producing Thru: Casing Tubing X Type Well Single Bradenhead-G.G. or G.O. Dual
Single- Bradenhead- [illegible]

FLOW DATA

Started		Taken		Duration Hours	Type Taps	Line Size	Orifice Size	Press.	Differential	Temp.
Time	Date	Time								
8:00 AM	3-10-59	8:00 AM		24	Flg	4"	1.000	240.2	58.52	65
PM		PM								

FLOW CALCULATIONS

Static Pressure	Differential h_w	Meter Extension $P_f h_w$	24-Hour Coeff-icient	Gravity Factor F_g	Temp. Factor F_t	Compressibility F_{pv}	Flow Rate Q Mcfpd
240.2	58.52	118.6	6.135	.9484	.9952	1.023	702.5

SHUT-IN DATA

Shut-in		Taken		Duration Hours	Wellhead Pressure (Pc) psia		W.H. Flowing Pressure (Pw) psia
Date	Time	Date	Time		Tubing	Casing	Tubing
3-10-59	8:00 AM	3-11-59	8:00 AM	24	434.2	434.2	244.2
		3-12-59		48	443.2	443.2	
		3-13-59		72	445.2	445.2	

FRICTION CALCULATION (if necessary) DELIVERABILITY CALCULATION

P_w Measured		P_c	445.2
n = .771 pool average for Jalmat Field		P_c^2	.5934
P_c	264.2	$P_c^2 - P_w^2$	.4066
P_c^2	.4066	$\left(1 - \frac{P_w}{P_c}\right)$	.5558
P_w^2	.5558	$\left(1 + \frac{P_w}{P_c}\right)$	1.593
$P_c^2 - P_w^2$	.4066	log	9.74492-10
n	.771		
log	9.80333-10		
	2.84665		
	12.64998-10		
	446.7		

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 1793

Argo Oil Corporation
1728 Milam Building, San Antonio 5, Texas
Jack D. Whitting Office Manager
El Paso Natural Gas Company

JF

NEW MEXICO

OIL CONSERVATION COMMISSION

Gas Well Plat

MAIN OFFICE OCC
1959 SEP 4 AM 10:10

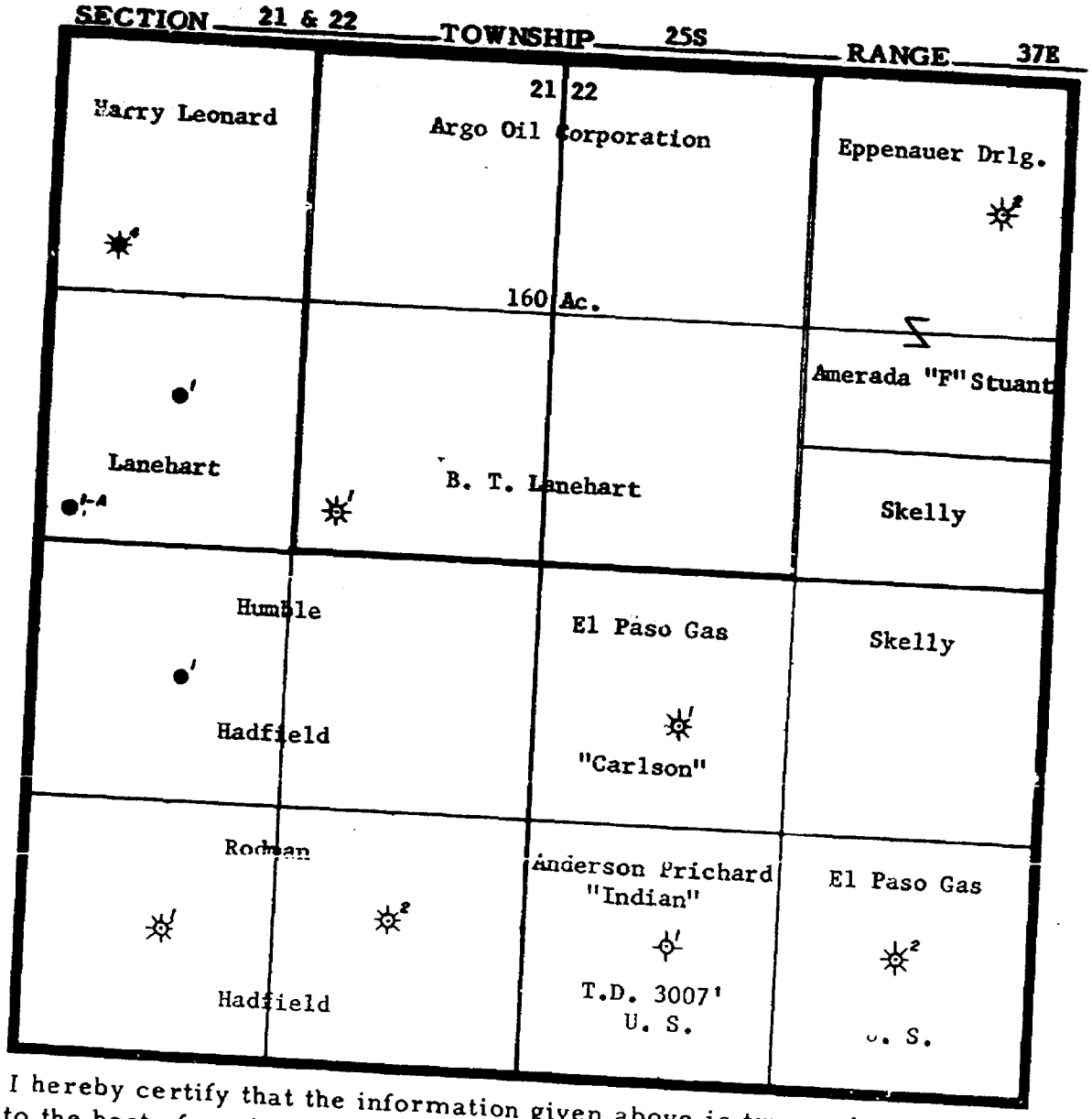
Argo Oil Corporation (Operator) | B. T. Lanehart (Lease) | 1 (Well No.)

Date September 3, 1959

Name of Producing Formation Yates Pool Jalmat

No. Acres Dedicated to the Well 160

SECTION 21 & 22 TOWNSHIP 25S RANGE 37E



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

Name Chas. Johnson
Position Office Manager
Representing Argo Oil Corporation
Address 1728 Milam Building
San Antonio 5, Texas

Case 1794

(over)

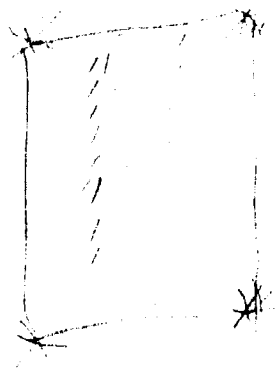
INSTRUCTIONS

1. Is this gas well a dual completion? Yes ___ No X .

2. If the answer to Question 1 is Yes, are there any other dually completed wells within the dedicated acreage? Yes _____ No _____

A separate plat must be filed for each gas well, outlining the area dedicated to such well and showing the location of all other wells (oil and gas) within the outlined area.

Mail in duplicate to the district office for the district in which the well is located.



Case No.

1194

Application, Transcript,
Small Exhibits, Etc.

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. 1794
Order No. R-1520

APPLICATION OF ARGO OIL
CORPORATION FOR A 160-ACRE
NON-STANDARD GAS PRORATION
UNIT IN THE JALMAT GAS POOL,
LEA COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 28, 1959, 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 12th day of November, 1959, 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, Argo Oil Corporation, is the working interest owner of the E/2 NE/4 of Section 21 and the W/2 NW/4 of Section 22, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That the applicant is the owner and operator of the B. T. Lanehart Well No. 1, located 2310 feet from the North line and 990 feet from the East line of said Section 21, to which the E/2 NE/4 of said Section 21 is presently dedicated.

(4) That the applicant proposes the cancellation of the 80-acre proration unit presently dedicated to the said B. T. Lanehart Well No. 1 and the establishment of a 160-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the acreage described in Finding No. 2.

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

IT IS THEREFORE ORDERED:

(1) That a 160-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the E/2 NE/4 of Section 21 and the W/2 NW/4 of Section 22, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, be and the same is hereby established. Said unit is to be dedicated to the applicant's B. T. Lanehart Well No. 1, located 2310 feet from the North line and 990 feet from the East line of said Section 21.

(2) That the said B. T. Lanehart Well No. 1 be and the same is hereby designated as the unit well for the above-described non-standard gas proration unit and shall be granted an acreage factor for allowable purposes in the proportion that the above-described acreage bears to a standard gas proration unit in the Jalmat Gas Pool.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

No. 37-59

DOCKET: EXAMINER HEARING OCTOBER 28, 1959

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary.

CONTINUED CASES

CASE 1761: Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

CASE 1782: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Eunice King Well No. 10, located 660 feet from the North line and 1980 feet from the East line of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock Pool and the production of oil from the Wantz-Abo Pool through parallel strings of tubing.

NEW CASES

CASE 1792: Application of Amerada Petroleum Corporation for an oil-oil dual completion and for three non-standard oil proration units. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Federal "B" Well No. 2, located approximately 1983 feet from the North line and approximately 548.5 feet from the East line of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico, in such a manner as to produce oil from the Bronco Siluro-Devonian Pool and oil from an undesignated Mississippian pool. Applicant further proposes the establishment of three 40-acre non-standard oil proration units in the NE/4 of said Section 11. Two of such units are to be dedicated to the said Federal "B" Well No. 2, one in the Bronco Siluro-Devonian Pool, the other in an undesignated Mississippian pool. The third proposed unit is to be in the Bronco Siluro-Devonian Pool and is to be dedicated to applicant's Federal "B" Well No. 1, located approximately 1983 feet from the North line and approximately 1538.46 feet from the East line of said Section 36.

CASE 1793: Application of Argo Oil Corporation, for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its B. T. Lanehart Well No. 1, Unit H, Section 21, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

CASE 1794: Application of Argo Oil Corporation for a 160-acre non-standard gas proration unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the E/2 NE/4 of Section 21 and the W/2 NW/4 of Section 22, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, said unit to be dedicated to its B. T. Lanehart Well No. 1, located 2310 feet from the North line and 990 feet from the East line of said Section 21.

CASE 1795: Application of Cities Service Oil Company and Late Oil Company for a 320-acre non-standard gas proration unit. Applicant, in the above-styled cause, seek the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the S/2 of Section 17, Township 24 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to Late Oil Company's Thomas Well No. 1, located 660 feet from the South and West lines of said Section 17.

CASE 1796: Application of Graridge Corporation for a capacity allowable for one well in a water flood project. Applicant, in the above-styled cause, seeks an order authorizing a capacity allowable for its Ventures State Well No. 306, located in the NE/4 NE/4 of Section 28, Township 18 South, Range 28 East, Artesia Water Flood Project No. 2, Eddy County, New Mexico.

CASE 1797: Application of Graridge Corporation for a dual injection-producing well. Applicant, in the above-styled cause, seeks permission to dually complete its Western-Yates State Well No. 14, located in the SW/4 NE/4 of Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico, in such a manner as to permit the injection of water into the "first" zone of the Grayburg formation in the Artesia Pool through the casing-tubing annulus and the production of oil from the "Lovington" zone in the Artesia Pool through tubing.

CASE 1798: Application of Great Western Drilling Company for approval of a unit agreement and for approval of a pilot water flood project. Applicant, in the above-styled cause, seeks an order approving its Rock Queen Unit Agreement which unit comprises approximately 4940 acres in Township 13 South, Ranges 31 and 32 East, Chaves and Lea Counties, New Mexico. Applicant proposes to institute a pilot water flood project on said Rock Queen Unit in the Caprock-Queen Pool by the injection of water into the Queen formation through six injection wells located in Sections 22 and 27, Township 13 South, Range 31 East. Applicant further seeks the establishment of an administrative procedure whereby additional wells in the unit may be converted to water injection.

CASE 1799: Application of Magnolia Petroleum Company for permission to commingle the production from six separate pools. Applicant, in the above-styled cause, seeks authority to commingle the production from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz-Abo Pool, Blinebry Gas Pool and Tubb Gas Pool underlying its E. O. Carson Lease comprising the W/2 SW/4 and SE/4 SW/4 of Section 28 and the SW/4 NE/4 and the NW/4 of Section 33, all in Township 21 South, Range 37 East, Lea County, New Mexico. Applicant proposes to separately meter the production from each pool prior to commingling.

CASE 1800: Application of Sunray Mid-Continent Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its D. Hardy Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Penrose-Skelly Pool and the production of oil from the Drinkard Pool through parallel strings of tubing.

CASE 1801: Application of Texaco Inc., for an order force pooling the interests in a 241-acre non-standard gas proration unit in the Eumont Gas Pool. Applicant, in the above-styled cause, holder of a 241-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the NE/4 of Section 5, Township

20 South, Range 37 East, and the S/2 SE/4 of Section 32, Township 19 South, Range 37 East, all in Lea County, New Mexico, seeks an order force-pooling all of the interests in said unit within the vertical limits of the Eumont Gas Pool, including interests of the following persons who have not consented to communitization: Kenneth F. Duncan; Walter L. Gockley; Eudeana B. Newcomb; Roy H. Nicolai, Administrator of Hal M. Nicolai Estate; Mrs. Frances L. Kramer; J. L. Reed; Estate of Dr. Ralph Sullivan, Edward A. Golden, Administrator; G. T. Hanners.

CASE 1802: Application of John H. Trigg for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Caprock-Queen wells on its Federal Trigg Lease in Sections 4 and 9, Township 14 South, Range 31 East, Chaves County, New Mexico.

ARGO OIL CORPORATION
(A DELAWARE CORPORATION)
MILAM BUILDING
SAN ANTONIO 5, TEXAS

GENERAL OFFICES
1700 BROADWAY
DENVER 2, COLORADO

September 23, 1959

Ltr for hearing on Oct. 28th

NM-1115
Argo Oil Corporation
B. T. Lanehart Well No. 1
Jalmat Field
Lea County, New Mexico

Case 1794

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

Dear Mr. Porter:

In accordance with Rule 5 (a), Order 520, Argo Oil Corporation hereby requests that a public hearing be called covering the assignment of 80 acres, being the W/2 of NW/4 of Section 22, T-25-S, R-37-E to their B. T. Lanehart Well No. 1. There is now 80 acres assigned to this well being the E/2 of NE/4 of Section 21, T-25-S, R-37-E, Jalmat Field, Lea County, New Mexico. This well is located 2310' from the North Line and 990' from the East Line of Section 21 and was completed on December 26, 1936.

The W/2 of the NW/4 of Section 22 has been tied up in legal proceedings which caused the delay in assigning this acreage to the B. T. Lanehart Well No. 1 Unit.

We are enclosing, in duplicate, Gas Well Plat showing the proposed unit and an Area Map showing the offset operators.

We are, by copy of this letter, advising all operators in Section 21 and Section 22 and all offset operators within 1500' of the well.

Very truly yours,

Chas. W. Johnson

CDH:rj
Encl.

cc: R. R. Ullstrom/Denver w/encl.
R. O. Price/Midland w/encl.
H. B. Parker/San Antonio w/encl.
J. J. Bailey/Midland w/encl.

Anderson-Prichard Oil Company w/encl.
P. O. Box 196
Midland, Texas

El Paso Natural Gas Company w/encl.
P. O. Box 1492
El Paso, Texas

Notice mailed to all interested parties
10-8-59
jkr

Humble Oil & Refining Company w/encl.
P. O. Box 1600
Midland, Texas

E. G. Rodman w/encl.
P. O. Box 3826
Odessa, Texas

Eppenauer Drilling Company w/encl.
Brandon Hotel
Pecos, Texas

Skelly Oil Company w/encl.
P. O. Box 38
Hobbs, New Mexico

Tidewater Oil Company w/encl.
Petroleum Life Building
Midland, Texas

Westates Petroleum Corporation w/encl.
391 Sutter Street
San Francisco 8, California

Leonard Oil Company w/encl.
P. O. Box 708
Roswell, New Mexico

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Argo Oil Corporation for a 160-acre non-standard gas proration unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the E/2 NE/4 of Section 21 and the W/2 NW/4 of Section 22, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, said unit to be dedicated to its B. T. Lanehart Well No. 1, located 2310 feet from the North line and 990 feet from the East line of said Section 21. Case 1794

BEFORE:
Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. PAYNE: Application of Argo Oil Corporation for a 160-acre non-standard gas proration unit.

MR. CAMPBELL: If the Examiner please, I am Jack M. Campbell, Campbell and Russell, Roswell, New Mexico, appearing on behalf of the Applicant. I have associated with me, Bryce Parker, attorney for Argo Oil Corporation in San Antonio, Texas. We have one witness here to be sworn.

(Witness sworn.)

MR. CAMPBELL: Mr. Examiner, before we proceed I would like to refer the Examiner to the plat attached to the application

and state for the record the nature of the ownership of acreage under that proposed 160-acre gas proration unit. Argo Oil Corporation, the Applicant, owns an undivided one-half interest in the minerals underlying the entire 160 acres. Argo Oil Corporation also owns a lease with common royalty ownership on everything on the other one-half interest except a 3-26 mineral interest under the Southwest Quarter of the Northwest Quarter of Section 22, which has recently been subject to litigation and which is not either under lease or owned by Argo Oil Corporation.

Humble Company owns an overriding royalty of 1-16 on the present unit, which is the East Half of the Northeast Quarter of Section 21 and the 40-acre tract being the Northwest Quarter of the Northwest Quarter of Section 22.

It is our intention, if this application for addition of this 80 acres in Section 22 to this unit is approved, to of course in some manner through voluntary pooling agreement or compulsory pooling arrangement if required since there are a large number of heirs owning that interest, to pool that interest to properly allocate the production.

MR. NUTTER: That would be the interest of the Southwest Quarter of the Northwest Quarter of Section 22 with the interest of the other remaining 120 acres?

MR. CAMPBELL: There are seven and a half acres under that 40-acre tract that has been leased. It has been subject to

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

litigation over a period of years, and that is why to date the additional 80 hasn't been added to the unit.

MR. NUTTER: This is not seven and a half acres of divided acreage, it is seven and a half divided acres in the 40-acre tract?

MR. CAMPBELL: Right.

MR. NUTTER: Would any order then that the Commission enters be contingent upon communitization?

MR. CAMPBELL: No, I would not think it would be. This is a matter like the chicken and the egg, until we get the authority for the proration unit we are not in a position to seek a voluntary pooling agreement or compulsory pooling order. If the order is entered, it of course will be up to the owner and operator to allocate that production, and he will simply have to hold in suspense that interest until such time as an arrangement is made with all of the heirs through a voluntary or compulsory pooling agreement.

MR. NUTTER: I see.

MR. CAMPBELL: It would be a responsibility I would think of the operator of the unit.

MR. NUTTER: Whatever interest lay there, or isn't that, 40-acre unit that haven't been pooled, the moneys that those interests received would be held in escrow until such time as it had been communitized, voluntary or otherwise?

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

MR. CAMPBELL: That's right. Or until they came in and showed, all the heirs came in and claimed the money or something. That frequently occurs where you have a complicated ownership situation.

MR. NUTTER: Thank you.

HARRY C. WINSLOW

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

DIRECT EXAMINATION

BY MR. CAMPBELL:

Q Will you state your name, please?

A Harry C. Winslow.

Q Where do you live, Mr. Winslow?

A San Antonio, Texas.

Q By whom are you employed and in what capacity?

A I am employed by Argo Oil Corporation, Division Engineer, San Antonio Division.

Q Will you give the Examiner a brief resume of your educational and professional background, please?

A I graduated from Colorado School of Mines in 1951 as a Petroleum Engineer, and since that time I have been employed by the Argo Oil Corporation. I'm registered in the State of Texas.

MR. CAMPBELL: Are the witness' qualifications acceptable?

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PHONE CH 3-6691

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MR. NUTTER: Yes, sir.

Q Mr. Winslow, are you acquainted with the application of Argo Oil Corporation relating to the proposed 160-acre gas proration unit in the Jalmat Gas Pool?

A Yes, sir, I am.

Q Has there been prepared under your supervision a contour map on the top of the Yates formation in that pool?

A Yes, sir. There has been.

MR. CAMPBELL: Will you mark Exhibit 1, please?

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

Q I refer you to what has been identified as Applicant's Exhibit 1 in this case and ask you to state what that is.

A Well, Exhibit 1 is a structural map prepared upon the top of the Yates formation in the Jalmat Pool. The well in question is the Argo B. T. Lanehart No. 1 well, that is 990 feet from the East line and 2310 feet from the North line of Section 21.

Q Does that indicate that there are Jalmat gas wells surrounding the acreage that you propose to add to your existing 80-acre proration unit?

A Yes, sir, there are wells to the south, to the east and the northeast of the desirable 80 acres, the 80 acres in Section 22.

Q What is the situation with regard to the structural

position of your well as related to other Jalmat gas wells in the area?

A Well, the portion of the field that is depicted by this contour map I would say that we are about centrally located on the structure in this portion, and proceeding east to encompass the 80 acres in Section 22, we would gain structure in that direction. We would become some 50 to 75 feet higher at the east extremities of the 80 acres.

Q And there is production further east of the acreage that you propose to add to your unit?

A Yes.

Q Based upon your structural contours and upon the existing wells that are situated in the area, in your opinion may the West Half, Northwest Quarter of Section 22, Township 25 South, Range 37 East reasonably be presumed to be productive of gas from the Jalmat Gas Pool?

A Yes, sir, it may be.

Q I believe you have already stated that the well you intend to use is the unit well for the 160-acre unit. What is the identity of that well?

A That is the Argo No. 1 B. T. Lanehart.

Q Situated in the southern portion of the presently existing gas proration unit, is that correct?

A Yes, sir.

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Q Will you give the Examiner a brief history of that well, including its original completion date and what has occurred generally with regard to it since that time?

A The well was drilled and completed in December of 1936 and was shut in until May of 1941 when deliveries to El Paso Natural Gas Company commenced. The well, in 1945, first started making some quantities of water. In 1954, January, the well was declared marginal and was produced as a marginal well. In September, 1958, Argo reentered the well, the workover consisted simply of running tubing into the well. We did not treat the formation in any manner and at that time after the workover was completed the deliverability was increased considerably and El Paso commenced taking greater quantities of gas from the well.

In March of 1959 a new deliverability test was run and has been filed with the Commission and then the well was taken off marginal status as of January 1st, 1959. That has resulted in our currently being overproduced.

Q What is the present or the latest test on this well, Mr. Winslow?

A The latest deliverability test run in March of this year showed a deliverability of 447 MCF per day.

Q What had been the previous reported deliverability, approximately?

A The deliverability test run in 1958 showed a

deliverability of 15 MCF per day.

Q Based upon the present deliverability of the well, and ignoring for the moment the fact that the well is an overproduced status at this time, do you believe that if the additional acreage is added to the unit to make it a 160-acre unit, that this gas well would be able to make a normal or average allowable that might be granted to it under the Commission's proration system?

A Yes, sir, it will be over.

Q And certainly until the overproduction is made up it will have no difficulty in making the production that is allocated to it, will it?

A None whatsoever.

MR. CAMPBELL: I believe that's all the questions I have, Mr. Examiner.

MR. NUTTER: Does anyone have any questions?

MR. PAYNE: Yes.

MR. NUTTER: Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q What are the surrounding Jalmat proration units, Mr. Winslow? Do you have any information on that?

A I'm sorry, Mr. Payne, I cannot answer that.

MR. PAYNE: That's all, thank you.

BY MR. NUTTER:

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Q I'm having a little difficulty telling what formation these various wells on your Exhibit No. 1 might be producing from. What do these symbols actually mean?

A Well, sir, the only one to which I have paid any attention, very frankly, is that shown as a gas completions.

Q That's a small circle with a large circle around it and a little star between?

A Yes, sir. We do not have production from any other formations in the area, and at the time that this map was made the geologist, I believe, used those points only for control on the Yates, but probably trying to eliminate confusion in my mind he showed them as oil completions, but I honestly do not know the current status of those oil wells.

Q Are the open circles the gas well symbols such as the ones up there in Sections 16 and 15, are those Jalmat gas completions there?

A Yes, sir.

Q How about this one here in Section 22 that's labeled No. 1, well 9-6-55, is that a Jalmat gas completion?

A Yes, sir, it is.

Q How about the No. 2 labeled 329,054, is that a Jalmat?

A That is also.

Q Go ahead.

A Excuse me. These large numbers are the current

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production or the cumulative production as of January 1st of this year.

Q Well, now, down here in Section 21 this No. 2 well in the Southeast of the Southeast, that's a Jalmat gas completion?

A Yes, sir.

Q Now, coming back over here to the west a little bit, what's the No. 4 well in the Northwest of the Northeast of Section 21? It's labeled 9-69482.

A Well, that, Mr. Examiner, is the symbols down here, I can't honestly answer them.

Q They're the same for different things?

A Yes. It is my impression that that is a dually completed well and that it has produced approximately a billion cubic feet of gas from the Yates formation.

Q What I was wondering, if the gas-oil contact may be running through this area somewhere and perhaps we could pin it down if we knew exactly what formation these wells were producing from.

A I have never made a detailed study of the geology, nor have I looked at the characteristics of the gas-producing formations other than that of our own well. I have looked at the other in general, but nothing specifically. I can say that our well has made no oil, it has produced only gas with just troublesome amounts of water.

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Q Presently dedicated to this well is the 80 acres being the East Half of the Northeast Section of 21?

A Yes.

Q By deed indicating additional acreage you are coming up the structure?

A Yes.

Q So you would have a better chance of getting into gas acreage than you even are right now maybe?

A Yes, sir.

MR. CAMPBELL: Is the Lanehart Well No. 4 lying immediately west of the present unit in Section 21, a Jalmat gas well? There seems to have been some question, I don't have the plat in front of me.

MR. NUTTER: That is a Jalmat.

MR. PAYNE: It appears, Mr. Winslow, that all the surrounding acreage to the 80-acre unit which you have now is dedicated to a Jalmat gas well with the exception of the 80 which you propose to add on here.

A Yes, sir, Mr. Payne, that is correct.

MR. PAYNE: Mr. Winslow, do you know the Commission order or the order number entered after the hearing which established this 80-acre unit?

MR. CAMPBELL: I don't have that.

A I am sorry, Mr. Payne.

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MR. PAYNE: Assuming that the application is granted it will be necessary to cancel that?

MR. CAMPBELL: It would be necessary to cancel it or make some reference superceding it in some fashion.

Q (By Mr. Nutter) Are any wells presently completed on the 80 acres which you propose to add to the existing unit?

A No, sir, there are none.

MR. NUTTER: Are there any other questions of this witness?

MR. CAMPBELL: I would like to offer Applicant's Exhibit No. 1 in evidence.

MR. NUTTER: Argo's Exhibit No. 1 will be entered in evidence. Any further questions of the witness? He may be excused.

(Witness excused.)

MR. NUTTER: Does anyone have anything further they wish to offer?

MR. PAYNE: I have a question to ask Mr. Campbell.

MR. NUTTER: Mr. Payne.

MR. PAYNE: If we establish a 160-acre unit here and you be unable to get a voluntary communitization of this tract, what happens then?

MR. CAMPBELL: Well, of course, in the first place let me point out that this particular interest, the 3-16 acre tract

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under that particular acre tract is now being drained, it has no acreage or well allocated to it. This will work to the advantage to start with. If we are unable to obtain a pooling agreement, we would then have to seek a compulsory, or continue to hold the interest in suspense until such time as the interest owners make claim to it and litigate it with them.

There have been a number of cases, of course, here where you have a large number of heirs, usually where you are unable to negotiate or to find them all, in some instances where you simply have to come in and seek a compulsory order. Until this unit is approved, until we know we can allocate production to it, there's not much point in trying to negotiate a voluntary agreement, because we don't know what we are negotiating on.

MR. PAYNE: It's your theory then, I assume, that the Commission has the authority to grant a non-standard unit even though it hasn't been communitized, and at a subsequent date enter a forced pooling order?

MR. CAMPBELL: That is my opinion.

MR. PAYNE: You don't feel that the forced pooling order necessarily would have to come first?

MR. NUTTER: No, sir.

MR. CAMPBELL: No, sir.

MR. NUTTER: Does anyone have anything further to offer in Case 1794? We'll take that case under advisement and take 1793.

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

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 4TH day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

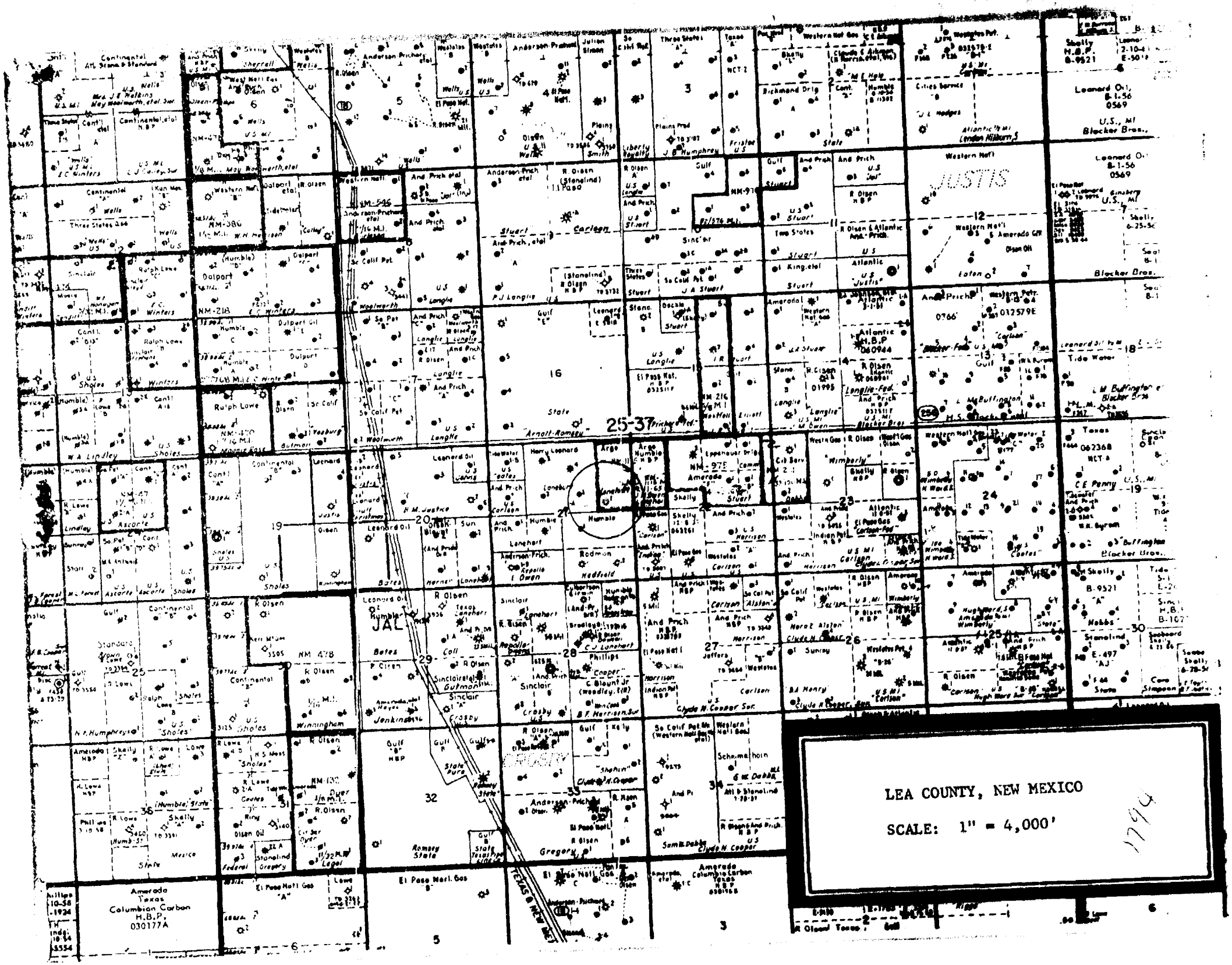
My Commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1794 heard by me on 10/28, 1959.

....., Examiner
New Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691


LEA COUNTY, NEW MEXICO
SCALE: 1" = 4,000'
1714

NEW MEXICO

OIL CONSERVATION COMMISSION

Gas Well Plat

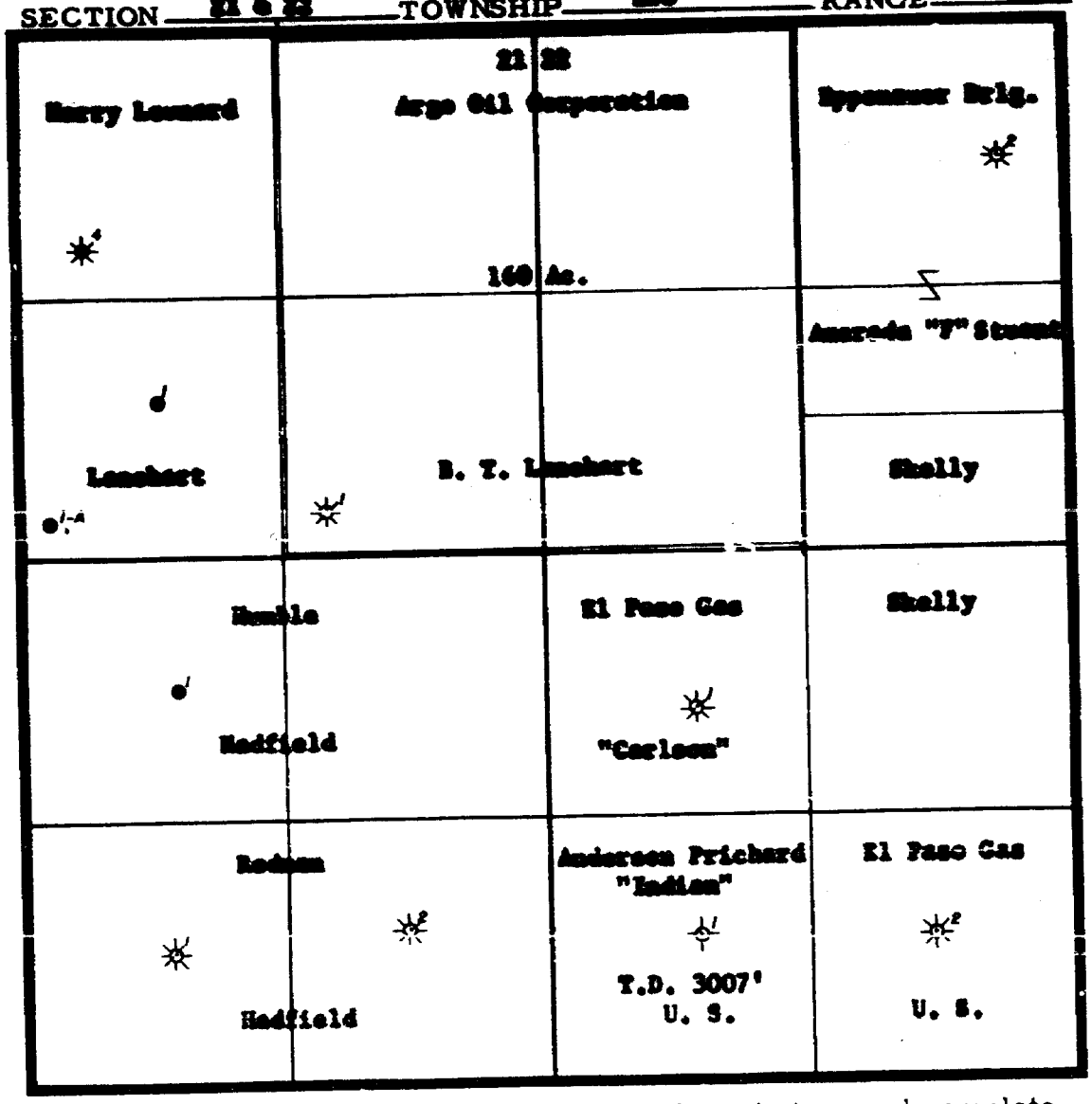
Date September 3, 1952

Argo Oil Corporation	B. T. Lambert	1
Operator	Lease	Well No.

Name of Producing Formation Yates Pool Jalmat

No. Acres Dedicated to the Well 160

SECTION 21 & 22 TOWNSHIP 25S RANGE 37E



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

Name Charles Dickson

Position Office Manager

Representing Argo Oil Corporation

Address 1728 Milam Building
San Antonio 5, Texas

Case 1794

(over)



Case No.

1795

Application, Transcript,
Small Exhibits, Etc.

CITIES SERVICE OIL COMPANY

BOX 97

HOBBS, NEW MEXICO

September 28, 1959

Case 1795

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

Attn: Mr. A. L. Porter

Gentlemen:

Cities Service Oil Company and Late Oil Company herewith requests that the Oil Conservation Commission schedule an examiner hearing at an early date to consider our application for a non-standard gas proration unit composed of the S/2, Section 17, T-24-S, R-37-E, in the Jalmat Gas Pool, Lea County, New Mexico.

Late Oil Company's Thomas No. 1, located 660 feet from south line, 660 feet from west line, Section 17, T-24-S, R-37-E, is completed within the vertical limits of the Jalmat Gas Pool and the 320 acre non-standard gas proration unit is to be assigned to this well. Late Oil Company will be the operator of the proposed unit. Cities Service Oil Company, Late Oil Company and Gulf Oil Corporation have entered a communization agreement for the S/2, Section 17, T-24-S, R-37-E, Lea County, New Mexico. Acreage contributions to the proposed non-standard unit are as follows: Cities Service Oil Company, W/2 SE/4; Late Oil Company, SW/4; Gulf Oil Corporation, E/2 SE/4; all in Section 17, T-24-S, R-37-E, Lea County, New Mexico. The acreage included in the proposed unit falls within the limits of the Jalmat Gas Pool, is composed of contiguous quarter/quarter sections in a single governmental section and is reasonably presumed to be productive of gas. Approval of this unit will prevent waste and protect correlative rights.

Request of a hearing is for the consideration of an exception to Rule 5-A, Order 520, concerning the rules and regulations of the Jalmat Gas Pool permitting assignment of a 320 acre non-standard gas proration unit composed of the S/2, Section 17, T-24-S, R-37-E, Lea County, New Mexico.

Order to mailed 10-8-59

A plat is attached hereto indicating the proposed unit, subject well and offset operators. A copy of this application has been sent to each operator on the attached mailing list.

Yours very truly

CITIES SERVICE OIL COMPANY

D. D. Bodie
Division Superintendent

LATE OIL COMPANY

F. H. Late
President

EFM/gk

MAILING LIST

New Mexico Oil Conservation Commission (3)
P. O. Box 871
Santa Fe, New Mexico

New Mexico Oil Conservation Commission
P. O. Box 2045
Hobbs, New Mexico

Continental Oil Company
825 Petroleum Building
Roswell, New Mexico

Skelly Oil Company
P. O Box 38
Hobbs, New Mexico

Humble Oil & Refining Company
P. O. Box 2347
Hobbs, New Mexico

Pan American Petroleum Corporation
P. O. Box 68
Hobbs, New Mexico

King, Warren & Dye
P. O. Box 1505
Midland, Texas

Olsen Oils, Inc.
P. O. Box 691
Jal, New Mexico

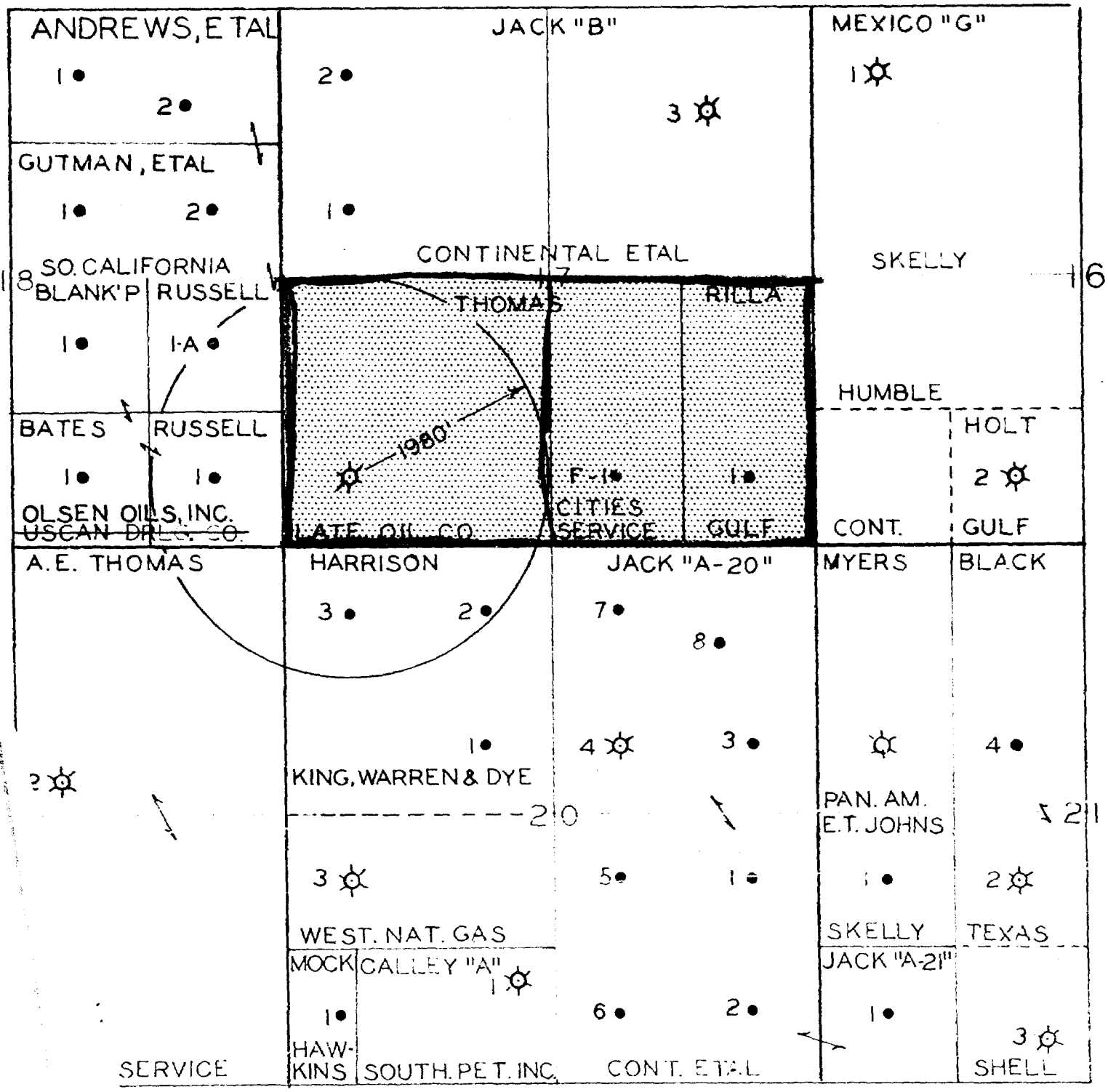
Gulf Oil Corporation
P. O. Drawer 669
Roswell, New Mexico

Southern California Petroleum Corporation
P. O. Box 1071
Midland, Texas

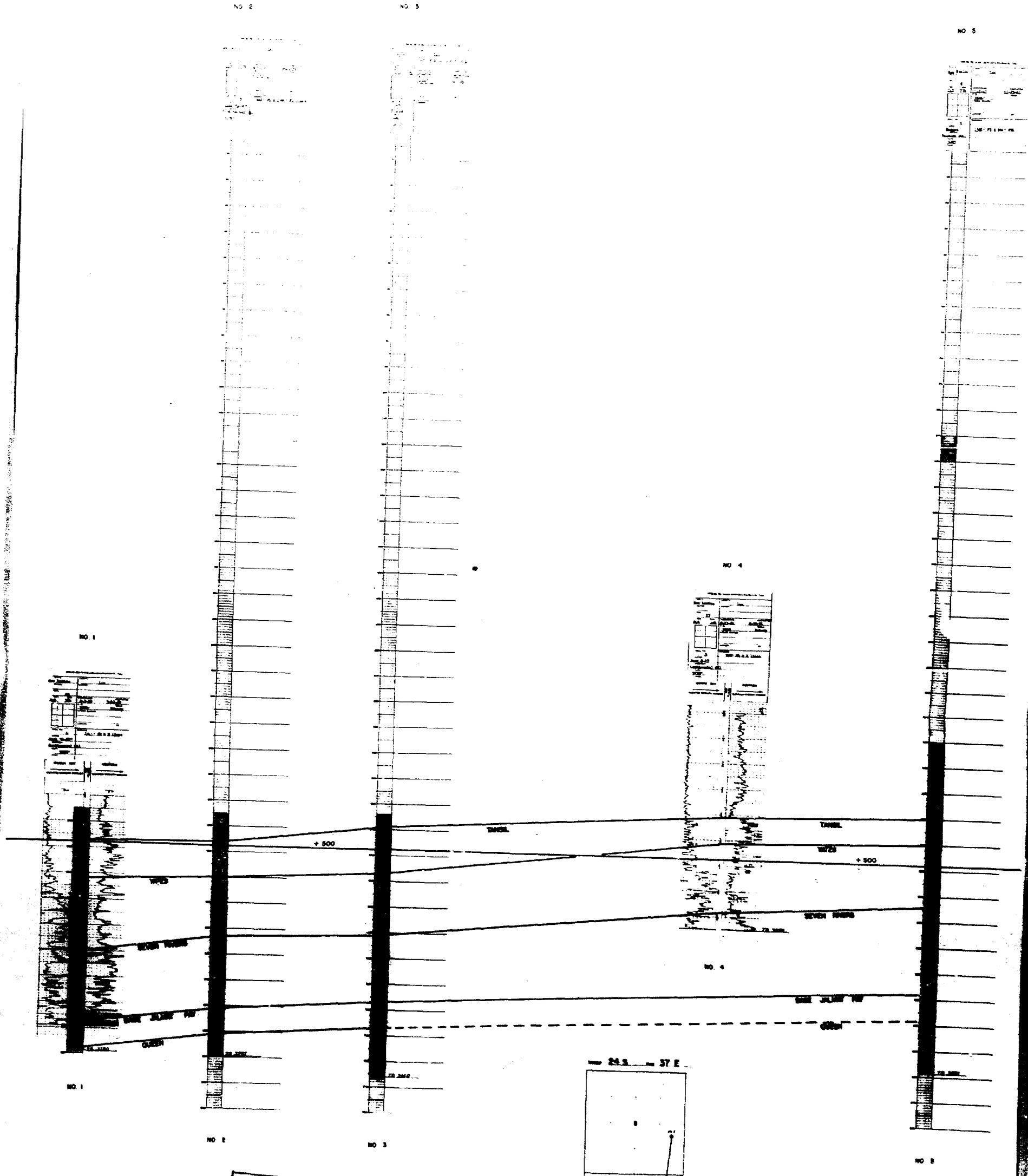
915 ROBB MARTIN CO. TULSA 1, OKLAHOMA

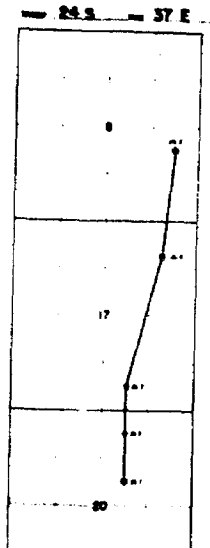
SCALE 8 IN. = 1 MI.) ONE-SECTION PLAT

SECTION 17-20 TOWNSHIP 24-S RANGE 37-E COUNTY LEA STATE N. MEX.



ROPOSED GAS UNIT





NORTH - SOUTH CROSS SECTION
THOMAS LEASE
LEA COUNTY, NEW MEXICO

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 1795

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. 1795
Order No. R-1527

APPLICATION OF CITIES SERVICE
OIL COMPANY AND LATE OIL COMPANY
FOR APPROVAL OF A 320-ACRE NON-
STANDARD GAS PRORATION UNIT IN
THE JALMAT GAS POOL, LEA COUNTY,
NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 28, 1959, 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 17th day of November, 1959, 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 as a result of communitization of acreage owned by Late Oil Company, Cities Service Oil Company, and Gulf Oil Corporation, the applicant, Late Oil Company, is the operator of the S/2 of Section 17, Township 24 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That the applicants propose the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool, consisting of the S/2 of said Section 17, to be dedicated to the Thomas Well No. 1, located 660 feet from the South line and 660 feet from the West line of said Section 17.

(4) That the S/2 of said Section 17 can reasonably be presumed to be productive of gas from the Jalmat Gas Pool.

IT IS THEREFORE ORDERED:

(1) That a 320-acre non-standard gas proration unit in the Jalmat Gas Pool, consisting of the S/2 of Section 17, Township 24 South, Range 37 East, NMPM, Lea County, New Mexico, be and the same is hereby established. Said unit is to be dedicated to the Thomas Well No. 1, located 660 feet from the South line and 660 feet from the West line of said Section 17.

(2) That the said Thomas Well No. 1 be and the same is hereby granted an acreage factor for allowable purposes in the proportion that the above-described acreage bears to the acreage in a standard gas proration unit in the Jalmat Gas Pool, effective on December 1, 1959, provided that said well has been brought into balance by that date. If said well is not then in balance, the increased acreage factor shall become effective upon the first day of the month following the month in which the subject well has been brought into balance.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

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

November 17, 1959

COPY

Mr. Jason Kellahin
P. O. Box 1713
Santa Fe, New Mexico

Dear Mr. Kellahin:

On behalf of your client, Cities Service Oil Company we enclose two copies of Order No. R-1527 in Case No. 1795 issued by the Oil Conservation Commission on this date.

Very truly yours,

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

ir/

Enclosures: (2)

No. 37-59

DOCKET: EXAMINER HEARING OCTOBER 28, 1959

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary.

CONTINUED CASES

CASE 1761: Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

CASE 1782: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Eunice King Well No. 10, located 660 feet from the North line and 1980 feet from the East line of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock Pool and the production of oil from the Wantz-Abo Pool through parallel strings of tubing.

NEW CASES

CASE 1792: Application of Amerada Petroleum Corporation for an oil-oil dual completion and for three non-standard oil proration units. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Federal "B" Well No. 2, located approximately 1983 feet from the North line and approximately 548.5 feet from the East line of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico, in such a manner as to produce oil from the Bronco Siluro-Devonian Pool and oil from an undesignated Mississippian pool. Applicant further proposes the establishment of three 40-acre non-standard oil proration units in the NE/4 of said Section 11. Two of such units are to be dedicated to the said Federal "B" Well No. 2, one in the Bronco Siluro-Devonian Pool, the other in an undesignated Mississippian pool. The third proposed unit is to be in the Bronco Siluro-Devonian Pool and is to be dedicated to applicant's Federal "B" Well No. 1, located approximately 1983 feet from the North line and approximately 1538.46 feet from the East line of said Section 36.

CASE 1793: Application of Argo Oil Corporation, for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its B. T. Lanehart Well No. 1, Unit H, Section 21, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

CASE 1794: Application of Argo Oil Corporation for a 160-acre non-standard gas proration unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the E/2 NE/4 of Section 21 and the W/2 NW/4 of Section 22, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, said unit to be dedicated to its B. T. Lanehart Well No. 1, located 2310 feet from the North line and 990 feet from the East line of said Section 21.

CASE 1795: Application of Cities Service Oil Company and Late Oil Company for a 320-acre non-standard gas proration unit. Applicant, in the above-styled cause, seek the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the S/2 of Section 17, Township 24 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to Late Oil Company's Thomas Well No. 1, located 660 feet from the South and West lines of said Section 17.

CASE 1796: Application of Graridge Corporation for a capacity allowable for one well in a water flood project. Applicant, in the above-styled cause, seeks an order authorizing a capacity allowable for its Ventures State Well No. 306, located in the NE/4 NE/4 of Section 28, Township 18 South, Range 28 East, Artesia Water Flood Project No. 2, Eddy County, New Mexico.

CASE 1797: Application of Graridge Corporation for a dual injection-producing well. Applicant, in the above-styled cause, seeks permission to dually complete its Western-Yates State Well No. 14, located in the SW/4 NE/4 of Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico, in such a manner as to permit the injection of water into the "first" zone of the Grayburg formation in the Artesia Pool through the casing-tubing annulus and the production of oil from the "Lovington" zone in the Artesia Pool through tubing.

CASE 1798: Application of Great Western Drilling Company for approval of a unit agreement and for approval of a pilot water flood project. Applicant, in the above-styled cause, seeks an order approving its Rock Queen Unit Agreement which unit comprises approximately 4940 acres in Township 13 South, Ranges 31 and 32 East, Chaves and Lea Counties, New Mexico. Applicant proposes to institute a pilot water flood project on said Rock Queen Unit in the Caprock-Queen Pool by the injection of water into the Queen formation through six injection wells located in Sections 22 and 27, Township 13 South, Range 31 East. Applicant further seeks the establishment of an administrative procedure whereby additional wells in the unit may be converted to water injection.

CASE 1799: Application of Magnolia Petroleum Company for permission to commingle the production from six separate pools. Applicant, in the above-styled cause, seeks authority to commingle the production from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz-Abo Pool, Blinebry Gas Pool and Tubb Gas Pool underlying its E. O. Carson Lease comprising the W/2 SW/4 and SE/4 SW/4 of Section 28 and the SW/4 NE/4 and the NW/4 of Section 33, all in Township 21 South, Range 37 East, Lea County, New Mexico. Applicant proposes to separately meter the production from each pool prior to commingling.

CASE 1800: Application of Sunray Mid-Continent Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its D. Hardy Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Penrose-Skelly Pool and the production of oil from the Drinkard Pool through parallel strings of tubing.

CASE 1801: Application of Texaco Inc., for an order force pooling the interests in a 241-acre non-standard gas proration unit in the Eumont Gas Pool. Applicant, in the above-styled cause, holder of a 241-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the NE/4 of Section 5, Township

20 South, Range 37 East, and the S/2 SE/4 of Section 32, Township 19 South, Range 37 East, all in Lea County, New Mexico, seeks an order force-pooling all of the interests in said unit within the vertical limits of the Eumont Gas Pool, including interests of the following persons who have not consented to communitization: Kenneth F. Duncan; Walter L. Gockley; Eudeana B. Newcomb; Roy H. Nicolai, Administrator of Hal M. Nicolai Estate; Mrs. Frances L. Kramer; J. L. Reed; Estate of Dr. Ralph Sullivan, Edward A. Golden, Administrator; G. T. Hanners.

CASE 1802: Application of John H. Trigg for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Caprock-Queen wells on its Federal Trigg Lease in Sections 4 and 9, Township 14 South, Range 31 East, Chaves County, New Mexico.

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Cities Service Oil Company and Late Oil Company for a 320-acre non-standard gas proration unit. Applicant, in the above-styled cause, seek the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the S/2 of Section 17, Township 24 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to Late Oil Company's Thomas Well No. 1, located 660 feet from the South and West lines of said Section 17. Case 1795

BEFORE:
Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. PAYNE: Application of Cities Service Oil Company and Late Oil Company for a 320-acre non-standard gas proration unit.

MR. KELLAHIN: Jason Kellahin, Kellahin and Fox, Santa Fe, New Mexico, representing the Applicants in this case. I have associated with me as co-counsel Mr. Donald G. Stevens, a member of the Texas Bar. We will have one witness to present.

(Witness sworn.)

E. F. MOTTER

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

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q State your name, please. A E. F. Motter.

Q By whom are you employed, Mr. Motter?

A Cities Service Oil Company.

Q What is your position?

A Division Engineer for West Texas-New Mexico.

Q Have you testified before this Commission as an expert petroleum engineer and had your qualifications accepted?

A Yes.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, sir. Please proceed, Mr. Kellahin.

Q Are you familiar with the application in Case No. 1795?

A Yes, sir, I am.

Q Would you state briefly what is proposed in this application?

A We have communitized both the working interest and royalty interest in the South Half of Section 17, Township 34, 37, and we desire to dedicate all that acreage to the Late Thomas No. 1 which is 660 from the west and 660 from the south in said section, for the purpose of producing gas from the Jalmat Gas Pool.

Q Now, referring to --

MR. KELLAHIN: Would you have the exhibits marked, please?

(Marked Cities Service's Exhibits 1, 2 and 3, for identification.)

Q Referring to what has been marked as Applicant's Exhibit No. 1, will you discuss that exhibit, please?

A Yes, sir, this is a plat of the area showing the proposed non-standard unit in the South Half of Section 17. Also on this plat we show by crosshatched marks the Jalmat units in the area. There are a couple of Langley-Mattix gas units. Also for each well in the area we have a symbol whether it is producing from the Jalmat Langley-Mattix or there are two or three Fowler wells in the area.

Q That is designated by the letters?

A J and L on the right-hand side of the wells. As you will note, nearly all of the surrounding area around Section 17 is under production in the Jalmat Gas Pool with a few small exceptions.

Q The only factor insofar as the hearing involved in this case is the well location?

A Yes, that's right. If the well were located 1980, 660, administrative approval could be obtained without hearing.

Q Were all the offset owners notified by the Applicant in this case?

A Yes, sir, also by the applicant and by advertisement.

Q Referring to what has been marked as Exhibit No. 2, will you discuss that exhibit, please?

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A Yes, sir, this is a west to east cross section beginning with the well in Section 16. It's Well No. 1-U, used to be on the log, you can't see on this small print, but it's not Southern California Company, and proceeds east to the Pan American well there in Section 16. It's the Southeast, Southeast Quarter, 40 Range.

This plat is on a common datum and shows the tops of the Tancil, Yates, Seven Rivers and the top of the Queen. We have the base of the Jalmat pay marked, and you'll notice there are very few electric logs available in the area. We had to rely on sample logs almost entirely for this cross section.

The subject well is Well No. 3 on this cross section, and that well is the Late Thomas No. 1. It is perforated in 3282 to 3317, approximately 80 feet below the top of the Seven Rivers. I believe that's about all I have to offer on that.

Q Referring to what has been marked as Exhibit No. 3, will you discuss that exhibit, please?

A Yes, sir, this is, well, the way we have the wells numbered it's a south to north cross section starting with the well in the Southwest of the Northeast of Section 20, which is Continental Oil Company's Jack A. 20 and proceeds on north to the Amerada Petroleum Company's Hodges No. 1 which is located in the Northeast of the Southwest. Pardon, it's Northeast of the Southeast, Section 8. This cross section is to show that the

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Southeast Quarter of 17 is productive of gas in the Jalmat Pool. Also of the top of the Tancil, Yates, Seven Rivers, Queen, marked on this with a common datum and the base of the Jalmat pay.

Q In your opinion, and based upon the information contained on Exhibits 2 and 3, is the producing formation of the Jalmat contiguous and of the area proposed to be dedicated to the well?

A Yes.

Q In your opinion is all the acreage proposed to be dedicated productive of gas from the gas in the Jalmat Gas Pool?

A Yes, I think that is pretty well proved by the acres surrounding the unit.

Q Do you have any tests on the subject well?

A Yes, we have the deliverability test run February 27, 1959. It was 3,065,000. This well was drilled in August, 1953 and also potentialed that same month for approximately 50,000,000 cubic foot per day.

Q Has it been on production since drilling?

A Yes, and this well makes no fluids to my knowledge, either water or oil. It's tied into El Paso although we are not the operator I have no knowledge of it making any fluid.

Q Has a communitization agreement been entered into which covers the working interest in the area to be dedicated?

A Yes, sir, and also the royalty interest.

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Q All the royalty interest has been communitized?

A That's correct.

Q Were Exhibits 1, 2 and 3 prepared by you or under your direction and supervision?

A Yes, sir, they were.

MR. KELLAHIN: At this time we would like to offer Exhibits 1, 2 and 3.

MR. NUTTER: City Service and Late Oil Companies' Exhibits No. 1, 2 and 3 will be entered.

MR. KELLAHIN: That's all the questions I have of the witness.

MR. NUTTER: Does anyone have any questions of Mr. Motter?

MR. PAYNE: Yes, sir.

MR. NUTTER: Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q What is the status of the subject well at the present time? Is it in balance, overproduced or underproduced?

A It's in balance. It's not on the schedule, as you probably noticed, for the last couple of months due to an error in filing the deliverability, but it has been given allowables by supplement and also for the past two months, so actually its latest status I would only have to find through your office or here.

It's not shown on the proration schedule.

Q You say it is substantially in balance though?

A Yes, sir, I believe so.

BY MR. NUTTER:

Q What was the last month that it appeared on the proration schedule, Mr. Motter?

A I'm not sure, but I believe it was July the last time it had an allowable assigned to it. Not being the operator of the well, I'm not quite sure, but in October it continued, of course, to have, it was continuing to produce without allowable and it does have some overage. However, I think that probably has been adjusted. I talked to Mr. Montgomery at the Hobbs Office about this and he tells me I'll have to check with your accounting up here to see the exact figures on it.

Q In the event the well should be underproduced, would it be possible to get the well back in balance prior to the time the order would be effective?

A I believe it would be because it's quite capable of it.

Q What did you say was the I.P., 15,000,000 or 50,000,000?

A 50,000,000.

Q Five 0? A Five 0.

MR. NUTTER: Does anyone have any further questions?

BY MR. PAYNE:

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Q What is the location of the No. 3 J. Well, is that comparable to this location or is it a 1980, 660?

A Pardon me. Are you referring to the Continental well in the Northeast of the Northeast of Section 17?

Q Yes.

A I'm not sure about that location, Mr. Payne. From our plat it looks like it may be a 330 location out of the Southwest corner of the Northeast to the Northeast. I may have that information here.

Q You feel though that the one O-J T. Well that will be dedicated to your proposed non-standard unit is capable of draining the entire South Half of Section 17?

A Yes, I think that we're suffering drainage if we don't get this communitized. That was our main point in this thing.

Q Because the Southeast Quarter of Section 17 is not dedicated to any Jalmat gas well at present?

A That's correct.

MR. NUTTER: What are the other two wells there in the Southeast Quarter of Section 17?

A They're Langley-Mattix oil wells. Our well produces currently approximately 7 barrels of oil a day, about 2 barrels of water on a pump.

Q Is the well capable of making a 320 acre allowable?

A Yes, sir. I believe, to the best of my knowledge, it is.

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It has a very good deliverability and showed up good on the tests.

MR. NUTTER: Any further questions? The witness may be excused.

(Witness excused.)

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

MR. KELLAHIN: That's all we have.

MR. NUTTER: Does anyone have anything further for Case 1795?

MR. HOOVER: Yes, sir.

MR. HOOVER: John Hoover, appearing on behalf of Gulf Oil Corporation, Roswell, New Mexico. Gulf has submitted an 80-acre tract to this proposed unit. The granting of this unit will afford Gulf the opportunity to recover their fair share of the gas reserves without having to provide an unnecessary well. We concur in the application and urge approval by the Commission.

MR. NUTTER: Mr. Stevens, you are with Late Oil Company?

MR. STEVENS: Yes, sir.

MR. NUTTER: Give us your address, please.

MR. STEVENS: Box 1826, Hobbs.

MR. NUTTER: What are your initials, please?

MR. STEVENS: D. G. In that respect, Late Oil Company concurs in the application as co-applicant, and urges the approval of this.

MR. NUTTER: Thank you. If there is nothing further in

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Case 1795 we will take this case under advisement and take a ten minute recess.

(Whereupon a short recess was taken.)

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 4th day of November, 1959.

Ada Dearnley
Notary Public - Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1795, heard by me on 10-28, 1959.

....., Examiner
New Mexico Oil Conservation Commission

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691



Case No.

1796

Application, Transcript,
Small Exhibits, Etc.

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. 1796
Order No. R-966-F

APPLICATION OF GRARIDGE CORPORATION FOR A CAPACITY ALLOWABLE FOR ONE WELL IN THE PROJECT AREA OF ITS ARTESIA WATER FLOOD PROJECT NO. 2, ARTESIA POOL, EDDY COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 28, 1959, 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 12th day of November, 1959, 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 Ibex Company was authorized by Order No. R-966 and amendments thereto, to institute the Artesia Water Flood Project No. 2 in the Artesia Pool, Eddy County, New Mexico.

(3) That Graridge Corporation now operator of said Water Flood Project, is the owner of the Ventures State Well No. 306, located in the NE/4 NE/4 of Section 28, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico, which well is situated in the project area of said Artesia Water Flood Project No. 2.

(4) That the aforementioned Ventures State Well No. 306 has been affected by the said Artesia Water Flood Project No. 2 to the extent that it is now capable of producing in excess of the top unit allowable for the Artesia Pool.

(6) That since said Ventures State Well No. 306 is within an established water flood project where capacity allowables have been granted to all producing wells, the subject well should be granted an allowable equal to its capacity to produce.

IT IS THEREFORE ORDERED:

That the following-described well be and the same is hereby assigned an allowable equal to its capacity to produce:

Ventures State Well No. 306, located in the NE/4 NE/4 of Section 26, Township 18 South, Range 28 East, NMPM, Artesia Pool, Eddy County, New Mexico.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

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

November 12, 1959

COPY

Mr. Jack Campbell
Box 766
Roswell, New Mexico

Dear Mr. Campbell:

On behalf of your clients, M. A. Romero and Robert Critchfield, Argo Oil Corporation, Graridge Corporation and John M. Trigg, we enclose two copies of each of the following orders:

Order R-1462-A in Case 1600
Order R-1523 in Case 1793
Order R-1520 in Case 1794
Order R-966-F in Case 1796
Order R-1522 in Case 1802

These orders were issued by the Oil Conservation Commission on this date.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures

BEFORE THE OIL CONSERVATION COMMISSION OF THE

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF)
GRARIDGE CORPORATION FOR AN ORDER)
GRANTING CAPACITY ALLOWABLE FOR ONE) Case No. 1796
WELL IN ARTESIA WATER FLOOD NUMBER)
TWO ARTESIA POOL, EDDY COUNTY, NEW)
MEXICO)

APPLICATION

COMES NOW Applicant, Graridge Corporation, by its attorneys Campbell & Russell and states:

1. It is the operator of Artesia Water Flood No. 2 authorized by the Commission in its Order No. R-966 and amendments thereto.

2. Applicant's Ventures State No. 306 well has reflected an increase of production due to a response to the injection of water as a part of the development of the project and unless said well is granted capacity allowable, waste will result.

WHEREFORE, Applicant requests the Commission after a hearing before an examiner to issue its order granting capacity allowable to Applicant's Venture State No. 306 well situated in the NE¼NE¼ of Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico.

DATED this 2nd day of October, 1959.

Respectfully submitted,

GRARIDGE CORPORATION

By Jack M. Campbell

Campbell & Russell
P. O. Box 766
Roswell, New Mexico

Docket Mailed 10-8-59

No. 37-59

DOCKET: EXAMINER HEARING OCTOBER 28, 1959

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary.

CONTINUED CASES

CASE 1761: Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

CASE 1782: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Eunice King Well No. 10, located 660 feet from the North line and 1980 feet from the East line of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock Pool and the production of oil from the Wantz-Abo Pool through parallel strings of tubing.

NEW CASES

CASE 1792: Application of Amerada Petroleum Corporation for an oil-oil dual completion and for three non-standard oil proration units. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Federal "B" Well No. 2, located approximately 1983 feet from the North line and approximately 548.5 feet from the East line of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico, in such a manner as to produce oil from the Bronco Siluro-Devonian Pool and oil from an undesignated Mississippian pool. Applicant further proposes the establishment of three 40-acre non-standard oil proration units in the NE/4 of said Section 11. Two of such units are to be dedicated to the said Federal "B" Well No. 2, one in the Bronco Siluro-Devonian Pool, the other in an undesignated Mississippian pool. The third proposed unit is to be in the Bronco Siluro-Devonian Pool and is to be dedicated to applicant's Federal "B" Well No. 1, located approximately 1983 feet from the North line and approximately 1538.46 feet from the East line of said Section 36.

CASE 1793: Application of Argo Oil Corporation, for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its B. T. Lanehart Well No. 1, Unit H, Section 21, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

CASE 1794: Application of Argo Oil Corporation for a 160-acre non-standard gas proration unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the E/2 NE/4 of Section 21 and the W/2 NW/4 of Section 22, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, said unit to be dedicated to its B. T. Lanehart Well No. 1, located 2310 feet from the North line and 990 feet from the East line of said Section 21.

CASE 1795: Application of Cities Service Oil Company and Late Oil Company for a 320-acre non-standard gas proration unit. Applicant, in the above-styled cause, seek the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the S/2 of Section 17, Township 24 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to Late Oil Company's Thomas Well No. 1, located 660 feet from the South and West lines of said Section 17.

CASE 1796: Application of Graridge Corporation for a capacity allowable for one well in a water flood project. Applicant, in the above-styled cause, seeks an order authorizing a capacity allowable for its Ventures State Well No. 306, located in the NE/4 NE/4 of Section 28, Township 18 South, Range 28 East, Artesia Water Flood Project No. 2, Eddy County, New Mexico.

CASE 1797: Application of Graridge Corporation for a dual injection-producing well. Applicant, in the above-styled cause, seeks permission to dually complete its Western-Yates State Well No. 14, located in the SW/4 NE/4 of Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico, in such a manner as to permit the injection of water into the "first" zone of the Grayburg formation in the Artesia Pool through the casing-tubing annulus and the production of oil from the "Lovington" zone in the Artesia Pool through tubing.

CASE 1798: Application of Great Western Drilling Company for approval of a unit agreement and for approval of a pilot water flood project. Applicant, in the above-styled cause, seeks an order approving its Rock Queen Unit Agreement which unit comprises approximately 4940 acres in Township 13 South, Ranges 31 and 32 East, Chaves and Lea Counties, New Mexico. Applicant proposes to institute a pilot water flood project on said Rock Queen Unit in the Caprock-Queen Pool by the injection of water into the Queen formation through six injection wells located in Sections 22 and 27, Township 13 South, Range 31 East. Applicant further seeks the establishment of an administrative procedure whereby additional wells in the unit may be converted to water injection.

CASE 1799: Application of Magnolia Petroleum Company for permission to commingle the production from six separate pools. Applicant, in the above-styled cause, seeks authority to commingle the production from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz-Abo Pool, Blinebry Gas Pool and Tubb Gas Pool underlying its E. O. Carson Lease comprising the W/2 SW/4 and SE/4 SW/4 of Section 28 and the SW/4 NE/4 and the NW/4 of Section 33, all in Township 21 South, Range 37 East, Lea County, New Mexico. Applicant proposes to separately meter the production from each pool prior to commingling.

CASE 1800: Application of Sunray Mid-Continent Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its D. Hardy Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Penrose-Skelly Pool and the production of oil from the Drinkard Pool through parallel strings of tubing.

CASE 1801: Application of Texaco Inc., for an order force pooling the interests in a 241-acre non-standard gas proration unit in the Eumont Gas Pool. Applicant, in the above-styled cause, holder of a 241-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the NE/4 of Section 5, Township

20 South, Range 37 East, and the S/2 SE/4 of Section 32, Township 19 South, Range 37 East, all in Lea County, New Mexico, seeks an order force-pooling all of the interests in said unit within the vertical limits of the Eumont Gas Pool, including interests of the following persons who have not consented to communitization: Kenneth F. Duncan; Walter L. Gockley; Eudeana B. Newcomb; Roy H. Nicolai, Administrator of Hal M. Nicolai Estate; Mrs. Frances L. Kramer; J. L. Reed; Estate of Dr. Ralph Sullivan, Edward A. Golden, Administrator; G. T. Hanners.

CASE 1802: Application of John H. Trigg for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Caprock-Queen wells on its Federal Trigg Lease in Sections 4 and 9, Township 14 South, Range 31 East, Chaves County, New Mexico.

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Graridge Corporation for a capacity allowable for one well in a water flood project. Applicant, in the above-styled cause, seeks an order authorizing a capacity allowable for its Ventures State Well No. 306, located in the NE/4 NE/4 of Section 28, Township 18 South, Range 28 East, Artesia Water Flood Project No. 2, Eddy County, New Mexico. Case 1796

BEFORE:
Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: The hearing will come to order, please. We will take next Case 1796.

MR. PAYNE: Application of Graridge Corporation for a capacity allowable for one well in a water flood project.

MR. CAMPBELL: Jack M. Campbell, Campbell and Russell, Roswell, New Mexico appearing on behalf of the Applicant. I have one witness. Mr. Ford.

(Witness sworn.)

TOM FORD

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

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ALBUQUERQUE, NEW MEXICO
PHONE CH 2-6691

DIRECT EXAMINATION

BY MR. CAMPBELL:

Q Will you state your name, please?

A I am Tom Ford.

Q Where do you live, Mr. Ford?

A Breckenridge, Texas.

Q By whom are you employed and in what capacity?

A Graridge Corporation, Manager of Production.

Q Are you an engineer? A Yes, sir.

Q Have you previously qualified as an engineer before this Commission or one of its Examiners?

A I have.

MR. CAMPBELL: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, sir.

Q Are you acquainted with the application of Graridge Corporation in Case No. 1796 relating to capacity allowable for one well in the Artesia Water Flood Project No. 2?

A I am.

(Marked Graridge's Exhibit No. 1, for identification.)

Q I refer you to what has been identified as Exhibit No. 1 in this case and ask you to state what that is, please.

A That is a plat showing a portion of the Artesia Field in

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PHONE CH 3-6691

Eddy County, New Mexico. Specifically shown is Section 28, Township 18 South, Range 28 East on which is located the Ventures State No. 306 well in the Northeast of the Northeast of that section.

Q Mr. Ford, is that well presently surrounded by water injection wells?

A It has three injection wells offsetting it, and we have applied for permission to put No. 5 on injection.

Q Have all of the wells which are already on water injection been placed on water injection under appropriate administrative orders of the Oil Conservation Commission?

A They have.

Q Has Ventures State Well No. 306 experienced stimulation as a result of the injection of water in the injection wells?

A It has.

(Marked Graridge's Exhibit No. 2, for identification.)

Q I refer you, Mr. Ford, to what has been identified as Exhibit No. 2 in this case and ask you to state what that is.

A This is a curve showing the production from this Well No. 306, Ventures State No. 306, showing the oil and water as shown by well test in each of three months.

Q Do you know what the production of this well, if any, was prior to stimulation?

A This well was a new well drilled knowing that the water flood pressure was building up on potential test on August 18, it made 8 oil and 5.77 water.

Q What is it making on the latest test?

A On the 10th and 24th it made 19.35 oil and 20.74 water.

Q Do you believe this well will continue to produce increasing amounts of oil as the water front moves toward it and past it?

A I do.

Q Do you believe that unless this well is granted a capacity allowable and permitted to produce at capacity that waste might result?

A I do.

MR. CAMPBELL: That's all.

MR. NUTTER: Does anyone have any questions of Mr. Ford?

MR. PAYNE: Yes, sir.

MR. NUTTER: Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Ford, in the order, or orders, approving this water flood project, do any of them set out a project area? As you know, some of our orders authorizing water floods establish a project area and others don't. I was wondering if this particular order,

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or orders, do establish a project water flood area.

A I cannot answer that question.

MR. CAMPBELL: It's Order R-966 and supplements thereto. I don't have the copies with me. I do not believe that this sets out a project area as such. I think it was before the Commission started using that procedure. The pilot area was approved and then we came in and showed what was anticipated on both Artesia Flood No. 1 and No. 2 on an overall project basis. I don't think the order specifically approved it as such, but it did set up administrative procedures in each flood for expansion, but not for capacity allowable.

MR. PAYNE: It does make reference to the water flood project area?

MR. CAMPBELL: Yes, sir, I'm sure it does.

MR. PAYNE: In the administrative procedure.

BY MR. NUTTER:

Q Mr. Ford, at the time this well was initially completed, I think you said August 18?

A Yes, that was the first potential test on it.

Q It made 8 barrels of oil and 5.77 --

A 5.77 water.

Q -- barrels of water. According to Graridge's calculations had the water front advanced to the point that this potential here represented an effect of the water flood or do you think

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that prior to the water flooding in the area you could have drilled a well at the location of 306 and gotten this same potential on the well?

A I really don't know. I would think that possibly there had been a slight result, in other words, 8 barrels I would think in that reservoir as it was before flooding. I think that would be more than you could expect. Most of the wells in the reservoir were producing two, three and four barrels a day.

Q But they weren't new wells?

A No, that's right.

Q But new wells you don't think would have come in with even the 8 barrels that you made on this initial potential?

A No, I do not.

Q You certainly don't feel that the potential would keep going up on a new well without the benefit --

A Oh, no, I'm positive it would not. We had drilled one or two wells in the area before water flood, before our water flooding got under way, and I believe specifically the No. 17 well, Duke State, and it made about a barrel or two a day.

Q I notice that the water production is also going up. Do you think that this water production will continue to go up or will this water production level off and oil production go up?

A That is very difficult to tell. As best we can find out from talking to people who have operated in the area for years

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

there is water on the east flank of this thing. We haven't been able to pin it down. We are logging every well as we're going along trying to get information, but we don't know the answer to that, whether that is kind of a finger up in that thing or whether possibly because No. 51 had more water in it than the other two wells, due to the nature of our expansion we might have a finger coming through from 51.

Q So, in other words, you are not sure whether the water you are producing is injected water or formation water that is present on the east flank there?

A That's correct.

Q Were both of these tests taken over a similar interval of time?

A Yes, those were twenty-four hour tests.

Q Full twenty-four hours?

A Yes. I also had one in, on September 25 which was 17.31 oil and 11.45 water.

MR. NUTTER: Does anyone have any further questions of Mr. Ford?

MR. CAMPBELL: I would like to offer Exhibits 1 and 2 in evidence.

MR. NUTTER: Craridge's Exhibits 1 and 2 will be admitted in evidence. Mr. Ford will be excused.

(Witness excused.)

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

MR. NUTTER: Does anyone else have anything further they wish to offer in Case 1796? We will take that case under advisement and take Case 1797.

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 4TH day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

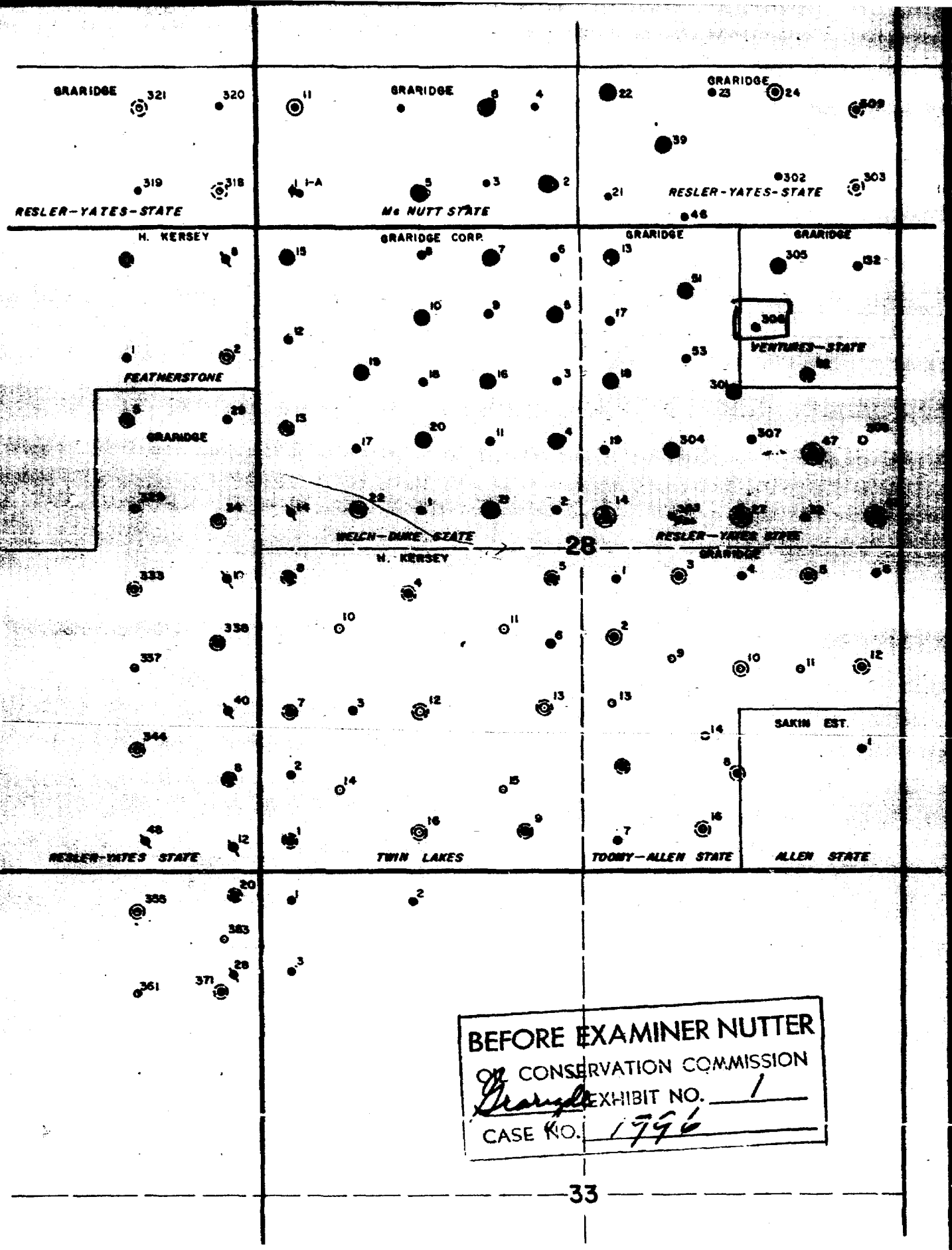
My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of case No. 1796, heard by me on 10-28, 1959.

....., Examiner
New Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Gravity EXHIBIT NO. 1
CASE NO. 1796

T 18 S — R 28 E

PORTION OF ARTESIA FIELD

Eddy County, New Mexico

Sept, 2, 1959

Scale: 1" = 1000'

Burke M.

NO. 32121. FIVE YEARS BY MONTHS X 3 3-INCH CYCLES RATIO RULING. CODEX BOOK COMPANY, INC. NORWOOD, MASSACHUSETTS

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 1796

ARTESIA FLOOD NO. 2
VENTURES STATE NO. 306 WELL

OIL & WATER PRODUCTION, BBLS. PER DAY BY TEST

1,00

5

Oil

Water

DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEP. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEP. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEP. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEP. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEP. OCT. NOV. DEC.

19 59 | 19 | 19 | 19 | 19



Case No.

1797

Application, Transcript,
Small Exhibits, Etc.

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

November 27, 1959

C

O

Mr. Jack Campbell
Box 766
Roswell, New Mexico

Dear Mr. Campbell:

P

On behalf of your clients, Graridge Corporation and John H. Trigg, we enclose two copies of Order No. R-1534 issued in Case 1797 and Order No. R-1536 issued in Case 1808, effective November 27, 1959.

Y

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

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. 1797
Order No. R-1534

APPLICATION OF GRARIDGE CORPORATION FOR A WATER INJECTION-OIL PRODUCTION DUAL COMPLETION IN THE GRAYBURG FORMATION AND THE LOVINGTON ZONE OF THE ARTESIA POOL, EDDY COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 28, 1959, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this ___ day of November, 1959, 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 proposes to recomplete the Western-Yates State Well No. 14, located in the SW/4 NE/4 of Section 28, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico, in such a manner as to permit the injection of water into the first zone of the Grayburg formation in the Artesia Pool and the production of oil from the Lovington zone in the Artesia Pool through the casing-tubing annulus and through 2-3/8 inch tubing, respectively.

(3) That the subject well was completed approximately 35 years ago; the condition of the casing presently in the hole is unknown, and there is an interval of 963 feet in the well which contains no casing.

(4) That if the application is granted, the applicant proposes to pull the 7-inch liner, and set new 5½-inch casing at 2500 feet with cement circulated.

(5) That the two zones in the proposed dual completion are separate and distinct producing intervals, separated by approximately 384 feet of impermeable shale.

(6) That as a matter of policy, the Commission looks upon water injection-producing dual completions with disfavor because of the risk of damage to the producing formation created by water injection.

(7) That if the application is denied, the applicant must drill a twin water injection well to complete the water injection pattern in the water flood project, leaving the subject well as a partially open hole completion to the Lovington zone of the Artesia Pool.

(8) That there is a distinct danger that water injected into the first zone of the Grayburg formation through an offsetting well, upon reaching that interval in the subject well, will pass through the open hole portion of said well and into the Lovington producing formation and might cause permanent injury to said producing formation.

(9) That approval of the dual completion proposed by the applicant would entail less risk of injury to the Lovington formation in the subject well than would result from injection of water through the twin well which would be drilled if the application were denied.

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

IT IS THEREFORE ORDERED:

That the applicant be and the same is hereby authorized to recomplete the Western-Yates State Well No. 14, located in the SW/4 NE/4 of Section 28, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico, in such a manner as to permit the injection of water into the first zone of the Grayburg formation in the Artesia Pool and the production of oil from the Lovington zone in the Artesia Pool through the casing-tubing annulus and through 2-3/8 inch tubing, respectively.

IT IS FURTHER ORDERED:

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or

convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order, after proper notice and hearing the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production or water injection, in the interests of conservation.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

ver/

LAW OFFICES OF
CAMPBELL & RUSSELL
P. O. P WHITE BUILDING
ROSWELL, NEW MEXICO

JACK M. CAMPBELL
JOHN F. RUSSELL

TELEPHONES
MAIN 2-4641
MAIN 2-4642

October 2, 1959

Set for hearing on Oct. 28 th
Case 1791

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

Dear Oliver:

I am enclosing herewith three copies of an Application by Graridge Corporation for capacity allowable for one well in the Artesia Flood No. 2 which we would like to have set for examiner hearing on October 28. I am hoping that the well will stay within the top limit until time for the hearing so that I can avoid requesting an emergency order.

I would also appreciate it, in the event you need to publish notice before I get the formal application in, to publish notice for another examiner hearing on October 28:

In the matter of the application of Graridge Corporation for authority to dually complete the Western-Yates State No. 14 well in the SW¼NE¼ of Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico, in Artesia Water Flood No. 2 for the injection of water in the First Grayburg Zone through the annulus between the tubing and casing and for the production of oil from the Lovington Zone through tubing.

It is my understanding that Graridge Corporation has requested the appropriate forms for such an application. I would appreciate it if you would send me about ten copies of the form for dual completions after hearing.

Docket Mailed 10-8-59 jb

With kindest regards, I am

Very truly yours,

Jack M. Campbell

Jack M. Campbell

JMC:np

cc: Mr. T. A. Ford
Graridge Corporation
P. O. Box 752
Breckenridge, Texas

Mr. Bill Macey
Western Development Company
Artesia, New Mexico

P.S. I understand Oct. 28th is next examiner hearing.
In any event please set for earliest hearing.
Jmc

GRARIDGE CORPORATION
IBEX BUILDING POST OFFICE BOX 752
BRECKENRIDGE, TEXAS

Case 1797

October 15, 1959

Kersey & Company
P. O. Box 305
Artesia, New Mexico

Dear Sir:

It is the desire of Graridge Corporation to dual complete the Resler Yates State No. 14 well located in Unit Letter "G", Section 28, Township 18S, Range 28E, Eddy County, New Mexico in order to expand the water injection program in the Artesia No. 2 Flood.

A twenty-day waiting period is set up by the Commission unless waivers are obtained from all operators offsetting the proposed expansion.

In order to expedite matters, please sign and return one copy of this letter to this office, if your company has no objection to the proposed dual completion.

Yours very truly,

GRARIDGE CORPORATION

S. H. Lindley, Jr.
S. H. Lindley, Jr.
Engineer

Signed by Howard Kersey
For KERSEY & Co.

SHLjr:gl

GRARIDGE CORPORATION
IBEX BUILDING POST OFFICE BOX 752
BRECKENRIDGE, TEXAS

October 20, 1959

Oil Conservation Commission
State Capitol Building
Santa Fe, New Mexico

Re: Dual Completion Application
For Resler Yates State Well
No. 14, Unit Letter G, Sec.
28, T-18S, R-28E, Eddy County
New Mexico

Gentlemen:

Enclosed are applications to dual complete the above captioned well.

The attachments include the following:

1. A diagrammatic sketch of the dual completion, showing casing strings, size and settings, perforated intervals, tubing strings, size and setting depth, location and type of packer, and amount of cement used.

2. Plat showing the location of all wells on applicant's lease and all offset leases.

3. Electric log showing tops and bottoms of formations concerned. The enclosed electric log was unable to reach the total depth of 2500', but from drillers log, the bottom of the Lovington formation is 2480'.

A waiver form is being sent to Kersey and Company with a copy of this application. This waiver will be forwarded to you as soon as it is received.

The cooperation of the Oil Conservation Commission in expediting this request would be greatly appreciated.

Very truly yours,

GRARIDGE CORPORATION

S. H. Lindley, Jr.

S. H. Lindley, Jr.
Engineer

SHLjr:gl

Attachments

No. 37-59

DOCKET: EXAMINER HEARING OCTOBER 28, 1959

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary.

CONTINUED CASES

CASE 1761: Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

CASE 1782: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Eunice King Well No. 10, located 660 feet from the North line and 1980 feet from the East line of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock Pool and the production of oil from the Wantz-Abo Pool through parallel strings of tubing.

NEW CASES

CASE 1792: Application of Amerada Petroleum Corporation for an oil-oil dual completion and for three non-standard oil proration units. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Federal "B" Well No. 2, located approximately 1983 feet from the North line and approximately 548.5 feet from the East line of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico, in such a manner as to produce oil from the Bronco Siluro-Devonian Pool and oil from an undesignated Mississippian pool. Applicant further proposes the establishment of three 40-acre non-standard oil proration units in the NE/4 of said Section 11. Two of such units are to be dedicated to the said Federal "B" Well No. 2, one in the Bronco Siluro-Devonian Pool, the other in an undesignated Mississippian pool. The third proposed unit is to be in the Bronco Siluro-Devonian Pool and is to be dedicated to applicant's Federal "B" Well No. 1, located approximately 1983 feet from the North line and approximately 1538.46 feet from the East line of said Section 36.

CASE 1793: Application of Argo Oil Corporation, for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its B. T. Lanehart Well No. 1, Unit H, Section 21, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

CASE 1794: Application of Argo Oil Corporation for a 160-acre non-standard gas proration unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the E/2 NE/4 of Section 21 and the W/2 NW/4 of Section 22, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, said unit to be dedicated to its B. T. Lanehart Well No. 1, located 2310 feet from the North line and 990 feet from the East line of said Section 21.

CASE 1795: Application of Cities Service Oil Company and Late Oil Company for a 320-acre non-standard gas proration unit. Applicant, in the above-styled cause, seek the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the S/2 of Section 17, Township 24 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to Late Oil Company's Thomas Well No. 1, located 660 feet from the South and West lines of said Section 17.

CASE 1796: Application of Graridge Corporation for a capacity allowable for one well in a water flood project. Applicant, in the above-styled cause, seeks an order authorizing a capacity allowable for its Ventures State Well No. 306, located in the NE/4 NE/4 of Section 28, Township 18 South, Range 28 East, Artesia Water Flood Project No. 2, Eddy County, New Mexico.

CASE 1797: Application of Graridge Corporation for a dual injection-producing well. Applicant, in the above-styled cause, seeks permission to dually complete its Western-Yates State Well No. 14, located in the SW/4 NE/4 of Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico, in such a manner as to permit the injection of water into the "first" zone of the Grayburg formation in the Artesia Pool through the casing-tubing annulus and the production of oil from the "Lovington" zone in the Artesia Pool through tubing.

CASE 1798: Application of Great Western Drilling Company for approval of a unit agreement and for approval of a pilot water flood project. Applicant, in the above-styled cause, seeks an order approving its Rock Queen Unit Agreement which unit comprises approximately 4940 acres in Township 13 South, Ranges 31 and 32 East, Chaves and Lea Counties, New Mexico. Applicant proposes to institute a pilot water flood project on said Rock Queen Unit in the Caprock-Queen Pool by the injection of water into the Queen formation through six injection wells located in Sections 22 and 27, Township 13 South, Range 31 East. Applicant further seeks the establishment of an administrative procedure whereby additional wells in the unit may be converted to water injection.

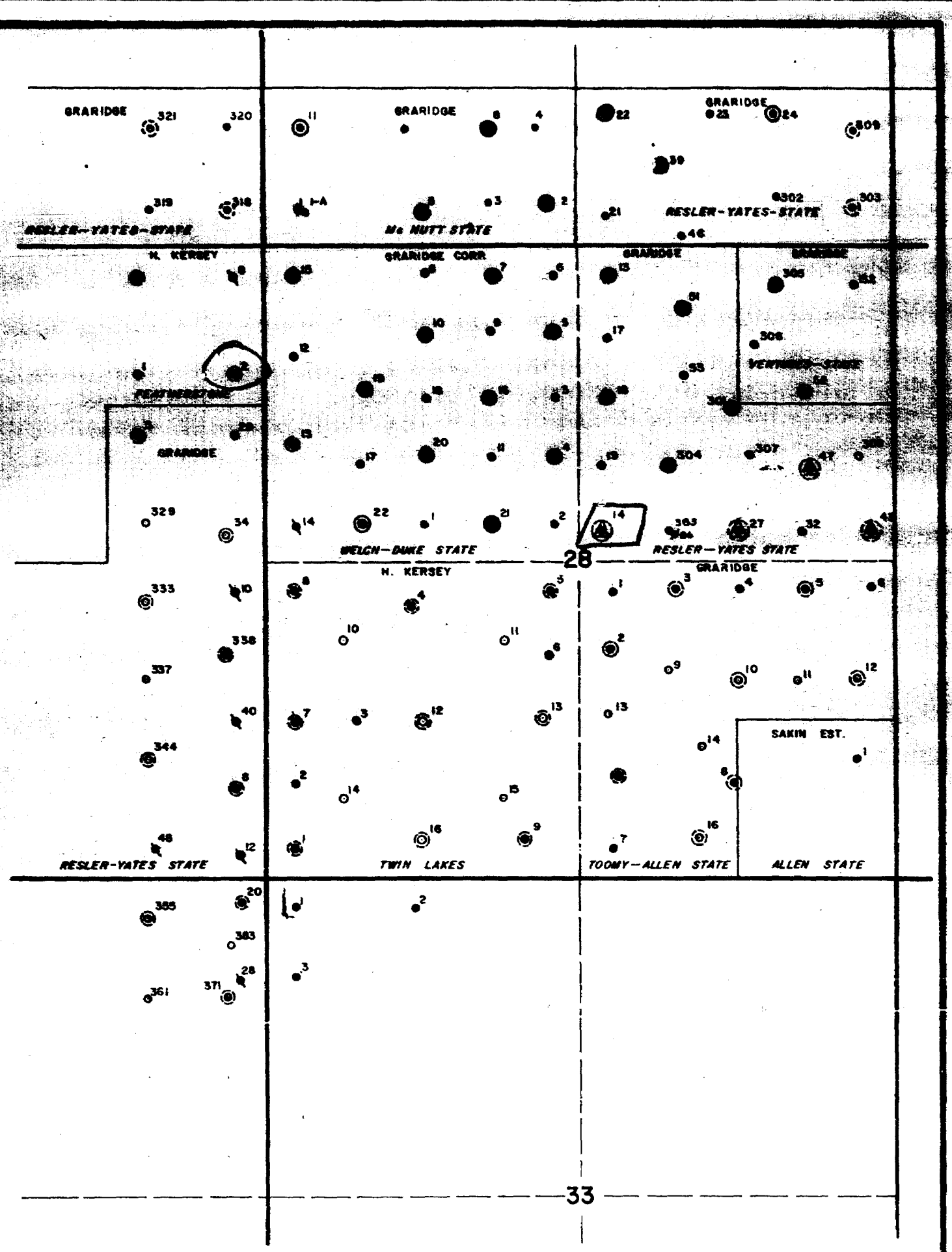
CASE 1799: Application of Magnolia Petroleum Company for permission to commingle the production from six separate pools. Applicant, in the above-styled cause, seeks authority to commingle the production from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz-Abo Pool, Blinebry Gas Pool and Tubb Gas Pool underlying its E. O. Carson Lease comprising the W/2 SW/4 and SE/4 SW/4 of Section 28 and the SW/4 NE/4 and the NW/4 of Section 33, all in Township 21 South, Range 37 East, Lea County, New Mexico. Applicant proposes to separately meter the production from each pool prior to commingling.

CASE 1800: Application of Sunray Mid-Continent Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its D. Hardy Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Penrose-Skelly Pool and the production of oil from the Drinkard Pool through parallel strings of tubing.

CASE 1801: Application of Texaco Inc., for an order force pooling the interests in a 241-acre non-standard gas proration unit in the Eumont Gas Pool. Applicant, in the above-styled cause, holder of a 241-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the NE/4 of Section 5, Township

20 South, Range 37 East, and the S/2 SE/4 of Section 32, Township 19 South, Range 37 East, all in Lea County, New Mexico, seeks an order force-pooling all of the interests in said unit within the vertical limits of the Eumont Gas Pool, including interests of the following persons who have not consented to communitization: Kenneth F. Duncan; Walter L. Gockley; Eudeana B. Newcomb; Roy H. Nicolai, Administrator of Hal M. Nicolai Estate; Mrs. Frances L. Kramer; J. L. Reed; Estate of Dr. Ralph Sullivan, Edward A. Golden, Administrator; G. T. Hanners.

CASE 1802: Application of John H. Trigg for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Caprock-Queen wells on its Federal Trigg Lease in Sections 4 and 9, Township 14 South, Range 31 East, Chaves County, New Mexico.



T 18 S — R 28 E

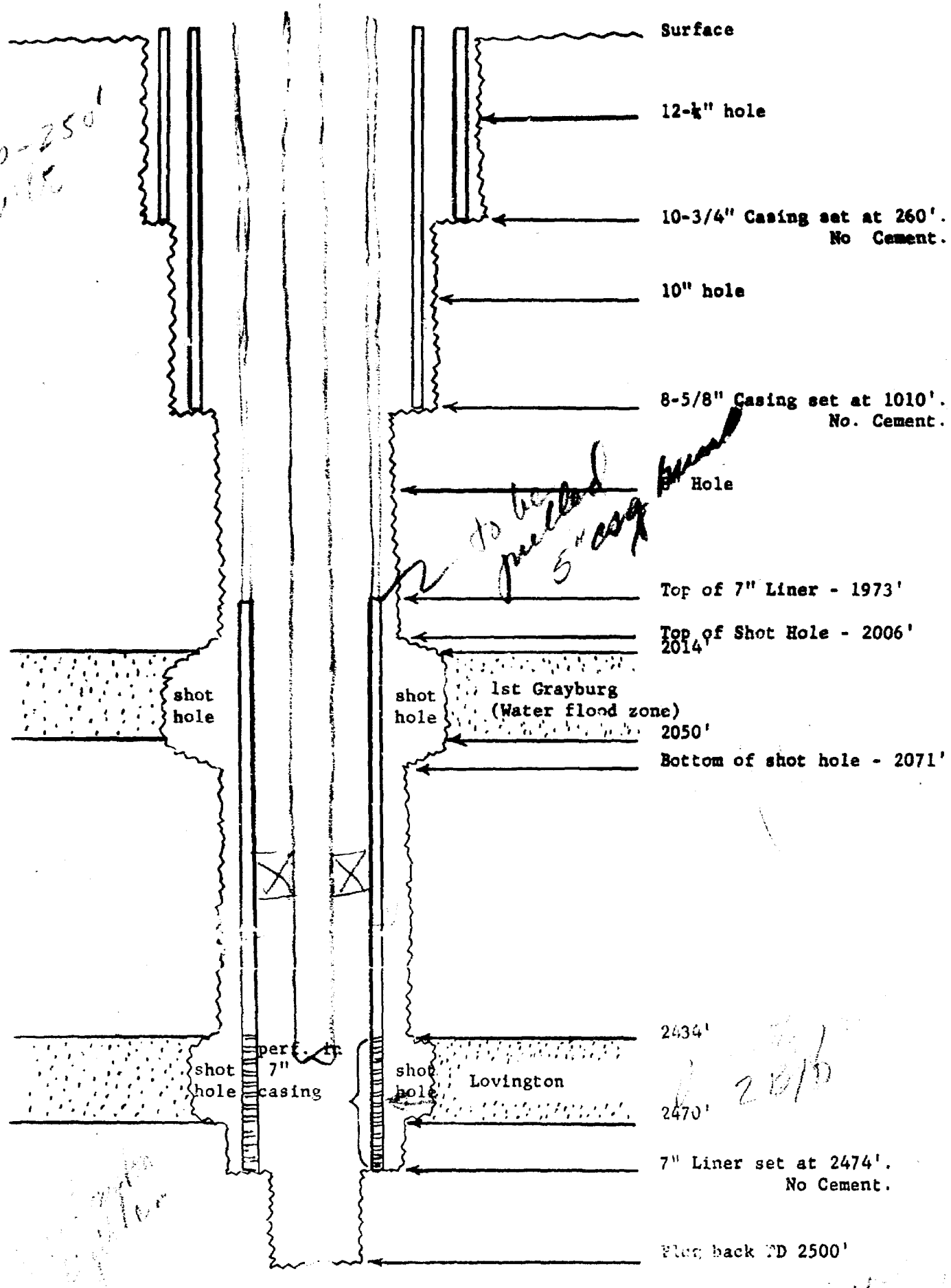
PORTION OF ARTESIA FIELD

Eddy County, New Mexico

Sept, 2, 1959 Ex. # 1 (179)

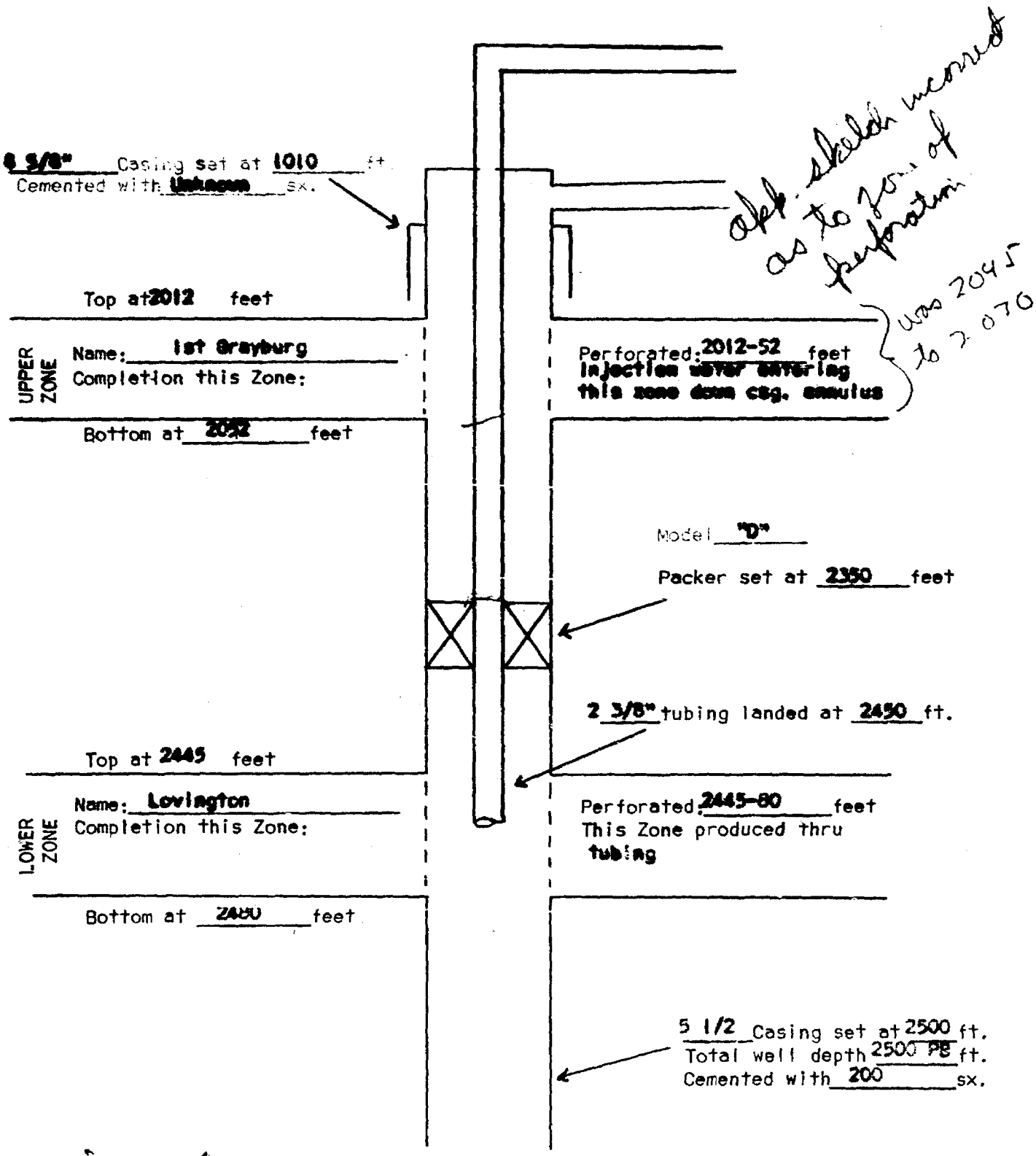
Scale: 1" = 1000'

SCHEMATIC DIAGRAM OF WESTERN YATES STATE #14
SW/4, NE/4, Sect. 28, T18S, R28E
Eddy County, New Mexico, as of 10/28/59



Proposed

DIAGRAMMATIC SKETCH SHOWING DUAL COMPLETION INSTALLATION



Oper. should inquire as to zone of perforation

was 2045 to 2070

interval of some 400' between 2 zones is impermeable

Ex. #3 (1797)

open hole interval not cmtd. by casing has not been cemented

that is in the hole

Western Development Company *of Delaware*

SENA PLAZA, SANTA FE, NEW MEXICO
TELEPHONE 3-5568
P. O. Box 427
Artesia, New Mexico
October 26, 1959

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 1797

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

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

Re: Case No. 1797
Application of Graridge Corporation
for Dual Injection - Producing well

Gentlemen:

The above captioned case is to be heard on October 28, 1959, in Santa Fe, New Mexico. This Company and Yates Brothers of Artesia, New Mexico, are the owners and operators of the well in question. At the present time we are pumping this well at the rate of 2 BOPD from the Lovington Sand zone of the San Andres formation in the Artesia Pool. This well is at present on the south side of a water flood project being conducted by the Graridge Corporation. Our predecessors, Resler Oil Company and Yates Brothers farmed out the rights to the "old field pay zone" currently being flooded by Graridge.

In order to prevent waste it is imperative that this application be approved. As will be explained in the testimony in the case, it is necessary that some remedial work be done on the well insofar as the "old field pay zone" is concerned. This work is necessary in order that the flood in this area will be successful. While the Lovington Sand zone is certainly not an important oil reserve, it obviously will have to be abandoned if the application is not approved, and as a result, any remaining recoverable reserve would be lost.

The danger of any water leakage by way of packer failure and resultant damage to the Lovington Sand reservoir is virtually nil since a leak would be immediately recognizable by (1) decreased injection pressure and (2) the appearance of water in the producing column of the Lovington Sand interval. It is extremely doubtful that water could hurt the Lovington Sand reservoir since we have had considerable success in the area using fresh water as a fluid in fracturing sand wells.

This Company and Yates Brothers have indicated verbal approval of an Operating Agreement with Graridge for the joint operation of this well. The Commission's approval of this application will result in a greater recovery of oil from both the "oid field pay zone" and the Lovington Sand zone without any danger of waste or impairment of correlative rights.

Yours very truly,

WESTERN DEVELOPMENT COMPANY
of Delaware

W. B. Macey
Vice President

WBM:fb

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name			County	Date
Artesia			Eddy	October 15, 1959
Operator		**Lease**		**Well No.**
Graridge Corporation		Resler Yates State		14
Location of Well	**Unit**	**Section**	**Township**	**Range**
	G	28	18S	28E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES _____ NO X

2. If answer is yes, identify one such instance: Order No. _____ ; Operator, Lease, and Well No.:

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	1st Grayburg	Lovington
b. Top and Bottom of Pay Section (Perforations)	2012 → 2048-2070 2052 The above interval	2445-2480 The above interval
c. Type of production (Oil or Gas)	Water to be injected	Oil
d. Method of Production (Flowing or Artificial Lift)	Into	Artificial Lift

4. The following are attached. (Please mark YES or NO)

Yes a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.

Yes b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.

Yes c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*

Yes d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Kersey & Company, Box 305, Artesia, New Mexico

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO ____. If answer is yes, give date of such notification October 15, 1959.

CERTIFICATE: I, the undersigned, state that I am the Engineer of the Graridge Corporation (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

A. H. Lindley Jr. S.H. Lindley, Jr.
Signature

* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Graridge Corporation for a dual injection-producing well. Applicant, in the above-styled cause, seeks permission to dually complete its Western-Yates State Well No. 14, located in the SW/4 NE/4 of Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico, in such a manner as to permit the injection of water into the "first" zone of the Grayburg formation in the Artesia Pool through the casing-tubing annulus and the production of oil from the "Lovington" zone in the Artesia Pool through tubing.

Case 1797

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. PAYNE: Application of Graridge Corporation for a dual injection-producing well.

MR. CAMPBELL: John M. Campbell, Campbell and Russell, Roswell, New Mexico, appearing on behalf of the Applicant. I have one witness, Mr. Ford.

MR. PAYNE: Let the record show that Mr. Ford was sworn in the previous case.

TOM FORD

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



DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

DIRECT EXAMINATION

BY MR. CAMPBELL:

Q State your name, please. A I am Tom Ford.

Q You are the same Tom Ford who testified in Case 1796?

A I am.

Q Mr. Ford, are you acquainted with the application of Graridge Corporation for a dual water injection oil producing well in the Artesia Pool in Eddy County, New Mexico?

A I am.

Q Are you acquainted with the general, with the application that was filed with the Commission for this particular well?

A I am.

Q Was there attached to that a diagramatic sketch of the dual completion?

A Yes, sir.

Q Was there attached a plat showing the location of the wells on the lease and offset leases?

A Yes.

Q And electric log showing the tops and bottoms of formations concerned insofar as this well is concerned?

A Yes, sir.

(Marked Graridge's Exhibit No. 1, for identification.)

Q Mr. Ford, I refer you to what has been marked as Exhibit

No. 1 in this case and ask you to state what that is.

A This is a map of a portion of the Artesia Field in Eddy County, New Mexico, specifically Section 28, Township 18 South, Range 28 East is featured marked with a red square as the No. 14 State Well.

Q Now, Mr. Ford, are you acquainted with the owner of the acreage underlying that well and the ownership of the well itself?

A I am.

Q Will you state to the Examiner what the situation is with regard to that ownership, please?

A This property was owned several years ago by the Resler Oil Company and the Yates Brothers of Artesia. At the time we purchased the first Grayburg Zone from them with the intent of water flooding it. So specifically the Northeast Quarter of Section 28, we own the first Grayburg Zone, Resler, Yates, Resler Oil Company and the Yates Brothers retained all other producing horizons. Later Resler Oil Company sold their interest to the Western Development Company of, a Delaware Corporation I believe they are. So now, Western Development Company and the Yates Brothers own all zones except the first Grayburg Zone which we are water flooding in the area.

Q What problem did that present with regard to this particular well, Mr. Ford?

A They retained this well, they retained several wells in

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here, but this well specifically was retained by the Resler-Yates interest which later became the Western-Yates interest, and it is producing from the Lovington pay at some 24, 2500 feet. We are interested in the pay in the first Grayburg pay, as I mentioned previously.

Q Are those two pays separated, separate pays?

A Yes, they are.

Q Geologically, I'm speaking.

A Geologically they are separate pays.

Q So then it was necessary for you to try to work out some sort of an arrangement where you could flood the first Grayburg zone without affecting the Lovington pay, isn't that correct?

A That is correct. We were specifically required by the contract of sale to protect their zones in any wells that they retained.

(Marked Graridge's Exhibit No. 2, for identification.)

Q I hand you what has been identified as Exhibit No. 2 in this case and ask you to state what that is, what the diagramatic sketch is.

A This is a diagramatic sketch of this well we're talking about, the Western-Yates State No. 14.

Q This is its present status?

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A This is its present status. The well was drilled some thirty-five years ago and it has changed ownership several times. Its history is somewhat vague so we went in and logged the well and gamma ray log and also a caliper log, trying to find out its present status. This sketch shows the best we know of its present status.

Q What does it show?

A It shows that it was originally drilled at a twelve quarter hole to about 260 feet and ten and three-quarter casing was set there. Whether that casing is still there or not we have no way of knowing. Next they drilled a ten inch hole to a thousand and ten feet and set eight and five-eighths casing. We assume it is not cemented, we have no way to know except that most of the wells, when these wells were being drilled, most of them were not cemented.

Drilled an eight inch hole on down and this is a presumption, but presumably they completed in this first Grayburg zone and shot it with nitroglycerin. At some later date they went in and drilled a well on down to the Lovington pay and shot it with nitroglycerin. Apparently there was a considerable caving in the Lovington zone, or possibly from the first Grayburg down to the Lovington, so they set a liner in there to restrain caving, a perforated liner. As best we can tell from the records, that reflects the situation of the well right at this time.

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(Marked Graridge's Exhibit No. 3, for identification.)

Q I refer you to what has been identified as Exhibit No. 3 in this case and ask you to state what that is, please.

A This is a diagramatic sketch showing the proposed dual completion installation. In this installation we would propose to allow Western-Yates to produce oil from their Lovington pay zone and to allow us to inject water between the tubing and casing in the annulus between the tubing and casing into the first Grayburg pay.

I would mention that the original sketch that came in with the application was incorrect as to the zone to be perforated in the first Grayburg. The gamma ray kind of went crazy in that zone and we had to interpret that between several surrounding wells.

Q What is the change from the application attachment to the Exhibit No. 3, please?

A I believe you have that application. I don't have a copy of that.

Q The attachment shows the perforation in the first Grayburg to be 2,045 to 2,070?

A That is correct. This new sketch which is corrected is 2,012 to 2,052. We drilled a nearby well and were able to interpret that better.

Q Will you explain to the Examiner what you propose to do with this well under an agreement with the present owners of the well and those who are producing from the Lovington pay?

A Referring back to Exhibit 2, we would propose to go in and remove the seven inch liner completely. This may be impossible, but if it is possible we would remove this liner completely, clean out the well completely, set five and a half inch casing to a depth of 2500 feet and cement it probably to the surface. We would then go in and perforate the Lovington formation, Western-Yates would do this, it being their pay. They would frack it as necessary and complete it as a suitable producer.

We would then set a Model D Baker packer at 2350 feet and put a temporary plug in it, and we would complete our first Grayburg zone by perforations from 2,012 to 52 and test it to see if it would take water satisfactorily. If it would, we would remove the plug from the Baker packer, run tubing, and we will inject water down the annulus between the tubing and the casing into the first Grayburg zone. Western-Yates would produce oil from the Lovington through the tubing.

Q And, of course, this would be conditioned upon your ability to move the liner from the well and get the well in condition where this type of installation could be put in the well, is that right?

A That is correct. That would be a condition that

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if we got that liner out, then that is what we could do. If we cannot remove the liner, we would remove as much as possible and cement in five and a half inch at least through our first Grayburg zone and be sure that it was shut off and into the seven inch casing and through our zone so we could still make a completion that way. It would have the disadvantage that Western-Yates could not satisfactorily frack their Lovington zone, but we could inject into the Grayburg zone.

Q With regard to that Lovington zone, what is the present producing capacity from that particular pay?

A The well produces two barrels a day. We assume that it is coming from the Lovington zone. It is conceivable from the shape that the well is in now, that part of it could be coming from this upper zone, from the first Grayburg zone.

Q Are the wells completed to that Lovington pay limited in number in the area?

A No. I would say there are at least fifteen or twenty of them in the general area.

Q You had the obligation under purchase contract to protect the Lovington pay zone whenever you go into the area for injection of water?

A That is correct.

Q How would you detect any water leakage in connection with an installation of any type, Mr. Ford?

A The most obvious way would be a drop in pressure, a drop of our injection pressure, we would immediately suspect that we had a packer leakif our water pressure dropped. Another way would be that you would, if we had a leak in the packer or in the tubing you would immediately start producing water and probably considerable amounts of water from this Lovington zone.

Q Do you believe if this well is recompleted in this manner that it will perhaps result in the ultimate recovery of more oil from the Lovington pay than will be recovered from the well in its present condition?

A Yes, very definitely.

Q Suppose you were to drill another water injection well in the vicinity of this well, which you would have the right to do I assume, down to the first Grayburg zone. What risk would be involved from the point of view of waste if you were to do that in lieu of an installation of this sort?

A Water would immediately channel through the first Grayburg zone and wash into this well and up and over the liner and quickly wash all sorts of deposits. It would literally drown the Lovington producing zone in this well.

Q This is due to the nature of the completion of this well and its present status?

A That is correct.

Q Do you believe that if you are permitted to make this

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attempt at least at this dual completion that it will result in the prevention of waste?

A I do.

MR. CAMPBELL: I believe that's all I have at this time.

MR. NUTTER: Any questions of Mr. Ford?

MR. PAYNE: Yes, sir.

MR. NUTTER: Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q What you call the Lovington zone, Mr. Ford, is now producing on primary, is that right?

A That is correct.

Q What is the producing mechanism in this pool or in each of these zones, if it might be different?

A As best I know, it's a solution gas drive in the Lovington and, of course, in the Grayburg zone it was solution gas drive, but is now water flood.

Q Now, what is your proposed injection rate into this well, and do you propose to inject by pressure or as it gravity flow?

A It will be by pressure. We carry normally about a thousand to twelve hundred pounds in our water flood in that area. I would assume we would use that full pressure, and we would probably, with that pressure, inject something like 250

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barrels a day.

Q What would that make the pressure at the packer?

A Roughly a thousand pounds plus the thousand pounds at surface, or twelve hundred pounds at surface, about 2200 pounds per square inch.

Q What is the packer designed to withstand?

A I can answer you that, but I would, they regularly run on up ten thousand feet deep and just almost any pressure.

Q In other words, you feel the packer could withstand the 2200 pounds per square inch?

A With ease. We have run them in similar situations in Texas where we have similar duals as deep as 4,000 feet, so I think there would be no question of the packer.

Q I believe you testified that if you drilled another injection well, the water might go down and could drown out the Lovington zone?

A Correct.

Q Now, even if your installation, the water got down to the Lovington zone by way of the packer or by way of a leak, the same result might be forthcoming, you might drown out the Lovington zone?

A No, I don't believe so for this reason: when I say drown it out, if you can visualize another well sitting over here ten feet, say fifty feet away, obviously, and I'm putting in 250

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barrels a day, then if this 250 barrels a day shoots the gap and comes into this well bore, then I'm putting 250 barrels in there a day now. When I say drown it out it wouldn't literally do that if they would install enough equipment to handle all of that 250 barrels a day. I think they would still get their two barrels of oil a day.

Q Are there any fresh waters in the area?

A Again that is something that is very difficult to tell, except on the log they do show that I believe it was 240 to 250 that there was fresh water.

Q Wouldn't it be safer in such a case to inject the water down tubing rather than through the annulus?

A It would present a rather involved completion in that you would have to go to two packers and across over. It could be done but we feel that with two strings of casing already in there, presuming this ten and three-quarter string isn't there, and then putting a third string in there and cementing it to the surface, that we would have excellent control.

Q Now, what leads you to the conclusion that these are separate and isolated zones in the Artesia Pool, this first Grayburg and the Lovington?

A They're about 400 feet apart.

Q Are there any dual producing wells in this pool, one producing from the upper zone and one producing from the lower?

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A Not that I know of.

Q So that for proration purposes at least it's treated as one horizon?

A I would think so, yes.

MR. PAYNE: Thank you.

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

MR. FLINT: Does the Lovington formation make any water at this time? I imagine it's hard to judge from this well, but from surrounding wells do you have any information on that?

A As best I know it does not, it might make a small quantity, but it's negligible.

MR. CAMPBELL: I have a letter here addressed to the Commission I was going to read from the Western Development Company of Delaware that owns the well that might cast some light on the Lovington pay situation there. If I may be permitted to read it at this time and then offer it in evidence, it's addressed to the Oil Conservation Commission, dated and signed by W. B. Macey. "Gentlemen: The above captioned case is to be heard on October 28, 1959, in Santa Fe, New Mexico. This Company and Yates Brothers of Artesia, New Mexico, are the owners and operators of the well in question. At the present time we are pumping this well at the rate of 2 BOPD from the Lovington Sand zone of the San Andres formation in the Artesia Pool. This well is at present on the south side of a water flood project being conducted by the Graridge

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Corporation. Our predecessors, Resler Oil Company and Yates Brothers farmed out the rights to the "old field pay zone" currently being flooded by Graridge.

In order to prevent waste it is imperative that this application be approved. As will be explained in the testimony in the case, it is necessary that some remedial work be done on the well insofar as the "old field pay zone" is concerned. This work is necessary in order that the flood in this area will be successful. While the Lovington Sand zone is certainly not an important oil reserve, it obviously will have to be abandoned if the application is not approved, and as a result, any remaining recoverable reserve would be lost.

The danger of any water leakage by way of packer failure and resultant damage to the Lovington Sand reservoir is virtually nil since a leak would be immediately recognizable by (1) decreased injection pressure and (2) the appearance of water in the producing column of the Lovington Sand interval. It is extremely doubtful that water could hurt the Lovington Sand reservoir since we have had considerable success in the area using fresh water as a fluid in fracturing sand wells.

This Company and Yates Brothers have indicated verbal approval of an Operating Agreement with Graridge for the joint operation of this well. The Commission's approval of this application will result in a greater recovery of oil from both the

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"old field pay zone" and the Lovington Sand zone without any danger of waste or impairment of correlative rights."

I would like to offer this letter in evidence, have it marked and offered in evidence for the record in the case.

MR. PAYNE: Mr. Ford, is anybody in this pool flooding the Lovington zone?

A Not in the immediate area, no, sir.

BY MR. NUTTER:

Q What do these triangular well symbols indicate on your exhibit?

A Actually those are the wells that are still owned by Western-Yates.

Q Which are the wells that are completed in the Lovington zone of the San Andres?

A Those same wells.

Q Do you know if any steps are being taken to protect them from the effects of the water flood in the area?

A We have discussed that with Western-Yates and what we have agreed to do is for them to take producing tests on those wells, and as I pointed out, the wells are so old that the records are of doubtful value. We'll probably go in just as we did this well and log them in every way we can think of and get the information. So we have to start on those right away too.

Q Well, now, I note that on this Exhibit No. 1 there are

four wells with a triangular symbol and they all happen to fall in the water injection well pattern.

A That is correct.

Q Are there any Lovington wells that don't fall in the water injection pattern?

A No.

Q So in all probability should this application be approved, you would propose some similar installation for these others?

A Yes, sir.

Q You stated that you believed there had been some cavein problem in the first Grayburg zone and possibly also in the Lovington zone. Do you think that with this cavein problem you'll be able to pull this seven inch liner? You think it's more likely that you will be able to pull it or not be able to pull it?

A I think we'll be able to get it, but it's conceivable that we might not.

Q If you can't pull all of it, you are going to shoot it off and pull as much as you can?

A That is the plan. It will become almost an operating problem from day to day as to what we can do with it, working hand in hand with Western-Yates.

Q Assuming that you can't get it all but you are able to get a portion of it, will the five and a half inch pipe go down

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below the top of the seven inch liner after you have pulled it out and cut some of it?

A Yes, it will go down and we will set a packer. It will go below where we cut it off and be set on a packer shoe in an attempt to protect the Lovington.

Q How would you cement that in?

A You would have ports above your packer shoe that would allow your cement to come back up. It's conceivable that your cement could come back up, come over the top of the liner and come back down and get into the Lovington.

Q That's what I was wondering, if you could cement the Lovington off that way.

A That's just something you never know as to how much caveins are behind the liner. You would assume there are caveins behind the liner so that you cannot cement the pay.

Q Well now, do you think that the caveins behind the liner would be such that perhaps if you flooded the Grayburg zone with another well in the same area that you might not flood the Lovington, or would the caveins be permeable enough that the water would go down to the Lovington?

A I think the caveins, well, that's very much, very much an opinion, but I would think that the water would go down to the Lovington through the caveins with that much pressure.

Q In any event, whether you get all the seven inch liner

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or none of it or just a portion of it, the five and a half inch pipe would be cemented to the surface?

A Yes. If we cannot get all of the seven inch liner, we will, as I say, set this pipe in there and cement it, and it's very possible that the Western-Yates will not want to produce their Lovington pay because if they don't have casing cemented through it they can't frack it and make it a decent well. They'll probably just leave it there until we get through water flooding and maybe put it back on making two barrels a day, but we're just, if we can't get that liner out we are going to have to sacrifice the Lovington pay.

Q Do you plan to use new pipe for the five and a half inch string?

A Yes, sir. Western-Yates informs me that as far as completing this Lovington, as the situation stands now, as the economic situation stands for them, if the first Grayburg wasn't even there, if it was no problem at all they feel that they could run five and a half and even if the liner wasn't there they could run in five and a half inch, fish the liner out, run five and a half inch, cement and frack this Lovington and the money that they would recover from it based on the experience in the area would just about pay for the job, the string of pipe, the frack job, and all, but since we have to go in there in any way the additional 400 feet of pipe is very small cost, and seeing it's a joint effort

we agreed to furnish it.

Q Including the extra 400 feet?

A Including the extra 400 feet. So they will have a chance at fracking their Lovington zone and making some oil. If we don't go this route, the chances are it will never be fracked.

Q Now, I realize that the records on these wells are rather hazy, but what is the formation between the first Grayburg and the Lovington section, is that a shale or just what is that, do you know?

A I couldn't say.

MR. CAMPBELL: Doesn't the log reflect it?

A Yes, probably would.

Q Mr. Ford, do you know of any plans that Graridge may have or Western Development, or anyone else for that matter, for flooding the Lovington Sand some day?

A We have no interest in it so we cannot flood it. I would think that Western-Yates must have that in the back of their mind that at some future time, I would judge that you have fifteen to twenty wells in it, anyway probably more, but they do run generally south of this Grayburg production.

Q So you haven't made any study of it to determine the desirability of flooding it?

A No, no study at all, no.

MR. NUTTER: Does anyone else have any questions of

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Mr. Ford?

MR. PAYNE: I have a question.

BY MR. PAYNE:

Q That doesn't relate particularly to this case, but assuming that you had a project allowable in a water flood and the injection well would also receive an allowable, presumably so that in this case you would have an allowable for an injection well and allowable for a producing well, and yet at the same time if you had two primary wells you would only get one allowable. That doesn't seem quite right, does it?

A Wouldn't you be able to divide, I don't know your procedure, but I would assume can't you divide your well up into two fields vertically?

Q Yes, assuming there are two separate fields. Assuming this is one pool, which it has been treated as in the past at least from the standpoint of proration, you would get one allowable per 40-acre tract, you could divide that up between two producing wells but our allocation you see when it was water flooded you would get a full allowable for the injection well and a full allowable for the producing well.

MR. CAMPBELL: The question is rather theoretical. In most areas where you are water flooding above areas where you only get two barrels of oil a day.

MR. PAYNE: I would like to get the thinking of the

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engineers while they're available.

A Actually I say that the first Grayburg developed was produced good before the days of proration. By the time the proration came along it was down to two, three, four, five barrels a day. Then I don't know what happened when they deepened to the Lovington zone, but they probably couldn't make any more than their 40 barrels a day or whatever their allowable was, so there was no real reason to set up a separate field. They probably should be theoretically the Artesia-Grayburg Field, and the Artesia-Lovington Field, but there has been no allowable reason for doing so.

MR. PAYNE: I see, thank you.

MR. NUTTER: Any further questions of Mr. Ford? He may be excused.

(Witness excused.)

MR. CAMPBELL: I would like to offer Exhibits 1 through 4 in evidence.

MR. NUTTER: Graridge Exhibits 1 through 4 will be entered. Does anyone have anything further they wish to offer in Case 1797? We'll take the case under advisement and recess the hearing until one-fifteen.

(Whereupon a recess was taken until one-fifteen.)

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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 7th day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

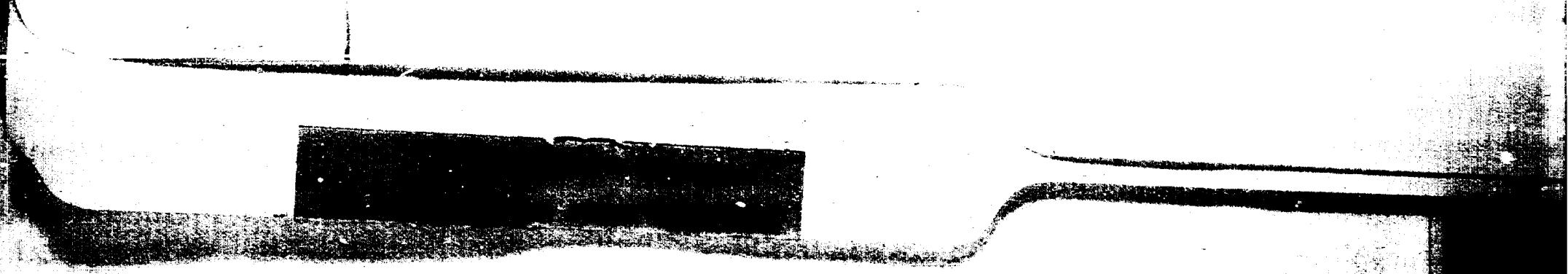
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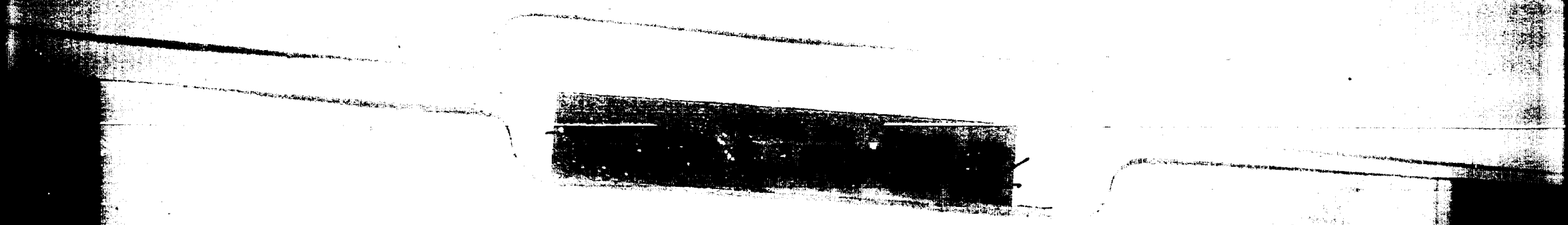
June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1797, heard by me on 10-28, 1959.

....., Examiner
New Mexico Oil Conservation Commission

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Case No.

1799

Application, Transcript,
Small Exhibits, Etc.

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. 1799
Order No. R-1528

APPLICATION OF SOCONY MOBIL OIL
COMPANY, INC. FOR PERMISSION TO
COMMINGLE THE PRODUCTION FROM
SIX SEPARATE POOLS IN LEA COUNTY,
NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 28, 1959, 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 17th day of November, 1959, 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 is the owner and operator of the E. O. Carson Lease, consisting of the following-described acreage:

The W/2 SW/4 and the SE/4 SW/4 of Section 28, and the NW/4 and the SW/4 NE/4 of Section 33, all in Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That the applicant proposes to commingle the production from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz-Abo Pool, Blinebry Gas Pool, and Tubb Gas Pool from all wells on the said E. O. Carson Lease in one or more tank batteries, after separately metering the production from each pool.

(4) That approval of the subject application will neither cause waste nor impair correlative rights, provided adequate treating, testing, and storage facilities are installed.

IT IS THEREFORE ORDERED:

(1) That the applicant, Socony Mobil Oil Company, Inc., be and the same is hereby authorized to commingle the production from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz-Abo Pool, Blinebry Gas Pool, and Tubb Gas Pool from all wells on its E. O. Carson Lease consisting of the following-described acreage:

> The W/2 SW/4 and the SE/4 SW/4 of Section 28, and the NW/4 and the SW/4 NE/4 of Section 33, all in Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

PROVIDED HOWEVER, That the production from each pool shall be separately metered prior to commingling.

(2) That in the event any well in any of the aforesaid pools produces water, the production from said pools shall be adequately treated prior to commingling.

(3) That all meters shall be operated and maintained in such a manner as to ensure an accurate measurement of production at all times.

That all meters shall be checked for accuracy at intervals not to exceed one month until further direction by the Secretary-Director. Meters shall be calibrated against a master meter or against a test tank of measured volume and the results of such calibration filed with the Commission on the Commission form entitled "Meter Test Report."

(4) That the applicant shall conduct monthly tests of all wells located on the subject lease to determine the individual production from each well.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

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

November 17, 1959

COPY

Mr. Burns Errebo
P. O. Box 466
Albuquerque, New Mexico

Dear Mr. Errebo:

On behalf of your client, Socony Mobil Oil Company, Inc., we enclose two copies of Order No. R-1528 in Case 1799, issued by the Oil Conservation Commission on this date.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures: (2)

Copy to Hobbs

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF MAGNOLIA PETROLEUM COMPANY FOR AN EXCEPTION TO STATE-WIDE RULE 303 TO ALLOW COMMINGLING OF PRODUCTION FROM THE BRUNSON POOL, DRINKARD POOL, HARE POOL, WANTZ ABO POOL, BLINEBRY (GAS) POOL AND TUBB (GAS) POOL, PRODUCED FROM ITS E. O. CARSON LEASE, LEA COUNTY, NEW MEXICO.

CASE NO. 1299

APPLICATION

Applicant states:

1. That it is the owner and operator of an oil and gas lease known as its E. O. Carson lease, which includes the following lands:

> West half of the Southwest quarter (W/2 SW/4) and Southeast quarter of the Southwest quarter (SE/4 SW/4) of Section 28; and Northwest quarter (NW/4) and Southwest quarter of the Northeast quarter (SW/4 NE/4) of Section 33; all in Township 21 South, Range 37 East, Lea County, New Mexico.

2. That wells located upon said lease are producing from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz Abo Pool, Blinebry (Gas) Pool and Tubb (Gas) Pool.

3. That applicant, in order to obtain a saving of produced hydrocarbons, proposes to commingle the production from said pools by consolidating tankage; and that the production from each reservoir will be metered.

4. That attached hereto and made a part hereof is a plat marked Exhibit A showing the wells located on applicant's E. O. Carson lease and surrounding leases.

WHEREFORE applicant prays that this application be set for hearing, that notice be given as required by law and that upon the evidence adduced at such hearing this Commission issue an order granting applicant permission to commingle production as herein requested and such other relief as this Commission may deem proper and necessary.

MAGNOLIA PETROLEUM COMPANY

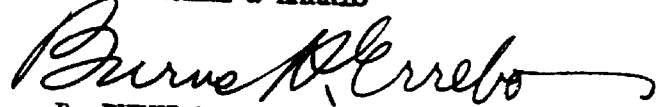
By MODRALL, SEYMOUR, SPERLING,
ROEHL & HARRIS

By BURNS H. ERREDO
Attorney
1200 Simms Building
P. O. Box 466
Albuquerque, New Mexico.

WHEREFORE applicant prays that this application be set for hearing, that notice be given as required by law and that upon the evidence adduced at such hearing this Commission issue an order granting applicant permission to commingle production as herein requested and such other relief as this Commission may deem proper and necessary.

MAGNOLIA PETROLEUM COMPANY

By MODRALL, SEYMOUR, SPERLING,
ROEHL & HARRIS



By BURNS H. ERREBO
Attorney
1200 Simms Building
P. O. Box 466
Albuquerque, New Mexico.

Case 1799

LAW OFFICES OF
MODRALL, SEYMOUR, SPERLING, ROEHL & HARRIS
SIMMS BUILDING
P.O. BOX 466
ALBUQUERQUE, NEW MEXICO
TELEPHONE CHAPEL 3-4514

J. R. MODRALL
AUGUSTUS T. SEYMOUR
JAMES E. SPERLING
JOSEPH E. ROEHL
GEORGE T. HARRIS
DANIEL A. SISK
DEAN P. KIMBALL
LELAND 3. SEDBERRY
BURNS H. ERREBO
ALLEN C. DEWEY

JOHN F. SIMMS (1885-1954)

HAND DELIVERED TO OCC
SEP 23 8:19

September 23, 1959

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

Gentlemen:

Enclosed in triplicate is application of Magnolia Petroleum Company for permission to commingle production from various producing pools in Lea County, New Mexico, insofar as their E. O. Carson lease is concerned.

We would appreciate your setting this matter for hearing at your early convenience.

Very truly yours,

Burns H. Errebo.

BHE/mej

Docket Mailed 10-8-59 JL

CASE 1795: Application of Cities Service Oil Company and Late Oil Company for a 320-acre non-standard gas proration unit. Applicant, in the above-styled cause, seek the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the S/2 of Section 17, Township 24 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to Late Oil Company's Thomas Well No. 1, located 660 feet from the South and West lines of said Section 17.

CASE 1796: Application of Graridge Corporation for a capacity allowable for one well in a water flood project. Applicant, in the above-styled cause, seeks an order authorizing a capacity allowable for its Ventures State Well No. 306, located in the NE/4 NE/4 of Section 28, Township 18 South, Range 28 East, Artesia Water Flood Project No. 2, Eddy County, New Mexico.

CASE 1797: Application of Graridge Corporation for a dual injection-producing well. Applicant, in the above-styled cause, seeks permission to dually complete its Western-Yates State Well No. 14, located in the SW/4 NE/4 of Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico, in such a manner as to permit the injection of water into the "first" zone of the Grayburg formation in the Artesia Pool through the casing-tubing annulus and the production of oil from the "Lovington" zone in the Artesia Pool through tubing.

CASE 1798: Application of Great Western Drilling Company for approval of a unit agreement and for approval of a pilot water flood project. Applicant, in the above-styled cause, seeks an order approving its Rock Queen Unit Agreement which unit comprises approximately 4940 acres in Township 13 South, Ranges 31 and 32 East, Chaves and Lea Counties, New Mexico. Applicant proposes to institute a pilot water flood project on said Rock Queen Unit in the Caprock-Queen Pool by the injection of water into the Queen formation through six injection wells located in Sections 22 and 27, Township 13 South, Range 31 East. Applicant further seeks the establishment of an administrative procedure whereby additional wells in the unit may be converted to water injection.

CASE 1799: Application of Magnolia Petroleum Company for permission to commingle the production from six separate pools. Applicant, in the above-styled cause, seeks authority to commingle the production from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz-Abo Pool, Blinebry Gas Pool and Tubb Gas Pool underlying its E. O. Carson Lease comprising the W/2 SW/4 and SE/4 SW/4 of Section 28 and the SW/4 NE/4 and the NW/4 of Section 33, all in Township 21 South, Range 37 East, Lea County, New Mexico. Applicant proposes to separately meter the production from each pool prior to commingling.

CASE 1800: Application of Sunray Mid-Continent Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its D. Hardy Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Penrose-Skelly Pool and the production of oil from the Drinkard Pool through parallel strings of tubing.

CASE 1801: Application of Texaco Inc., for an order force pooling the interests in a 241-acre non-standard gas proration unit in the Eumont Gas Pool. Applicant, in the above-styled cause, holder of a 241-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the NE/4 of Section 5, Township

No. 37-59

DOCKET: EXAMINER HEARING OCTOBER 28, 1959

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary.

CONTINUED CASES

CASE 1761: Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

CASE 1782: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Eunice King Well No. 10, located 660 feet from the North line and 1980 feet from the East line of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock Pool and the production of oil from the Wantz-Abo Pool through parallel strings of tubing.

NEW CASES

CASE 1792: Application of Amerada Petroleum Corporation for an oil-oil dual completion and for three non-standard oil proration units. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Federal "B" Well No. 2, located approximately 1983 feet from the North line and approximately 548.5 feet from the East line of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico, in such a manner as to produce oil from the Bronco Siluro-Devonian Pool and oil from an undesignated Mississippian pool. Applicant further proposes the establishment of three 40-acre non-standard oil proration units in the NE/4 of said Section 11. Two of such units are to be dedicated to the said Federal "B" Well No. 2, one in the Bronco Siluro-Devonian Pool, the other in an undesignated Mississippian pool. The third proposed unit is to be in the Bronco Siluro-Devonian Pool and is to be dedicated to applicant's Federal "B" Well No. 1, located approximately 1983 feet from the North line and approximately 1538.46 feet from the East line of said Section 36.

CASE 1793: Application of Argo Oil Corporation, for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its B. T. Lanehart Well No. 1, Unit H, Section 21, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

CASE 1794: Application of Argo Oil Corporation for a 160-acre non-standard gas proration unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the E/2 NE/4 of Section 21 and the W/2 NW/4 of Section 22, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, said unit to be dedicated to its B. T. Lanehart Well No. 1, located 2310 feet from the North line and 990 feet from the East line of said Section 21.

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DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Magnolia Petroleum Company for permission to commingle the production from six separate pools. Applicant, in the above-styled cause, seeks authority to commingle the production from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz-Abo Pool, Blinebry Gas Pool and Tubb Gas Pool underlying its E. O. Carson Lease comprising the W/2 SW/4 and SE/4 SW/4 of Section 28 and the SW/4 NE/4 and the NW/4 of Section 33, all in Township 21 South, Range 37 East, Lea County, New Mexico. Applicant proposes to separately meter the production from each pool prior to commingling.

Case 1799

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We'll take now Case No. 1799.

MR. ERREBO: Burns Errebo, Soconny Mobil Oil Company, Inc., Albuquerque, New Mexico, appearing on behalf of the Magnolia Petroleum Company. At the outset I would like to state that subsequent to filing this application, Magnolia Petroleum was merged into Soconny Mobil Oil Company, Incorporated. Soconny Mobil is the surviving company. We would therefore at this time like to amend our application to show Soconny Mobil as the Applicant.

MR. NUTTER: The application will be amended to show the application to be amended to Soconny Mobil.

MR. ERREBO: We will have one witness, Mr. James McGee, and ask that he be sworn.

(Witness sworn.)

JAMES McGEE

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

DIRECT EXAMINATION

BY MR. ERREBO:

Q Will you state your name and place of residence, please?

A James M. McGee, Hobbs, New Mexico.

Q By whom are you employed and what capacity?

A I'm employed by the Soconny Mobil Oil Company as a petroleum engineer.

Q Have you ever testified before the Commission?

A No, I have not.

Q Will you please give a brief resume of your educational experience and background?

A I graduated from the University of Oklahoma with a Bachelor of Science degree in petroleum engineering and have worked for the Magnolia, now Soconny Mobil, for five years in a capacity as petroleum engineer.

Q Are you familiar with the application which is being

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heard at this time?

A I am.

Q Are you familiar with the E. O. Carson Lease?

A I am.

Q With the wells drilled thereon and the production therefrom?

A Yes.

Q And the surface equipment that is now installed on the lease and the surface equipment which Soconny Mobil proposes to install?

A I am.

MR. ERREBO: Are his qualifications acceptable?

MR. NUTTER: Yes, sir. Please proceed.

Q Mr. McGee, I'll refer you to what has been marked as the Applicant's Exhibit No. 1 and ask you to briefly state what it shows.

A Exhibit No. 1 is a general map of the area showing Magnolia's properties in yellow and offset properties and the lease in question, the E. O. Carson is outlined in red. There is a color legend to the map which shows what zones the well is producing from.

Q Mr. McGee, at this point, for the record, would you please state the acreage covered by the E. O. Carson Lease?

A The acreage covered is 120 acres in Section 28 which

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consists of the West Half of the Southwest Quarter of Section 28, Range 37 East, 21 South in the Southeast Quarter of the Southwest Quarter of Range 37 East, Township 21 South. It also consists of 200 acres in Section 33, which is the Northwest Quarter of Section 33, Range 37 East, Township 21 South in the Southwest Quarter of the Northeast Quarter of Section 33, Range 37 East, Township 21 South.

MR. ERREBO: Will you proceed, please?

A It's to be noted that this is one continuous lease, and another thing is that the lease is split by a highway between Section 28 and Section 33 that runs east-west. It's State Highway No. 176.

The lease is located just outside the western city limits of Eunice, New Mexico. It is a multiple pay area, as you can see. We have groups of wells drilled to the different pays in the area, and we produce from eight pays in the area. The only one we do not produce from is the Paddock on this lease. We have two dual completion gas wells on the lease which are in the Blinebry Gas and the Tubb Gas. Carson 19 in Section 28 is a dual completion, and Carson 8 in Section 33 is a dual completion. The rest of the wells are single completions.

Q Are any of these zones which are shown in color on your well identification, are any of those zones productive of sour hydrocarbons?

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A Yes, sir, they are. We have what would be called sweet production and sour production. The Penrose Skelly, which is marked in a light green, the Paddock which is marked in gray, and the McCormick which is marked in a light brown are what we consider sour production.

Q Is there any production from the Paddock - E. O. Carson Lease?

A No, there is none.

Q Will you refer now to what has been marked as Applicant's Exhibit No. 2 and identify and briefly explain it?

A This is a map of the same lease, E. O. Carson. It shows our flow lines and battery setup on the lease. Right now each, although there are indicated here two batteries in Section 28, the tanks are located inside the squares and the batteries are separate. We also have on the lease a salt water disposal line which is indicated by the heavy dashed line. This is a four inch transit line. We are now using that for salt water disposal, the light lines are present flow lines.

Q Do you have anything further with regard to that exhibit?

A One thing that I might say about the lease in general, it is split by this highway and we intend to at present, although in the future we may want to put the batteries on one side of the road, but right now we're going to keep it split and have a battery on each side of the road.

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Q In other words, you are saying that in the proposal for consolidation which you will lay before the Examiner today you will have one battery to the north of the highway and one to the south of the highway?

A Right. One in Section 28 and one in 33.

Q That is your present intent, however it's possible that it might be that you would have only one battery for the entire lease, is that correct?

A That is correct.

Q Will you refer now to Applicant's Exhibit No. 3 and identify and explain what it shows?

A Exhibit No. 3 is a battery summary of the E. O. Carson Lease. It shows the zone under the first column, and this is split into two sections, Section 28 and Section 33 batteries. It shows the batteries and the wells in the battery, which you'll notice the Drinkard battery under Section 28 has numbers 1, 3 and 12 wells into it. It shows the company that runs the oil from the battery, in the case of the sweet production which we are making application to commingle, it is run in every case by Magnolia Pipeline Company.

Next shows the type of crude, whether it is distillate, sweet or sour crude. The next column shows the API gravity as 60 degrees Fahrenheit. The last column shows the daily oil and water production as reported to the Commission for the month of

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September.

Q What is the total number of wells producing sweet hydrocarbons?

A There are eighteen wells, eight on the north side of the road in Section 28 and ten on the south side of the road in Section 33.

Q How many wells are productive of sour hydrocarbons?

A There are three wells.

Q As I understand it from your testimony, you do not propose to tank the production from the sour wells with the sweet production, is that correct?

A No. We lose too much money on it, the sour crude is of less value and the pipelines won't accept it that way. Shell Oil Company, Shell Pipeline runs the sour crude and it's run separate lines.

Q The far right-hand column on Exhibit No. 3 shows daily production of oil and water. For what month or months is that production shown?

A This is September's daily average, the month of September, 1959. I might say at the bottom of the table is indicated the amount of sweet crude production in Section 28 which is 122 barrels, and sweet crude production in Section 33 is 207 barrels, or a total of 329 barrels for the total lease, eighteen wells producing.



MR. NUTTER: What have you done there, just taken the total average and subtracted the sour from it to get that figure?

A Right.

Q How much of the production comes from the Hare Zone?

A The Hare Zone produces 209 barrels per day of this production from five wells. This leaves 120 barrels of oil per day from the remaining thirteen wells, which is an average of 9 barrels. One thing is to be noted, there are no top allowable wells on this lease.

Q Will you please refer to your next exhibit, which I believe is Applicant's Exhibit No. 4-A and identify and explain it?

A Exhibit 4-A is our present battery setup in Section 28, the north side of the road. It is color coated to show the Brunson, which is in red, the Drinkard in green, the Hare in brown, the Blinebry-Tubb production, which is presently commingled together, in blue, the Penrose-Skelly in a light green. The salt water disposal line running through the battery is shown in black.

We have here ten tanks total with four sweet zones and one sour zone producing. We have heater treater for the Brunson Zone with a test separator, a separator for the Drinkard Zone and a test separator. We have a separator for the Blinebry Zone and a heater treater and a test separator for the Hare Zone, and a separator for the Penrose-Skelly Zone.

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Q Will you please refer to Exhibit No. 4-B and explain what that exhibit reflects?

A This exhibit shows what might be a typical setup, what we might incorporate, although lines may be run, different test facilities may be different. We intend to use the first three tanks in the battery as shown on Exhibit 4-A as our commingling tanks. They will hold the production.

Q By the first three tanks, which do you mean actually?

A The two tanks on the Exhibit 4-A that are indicated in red which are the Brunson Zone, and the one tank in the Drinkard battery which is in green. Actually we will salvage the best three tanks out of the full battery and place them in this position. We will take the heater treater from the Brunson Zone, which is shown in red, and install a metering device on the dump line and leave it intact. We will take the separator, the production separator from the Drinkard Zone, and install a metering device on the dump line and leave it in place. We will use the heater treater from the Hare Zone at the top in brown and install a metering device on the dump line and leave it in place. The same for the Blinebry-Tubb gas separator. We will install a metering device and leave it in place. We will use for the metering device, we will either use positive displacement meters, dump meters, or if we find that some of the equipment is in poor shape or is not fit for use, we intend to install metering separators or

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heater treaters. Downstream from the meters we intend to install checks to prevent back flow into the treating facilities.

We also intend to use the Drinkard separator, test separator, shown in Exhibit 4-A as a common test facility for the Brunson and Drinkard wells in the south end of the battery. We're also going to use the present Hare test separator as a test facility for the Hare and the Blinebry-Tubb gas production in the north end of the battery. We would normally use only one common test separator, but the distance they are separated, the two separators can be used with less expense than the one.

Also we have the test lines indicated by the dashed lines tied back into the production facilities so that the meters can be proved to the tanks. The two common test facilities will not be metered, but will be flown to the tanks, one well at a time, and measured before they are commingled with the other production.

Q Will you please refer to your next exhibit, which I believe is No. 5-A? That exhibit is schematically quite similar, is it not, to Exhibit 4-A?

A It is, with the exception that the batteries are more separated and not in line as they are on the north side. This is Section 33, sweet batteries. We have not shown any sour crude batteries here because they are removed from these three batteries. The only thing we have here, we have the Wantz-Abo Zone which is producing on the south side of the road, and we did not have it

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on north side.

Q Referring to your Exhibit 5-B, is that schematically similar to your Exhibit 4-B?

A It is. Here we intend to leave the two separators shown on 5, on Exhibit 5-A as the Brunson in red, I mean the two heater treaters shown is the Brunson in red and the Hare in brown in place of installing metering devices on the dump lines. Then we will move the Drinkard heater treater shown in green on 5-A down due east of the Hare heater treater and install a metering device on the dump line. Then we will move the Wantz-Abo heater treater due east of the Brunson heater treater and install a metering device.

We shall also use here a separator for the Blinebry-Tubb gas production and install a metering device there. All of these will then dump into a common production line and be commingled and stored in three 500 barrel tanks.

Again we have a common test facility for all five zones. Each zone, each well will be turned into the test facility one at a time, flowed to the tanks, measured as before it is commingled. Also the test line is tied back into the production lines so that the meters can be proved to the tanks.

Q Now, with regard to the metering facilities, would it be your recommendation to the Commission that they approve the installation of either positive displacement dump type meters or a

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PHONE CH 3-6691

metering separator?

A Yes.

Q For the measurement of the production?

A I think either one of the three should be permissible to use. We don't know what we're going to use because we don't know what condition the equipment is until we get it torn down, and there's a possibility that we will install different equipment on different types of separators and heater treaters.

Q Mr. McGee, would you, at this point, explain to the Examiner the general situation with regard to surface equipment which Soconny Mobil now finds itself and how that relates to your plans for consolidation of these batteries?

A Most of this equipment was installed in 1944, '45, 1946. The life of the tanks was estimated at about ten years if they're not treated with some kind of plastic coating or some corrosion resistant material. We find that most of the tanks, since they are flat bottom and put directly on the ground, have developed leaks and holes and they are in very poor condition. If we do not commingle the production and thereby prevent purchasing new equipment, then it is possible and probable that we will have to prematurely have to abandon some of the wells.

Q Now, this conversion and consolidation program, do you expect that will be carried out over a future period of time that will consist of several months or maybe even a year or two?

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A Yes, right now we have very poor tanks in the Blinebry-Tubb battery in Section 28. We intend to, if this application is approved, to immediately commingle that production with the Drinkard, and we also have very poor tankage in the Hare battery in Section 33 and we intend to commingle that production with the Brunson immediately if this application is approved.

The rest of the production will be commingled as the need for the equipment arises, as the equipment wears out or as we have increased production where we will have to have better storage facilities.

Q Now, what general savings does Soconny Mobil expect to experience as a result of this consolidation which you are proposing here today?

A In general we intend to increase our operating efficiency, which in two instances, in the first instance will result in less weathering of the oil. This will enable us to run the oil more often to the pipeline, therefore losing fewer vapor and having the oil settle less time and having fewer bubbles. Also we can make savings on operating labor, fewer tanks to gauge and keep records on, fewer tanks to treat. Less treating chemical will have to be used and equipment repairs will be fewer. This all will result in lowering the economic limit.

Q Have you made any general estimation of the dollar value of the savings which would result from this consolidation?

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A Since the equipment is old and is going to have to be replaced in the immediate future, the replacement of five tanks in Section 28 and seven tanks in Section 33 would cost Mobil Oil Company, Soconny Mobil Oil Company approximately $25,000, by consolidating tank batteries and commingling the production $15,000 can be saved.

As I said before, you take Wantz-Abo well on the south side of the road makes two barrels a day. Stimulation should increase the production some, but it cannot justify new equipment in the stage it is in now. It will have to be commingled or have to be abandoned.

Q In other words, then, are you stating to the Examiner here today that unless this application is granted that certain wells on this lease will have to be prematurely abandoned?

A That is true.

Q Have you made any estimate of the amount of oil which will be saved as a result of preventing vapor loss?

A Yes, we have installed vapor loss equipment on the Tubb, Blinebry-Tubb battery, which is the battery for the E. O. Carson No. 19. Tests run there by us indicate that 2.27 barrels of oil can be conserved daily by installing vapor loss equipment. We also expect to save 2½ barrels of oil in Section 33 from the other gas well, the E. O. Carson No. 8. This will result in a savings of $5,000 a year to us, to Soconny Mobil Oil Company, or

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approximately 1,700 barrels of oil per year, or distillate per year.

Although if this application is not approved we intend to install vapor loss control equipment on our Blinebry-Tubb battery in Section 33, but when we consolidate the battery we will have vapor loss control equipment on all of the sweet production.

Q Is it your opinion then that the life of this lease will be extended and that waste will be prevented not only from recovering the vapors which are now being lost, but also by avoiding premature abandonment of this lease, and as a result waste will be prevented?

A Yes, it is. Although most of these savings have been indicated to be directly to Soconny Mobil Oil Company, they do lower our operating costs, thereby we can operate the lease longer, recovering more oil.

Q Do you foresee that it may be that Soconny Mobil will desire to drill additional wells or complete in any of the other zones covered by this application in the future?

A We do not have any other wells intended to drill, although we may drill one or two. What we intend to do is maybe make some dual completions opening Drinkard, Wantz-Abo, Hare Zones in locations that are not now open, and we desire to commingle this production also.

Q And it would be your general recommendation that general authority be given by this Commission, if it sees fit to approve

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the application, for the commingling of all production from the six zones which are covered by the application?

A That is correct.

Q At such time as that may be desirable, is that correct?

A That is correct.

Q Do you know whether or not the ownership of minerals is common throughout this lease?

A It is common, the royalty ownership.

Q Now, the battery locations which you have specified in your testimony, I believe would be generally in Sections 28 and Sections 33, is that correct?

A That's right, although we have shown specific locations on our exhibits, there is a possibility that we would want to locate these batteries somewhere else on the lease or even make one battery on one side of the lease or other.

Q And it would be your recommendation that the Commission not limit the location or number of batteries on the lease, is that correct?

A That's right.

Q Do you have anything further that you desire to offer at this time?

A No.

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

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A They were.

MR. ERREBO: I believe that's all we have at this time, Mr. Examiner.

MR. NUTTER: Any questions of Mr. McGee? Is that correct, Mr. McGee?

A Right.

MR. NUTTER: Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q Will the gravity of the commingled oil be such that the price paid per barrel of oil is less than the price paid for a barrel of oil from any of the particular pools at present?

A It will up the price for the Blinebry-Tubb distillate because we will lower the gravity there. Although I think that 44 gravity with Magnolia is where you start taking penalized price. We will raise the gravity of the 37, 40 and 42 gravities, but I do not believe it will raise them over 44, so we should result in getting more money for our oil than we are now.

Q I want to ask you this, if you take the price paid in each of the six zones when they're placed in separate batteries and average that price, will that price be more, less or the same than the price paid per barrel of commingled oil? Do you follow me?

A Yes, sir. It should be approximately the same, since

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your price is higher for higher gravities, we start out here with 37 gravity, Brunson, so 40 gravity Drinkard will draw more price and 42 gravity Hare will draw more price. But the 68 gravity Blinebry-Tubb draws less price. Now, when you commingle them they should average out to about what we're getting now, or it may be slightly in excess.

MR. NUTTER: Have you made any actual calculation or determination of that?

A No, I have not.

MR. NUTTER: It appears that the bulk of the production, as you stated, is from the Hare?

A Right.

MR. NUTTER: That's the highest gravity that you have on there with the exception of the distillates, isn't it?

A Right, sir.

MR. NUTTER: Do you think that the distillates being 65 and 86.5 but only 8 barrels and 6 barrels average production, do you think there's enough distillates there to raise the Hare gravity above the penalizing point, the 44 degrees I think you said?

A No, sir, I do not.

BY MR. PAYNE:

Q Mr. McGee, I took it from your answer to a question to Mr. Errebo, there are perhaps corrosion problems in this area?

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A No, sir, what we have, usually your tank bottoms will make a little water into them. Any time you have water in the bottom of the tank you are going to have corrosion. General tubing flow lines, we don't have any trouble with them.

Q So you don't anticipate installing corrosion type meters?

A Yes, we intend to plastic line them to prevent paraffin deposition and scale deposition.

Q As I understand it, on one of the batteries you intend to produce more than sixteen wells?

A No, we do not.

Q I thought you were going to produce eighteen wells into one battery.

A No, ten in one battery and eight into the other. However if we did decide to produce all eighteen wells into one battery we would naturally have to come back for exception to 309 I think it is, sir.

MR. PAYNE: Thank you.

REDIRECT EXAMINATION

BY MR. ERREBO:

Q With regard to the corrosive nature of the sour hydrocarbons, would you say it is very corrosive, medium or slightly corrosive?

A The Penrose-Skelly is slightly corrosive, although tank bottoms are what I would call medium. The McCormick is what I

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PHONE CH 3-6691

would call medium corrosion. It is not severe, but it is medium corrosion in E. O. Carson No. 16 which is sour crude.

Q Insofar as the number of wells which would be produced into a battery is concerned, you stated that in the event that Soconny decided to produce more than 18, 16, they would come in for a special hearing, is that correct?

A Right.

Q Now, that being the case, there would be no need for the order issued by the Commission to specify that two or more tank batteries should be used?

A Well, I don't know about that. At the present time we intend to use two batteries definitely. It may be that, I don't believe it would be, the rule is standing and we know about it, so if we start to put more than sixteen wells into a battery we will come back.

MR. ERREBO: I think that's all I have.

MR. PAYNE: Where's the dividing line between sweet crude and sour crude?

A I don't know. That's the way it's run to the pipeline.

MR. NUTTER: Intermediate crude divides them.

MR. PAYNE: Is that generally a pipeline determination and it may vary from one pipeline to another?

A Yes, actually we list these as sweet crude, although I don't know whether Magnolia pays sweet crude price in New Mexico.

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I think they only pay intermediate crude price because they have to mix the intermediate crude with the sweet. The main thing is the sour crude is generally corrosive and the sweet crude is not.

MR. PAYNE: Thank you.

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

BY MR. NUTTER:

Q Mr. McGee, I notice on your Exhibit 4-B that you are going to pass the Drinkard production through a separator and into the commingled facilities. On Exhibit 5-B the Drinkard appears to be going through a heater treater. What is the reason for having the heater treater on one portion of the lease and not on the other?

A Neither one of them make water. Generally the heater treater is used where you make water. I say they produced no water, any well will produce a certain amount of moisture.

Q You have had occasion to put a heater treater on existing facilities in Section 33 for the Drinkard but not in Section 28?

A That's right.

Q Maybe the wells are making a little more moisture up there?

A These Drinkard wells in Section 33 may have made water at one time.

Q I also notice that the Blinebry-Tubb distillate is

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coming through a common separator. Have you received authority for commingling the liquids from the Blinebry and Tubb?

A Yes, they're commingled at the well head.

Q Is this a two stage separation they are passing through?

A No, this is actually three stage. They are two stage at the well head and this is strictly for metering purposes.

Q This is the third separator on the Blinebry-Tubb system, then?

A Right.

MR. NUTTER: Does anyone have any further questions of Mr. McGee? He may be excused.

(Witness excused.)

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

MR. ERREBO: No, I have nothing further.

MR. NUTTER: Does anyone have anything further in 1799?

We will take the case under advisement and take Case 1800.

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691



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 16th day of November, 1959.

Ada Dearnley
Notary Public - Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1797 heard by me on 10-28, 1959.

....., Examiner
New Mexico Oil Conservation Commission

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

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28

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 1799

MOBIL

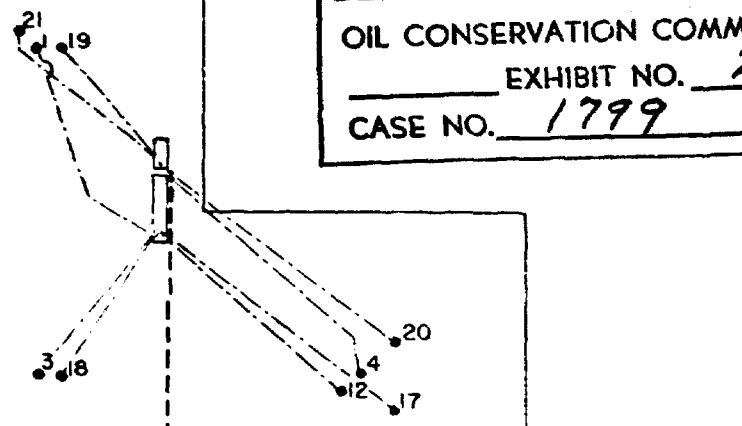
E.O. Carson

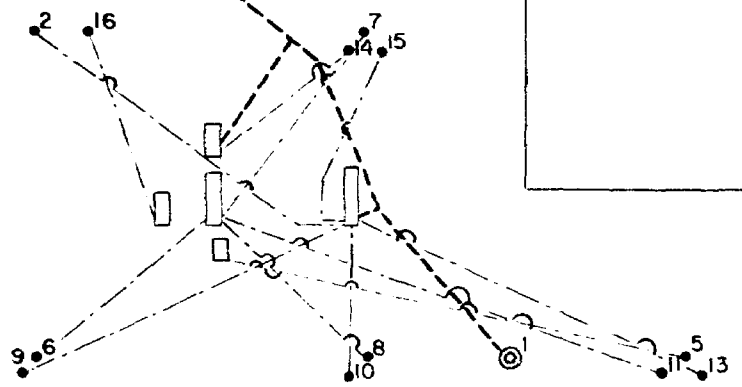
MOBIL

E.O. Carson

33

T 21 S





LEGEND

4" Flow Line
4" Transite Salt Water Gathering Line
Tank Battery

PLAT I

SOCONY MOBIL OIL COMPANY INC.
PRODUCING DEPARTMENT
DALLAS - TEXAS DISTRICT

E.O. Carson Lease

Lea County, New Mexico

SHEET NO.
SCALE 1" = 750'
DATE 12-31-58
DRAWN BJB
CHECKED JLL
APPROVED
REVISED

TABLE I

Battary Summary
E. O. Carson Lease

Zone	Battery	Pipeline Co.	Type Crude	API Gravity @ 60° F	Daily Production Oil	Water
	Section 28, T-21S, R-37E					
Blinebry-Tubb	19	Magnolia	Distillate	68.5	6	0
Brunson	17-18	Magnolia	Sweet	37.5	12	0
Drinkard	1-3-12	Magnolia	Sweet	40.0	39	0
Hare	20-21	Magnolia	Sweet	42.2	65	30
Penrose Skelly	4	Shell	Sour	33.5	3	1
TOTAL					125	31
	Section 33, T-21S, R-37E					
Blinebry-Tubb	8	Magnolia	Distillate	65.0	8	2
Brunson	10-13	Magnolia	Sweet	40.4	33	5
Drinkard	6-7-11	Magnolia	Sweet	37.3	20	0
Hare	2-9-15	Magnolia	Sweet	41.8	144	20
Mc Cormack	16	Shell	Sour	36.6	23	0
Penrose Skelly	5	Shell	Sour	33.5	13	20
Wantz Abo	14	Magnolia	Sweet	40.0	2	9
TOTAL					243	56

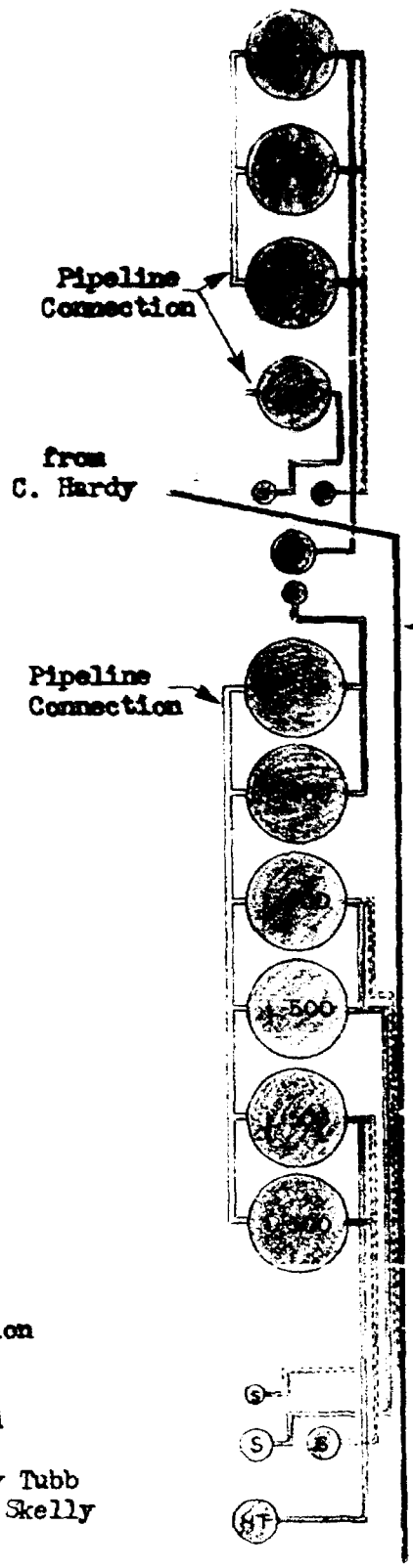
Total Proposed Commingled Production - Section 28 is - 122

Total Proposed Commingled Production - Section 33 is - 207

GRAND TOTAL 329

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 1799

10-23-59
JMM:nrh



Battery	Zone
20-21	Hare
4	Penrose Skelly
19	Blinebry-Tubb (g..s)
1-3-12	Drinkard
17-18	Brunson

LEGEND

- Production
- Test
- Brunson
- Drinkard
- Hare
- Blinebry Tubb
- Penrose Skelly
- SWD

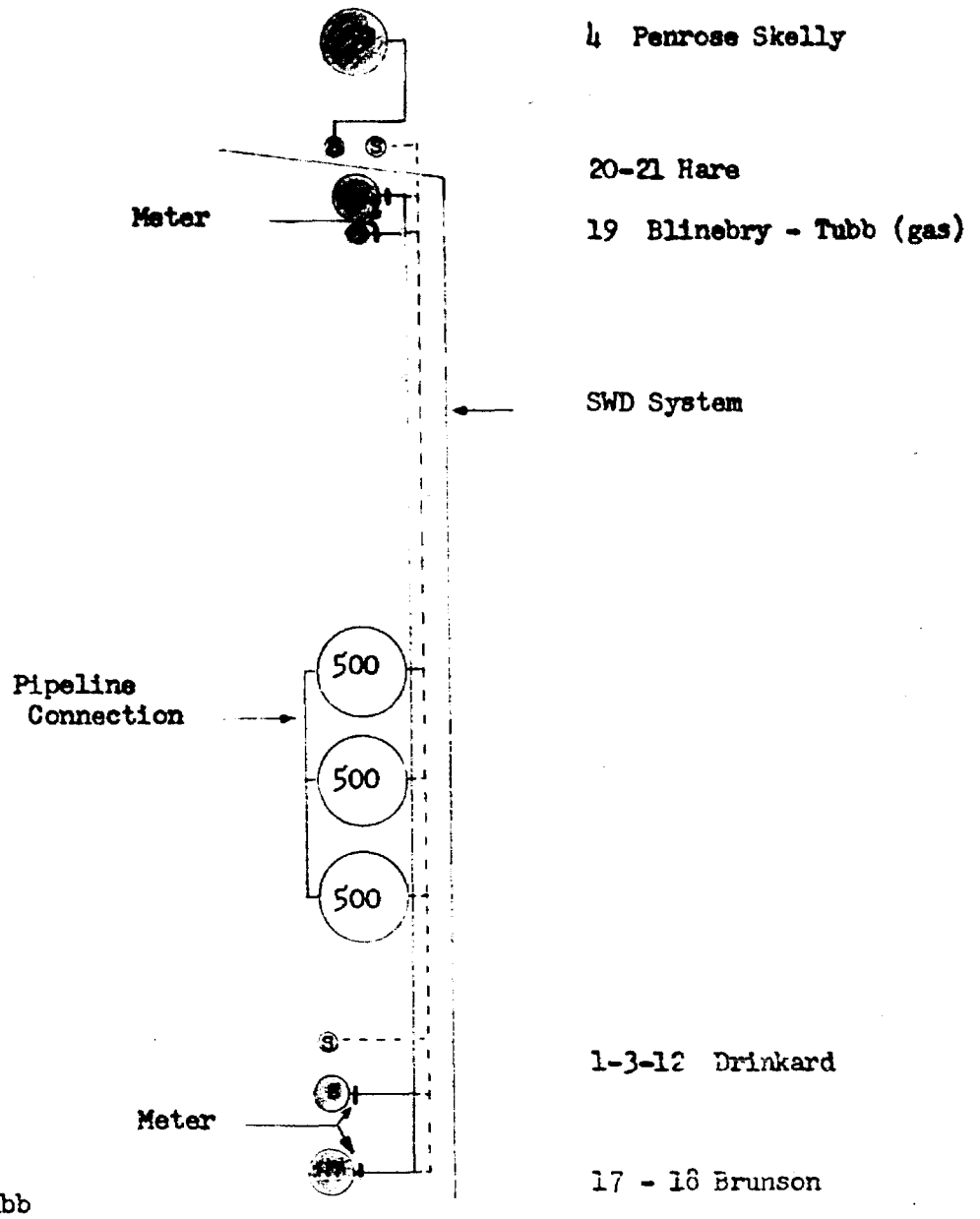
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4A
CASE NO. 1799

PLAT IIA

SOCONY MOBIL OIL COMPANY, INC.
Petroleum Engineering Department
Lea District

E. C. Carson
Section 28 Battery

Lea County, New Mexico
January 5, 1959 Drawn by: BJB



PLAT IIB

SOCONY MOBIL OIL COMPANY, INC.
Petroleum Engineering Department
Lea District

E. O. Carson
Section 28 Battery

Lea County New Mexico
October 22, 1959 Drawn by: JMM

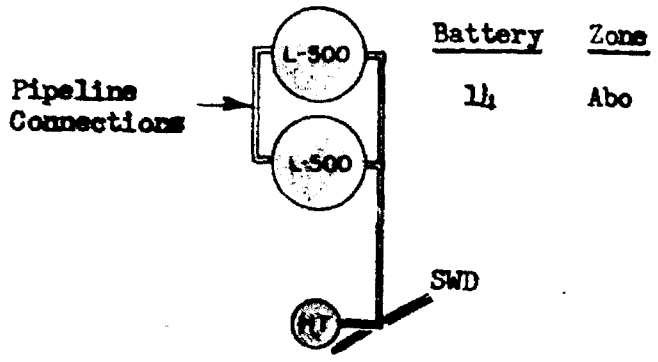
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4B
CASE NO. 1799

SOCONY MOBIL OIL COMPANY, INC.
Petroleum Engineering Department
Lea District

E. O. Carson
Section 33 Battery

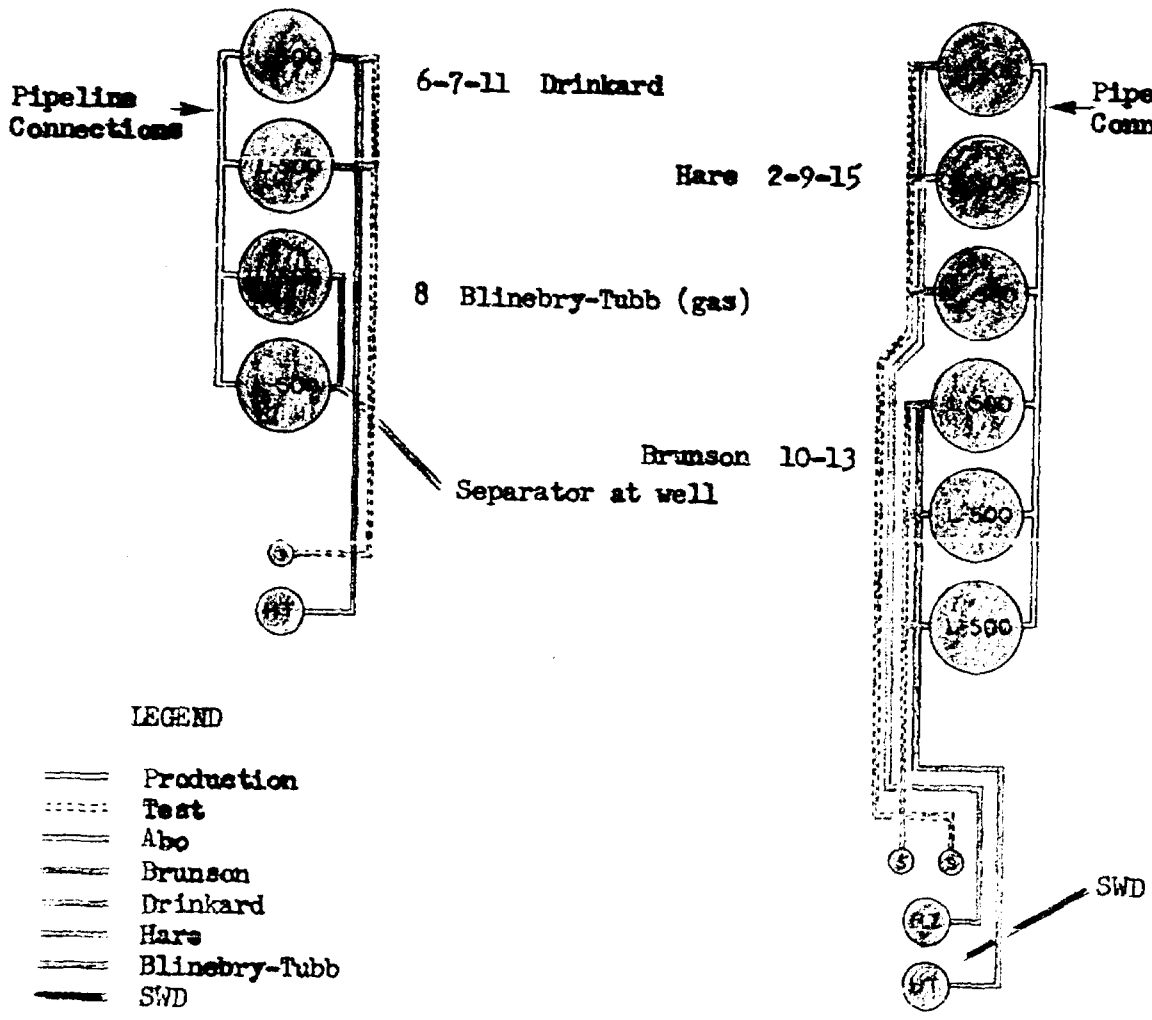
Lea County New Mexico
January 5, 1959 Drawn by: BJB

PLAT IIIA

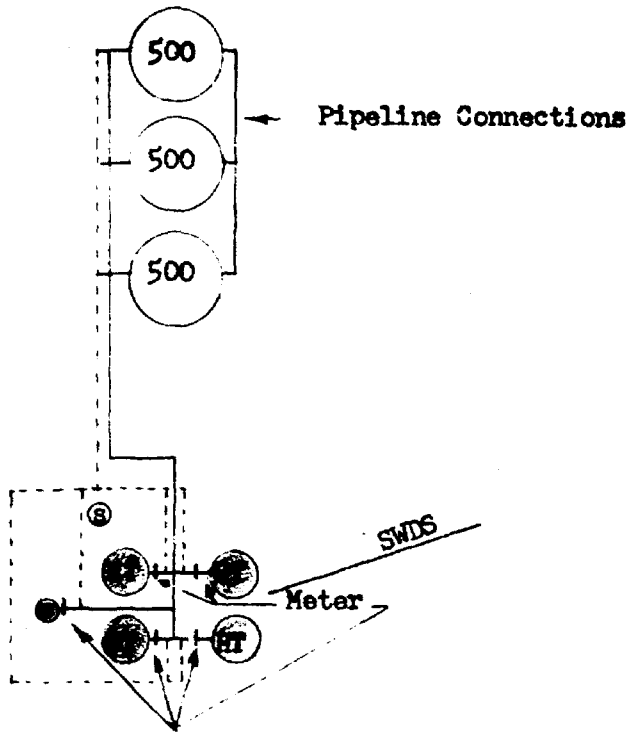


Battery	Zone
14	Abo

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5A
CASE NO. 1799



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5B
CASE NO. 1799



LEGEND

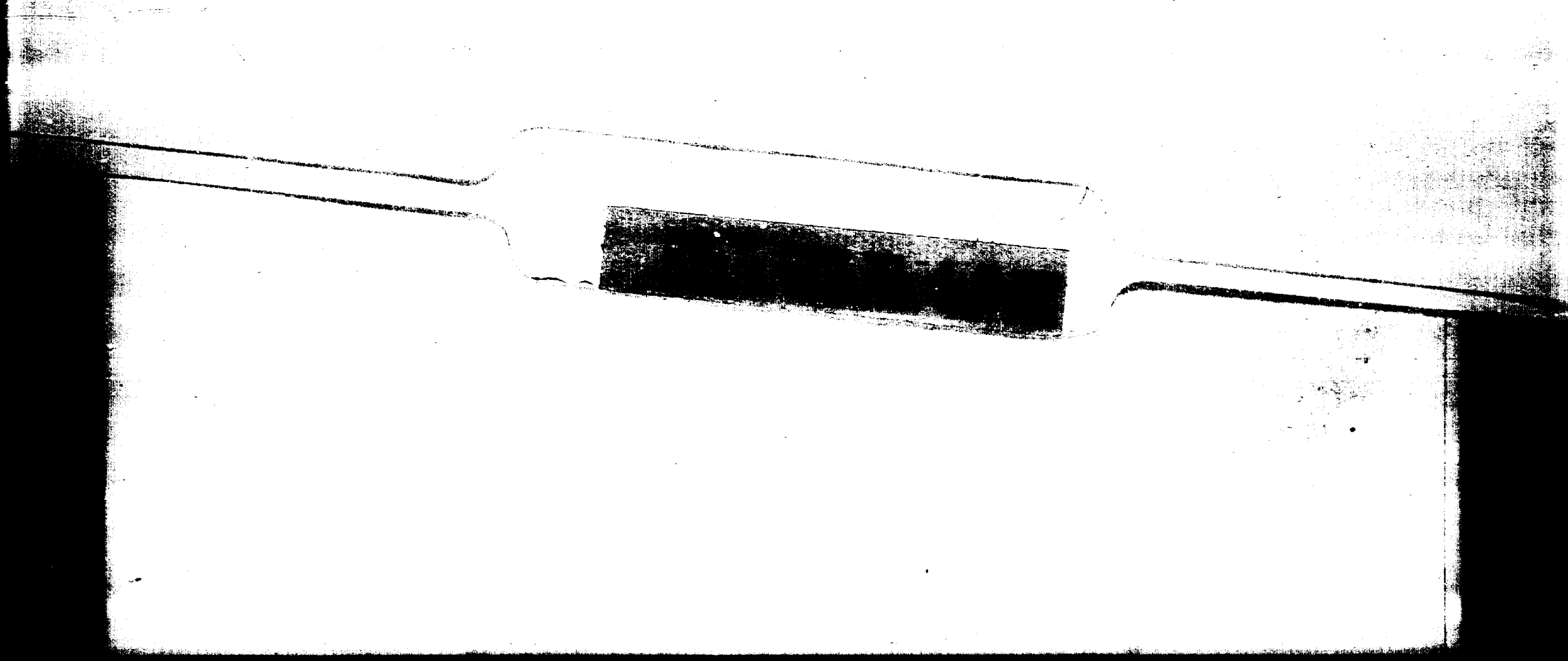
Production
Test
Abo
Brunson
Drinkard
Hare
Blinebry-Tubb

PLAT IIIB

SOCONY MOBIL OIL COMPANY, INC.
Petroleum Engineering Department
Lea District

E. O. CARSON
Section 33 Battery

Lea County New Mexico
October 22, 1959 Drawn by: JMM



Case No.

1800

Application, Transcript,

Small Exhibits, Etc.

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. 1800
Order No. R-1521-A

APPLICATION OF SUNRAY MID-
CONTINENT OIL COMPANY FOR AN
OIL-OIL DUAL COMPLETION IN THE
PENROSE-SKELLY POOL AND IN THE
DRINKARD POOL, LEA COUNTY, NEW
MEXICO

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to an error in applicant's Exhibit "C", Order No. R-1521, dated November 12, 1959, does not correctly state the intended order of the Commission in one particular,

IT IS THEREFORE ORDERED:

1. That the location of the D. Hardy Well No. 2 be changed to read 1980 feet from the North line and 1980 feet from the East line of Section 29, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

2. That the correction set forth above be entered nunc pro tunc as of November 12, 1959.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

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. 1800
Order No. R-1521

APPLICATION OF SUNRAY MID-CONTINENT OIL COMPANY FOR AN OIL-OIL DUAL COMPLETION IN THE PENROSE-SKELLY POOL AND IN THE DRINKARD POOL, LEA COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 28, 1959, 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 12th day of November, 1959, 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 is the owner and operator of the D. Hardy Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 29, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That the applicant proposes to dually complete the above-described D. Hardy Well No. 2 in such a manner as to permit the production of oil from the Penrose-Skelly Pool and the production of oil from the Drinkard Pool through parallel strings of 2-3/8 inch O.D. tubing.

(4) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

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

(6) That Order No. R-1463, authorizing the dual completion of the subject well in the Paddock Pool and in the Drinkard Pool should be rescinded.

IT IS THEREFORE ORDERED:

(1) That the applicant be and the same is hereby authorized to dually complete its D. Hardy Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 29, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, in such a manner as to permit the production of oil from the Penrose-Skelly Pool and the production of oil from the Drinkard Pool through parallel strings of 2-3/8 inch tubing.

PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Gas-Oil Ratio Test Period for the Drinkard Pool.

IT IS FURTHER ORDERED: That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order, after proper notice and hearing, the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

(2) That Order No. R-1463, authorizing the dual completion of the subject well in the Paddock Pool and in the Drinkard Pool, be and the same is hereby rescinded.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

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CASE 1795: Application of Cities Service Oil Company and Late Oil Company for a 320-acre non-standard gas proration unit. Applicant, in the above-styled cause, seek the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the S/2 of Section 17, Township 24 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to Late Oil Company's Thomas Well No. 1, located 660 feet from the South and West lines of said Section 17.

CASE 1796: Application of Graridge Corporation for a capacity allowable for one well in a water flood project. Applicant, in the above-styled cause, seeks an order authorizing a capacity allowable for its Ventures State Well No. 306, located in the NE/4 NE/4 of Section 28, Township 18 South, Range 28 East, Artesia Water Flood Project No. 2, Eddy County, New Mexico.

CASE 1797: Application of Graridge Corporation for a dual injection-producing well. Applicant, in the above-styled cause, seeks permission to dually complete its Western-Yates State Well No. 14, located in the SW/4 NE/4 of Section 28, Township 18 South, Range 28 East, Eddy County, New Mexico, in such a manner as to permit the injection of water into the "first" zone of the Grayburg formation in the Artesia Pool through the casing-tubing annulus and the production of oil from the "Lovington" zone in the Artesia Pool through tubing.

CASE 1798: Application of Great Western Drilling Company for approval of a unit agreement and for approval of a pilot water flood project. Applicant, in the above-styled cause, seeks an order approving its Rock Queen Unit Agreement which unit comprises approximately 4940 acres in Township 13 South, Ranges 31 and 32 East, Chaves and Lea Counties, New Mexico. Applicant proposes to institute a pilot water flood project on said Rock Queen Unit in the Caprock-Queen Pool by the injection of water into the Queen formation through six injection wells located in Sections 22 and 27, Township 13 South, Range 31 East. Applicant further seeks the establishment of an administrative procedure whereby additional wells in the unit may be converted to water injection.

CASE 1799: Application of Magnolia Petroleum Company for permission to commingle the production from six separate pools. Applicant, in the above-styled cause, seeks authority to commingle the production from the Brunson Pool, Drinkard Pool, Hare Pool, Wantz-Abo Pool, Blinebry Gas Pool and Tubb Gas Pool underlying its E. O. Carson Lease comprising the W/2 SW/4 and SE/4 SW/4 of Section 28 and the SW/4 NE/4 and the NW/4 of Section 33, all in Township 21 South, Range 37 East, Lea County, New Mexico. Applicant proposes to separately meter the production from each pool prior to commingling.

CASE 1800: Application of Sunray Mid-Continent Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its D. Hardy Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Penrose-Skelly Pool and the production of oil from the Drinkard Pool through parallel strings of tubing.

CASE 1801: Application of Texaco Inc., for an order force pooling the interests in a 241-acre non-standard gas proration unit in the Eumont Gas Pool. Applicant, in the above-styled cause, holder of a 241-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the NE/4 of Section 5, Township

No. 37-59

DOCKET: EXAMINER HEARING OCTOBER 28, 1959

Oil Conservation Commission - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary.

CONTINUED CASES

CASE 1761: Application of Stanton Oil Company, Ltd., for a pilot water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Turkey Track Pool in Eddy County, New Mexico, by the injection of water into the Queen formation through four wells located in Section 34, Township 18 South, Range 29 East.

CASE 1782: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Eunice King Well No. 10, located 660 feet from the North line and 1980 feet from the East line of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Paddock Pool and the production of oil from the Wantz-Abo Pool through parallel strings of tubing.

NEW CASES

CASE 1792: Application of Amerada Petroleum Corporation for an oil-oil dual completion and for three non-standard oil proration units. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Federal "B" Well No. 2, located approximately 1983 feet from the North line and approximately 5[illegible]6 feet from the East line of Section 11, Township 13 South, Range 38 East, Lea County, New Mexico, in such a manner as to produce oil from the Bronco Siluro-Devonian Pool and oil from an undesignated Mississippian pool. Applicant further proposes the establishment of three 40-acre non-standard oil proration units in the NE/4 of said Section 11. Two of such units are to be dedicated to the said Federal "B" Well No. 2, one in the Bronco Siluro-Devonian Pool, the other in an undesignated Mississippian pool. The third proposed unit is to be in the Bronco Siluro-Devonian Pool and is to be dedicated to applicant's Federal "B" Well No. 1, located approximately 1983 feet from the North line and approximately 1538.46 feet from the East line of said Section 36.

CASE 1793: Application of Argo Oil Corporation, for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its B. T. Lanehart Well No. 1, Unit H, Section 21, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

CASE 1794: Application of Argo Oil Corporation for a 160-acre non-standard gas proration unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the E/2 NE/4 of Section 21 and the W/2 NW/4 of Section 22, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, said unit to be dedicated to its B. T. Lanehart Well No. 1, located 2310 feet from the North line and 990 feet from the East line of said Section 21.

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

November 12, 1959

COPY

Mr. W. Booker Kelly
Gilbert, White & Gilbert
P. O. Box 787
Santa Fe, New Mexico

Dear Mr. Kelly:

On behalf of your client, Sunray Mid-Continent Oil Company, we enclose two copies of Order No. R-1521 issued in Case No. 1800. This order was issued by the Oil Conservation Commission on this date.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures: (2)

A

PLAT

SHOWING DRINKARD AND PADDOCK WELLS IN VICINITY OF
SUNRAY MID-CONTINENT OIL COMPANY - D HARDY LEASE
LEA COUNTY, NEW MEXICO

● PENROSE SKELLY "A" WELLS
● DRINKARD OIL WELLS
◉ PADDOCK OIL WELLS

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 1800

R 37 E

AMERADA L G Warlick	GULF "K" 5 3	OHIO OIL CO 3 1 2 Hardy	CONTINENTAL "K" 2 4
PAN AMERICAN 3 1 2 Hardy Fed		GETTY OIL 2 4 1 3 Hardy	PHILLIPS 1 ME Wantz / Wantz
	4 4 1 2 Hardy		
TEXACO, INC 30 5 5 2 1 3 Henderson	MAGNOLIA 2 6 3 PO Box 2406 Hobbs, New Mexico 1 5 4 Hardy	SUNRAY 29 2 1 V. Linam SUNRAY 2 1 D. Hardy	GULF 6 22 PO Box 2167 Hobbs, New Mexico 1 4 3 5 E King
GULF 1 6 5 4 6 Mattern	SINCLAIR 520 E Broadway Hobbs, New Mexico 1 3 W.H. Turner SINCLAIR 2 4 1 3 H.S. Turner	OHIO OIL CO. PO Box 2107 Hobbs, New Mexico 2 1 W.M. Turner PAN AMERICAN 2 1 W.H. Turner	MAGNOLIA 1 GULF 1 2 J.N. Carson "A" PO Box 2406 Hobbs, New Mexico 2 4 12 E.O. Carson
GULF 31 3 7 2 9 Mattern "B"	SKELLY 2 4 1 3 State "K" AMERADA 2 2 1 State "B"	GULF 32 2 12 1 13 3 14 8 10 W.F. McCormack	MAGNOLIA 7 6 Carson

T 21 S

Scale 1" = 1320'

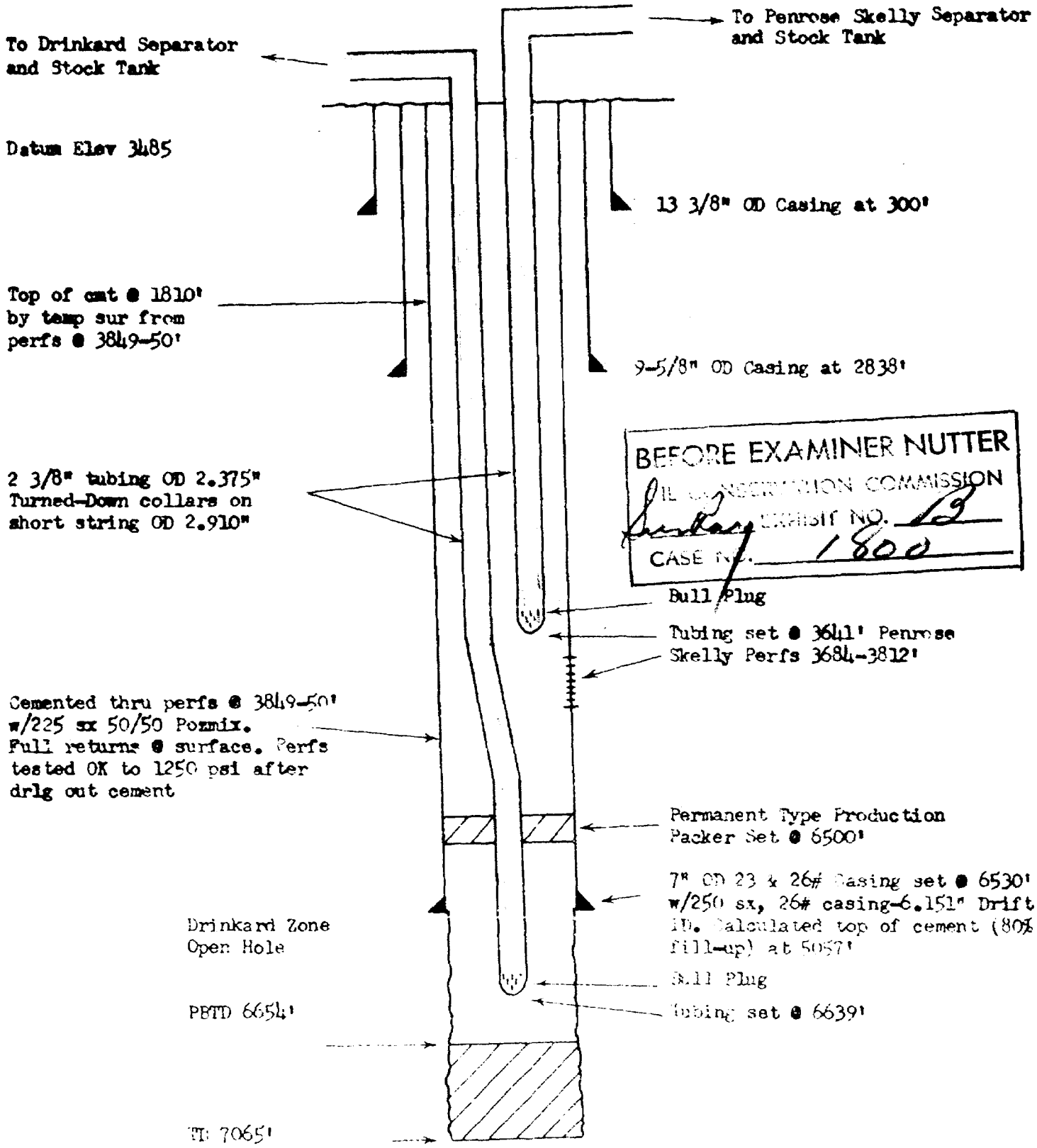
J.J. Northcutt 7-8-1955
D.E. [illegible] 7-1-1949

B

DUAL COMPLETION

DRINKARD AND PENROSE SKELLY (CLAYBURG) ZONES - LEA COUNTY, NEW MEXICO

SUNRAY MID-CONTINENT OIL COMPANY - D. HARDY WELL #2



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Sunray EXHIBIT NO. 13
CASE NO. 1800

Case 1800

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO 7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name		County	Date
Penrose-Skelly and Drinkard		Lea	September 2, 1959
Operator	**Lease**		**Well No.**
Sunray Mid-Continent Oil Company	D. Hardy		2

Location of Well	Unit	Section	Township	Range
	G	29	21S	37E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES _____ NO X
2. If answer is yes, identify one such instance: Order No. _____ ; Operator, Lease, and Well No.:

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	Penrose-Skelly	Drinkard
b. Top and Bottom of Pay Section (Perforations)	Perf 3684'-3812'	OH 6530'-6680'
c. Type of production (Oil or Gas)	Oil	Oil
d. Method of Production (Flowing or Artificial Lift)	Flow	Flow

4. The following are attached. (Please mark YES or NO)

Yes a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.

Yes b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.

Yes c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*

Yes d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Magnolia Petroleum Company, P. O. Box 2406, Hobbs, New Mexico

Gulf Oil Corporation, P. O. Box 2167, Hobbs, New Mexico

Sinclair Oil & Gas Company, 520 E. Broadway, Hobbs, New Mexico

The Ohio Oil Company, P. O. Box 2107, Hobbs, New Mexico

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO ____. If answer is yes, give date of such notification SEPTEMBER 14, 1959.

CERTIFICATE: I, the undersigned, state that I am the District Engineer of the Sunray Mid-Continent Oil Co. (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Signature Robert E. Statton

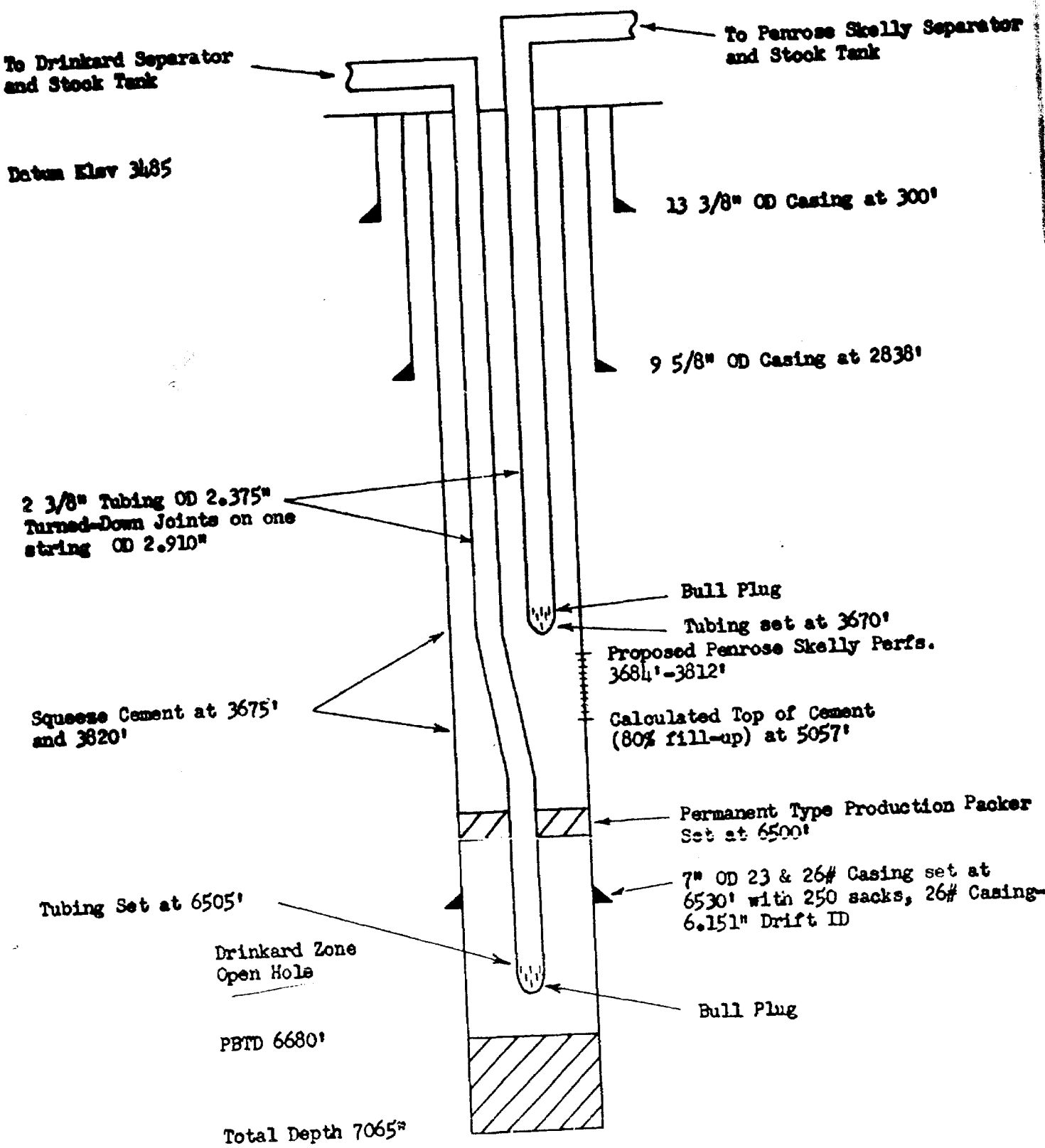
Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

DUAL COMPLETION

DRINKARD AND PENROSE SKELLY ZONES - LEA COUNTY, NEW MEXICO

SUNRAY MID-CONTINENT OIL COMPANY - D. HARDY WELL #2



PLAT

SHOWING DRINKARD AND PADDOCK WELLS IN VICINITY OF
SUNRAY MID-CONTINENT OIL COMPANY - D. HARDY LEASE
LEA COUNTY, NEW MEXICO

o PENROSE SKELLY OIL WELLS
● DRINKARD OIL WELLS
◉ PADDOCK OIL WELLS

R 37 E

T 21 S

AMERADA L. G. Warlick	GULF "K" Hardy	OHIO OIL CO. Hardy	CONTINENTAL "K" M.E. Wantz
PAN AMERICAN Hardy Fed.		GETTY OIL Hardy	PHILLIPS Wantz
TEXACO, INC. 30 Henderson	MAGNOLIA P.O. Box 2406 Hobbs, New Mexico Hardy	SUNRAY 29 V. Linam SUNRAY D. Hardy	GULF P.O. Box 2167 Hobbs, New Mexico E. King
GULF Mattern	SINCLAIR 520 E. Broadway Hobbs, New Mexico W.H. Turner SINCLAIR H.S. Turner	OHIO OIL CO. P.O. Box 2107 Hobbs, New Mexico W.M. Turner PAN AMERICAN W.H. Turner	MAGNOLIA GULF J.N. Carson "A" P.O. Box 2406 Hobbs, New Mexico E.O. Carson
GULF 31 Mattern "B"	SKELLY State "K" AMERADA State "BD"	GULF 32 W.T. Mc Cormack	MAGNOLIA Carson

Scale 1" = 1320'

J. J. Northcutt 7-9-1959
D. E. Berry, Jr. 9-1-1959

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Sunray Mid-Continent Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its D. Hardy Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Penrose-Skelly Pool and the production of oil from the Drinkard Pool through parallel strings of tubing.

Case 1800

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. PAYNE: Application of Sunray Mid-Continent Oil Company for an oil-oil dual completion.

MR. KELLY: My name is William Kelly, of the firm of Gilbert, White and Gilbert. I represent Sunray Mid-Continent. I have one witness and ask that he be sworn.

(Witness sworn.)

(Marked Applicant's Exhibits A, B and C, for identification.)

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

ROBERT E. STATTON

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

DIRECT EXAMINATION

BY MR. KELLY:

Q Would you state your name and your employer and position?

A My name is Robert E. Statton. I am employed by the Sunray Mid-Continent Oil Company as District Engineer in Hobbs, New Mexico.

Q Have you previously testified before this Commission or any of its Examiners?

A Yes, I have.

Q Are you familiar with this application in Case 1800?

A Yes, sir.

MR. KELLY: Are his qualifications acceptable?

MR. NUTTER: Yes, sir.

Q I notice that the application concerns the Skelly-Penrose Pool. Is there an addition to that?

A Yes, sir, when we say Penrose-Skelly we intend to say the Penrose-Grayburg Pool.

Q That's the same as Penrose-Skelly?

A Yes.

Q What is your company requesting in this application?

A We are requesting permission to produce our D. Hardy

No. 2 as an oil-oil dual completion, the zones being a Drinkard Oil Pool and the Penrose-Skelly-Grayburg Oil Pool.

Q Are you familiar with this Sunray Mid-Continent application in the Oil Commission Case No. 1731?

A Yes, sir, I am.

Q Would you state what that was?

A That case we applied for permission to dually complete this same well between the Drinkard and the Paddock and the Paddock completion attempt was unsuccessful. We came on up the hole and perforated the Penrose-Skelly-Grayburg Pool.

Q But that was granted by the Commission?

A The Drinkard-Paddock was granted by the Commission.

MR. NUTTER: What case was that?

A Case 1731.

Q You don't know the order number?

A No, I don't.

Q Has there been any previous oil-oil dual completions between Drinkard and Penrose-Skelly-Grayburg?

A No, there have not. Although there have been oil-oil dual between the Penrose-Skelly and Grayburg and other oil pools.

Q Will you refer to what has been marked as Exhibit A and explain it to the Commission?

A The Exhibit No. A is a plat which shows the Sunray Mid-Continent Oil Company D. Hardy Lease consisting of the South Half

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

of the Northeast Quarter of Section 29, Township 21 South, Range 37 East. It also shows the proposed No. 2 D. Hardy well dual completion. It shows the Penrose-Skelly-Grayburg oil wells and Drinkard oil wells in the vicinity of the D. Hardy Lease, and it shows the names and addresses of offset lessees.

Q Would you refer to Exhibit No. B and explain this to the Commission?

A Exhibit No. B is a diagramatic sketch of the dual completion. It shows that the 13-3/8 inch casing was set at 300 feet. The 9 5/8 inch casing was set at 2838. The 7 inch casing was set at 6530, the Drinkard open hole zone is from 6530 to 6654, which is a plugged back total depth from the original 7065 total depth. It shows the Penrose-Skelly perforations as between 3694 and 3812. It shows the perforations and the 7 inch casing at 3849 to 50 where we perforated in order to place cement over the Penrose-Skelly.

The top of the cement after this cement was 1810 by a temperature survey. The Drinkard tubing is 2 3/8 inch OD and set in the permanent type production packer at 6500 feet. The Penrose-Skelly tubing is also 2 3/8 inch tubing with turned down collars.

Q Now, referring to your copy of the Exhibit marked No. C, would you explain that to the Commission?

A Exhibit C is a radioactive log that we ran on the D. Hardy No. 2, and it shows that our perforations are in the

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

Grayburg section and thus the well is a Penrose-Skelly Oil Pool well.

Q Is this proposed completion mechanically feasible and practical?

A Yes, sir, it is.

Q In your opinion will there be communication between the zones?

A No.

Q Can each zone be safely and efficiently produced through these separate strings of tubing?

A Yes, sir.

Q Will this well be so equipped that bottomhole pressures, oil, water, gas tests may be taken?

A Yes, sir.

Q Are you familiar with and does your company intend to comply with Rule 1211 with packer setting affidavits and casing leak tests?

A Yes, we have already accomplished some of these tests. They were successful.

Q Will you briefly describe the characteristics of Penrose-Skelly-Grayburg Pool and Drinkard Pools?

A The Drinkard Pool has a GOR, the Drinkard Zone has a GOR of 16,400 to 1, 300 to 1, 16,100 to 1. The Penrose-Skelly-Grayburg Zone has a gas OR of 4300 to 1. The bottomhole pressure

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

of the Drinkard Zone is 926 pounds. The bottomhole pressure of the Penrose is estimated at 1198 pounds. That's based on a pressure which was run on Gulf's D. Hardy No. 4 well this year. The gravity of both zones is 35 degrees API. The present oil production of the Drinkard is 8 barrels of oil per day, and the water production is 1 barrel of oil per day.

The Penrose-Skelly was potentialed at 117 barrels per day, flowing with 92 barrels of water per day. We expect the Drinkard to flow to economic limits. The Penrose-Skelly is still flowing.

Q What is the nature of these two crudes?

A I classify the Drinkard as sweet, and we have taken a, at least we have had Magnolia Pipeline take a sample of the Penrose-Skelly oil and we're waiting on a report from them at this time as to whether it's sour or sweet.

Q If you judged that the Penrose-Skelly-Grayburg is sour, what steps will you take to prevent corrosion?

A We'll run some corrosion coupons and take some iron counts from water samples to determine the severity of the corrosion, and from that we'll instigate a treating program if necessary. Probably down the casing tubing annulus.

Q Were Exhibits A through C prepared by you or under your direction?

A Yes, they were.

MR. KELLY: We move that Exhibits A through C be

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

admitted.

MR. NUTTER: Sunray's Exhibits A through C will be admitted.

MR. KELLY: That's all I have.

MR. NUTTER: Does anyone have any questions of Mr. Statton?

CROSS EXAMINATION

BY MR. NUTTER:

Mr. Statton, I don't know if I got the bottomhole pressures or not, was it 1198 on the Penrose-Skelly and 926 on the Drinkard?

A Right.

MR. NUTTER: The witness may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further?

MR. KELLY: No.

MR. NUTTER: Does anyone have anything further for this case? We will take this case under advisement and take next Case 1801.

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

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 day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:
June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1806, heard by me on 10-28, 1959.

....., Examiner
New Mexico Oil Conservation Commission

Send copies of docket to (see note)

Case No.

1801

Application, Transcript,
Small Exhibits, Etc.

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. 1801
Order No. R-1529

APPLICATION OF TEXACO INC.,
FOR AN ORDER FORCE-POOLING THE
INTERESTS IN A 241-ACRE NON-
STANDARD GAS PRORATION UNIT IN
THE EUMONT GAS POOL, LEA COUNTY,
NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 28, 1959, 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 17th day of November, 1959, 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 by Order No. R-1335, a 241-acre non-standard gas proration unit in the Eumont Gas Pool was created, consisting of the NE/4 of Section 5, Township 20 South, Range 37 East, and the S/2 SE/4 of Section 32, Township 19 South, Range 37 East, NMPM, Lea County, New Mexico, which unit is dedicated to the applicant's J. W. Cooper Well No. 5, located 1668 feet from the North line and 1650 feet from the East line of said Section 5.

(3) That the applicant seeks an order force-pooling all the interests in the above-described 241-acre non-standard Eumont gas proration unit.

(4) That it is completely impracticable to form a standard Eumont gas unit embracing the above-described 241-acre tract.

(5) That all parties owning working interests in the above-described proration unit have agreed to communitization, as have a majority of the parties owning royalty interests.

(6) That the applicant has made diligent efforts to communitize all royalty interests in the above-described 241-acre unit for the Eumont Gas Pool, but has been unable to obtain the consent of all persons owning royalty interests in said 241-acre unit.

(7) That all parties owning an interest in the above-described acreage were given actual notice of the hearing in this case and that the Commission has received no objection to the approval of the subject application.

(8) That approval of the subject application will neither cause waste nor impair correlative rights, and denial of the application would tend to deprive the owners of such tract the opportunity to recover their just and equitable share of the hydrocarbons in the Eumont Pool.

IT IS THEREFORE ORDERED:

(1) That the interests of all persons having the right to drill for, produce, or share in the production of dry gas and associated liquid hydrocarbons, or either of them, from the Eumont Gas Pool underlying the 241-acre non-standard gas proration unit created by Order No. R-1335 be and the same are hereby force-pooled.

(2) That the 241-acre allowable provided for by said Order No. R-1335 shall become effective on December 1, 1959, provided that the J. W. Cooper Well No. 5 to which the subject unit is dedicated has been brought into balance by that date. If said well is not then in balance, the increased allowable shall become effective upon the first day of the month following the month in which the subject well has been brought into balance.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vcm/

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

November 17, 1959

COPY

Mr. Charlie White
P. O. Box 787
Santa Fe, New Mexico

Dear Mr. White:

On behalf of your client, Texaco Inc., we enclose two copies of Order No. R-1529 in Case No. 1501, issued by the Oil Conservation Commission on this date.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures: (2)

Copy to Hobbs

Ida - (Sent 10-7-59)
Send copy of docket
to all parties
shown on
last page

BEFORE THE OIL CONSERVATION COMMISSION

OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF TEXACO INC., FOR AN ORDER GRANTING THE FORCED POOLING OF ALL THE INTERESTS IN A 241 ACRE NON-STANDARD GAS PRORATION UNIT WITHIN THE EUMONT GAS POOL, CONSISTING OF THE $NE\frac{1}{4}$ OF SEC. 5, TWP. 20 S, R 37 E, AND THE $S\frac{1}{2}SE\frac{1}{4}$ OF SEC. 32, TWP. 19 S, R 37 E, NMPM, LEA COUNTY, NEW MEXICO.

CASE NO. 1801

A P P L I C A T I O N

Comes now the Applicant Texaco Inc., individually and on behalf of the Gulf Oil Corporation and states as follows:

1. That the applicant is the operator of its J. W. Cooper Well No. 5 to which there was dedicated under Oil Conservation Commission Order R-1335 a non-standard gas proration unit of 241 acres in the Eumont Gas Pool consisting of the $NE\frac{1}{4}$ of Sec. 5, Twp. 20 S, Rge. 37 E and the $S\frac{1}{2}SE\frac{1}{4}$ of Sec. 32, Twp. 19 S, Rge. 37 E, N.M.P.M., Lea County, New Mexico.

2. That the Gulf Oil Corporation is a holder of a working interest in said well.

3. That the said well, under provision of Order R-1335, has been assigned an allowable in the proportion that the dedicated acreage bears to a standard gas proration unit in the Eumont Gas Pool subject to the special rules and regulations for the said pool.

4. That since the establishment of the unit only 161 acres has been assigned to the J. W. Cooper Well No. 5 because of the inability of the Gulf Oil Corporation and the applicant to obtain 100 percent participation in the communitization by the various royalty interest owners.

5. That the applicant and the Gulf Oil Corporation have, in good faith, unsuccessfully attempted to voluntarily pool the diverse royalty interests in the said 241 acre tract.

6. That attached hereto and made a part hereof is ownership plat

GILBERT, WHITE AND GILBERT
ATTORNEYS AT LAW
SANTA FE, NEW MEXICO

Mailed 10-8-59

showing the location of the non-standard gas proration unit, the subject well and the offset operators; also attached is a list setting forth the names and addresses of the unsigned royalty owners.

7. That the J. W. Cooper Well No. 5 is capable of producing a 241 acre allowable in the Eumont Gas Pool.

8. That unless the subject application is approved the applicant and the Gulf Oil Corporation will be deprived of the opportunity to reasonably recover their equitable share of the hydro-carbons in the Eumont Gas Pool.

9. That the granting of this application will prevent waste and protect the correlative rights of all parties concerned.

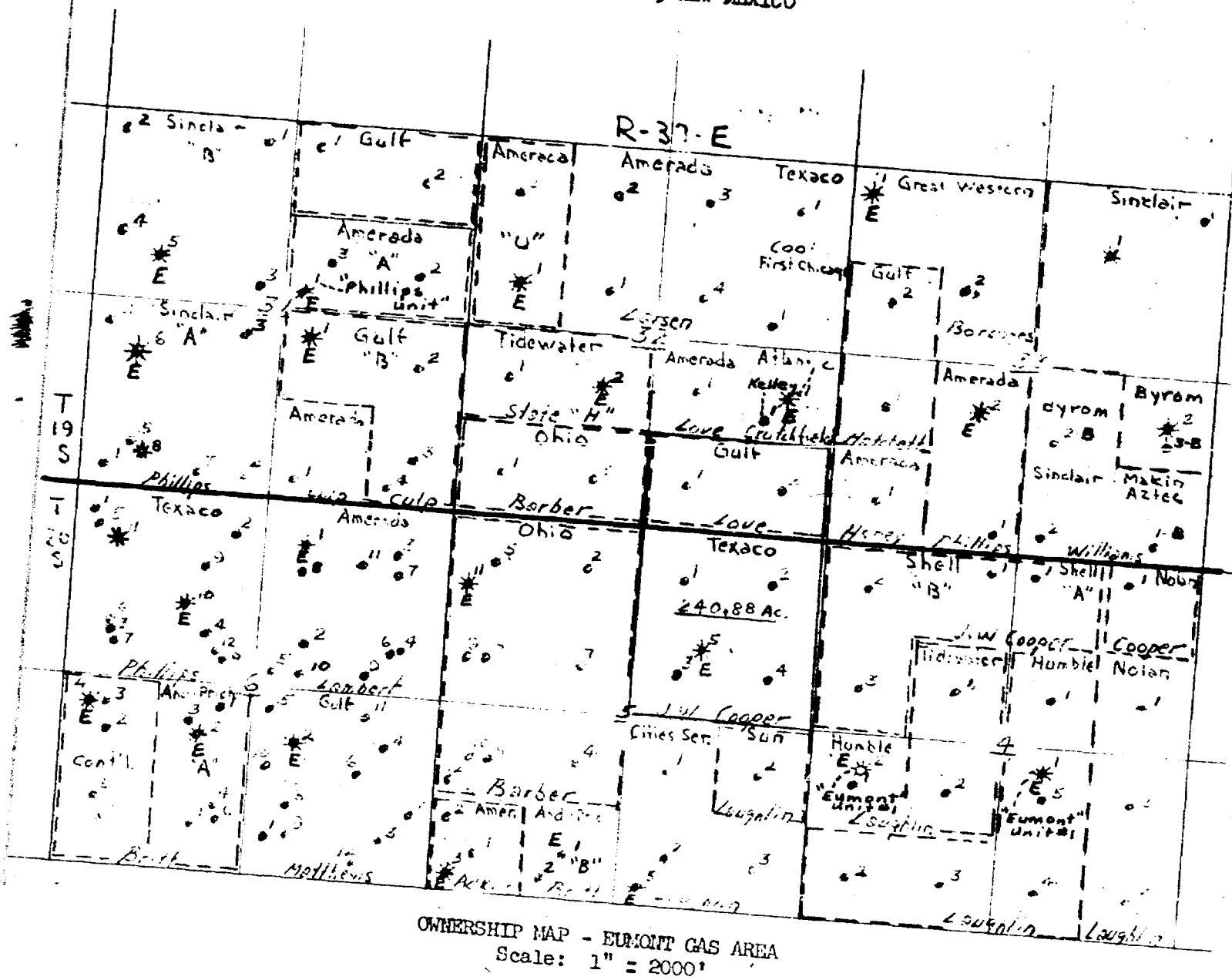
WHEREFORE, applicant prays that this application be set down for hearing, either before an Examiner or the Commission, that notice be given thereof as required by law, and upon the evidence adduced the Commission issue its order providing for the forced pooling of all the interests in the 241 acre tract within the vertical limits of the Eumont Gas Pool.

TEXACO INC.

BY: GILBERT, WHITE AND GILBERT
P. O. Box 787
Santa Fe, New Mexico

GILBERT, WHITE AND GILBERT
ATTORNEYS AT LAW
SANTA FE, NEW MEXICO

LEA COUNTY, NEW MEXICO



OWNERSHIP MAP - EUMONT GAS AREA
Scale: 1" = 2000'

LEGEND

E-Eumont Gas Well
—— Eumont Gas Proration Unit

OFFSET OPERATORS

Amerada Petroleum Corporation, P. O. Drawer D, Monument, New Mexico
Cities Service Oil Company, P. O. Box 97, Hobbs, New Mexico
Gulf Oil Corporation, P. O. Drawer 669, Roswell, New Mexico
Humble Oil and Refining Company, P. O. Box 2347, Hobbs, New Mexico
Ohio Oil Company, P. O. Box 2107, Hobbs, New Mexico
Shell Oil Company, P. O. Box 845, Roswell, New Mexico
Sun Oil Company, P. O. Box 1861, Midland, Texas

TEXACO INC. (Owner of approximately two-thirds of working interest in unit)

(1) Kenneth F. Duncan
#14 Romca Road
Poughkeepsie, New York

(2) Walter L. Gockley
2404 S. Radcliffe Place
Bayshore Gardens
Bradenton, Florida

(3) Eudeana B. Newcomb
1937 Northwest 17th St.
Oklahoma City, Oklahoma

(4) Mr. Roy H. Nicolai, Administrator
Hal M Nicolai Estate
% Wm. H Anderson CPA
419 Board of Trade Bldg.
Portland 4, Oregon

Letter to the royalty owners:
3-16-59
4-15-59
6-10-59 (2 registered)
7-16-59 (registered)

44 royalty owners
41 signed

GULF OIL CORPORATION- (Owner of approximately one-third of working interest in unit)

(5) Mrs. Frances L. Kramer
2119 E. 31 Place
Tulsa, Oklahoma

(6) J. L. Reed
Lovington, New Mexico

(7) Estate of Dr. Ralph Sullivan, deceased
Edward A. Golden, Administrator
5672 Washington Boulevard
Chicago 44, Illinois

(8) G. T. Hanners
Stansell Building
Lovington, New Mexico

3 royalty owners
4 have failed to sign

Case file 1801

Docket No. 37-59

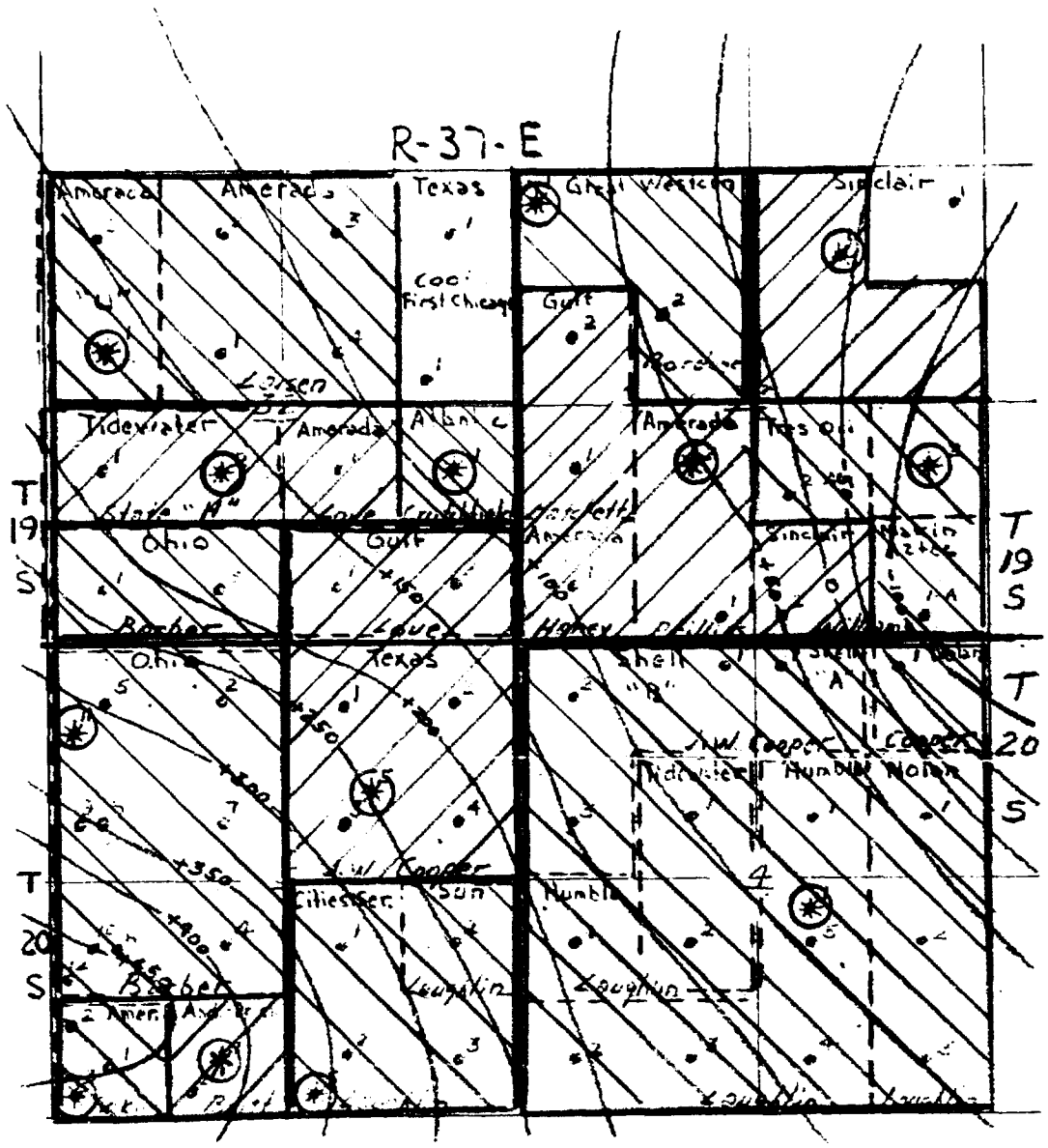
Hearing Oct 28, 1959

-3-

20 South, Range 37 East, and the S/2 SE/4 of Section 32, Township 19 South, Range 37 East, all in Lea County, New Mexico, seeks an order force-pooling all of the interests in said unit within the vertical limits of the Eumont Gas Pool, including interests of the following persons who have not consented to communitization: Kenneth F. Duncan; Walter L. Gockley; Eudeana B. Newcomb; Roy H. Nicolai, Administrator of Hal M. Nicolai Estate; Mrs. Frances L. Kramer; J. L. Reed; Estate of Dr. Ralph Sullivan, Edward A. Golden, Administrator; G. T. Hanners.

CASE 1802: Application of John H. Trigg for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Caprock-Queen wells on its Federal Trigg Lease in Sections 4 and 9, Township 14 South, Range 31 East, Chaves County, New Mexico.

% it is of any interest to you, my duly notarized consent to the pooling proposal was sent Texaco weeks ago. My new permanent address is Box 66 RD 1, St. Cloud, Florida



STRUCTURE MAP * EUMONT GAS AREA
Contoured on Top of Penrose (Lower Queen)
Contour Interval: 50 feet
Scale: 1" = 2000'

--LEGEND--

◯ TEXACO Inc. Gas Well
Proposed Gas Unit

◯ Offset Gas Well
Offset Gas Unit

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 1
CASE NO. 1801

PERMIAN BASIN PIPELINE COMPANY

2228 DODGE STREET

OMAHA 1, NEBRASKA

October 23, 1959

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Texaco NO. 2
CASE NO. 1891

Texaco, Inc.
Box 1720
Midland, Texas

Attention: Mr. Bob Shoemaker

Re: Texaco, Inc.
Cooper #5 Well Unit
Eumont Pool
Sec. 5-20S-37E
Lea County, New Mexico

Gentlemen:

This is to advise that Permian Basin Pipeline Company, as purchaser of the gas production from the referenced well, will, by December 1, 1959, have the gas production from this well unit in balance.

Yours very truly,

James P. Coyle
Gas Purchases Division

JPC:lmw

cc: A. R. Koons
O. J. Leveritt

GAS POOLING AGREEMENT

THIS AGREEMENT, made and entered into this 24th day of February, 1959, by and between THE TEXAS COMPANY, hereinafter called "Texaco" and GULF OIL CORPORATION, hereinafter called "Gulf",

WITNESSETH, THAT:

WHEREAS, Texaco is the owner and holder of an oil and gas lease dated September 14, 1926, from James W. Cooper et ux as Lessor to Texas Production Company as Lessee, covering the Northeast 1/4 of Section 5, Twp. 20 South, Range 37 East, N.M.P.M., Lea County, New Mexico; and

WHEREAS, Gulf is the owner and holder of an oil and gas lease dated August 18, 1928, from May L. Love et vir, as Lessor, to Harry J. Brown as Lessee, covering among other lands the South 1/2 of the Southeast 1/4 of Section 32, Twp. 19 South, Range 37 East, N.M.P.M., Lea County, New Mexico; and

WHEREAS, it is the desire of the parties hereto that this agreement cover the Northeast 1/4 of Section 5, Twp. 20 South, Range 37 East, and the South 1/2 of the Southeast 1/4 of Section 32, Twp. 19 South, Range 37 East, N.M.P.M., Lea County, New Mexico, as to dry gas and associated liquid hydrocarbons produced from a gas well, as defined by the New Mexico Oil Conservation Commission within the vertical limits of the Eumont Gas Pool as defined in said Commission's Order No. R-520, said area hereinafter being referred to as the "pooled proration unit"; and

WHEREAS, in order to comply with existing rules and regulations governing gas well spacing and gas proration units, and to acquire a gas allowable for the above described pooled proration unit, it is the desire of the parties hereto to pool all leasehold and royalty interests in order to form one tract or unit; and

WHEREAS, Texaco desires to operate the pooled proration unit as an entirety for the purpose of developing and producing dry gas and associated liquid hydrocarbons in accordance with the terms and provisions of this agreement.

NOW THEREFORE, in consideration of the premises and the mutual advantages offered by this agreement, it is mutually covenanted and agreed by and between the parties hereto that the pooled proration unit shall be developed and operated by Texaco, its successors or assigns, for the production therefrom of dry gas and associated liquid hydrocarbons as an entirety, with the understanding and agreement that the dry gas and associated liquid hydrocarbons from the pooled proration unit shall be allocated among the separate tracts comprising said unit in the proportion that the acreage interest contained in each of the tracts bears to the entire surface acreage of said unit. There shall be no obligation on Texaco, or its successors or assigns, to offset any gas well or wells on separate component tracts int[illegible]ch such pooled proration unit is now or may hereafter be divided; nor shall Texaco, its successors or assigns, be required to separately measure said dry gas or associated liquid hydrocarbons by reason of the diverse ownership of such production in and under said tract, but the lessee shall not be released from the obligation to protect said pooled proration unit from drainage by any gas well or wells which may be drilled offsetting the said tract.

It is further agreed that the commencement, completion, continued operation or production of a well or wells for dry gas and associated liquid hydrocarbons on the pooled proration unit shall be construed and considered as the commencement, completion, continued operation or production from each and all of the tracts within and comprising said pooled proration unit.

It is the intention of the parties hereto that this agreement shall include and affect only dry gas and associated liquid hydrocarbons produced through a gas well or gas wells as defined by the New Mexico Oil Conservation Commission located on the pooled proration unit and shall not include

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
CASE NO. [illegible]

or affect in any manner whatsoever any of the production of hydrocarbons from any oil well located on the pooled tracts or any of the production of hydrocarbons from other than the Eumont Gas Pool as above defined.

It is further agreed that all production of dry gas and associated liquid hydrocarbons and disposal thereof shall be in conformity with allocations made or fixed by any duly authorized person or regulatory body under applicable Federal or State statute. The provisions of this agreement shall be subject to all applicable Federal and State laws or executive orders, rules and regulations which affect the performance of any of the provisions of this agreement, and no party hereto shall suffer a forfeiture or be liable in damages for failure to comply with any of the provisions of this agreement if such compliance is prevented by, or if such failure results from compliance with any such law, order, rule or regulation.

This agreement shall be effective as of the date upon which an allowable production allocated to the entire pooled proration unit is first produced, and shall remain in force and effect for a period of one (1) year and so long thereafter as dry gas, with or without associated liquid hydrocarbons, is produced from any part of said pooled proration unit in paying quantities. It is further provided that after the expiration of said one-year period, should the unit well or wells be reclassified by the New Mexico Oil Conservation Commission, or should the pooled proration unit cease to produce gas in paying quantities from any cause, this agreement shall not terminate, if within six (6) months after the date of any such reclassification or cessation of such production, Operator shall commence operations for the purpose of restoring gas production from the unit, in which event this agreement shall remain in full force and effect during the period such operations are being diligently prosecuted and so long thereafter as dry gas, with or without associated liquid hydrocarbons, is produced from said unit in paying quantities.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

Approved as to:
Terms RTM
Form

THE TEXAS COMPANY

By J L Sleyster Jr
Attorney-in-Fact

Law	
Comptr.	
Exp.	
Prod.	

GULF OIL CORPORATION

By N A Shellshear
Attorney-in-Fact

[redacted] S. A. PRICE

[redacted] ZERBAFF

The foregoing instrument was acknowledged before me this 4th day of March, 1959, by J L Sleyster Jr, Attorney-in-Fact for The Texas Company, a [redacted] corporation, on behalf of said corporation.

Ann Matthews
Notary Public in and for
Tarrant County, State of Texas.
ANN MATTHEWS

STATE OF NEW MEXICO
COUNTY OF CHAVES

The foregoing instrument was acknowledged before me this 24th day of February, 1959, by [redacted] SHEAR, Attorney In Fact of [redacted] corporation, a corporation of Delaware, on behalf of said corporation.

Eva Marie Cowger
Notary Public in and for CHAVES County, NEW MEXICO

[redacted] 15, 1962

[redacted]
41626

PETROLEUM AND ITS PRODUCTS

GULF OIL CORPORATION

P. O. DRAWER 669 • ROSWELL, NEW MEXICO

F. E. CURTIS, JR.
DISTRICT LANDMAN

FORT WORTH
PRODUCTION DIVISION

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE

Texaco, Inc. - J. W. Cooper
Eumont Gas Pool Proration
Unit No. 1 - NE/4 of Section 5,
T-20-S, R-37-E, and S/2 SE/4
of Section 32, T-19-S, R-37-E,
Lea County, New Mexico.

Gulf Oil Corporation's May Love Lease No. 18644 covers the S/2 SE/4 of Section 32-19S-37E. Our records reflect that you own a portion of the royalty payable under this lease. Texaco, Inc. owns an oil and gas lease on the NE/4 of Section 5-20S-37E. Texaco has a producing gas well located in the NE/4 SW/4 NE/4 of Section 5. A study of the geological data in connection with this gas well has shown that it will adequately drain all of the Eumont Gas Pool underlying the S/2 SE/4 Section 32 and the NE/4 of Section 5. Therefore, Gulf and Texaco have agreed to pool their respective leasehold estates for production of gas from the Eumont Gas Pool under this 240 acre tract.

When a gas well is capable of producing all the gas from a particular pool under a 240-acre tract, as in this case, the rules of the Conservation Commission permit the owners of leases and royalties in such a tract to pool their interests with the other leasehold and royalty owners therein.

Such pooling does not impose a loss or penalty on any participant therein and the royalties payable from the unit well are based on the proportionate acreage ownership of each royalty owner as to all other royalty owners and the working interest owners' returns from the unit well are based on the proportionate acreage ownership of each leasehold owner as to all other leasehold owners. The only effect of the gas unit is to spread the royalty and leasehold owners' interests in the pooled gas zone over the entire 240-acre unit. [For example, if a royalty owner has a ten royalty acre interest under an 80-acre tract and his interest is pooled into a 240-acre gas unit, he will then have a ten royalty acre interest in a 240-acre tract and the production creditable to his interest will remain the same because the 240-acre unit, although three times as large as the 80-acre tract, will be allowed to produce three times as much gas as the 80-acre tract.] Production from wells not completed in the pooled zone is not affected in any manner by the pooling agreement.

We feel that it is advantageous both for you and ourselves equally that the subject gas unit be formed, and in this view, we are enclosing herewith a copy of the gas pooling agreement covering the subject unit with the request that if you agree with us and the terms of the agreement are satisfactory to you, you will execute, acknowledge and return one of the enclosed consent and ratification instruments to us in the envelope herein provided at your earliest convenience. The copy of the gas pooling agreement and the extra copy of the consent and ratification are enclosed for your files. The consent and ratification must be acknowledged before a Notary Public and the wife or husband, as the case may be, should join in the execution of the consent and ratification. Because of the many interests under the unit, the instruments are being executed in counterpart by all concerned.

In the event you no longer own an interest in the royalties from the S/2 SE/4 of Section 32, we would appreciate your returning the enclosed instruments and this letter to us stating therewith the name and address of the present owner of the interest.

If you wish further information in connection with the subject gas unit, we will be pleased to answer any questions you have in this connection.

Very truly yours,

F. E. Curtis, Jr.

F. E. CURTIS, JR.

Enclosures

CONSENT AND RATIFICATION
GAS POOLING AGREEMENT
EMBRACING LANDS IN LEA COUNTY, NEW MEXICO

The undersigned (whether one or more) hereby acknowledge receipt of a copy of a Gas Pooling Agreement for the creation of a gas proration unit consisting of the NE/4 of Section 5, Township-20-South, Range-37-East, and the S/2 SE/4 of Section 32, Township-19-South, Range-37-East, NMPM, Lea County, New Mexico, within the vertical limits of the Eumont Gas Pool, which said agreement is dated February 24, 1959, and acknowledge that they have read the same and are familiar with the terms and conditions thereof. The undersigned being the owners of the leasehold, royalty or other interest in the lands or minerals embraced in said pooled area, do hereby commit all of their said interest to the Gas Pooling Agreement and do hereby consent thereto and ratify all of the terms and provisions thereof, exactly the same as if the undersigned had executed the original of said Gas Pooling Agreement or a counterpart thereof.

IN WITNESS WHEREOF, this instrument is executed by the undersigned as of the date set forth in their respective acknowledgments.

_____

_____

_____

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 1959, by _____.

_____
Notary Public

My Commission Expires:

_____

THE TEXAS COMPANY

TEXACO PETROLEUM PRODUCTS

DOMESTIC PRODUCING DEPARTMENT
WEST TEXAS DIVISION

P. O. BOX 1720
FORT WORTH 1, TEXAS

March 16, 1959

41626 - James W. Cooper et ux Lease
Lea County, New Mexico

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Texaco EXHIBIT NO. 5
CASE NO. 1801

The captioned Texaco lease covers the NE/4 of Section 5, T-20-S, R-37-E, Lea County, New Mexico. On this tract we completed our Cooper Well No. 5 on February 24, 1954, as a producing gas well. As you know, this well currently produces its top allowable from the Eumont gas zone at approximately 3500 feet.

The Gulf Oil Corporation is the owner of a lease in the SE/4 of Section 32, T-19-S, R-37-E, directly offsetting our lease to the North. The Texas Company is presently negotiating with Gulf to combine their lease of the S/2 SE/4 of Section 32 with Texaco's in the NE/4 of Section 5 to create a 240 acre Eumont Gas Proration Unit. At this time Gulf's lease does not contain a Eumont gas outlet, and it is believed that the combination of these two tracts in this zone utilizing Texaco's well will result to the mutual benefit of all interest owners.

The enlarged 240 acre proration unit will receive a full proration allowable in this formation. We anticipate that no change in current income to the royalty owners will result. Also, no expense to the royalty owners will be incurred by the formation or operation of the unit. As a royalty owner under our lease, we desire your cooperation. A copy of our Gas Pooling Agreement creating this proration unit is enclosed for your inspection. We request your approval to this agreement and your execution to the enclosed Ratification instrument.

Please execute one copy of the Ratification of Gas Pooling Agreement before a notary public and return same to us. Your prompt consideration will be appreciated.

Yours very truly,

R. T. Maxwell
Division Landman

By B. E. Heliman
B. E. Heliman

BEH:mj

Enc.

All held out portion on this date sent to Texas Letter per below. MM 4/15

April 15, 1959

41626 - James W. Cooper et ux Lease
Lea County, New Mexico

Mr. and Mrs. C. E. Rawlinson
12221 S. W. Edgecliff Road
Portland 1, Oregon

Dear Mr. and Mrs. Rawlinson:

Please refer to our letter of March 16, 1959, wherein we discussed a unitization plan for our above lease in Lea County, New Mexico. A copy of our Gas Pooling Agreement creating the proposed proration unit as well as a copy of the Ratification instrument were enclosed in the aforementioned letter for your inspection.

We would appreciate your executing the instrument entitled "Ratification of Gas Pooling Agreement" before a Notary Public and returning same to this office as soon as possible. If you desire additional information regarding the proposed plan, please advise.

Yours very truly,

R. T. Maxwell
Division Landman

By _____
B. E. Hellman

BEH:mj

June 10, 1959

41626 - James W. Cooper et ux Lease
Lea County, New Mexico

REGISTERED - Return Receipt Requested

Hal M. Nicolai
Box 4012
Portland 8, Oregon

Dear Mr. Nicolai:

Enclosed is a copy of our letter to you dated March 16, 1959, concerning your interest in the subject lease. In this letter we describe our proposed 240 acre Eumont Gas Proration unit and our desire to obtain your cooperation and consent by executing the Ratification instrument attached.

To date a reply from you concerning the instrument for execution has not been received. Your questions concerning the statements in our letter are earnestly invited. If the instruments described in our letter of March 16, 1959, failed to reach you or have been mislaid, please advise.

The completion of this unit has been prolonged due to the number of parties involved who must be contacted. Your prompt consideration and execution of the Ratification instrument will be appreciated.

Please give us a reply at your earliest convenience.

Yours very truly,

R. T. Maxwell
Division Landman

By: _____
B. E. Hollman

BEH:as

Enc.

June 10, 1959

41626 - James W. Cooper et ux Lease
Lea County, New Mexico

REGISTERED - Return Receipt Requested

Eudeana B. Newcomb
2753 Northwest 17th Street
Oklahoma City, Oklahoma

Dear Mrs. Newcomb:

Enclosed is a copy of our letter to you dated March 16, 1959, concerning your interest in the subject lease. In this letter we describe our proposed 240 acre Eumont Gas Proration unit and our desire to obtain your cooperation and consent by executing the Ratification instrument attached.

To date a reply from you concerning the instrument for execution has not been received. Your questions concerning the statements in our letter are earnestly invited. If the instruments described in our letter of March 16, 1959, failed to reach you or have been mislaid, please advise.

The completion of this unit has been prolonged due to the number of parties involved who must be contacted. Your prompt consideration and execution of the Ratification instrument will be appreciated.

Please give us a reply at your earliest convenience.

Yours very truly,

R. T. Maxwell
Division Landman

By: _____
B. E. Hellman

BEH:as

Enc.

June 10, 1959

41624 - James W. Cooper et ux Lease
Lea County, New Mexico

REGISTERED - Return Receipt Requested

Walter L. Gackley
2404 S. Radcliffe Place
Bayshore Gardens
Bradenton, Florida

Dear Mr. Gackley:

Enclosed is a copy of our letter to you dated March 16, 1959, concerning your interest in the subject lease. In this letter we describe our proposed 240 acre Dumont Gas Proration unit and our desire to obtain your cooperation and consent by executing the Ratification instrument attached.

To date a reply from you concerning the instrument for execution has not been received. Your questions concerning the statements in our letter are earnestly invited. If the instruments described in our letter of March 16, 1959, failed to reach you or have been mislaid, please advise.

The completion of this unit has been prolonged due to the number of parties involved who must be contacted. Your prompt consideration and execution of the Ratification instrument will be appreciated.

Please give us a reply at your earliest convenience.

Yours very truly,

R. T. Maxwell
Division Landman

By: _____
B. E. Hellman

BEH:as

Enc.

July 16, 1959

41626 - James W. Cooper et ux Lease
Lea County, New Mexico

REGISTERED - Return Receipt Requested

Mr. Walter L. Gockley
2404 So. Radcliffe Place
Bayshore Gardens
Bradenton, Florida

Dear Mr. Gockley:

By our letter dated March 16, 1959, we requested your approval and execution to an instrument ratifying our proposed agreement creating a 240 acre Eumont Gas Proration Unit affecting the subject lease. Our subsequent letters of April 15, 1959, and June 9, 1959, again requested your cooperation in forming this unit, however, no communication from you in this regard has been received.

We will appreciate your comments to our request and to the facts surrounding the creation of this unit which we believe to be of mutual benefit. If further advice from you is not received we will presume you have received our above communications with their enclosures, and desire not to execute the instrument or comment thereon, after which we will consider requesting the appropriate governmental agency to force pool your interest.

Yours very truly,

R. T. Maxwell
Division Landman

By _____
R. L. Westlake

RLW:as

TEXACO
INC.

PETROLEUM PRODUCTS

DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION

P. O. BOX 3109
MIDLAND, TEXAS

July 16, 1959

41626 - James W. Cooper et ux Lease
Lea County, New Mexico

REGISTERED - Return Receipt Requested

Mr. Hal M. Nicolai
Box 4012
Portland 8, Oregon

Dear Mr. Nicolai:

By our letter dated March 16, 1959, we requested your approval and execution to an instrument ratifying our proposed agreement creating a 240 acre Eumont Gas Proration Unit affecting the subject lease. Our subsequent letters of April 15, 1959, again requested your cooperation in forming this unit, however, no communication from you in this regard has been received.

We will appreciate your comments to our request and to the facts surrounding the creation of this unit which we believe to be of mutual benefit. If further advice from you is not received we will presume you have received our above communications with their enclosures, and desire not to execute the instrument or comment thereon, after which we will consider requesting the appropriate governmental agency to force pool your interest.

Yours very truly,

R. T. Maxwell
Division Landman

By R. L. Westlake
R. L. Westlake

RLW:as

July 16, 1959

41626 - James W. Cooper et ux Lease
Lea County, New Mexico

REGISTERED - Return Receipt Requested

Mrs. Eudeana B. Newcomb
2753 Northwest 17th St.
Okla. City, Oklahoma

Dear Mrs. Newcomb:

By our letter dated March 16, 1959, we requested your approval and execution to an instrument ratifying our proposed agreement creating a 240 acre Eumont Gas Proration Unit affecting the subject lease. Our subsequent letters of April 15, 1959, again requested your cooperation in forming this unit, however, no communication from you in this regard has been received.

We will appreciate your comments to our request and to the facts surrounding the creation of this unit which we believe to be of mutual benefit. If further advice from you is not received we will presume you have received our above communications with their enclosures, and desire not to execute the instrument or comment thereon, after which we will consider requesting the appropriate governmental agency to force pool your interest.

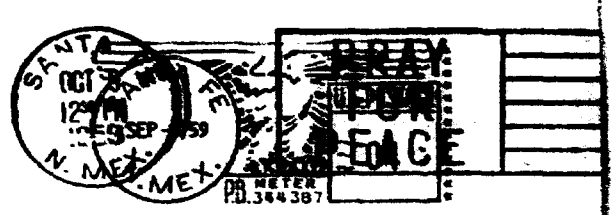
Yours very truly,

R. T. Maxwell
Division Landman

By_____
R. L. Westlake

RLWiae

State of New Mexico
Oil Conservation Commission
P. O. BOX 871
SANTA FE



Returned to Writer
from
Austin Station 44
Chicago, Ill.

Not here

UNCLAIMED
not remailable

4422

Mr. Edward A. Golden
5672 Washington Boulevard
Chicago 44, Illinoia

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Texaco Inc., for an order force pooling the interests in a 241-acre non-standard gas proration unit in the Eumont Gas Pool. Applicant, in the above-styled cause, holder of a 241-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the NE/4 of Section 5, Township 20 South, Range 37 East, and the S/2 SE/4 of Section 32, Township 19 South, Range 37 East, all in Lea County, New Mexico, seeks an order force-pooling all of the interests in said unit within the vertical limits of the Eumont Gas Pool, including interests of the following persons who have not consented to communitization: Kenneth F. Duncan; Walter L. Gockley; Eudeana B. Newcomb; Roy H. Nicolai, Administrator of Hal M. Nicolai Estate; Mrs. Frances L. Kramer; J. L. Reed; Estate of Dr. Ralph Sullivan, Edward A. Golden, Administrator; G. T. Hanners. Case 1801

BEFORE:
Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. PAYNE: Application of Texaco Inc., for an order force pooling the interests in a 241-acre non-standard gas proration unit in the Eumont Gas Pool.

MR. WHITE: If the Commission please, Charles White of Gilbert, White and Gilbert, appearing on behalf of the Applicant, Texaco Inc. We have three witnesses to be sworn at this time.

MR. NUTTER: Let's recess the hearing for a few minutes.

(Whereupon a short recess was taken.)

(Marked Applicant's Exhibits 1 through 5, for identification.)

MR. NUTTER: The hearing will come to order. Will you proceed, Mr. White?

MR. WHITE: If the Examiner please, we have three witnesses to be sworn, Mr. Wade, Mr. Hoover and Mr. Hellman.

(Witnesses sworn.)

H. N. WADE

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

DIRECT EXAMINATION

BY MR. WHITE:

Q Mr. Wade, will you state your full name for the record, please?

A H. N. Wade.

Q By whom are you employed and in what capacity?

A I'm employed by Texaco, Inc, as Division Proration Engineer.

Q Mr. Wade, are you familiar with the subject application?

A Yes, sir, I am.

Q Have you previously testified before the Commission?

A Yes, sir.

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

MR. WHITE: Are his qualifications acceptable?

MR. NUTTER: Yes, sir, please proceed, Mr. White.

Q Will you briefly state the purpose of the application?

A The purpose of this application is to force pool some royalty interests which have decided not to participate, or which have not responded to our request that they participate in a non-standard proration unit to be assigned to Texaco J. W. Cooper Well No. 5.

Q Will you refer to what has been marked as Exhibit No. 1 and explain it to the Commission?

A Exhibit No. 1 is an ownership map which has superimposed on it a structure map just for the information of Examiner. It also has shown the various offset gas proration units in the Eumont Gas Pool. These are outlined in green hatched in brown. It also shows the 241-acre non-standard proration unit which has been approved by the Commission to be assigned to Texaco's J. W. M. Cooper Well No. 5 in the Eumont Pool.

The contour interval on the structure map is 50 feet, the scale of this plat is one inch equals 2,000 feet. The Texaco well in question here is circled in red, all other Eumont gas wells, or offsetting Eumont gas wells are circled in black.

Q Was this exhibit prepared by you or under your direction and supervision?

A Yes, sir, it was.

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Q Mr. Wade, will you in general briefly discuss the Commission's approval of this particular non-standard gas proration unit with reference to Case No. 1593?

A Yes, sir, in Case 1593 the Texaco requested a non-standard proration unit to include its J. W. Cooper Lease consisting of the Northeast Quarter of Section 5, Township 20 South, Range 37 East, and Gulf Oil Corporation's Love Lease consisting of the South Half, Southeast Quarter, Section 32, Township 19 South, Range 37 East.

As a result of the hearing on that application the Commission issued Order No. R-1335 effective February 12, 1959. Since the issuance of that order was based on information presented at the hearing whereby Texaco's witnesses showed that the acreage was productive and would be efficiently drained by the well in question, we do not plan to go into that portion of the, or into that subject at this hearing.

MR. WHITE: We would, however, like to have the Examiner take administrative notice of the fact this acreage is productive in view of Order 1335.

MR. NUTTER: Would you like to incorporate the record in this case?

MR. WHITE: I think we would.

MR. NUTTER: Without objection the record in Case 1593 will be incorporated in Case 1801 then.

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Q Continue.

A I believe that's all I had to discuss about the non-standard proration, Mr. White.

Q Has the assigned allowable been requested as authorized by Order R-1335, and if not, why not?

A No, sir, we have not requested the allowable, primarily because we have not received the royalty interest approval. Without this royalty interest approval an increase in gas allowable for the well, which according to the Order R-1335 could have been attained at any time by Texaco, such an increase would have required Texaco to pay double royalties in some instances to its royalty interest owners. For that reason we felt that it would not be to our best interest to request the increased allowable.

Q Do you have reason to believe that the well is capable of producing the assigned allowable as to the full dedicated acreage?

A Yes, sir, I think the well has demonstrated that quite well. Harking back a little bit to the testimony given in the previous case on this previous hearing concerning this well and bringing the information up to date, at that time it was testified that the open flow potential taken in June of 1956 showed a potential of 5,280 MCF per day. At that time we had a shutin tubing pressure of 985 PSI. On August 8, 1957 the well had a shutin tubing pressure of 959, on August 25, 1958 its tubing

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pressure was 940. On October 8, 1959 of this, rather of this year, we had a shutin pressure of 925. Thus the tubing pressure has, shutin tubing pressure has decreased very little and just from this information alone I would conclude that the well was more than capable of producing the allowable which would be assigned it in the expanded unit. That allowable, as I calculate it, using the October allocation, would be 14,690 MCF per month. Besides this estimation or deduction that you can make from the open flow potential and the tubing pressure information during the months of, or rather during the month of February, 1959, the well produced 24,765 MCF, again demonstrating the fact that the well is more than capable of producing any allowable assigned it under the expanded unit.

In March of this year it also produced 14,000,303 MCF, which again is almost as much as the allowable which would be assigned. I think that there's no question that the well can produce the allowable assigned it.

Q Do you have anything as to the line pressure history?

A The line pressure during September of 1958 was 375 PSI, during March, '59, 482, during September, '59, 433. This information is significant only in that it indicates a low line pressure which would not be significant in reducing the ability of the well to enter the line.

Q Do you presently have underproduction on this well?

A As of September 1, 1959 the well showed a cumulative underproduction of 15,956 MCF. This information was taken from the schedule.

Q Do you have any reason to believe that this underproduction will be balanced out in the reasonably near future?

A Yes, sir. We have obtained from Permian Basin Pipeline Company, the purchaser of this gas, a letter which outlines the situation concerning this well.

Q Has that been identified as Exhibit 2?

A Yes, sir, it has. For the record I think it might be well for me to read that information at this time. The letterhead is Permian Basin Pipeline Company, 2223 Dodge Street, Omaha 1, Nebraska, dated October 23, 1959. It is addressed to Texas, Inc. in Midland, Texas, to the attention of Mr. Bob Shoemaker, who is the gas contracts man for Texaco in that office. "Gentlemen: This is to advise that Permian Basin Pipeline Company, as purchasers of the gas production from the referenced well, will, by December 1, 1959 have the gas production from this well unit in balance. Yours very truly, James B. Coyle, Gas Purchases Division." The reference to which he referred in the letter is entitled "Texaco, Inc., Cooper No. 5 Well, Unit, Eumont Pool."

MR. WHITE: We offer Texaco's Exhibits 1 and 2 at this time.

MR. NUTTER: They will be admitted.

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Q In your opinion will this well be a given [illegible] and just [illegible] be?

A No, sir, not without drilling an unnecessary well or taking what I consider the unnecessary risk of opening an existing well to Eumont production on their 80 acre lease.

Q Would all the correlative rights in this unit be protected by the agreement?

A Yes, sir, they will.

MR. WHITE: That's all the questions we have on direct.

MR. NUTTER: Any questions?

CROSS EXAMINATION

BY MR. PAYNE:

Q I take it you are willing to have the order made effective as of December 1st?

A Yes, sir, that is that would be our request.

Q When the well is in balance?

A Yes.

Q Was Order 1335 contingent upon voluntary communitization of the 120-acre tract?

MR. WHITE: Only as to working interest.

A Working interest only, Mr. Payne.

Q Well, in that regard then the working interest has been communitized voluntarily, is that right?

A Yes, sir, that's correct.

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Q Would you explain to me again why you prefer to go ahead and force pool this as to the royalties?

A Yes, sir, if the royalty owners under the Texaco Lease are not participating, then any increase in gas production from that well must be paid to those non-participating royalty owners in the percentage that their interest bears to the total royalty interest in the 160 that we have and not in the proportion that their interest bears to the 241-acre tract.

MR. NUTTER: At this time you would have to pay the royalty owners under --

A That's correct. It amounts to double royalty payments.

MR. NUTTER: Any further questions of Mr. Wade? He may be excused.

(Witness excused.)

MR. WHITE: The next witness will be Mr. Hoover.

JOHN H. HOOVER

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

DIRECT EXAMINATION

BY MR. WHITE:

Q Mr. Hoover, will you state your full name for the record?

A John H. Hoover.

Q By whom are you employed, Mr. Hoover?

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A Employed by Gulf Oil Corporation as Petroleum Engineer.

Q Mr. Hoover, are you acquainted with the gas pooling agreement?

A Yes, sir, I am.

Q Have you worked in trying to get all the various interests signed up under this agreement?

A Yes, sir.

Q Will you refer to what's been marked as Exhibit 3, which is entitled "Gas Pooling Agreement", and I'll ask you whether or not that is a true and correct copy of the original agreement.

A Yes, sir, it is.

Q How many different royalty interests are there involved in Gulf's 80-acre tract?

A Of course Gulf has 7/8ths interest, and of the remaining 1/8th interest it is divided among thirty-two different people.

Q Of this, how many have you actually contacted?

A We contacted all thirty-two by certified mail. In this we sent them a copy of the letter, a form letter addressed to each one of them explaining the purpose of proration, how it works, how they will be affected, and attached to the letter was two copies of a consent and ratification to the gas pooling agreement which we requested that if they approved to execute one copy and return. We also attached on each distribution a copy

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of the gas pooling agreement for their information and file.

On this certified mail we requested a return receipt, which upon being received, material being received by the person to whom it's addressed, they signed that they received it, the return receipt is returned to the sender, being Gulf, and in this case we received the return receipt from all thirty-two.

Q How many signed the agreement?

A We had twenty-eight which signed the consent and ratification. The remaining four elected not to answer our correspondence. We had no disapproval or approval from them either one.

Q Now, you have been referring to certain correspondence. Is that correspondence that which has been marked as Exhibit 4?

A Yes, sir, that is the form letter with the consent and ratification attached.

Q And you received return receipts from all?

A From all thirty-two, yes, sir.

Q You have had no reply from the four who have failed to sign up?

A No reply at all.

Q What percent of the working interest and royalty interests are committed at the present time?

A Approximately 98½% have approved.

Q Another way of stating it would be that all but 1½% have approved?

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A Yes, sir.

Q Have any of these interests that have not signed up affirmatively, objected?

A No, sir.

Q In your opinion would the royalties of any interested parties be impaired by the granting of this application?

A No, sir, they would not.

MR. WHITE: We move for the admission of Exhibits 3 and 4 at this time.

MR. NUTTER: Texaco's Exhibits 3 and 4 will be entered.

MR. WHITE: That's all the testimony we have on direct examination.

MR. NUTTER: Does anyone have any questions of Mr. Hoover?

CROSS EXAMINATION

BY MR. NUTTER:

Q You indicated that twenty-eight of the thirty-two people had signed the agreement. Do you have any evidence that the agreement was delivered to the other four?

A Yes, sir. We don't have copies of these made.

Q No, sir, did you get evidence that the letters were delivered to the people?

A Yes, sir. I will show this to the Examiner. According to the application we had Mrs. Frances L. Kramer, J. L. Reed,

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the Estate of Dr. Ralph Sullivan, Edward A. Golden, Administrator and G. T. Hanners. We have receipt No. 129915 addressed to Mrs. Frances L. Kramer with a return receipt signed by Frances L. Kramer. We have receipt No. 129922 with a receipt signed by J. L. Reed, the agent W. T. Reed. Receipt No., Estate of Dr. Ralph L. Sullivan, receipt 129926. It is shown signed by Ralph L. Sullivan. Edwin A. Golden, Administrator. And the last one, G. T. Hanners, was receipt 129934, and that is signed by Mr. Hanners. That is the four, four royalty that did not answer our correspondence.

Q All four of those parties were named in the application, were they not?

A Yes, sir, they were.

MR. NUTTER: Does anyone else have any further questions of Mr. Hoover? He may be excused.

(Witness excused.)

B. E. HELLMAN

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

DIRECT EXAMINATION

BY MR. WHITE:

Q Mr. Hellman, will you state your full name, please?

A B. E. Hellman.

Q And you are employed by the Texaco, Inc.?

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A Yes.

Q In what department and in what capacity?

A In the Land Department in the capacity of contract man.

Q Are you an attorney? A Yes.

Q Licensed in the State of Texas?

A Yes.

Q Mr. Hellman, have you had any association or have you worked in connection with this proposed agreement?

A I have.

Q What part did you play in regard to obtaining the execution of the agreement?

A I contacted the royalty owners and the working interest owners in connection with the execution and ratification of the agreements.

Q How many different royalty interests are there in Texaco's --

A Forty-four.

Q Forty-four you say? A Yes.

Q Of these how many have actually been contacted?

A All forty-four.

Q How many signed up? Or I'll say how many did not sign up?

A Three.

Q I'll ask you this, in reference to those who signed up,

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did Mr. G. T. Hanners sign up?

A He did.

Q It was brought out by Mr. Hoover's testimony that he was one of the unsigned royalty interests insofar as the Gulf acreage is concerned. But he was also a royalty owner as to the Texaco interests?

A That's correct.

Q And he did sign up as to Texaco?

A That's correct.

Q Will you state in general the correspondence that you have had with these unsigned royalty owners?

A A total of four letters were directed to these parties. The first dated March 16, 1959 discussed the full facts on the distribution of the unit and contained a copy of the gas pooling agreement and the ratification agreement with the request for the execution and approval of the ratification.

Q Were these all sent by registered mail and return receipt?

A Only the last two letters were sent registered.

Q All right.

A The second letter dated April 15, 1959 made reference to the previous letter and its enclosures and requested execution as soon as possible. The third letter dated June 10th, 1959 was registered, made reference to previous letter of March 16

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containing the agreements and the information and solicited questions to the letter or advice if it or its contents not received. Also requested prompt consideration and approval of the ratification and its return.

The fourth letter registered was dated July 16, 1959, made reference to previous letters, requested cooperation, comments and execution of the ratification agreement and stated that if communication was not received we would presume that they did not desire to execute or comment, and after which we would consider forced pooling remedies.

Q Is your testimony in regard to the correspondence that which has been collectively marked Exhibit 5?

A It is.

Q What percent of the working interest and royalty interest have so far signed up on the agreement?

A 98.7% of the royalty owners have signed.

Q That would be what percent that are unsigned?

A 1.93% remaining unsigned.

Q Have you received any objections to the agreement from any of the three unsigned working interests?

A We have received in the matter of objections only one comment from one of the royalty owners who stated that she saw no personal benefit to signing the agreement.

MR. WHITE: I believe that's all we have on direct.

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We would like to move the admission of Exhibit 5 at this time.

MR. NUTTER: Without objection Texaco's Exhibit No. 5 will be admitted in evidence. The whole sheaf is the Exhibit 5?

MR. WHITE: Yes.

MR. NUTTER: Does anyone have any questions from Mr. Hellman?

CROSS EXAMINATION

BY MR. PAYNE:

Q Do you believe it's necessary to force pool overriding royalty, Mr. Hellman?

A We have no overriding royalties here.

Q I know, I'm just wondering.

A Do I believe it's necessary?

Q Yes, sir.

A If we did have them and they were located under the well I'd certainly recommend it.

Q If they were located under the well on the tract under which the well was located?

A Right.

MR. PAYNE: Thank you.

BY MR. NUTTER:

Q I note that the application mentions four royalty owners on Texaco property, and you said that three failed to sign. Has the fourth one subsequently signed?

A That's Kenneth Duncan.

MR. WHITE: Is that the Dan Glade Estate?

A There was also some signed on the Gulf list there that may be on the application.

Q You stated that of the three others, the three remaining, that one had replied that she didn't see any personal benefit to her signing the ratification?

A Right.

Q Which of these three remaining parties is that?

A That is Eudeana B. Newcomb.

Q If she made a comment, you are pretty sure she got the notice?

A That's correct.

Q Are you sure that they received the letters?

A The last two letters were registered and made reference to previous letters and their contents, and we have the registered receipts from all of the owners on the first registered letter and registered receipts from all the owners on the last letter with the exception of one who was returned, it was sent to the same address as the registered letter, but we determined a new address that was current and sent an unregistered letter with the same comments as was in the last registered letter to the other owners and sent it to that owner.

MR. WHITE: Was it returned unclaimed?

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A No, it was never returned.

MR. NUTTER: Does anyone have any further questions? He may be excused.

(Witness excused.)

MR. WHITE: That concludes the presentation of our case.

MR. NUTTER: You have nothing further?

MR. WHITE: Nothing further.

MR. NUTTER: Does anyone have anything further they wish to offer in Case 1801? We will take this case under advisement and take Case No. 1802.

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 day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:
June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1801, heard by me on 10/28, 1959.

..... Examiner
New Mexico Oil Conservation Commission

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CASE 1402 · [illegible]
[illegible] 10A of JUNE 8,
[illegible] trawler
system is to produce 16 volts.

Case No.

1802

Application, Transcript,
Small Exhibits. Etc.

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. 1802
Order No. R-1522

APPLICATION OF JOHN H. TRIGG FOR AN AUTOMATIC CUSTODY TRANSFER SYSTEM AND FOR PERMISSION TO PRODUCE MORE THAN 16 WELLS INTO A COMMON TANK BATTERY, IN THE CAPROCK-QUEEN POOL, CHAVES COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 28, 1959, 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 12th day of November, 1959, 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 is the operator of the Federal Trigg Lease comprising, in part, all of Sections 4 and 9, Township 14 South, Range 31 East, NMPM, Chaves County, New Mexico.

(3) That the applicant proposes to produce into a common tank battery all the Caprock-Queen wells presently or hereafter completed on that portion of the Federal Trigg Lease described above.

(4) That the applicant proposes to install an automatic custody transfer system to handle the Caprock-Queen Pool production from all wells on that portion of the said Federal Trigg Lease described above.

(5) That the applicant proposes to measure the oil passing through the automatic custody transfer equipment by means of dump-type or positive displacement meters.

(6) That all meters used in the automatic custody transfer system should be checked for accuracy once each month until further direction by the Secretary-Director.

(7) That in order to prevent the overflow and waste of oil in the event the automatic custody transfer system fails to transfer oil to the pipeline, the applicant should add additional storage facilities from time to time, as it becomes necessary, to store the production which will accrue during the hours that said lease is unattended, or in the alternative should so equip the existing facilities as to automatically shut down the lease production in the event the storage facilities become full.

(8) That the previous use of automatic custody transfer equipment, similar to that proposed by the applicant, has shown that such equipment is a reliable and economic means of transferring the custody of oil and that the use of such equipment should be permitted.

(9) That approval of the subject application will neither cause waste nor impair correlative rights, provided that adequate testing and storage facilities are installed.

IT IS THEREFORE ORDERED:

(1) That the applicant, John H. Trigg, be and the same is hereby authorized to produce into a common tank battery all oil produced from wells presently or hereafter completed in the Caprock-Queen Pool on that portion of the Federal Trigg Lease comprising all of Sections 4 and 9, Township 14 South, Range 31 East, N.M.P.M., Chaves County, New Mexico.

(2) That the applicant be and the same is hereby authorized to install automatic custody transfer equipment to handle the Caprock-Queen Pool production from all wells presently completed or hereafter drilled on the above-described portion of the Federal Trigg Lease.

PROVIDED HOWEVER, That the applicant shall install adequate facilities to permit the testing of each well at least once each month.

PROVIDED FURTHER, That in order to prevent the overflow and waste of oil in the event the automatic custody transfer system authorized by this order fails to transfer oil to the pipeline, the applicant shall add additional storage facilities from time to time, as it becomes necessary, to store the production which will

accrue during the hours that said lease is unattended; or, in the alternative, shall so equip the existing facilities as to automatically shut down the lease production in the event the storage facilities become full.

IT IS FURTHER ORDERED:

That all meters used in the above-described automatic custody transfer system shall be operated and maintained in such a manner as to ensure an accurate measurement of the liquid hydrocarbon production at all times.

That meters shall be checked for accuracy at least once each month until further direction by the Secretary-Director.

Meters shall be calibrated against a master meter or against a test tank of measured volume and the results of such calibrations filed with the Commission on the Commission form entitled "Meter Test Report."

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

20 South, Range 37 East, and the S/2 SE/4 of Section 32, Township 19 South, Range 37 East, all in Lea County, New Mexico, seeks an order force-pooling all of the interests in said unit within the vertical limits of the Eumont Gas Pool, including interests of the following persons who have not consented to communitization: Kenneth F. Duncan; Walter L. Gockley; Eudeana B. Newcomb; Roy H. Nicolai, Administrator of Hal M. Nicolai Estate; Mrs. Frances L. Kramer; J. L. Reed; Estate of Dr. Ralph Sullivan, Edward A. Golden, Administrator; G. T. Hanners.

CASE 1802: Application of John H. Trigg for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Caprock-Queen wells on its Federal Trigg Lease in Sections 4 and 9, Township 14 South, Range 31 East, Chaves County, New Mexico.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF JOHN H. TRIGG FOR AN ORDER AUTHORIZING THE INSTALLATION AND USE OF LEASE AUTOMATIC CUSTODY TRANSFER EQUIPMENT ON THE FEDERAL TRIGG LEASE, SITUATED IN THE CAPROCK QUEEN POOL, LEA AND EDDY COUNTIES, NEW MEXICO

Case No.

APPLICATION

COMES NOW Applicant, John H. Trigg, by his attorneys, and states:

1. That Applicant is the operator of wells situated on the Federal Trigg lease in Section 4 and Section 9, Township 14 South, Range 31 East.

2. That the wells here involved are included in a water flood project in the Caprock Queen Pool authorized by Commission Order Number R-1456 and water is now being injected in compliance with the terms of said order.

3. In order to provide for efficient operation of the water flood project and to properly handle production of oil from wells situated in Section 4 and Section 9 and to avoid premature abandonment of the project for economic reasons resulting in the loss of ultimate recovery of oil, Applicant desires to install lease automatic custody transfer equipment.

WHEREFORE, Applicant requests that he be authorized to install lease automatic custody equipment to handle production from Section 4 and Section 9, Township 14 South, Range 31 East, Caprock Queen Pool, Lea and Eddy Counties, New Mexico, and Applicant further

requests Commission to set this matter down for hearing before an Examiner at the earliest possible date and that notice of such hearing be published as required by law.

DATED this 18th day of September, 1959.

Respectfully submitted,

JOHN H. TRIGG

By: Jack M. Campbell

Campbell & Russell
P. O. Box 766
Roswell, New Mexico

His Attorneys

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 28, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of John H. Trigg for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing it to install an automatic custody transfer system to handle the production from all Caprock-Queen wells on its Federal Trigg Lease in Sections 4 and 9, Township 14 South, Range 31 East, Chaves County, New Mexico.) Case 1802

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. PAYNE: Application of John H. Trigg for an automatic custody transfer system and for permission to produce more than 16 wells into a common tank battery.

MR. CAMPBELL: Jack M. Campbell, Campbell and Russell, Roswell, New Mexico, appearing on behalf of the applicant. I have one witness, Mr. Snow.

(Witness sworn.)

GENE A. SNOW

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

DIRECT EXAMINATION

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BY MR. CAMPBELL:

Q Will you state your name, please?

A Gene A. Snow.

Q Where do you live, Mr. Snow?

A Maljamar, New Mexico.

Q By whom are you employed? A John H. Trigg Company.

Q In what capacity?

A Production Superintendent.

Q You are an engineer, are you not?

A No, sir.

Q You have testified before this Commission previously in connection with the operation of this water flood project, have you?

A Yes, sir, I have.

Q And you are in charge of the operations under this project, are you?

A Yes, sir, that's right.

Q Are you acquainted with the application of Mr. Trigg relating to a proposed lease automatic custody transfer system in Section 4 and Section 9, Township 14 South, Range 31 East, relative to the John H. Trigg Caprock-Queen Pool water flood project?

A Yes, I am.

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

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Q Mr. Snow, I have handed you what has been identified as Exhibit No. 1 in this case and ask you to state what that is and state to the Examiner what system is involved here and generally describe the operation of the system to the Examiner, please.

A Well, this is a drawing showing our lease in Sections 4 and 9, the automatic battery itself, and the Lact Unit. We propose to install a three-phase metering separator in the East and West Half of Section 4, also in the East and West Half of Section 9. Each one of these metering separators will handle eight wells.

It will measure and record the volume of water and oil and gas. Then after it's been metered and recorded, will be dumped back into a main line carrying the oil to Item No. 2, which is an oil and gas separator, and it will continue on down the black line to a free water knockout, there the oil and water will be separated. The water will go to our present injection system and be recycled. The oil will continue on down the black line to Item No. 4, which is a heater treater. There it will have remaining basic sediment and water taken from it and continue on down the red line through Item No. 5, which is a BS and W monitor. If this monitor sends good oil, valve Item No. 9 will open, valve No. 10 will close. This will send the oil into a surge tank, Item No. 6. There it will overflow into a sales tank, Item No. 7. The level of this sales tank will be controlled between the upper and the middle flow. When the oil level reaches the middle flow it will cause

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the transfer pump, Item No. C, to come on and transfer the oil to the Lact Unit itself.

Supposing the BS and W monitor sends bad oil, valve No. 9 will close and No. 10 will open, sending the oil round to three 500 barrel reserve tanks, or bad oil tanks. When this happens an outside ride light comes on warning you that you have bad oil. Now, Item A, which is a recirculating pump which is fixed automatically with timer tabs so that you can recirculate any desired time, the tank bottom in Item No. 6 or Item No. 7, whichever one you choose, the valves out of tank No. 6 and 7 are automatic where you can turn them on or off and they will operate in conjunction with recirculating pump A.

The recirculating pump A also serves as another pump if you have bad oil in your reserve storage tanks No. 8, to recirculate back through your heater treater. Supposing you have a malfunction in your Lact Unit, letting the oil level rise to the top flow in tank No. 7, it will close valve No. 9 and open valve No. 10, routing the oil to your reserve storage.

The Item No. B in the sales tank 7 is a thermostat. Our crude has to be 50 degrees or warmer before the pipeline will purchase it. If this thermostat sends less than 50 degree oil, the transfer pump, Item No. C, will not come on and valves 9 and 10 will route the oil into reserve storage.

Q Do you have any comments with regard to the equipment

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on the Lact Unit itself?

A Yes, sir, the oil will move through transfer pump C down through deaerator D, strainer E, and Item V, optional shutoff valve; this valve is to prevent siphoning from sales tank No. 7. This shutin valve is operated in conjunction with pump C. When the pump is on the valve is open. When the pump is down the valve is closed.

Then on through Item G, which is a panel. This panel consists of lights showing what valves are open, which valves are closed and what's in operation at the time. Item H, the DP meter with safety shutin. This safety shutin consists of a feature F, pump C comes on and the DP meter itself does not record, it automatically shuts right back down, which would prevent oil going down the line unrecorded. Also this meter has an allowable counter in it which you can set it if you want to produce 1500 barrels a day or whatever the amount desired, it will meter that much oil and then shut down.

Item I is a set stop valve, Item J prover loop bypass, which is for proving the meter. Item K, sampler with container. As this transfer pump C comes on your sampler automatically comes on at the same time. The sample container is installed off of the skid, Lact skid itself, so as to provide a general sloping plane for the oil to move from the sampler to the container, that way not even trapping any water. Item L is a back pressure valve,



which for pipeline purposes they want you to use this pump under certain amount of pressure.

Q Now, Mr. Snow, as I understand it then, in this system that you are installing you are going to have separate metering devices so that you will meter the water and oil from all of the wells on these leases?

A Yes, that's right.

Q As indicated by your Item No. 1 at the completion of the system there?

A That's right.

Q Now, with regard to possible overflows or anything of that sort, as I understand it you have three 500 barrel reserve tanks either for overflow or for bad oil?

A That's right.

Q Now, do you have somebody who will be present and living in the field, the area where this system is being operated?

A Yes, sir, we do.

Q Where will the system be situated?

A The system will be situated almost on the section line between Sections 4 and 9. It's just slightly south of the section line, right in the center of the lease.

Q Who purchases the oil from these properties?

A Texaco and New Mexico Pipeline.

Q Have you discussed this or have you presented them

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with a drawing of this proposed system?

A Yes, sir, I have.

Q I hand you what has been identified as Trigg's Exhibit No. 2 and ask you if you will please read that to the Examiner.

A "Gentlemen: We have received your proposal as attached to your letter of September 15, 1959, and we find that the installation as described will be satisfactory. We do wish to point out, however, that we will expect to operate initially under a short test period in order to give the installation every opportunity to free itself of any bugs. Texas-New Mexico Pipeline Company will accept this installation."

Q That's signed by an official of Texas-New Mexico Pipeline Company?

A Yes, sir, Mr. W. B. Smith.

Q Do you believe that this system can be utilized and that the oil can be treated and measured both from the wells and through the system without causing any waste?

A Yes, I do.

Q Do you believe that the system as devised has sufficient safety devices to avoid any waste by virtue of poor operation of the system?

A Yes, sir.

Q Or in case of any defect or breakdown?

A Yes, sir.

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MR. CAMPBELL: That's all the questions I have.

MR. NUTTER: Anyone have any questions?

CROSS EXAMINATION

BY MR. PAYNE:

Q In connection with your last question, what happens if you have a flow line break?

A Well, the same as if we have it now. We would just get on the ground, but we will not be operating under shutin pressure as some Lact Units do. Instead of shutdown we go into reserve storage, so there would be no excessive pressure on the flow lines.

Q Well, now, is this lease under water flood presently?

A Well, we have a pilot program out there on the West Half of Section 4.

Q Is this Federal Lease? A Yes, sir.

Q 4 and 9, is that the total lease?

A Yes, sir, just a minute, there is some more --

Q A non-contiguous portion, isn't there?

A Well, no, sir, there is a contiguous portion to this here, but it isn't productive. That's all that is productive.

Q But when you attempt to describe this lease you'd say that Sections 4 and 9 are a portion of this Federal Lease, is that right?

A Yes, sir.

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Q Do you have any problem getting the oil run?

A No, sir.

MR. PAYNE: Thank you.

BY MR. NUTTER:

Q Mr. Snow, I notice that you have a strainer Item No. E here.

A Yes.

Q I notice on the East Half of Section 4 you have Item No. 1, a metering separator. How will you test the wells in that east end of the Section 4 for individual well tests?

A We have a manifold at each test separator where we can route the well desired to be tested through the test separator. The rest of the wells will go through the common line to the battery.

Q In other words, this metering separator is for test purpose only?

A That's all.

Q The production is separated in Item No. 2, the separator down here at the tank battery?

A That's right.

Q So you are able to have all your wells on production with the exception of the one that's going into the test separator?

A Yes.

Q Now, what does the production from the test separator

do, join the common line then that comes back into the production separator?

A Yes, sir.

Q After it's passed through the metering separator?

A It meters it and records it, there's a pump on the test separator that picks it up out of the separator and puts it right back into the line.

Q And comes back with the oil and passes through the separator a second time?

A Yes, sir.

Q Now, I didn't understand which one of the float frames in tank 7 when the overflow leaves the level of the middle float, is that when it turns to transfer pump No. C?

A Yes, sir.

Q And when the fluid level would reach the lower float, that's when it would turn it off?

A That's right.

Q Is tank No. 6 normally full?

A Yes, sir.

Q And tank No. 7 would be full somewhere between the lower valve and the middle valve under normal operation?

A Yes, sir.

Q You have tank No. 8, I think there are three of them. What is the total capacity of those three tanks?

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A 1500 barrels.

Q Do you expect that this will be sufficient storage as soon as the water flood project has received a response from water injection?

A It will be sufficient for enough time to let us correct a malfunction, whatever it may be.

Q What is the maximum number of hours, continuous hours, that this lease will be unattended?

A Twelve.

Q Do you think that the 1500 barrels storage capacity there is adequate to hold the production of the lease for twelve hours?

A I do.

Q Under maximum production?

A Yes, sir, unless it gets --

Q Under the water flood?

A Unless it gets higher than what we figure right now. We have more tanks available that we could set in there if we saw fit to.

Q There's no provision in the event that these three storage tanks should fill up, there's no provision for shutting in any of the wells, is there?

A No, there isn't.

Q What should happen if the three tanks fill up and all

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the available storage gone?

A Well, they would run over.

MR. CAMPBELL: What was your answer?

A They would run over. But we have the same possibility now but we certainly don't want to put any oil out on the ground, if it's getting close to a borderline we'll just set another tank. One reason that I prefer this system to a shutin situation is under the system if the BS and W monitor sends bad oil and it shuts in, your whole thing remains shut down until somebody comes back and turns it back on. Lot of times you got just a contrary slug of water that your BS and W monitor might sense. If it does so it would route the bad portion of the oil to the reserve storage and then if the oil cleared up why it would automatically send it right back into the surge tank and the sales tank would continue right on production.

Q Now the valves at the bottom of tanks 6 and 7 I believe you said were automatic. What turns those on?

A They are in conjunction with recirculating pump A. These valves can be on automatic or they can be manual. Supposing you desire to recirculate the bottom in tank No. 6 for five minutes each day to prevent a buildup. You could put the valve coming out of tank No. 6 on automatic and set this recirculating pump A to run for fifteen minutes and as the pump comes on the valve opens. Likewise you can circulate both of them if you desire

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or just one or none. I might add the valves coming out of the reserve or the bad oil storage, they are manual.

Q On the tanks numbered 8?

A Yes, sir. So if you want, you have got some bad oil in there and you want to circulate it back through your heater treater, you can turn the valve coming out of 6 and valve coming out of 7 and you have turned your pump on and pick up the oil out of them.

Q And open the valves on 8? A Yes, sir.

MR. NUTTER: Any further questions of Mr. Snow? He may be excused.

(Witness excused.)

MR. CAMPBELL: I would like to offer Exhibits 1 and 2 in evidence.

MR. NUTTER: John H. Trigg's Exhibits 1 and 2 will be admitted. Anything further?

MR. CAMPBELL: No, sir.

MR. NUTTER: Does anyone have anything further for Case 1802? We will take the case under advisement and adjourn the hearing.

(Whereupon the hearing was adjourned.)

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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 16th day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1802, heard by me on 10-28, 1959.

....., Examiner
New Mexico Oil Conservation Commission

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TEXAS-NEW MEXICO PIPE LINE COMPANY

F. B. WHITAKER, JR.
DIVISION MANAGER

September 17, 1959

P. O. BOX 1510
MIDLAND, TEXAS

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Trigg EXHIBIT NO. 2
CASE NO. 1602

John H. Trigg Company
P. O. Box 5629
Roswell, New Mexico

Attention: Mr. G. A. Snow, Prod. Supt.

Gentlemen:

We have reviewed your proposal as attached to your letter of September 15, 1959, and find that the installation as described will be satisfactory. We do wish to point out, however, that we will expect to operate initially under a short test period in order to give the installation every opportunity to free itself of any "bugs." Texas-New Mexico Pipe Line Company will accept this installation.

Yours very truly,

W B Smith

RWB-btk

IPA
9916

Case No.

1803

Application, Transcript,
Small Exhibits, Etc.

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. 1803
Order No. R-1536

APPLICATION OF BOLLER & NICHOLS
AND LEONARD NICHOLS FOR AN ORDER
AUTHORIZING A WATER FLOOD PROJECT
IN THE ROBERTS POOL, LEA COUNTY,
NEW MEXICO, AND FOR AN ADMINISTRA-
TIVE PROCEDURE WHEREBY CAPACITY
ALLOWABLES MAY BE ASSIGNED TO
WELLS IN SAID PROJECT

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 10, 1959, 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 27th day of November, 1959, 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 applicants propose to institute a water flood project in the Roberts Pool with injection of water into the Grayburg formation in said Roberts Pool through the 11 following-described wells in Township 17 South, Range 32 East, NMPM, Lea County, New Mexico:

Iles Well No. 2, located in Unit D, Section 10;

Iles Well No. 5, located in Unit P, Section 3;

Iles Well No. 7, located in Unit N, Section 3;

Iles Well No. 8, located in Unit J, Section 3;

Iles X Well No. 2, located in Unit B, Section 10;

Iles X Well No. 3, located in Unit F, Section 10;

Phillips State Lexco Well No. 1, located in Unit N, Section 2;

A. C. Taylor A Well No. 2, located in Unit F, Section 11;

A. C. Taylor F Well No. 1, located in Unit D, Section 11;

W. B. Trimble A Well No. 1, located in Unit B, Section 11;

W. B. Trimble A Well No. 4, located in Unit J, Section 11.

(3) That the applicants further propose that an administrative procedure be established whereby capacity allowables may be assigned to wells in said project.

(4) That the record of Case No. 1787 was incorporated in this case and that administrative notice was taken of Order No. R-1525, entered in Case No. 1787.

(5) That the applicants, who seek an exception to statewide Rule 701 of the Commission Rules and Regulations promulgated by said Order No. R-1525, have failed to prove by a preponderance of the evidence that restriction of production in the subject water flood project will result in a loss of ultimate oil recovery.

(6) That the producing wells in the area to be water flooded are substantially depleted.

(7) That the proposed water flood project should be authorized and the operation thereof should be governed by the provisions of Rule 701 of the Commission Rules and Regulations including those provisions regarding allocation of allowables and expansion of the project area.

IT IS THEREFORE ORDERED:

(1) That the applicants be and the same are hereby authorized to institute the Boller-Nichols Water Flood Project in the Roberts Pool and to inject water into the Grayburg formation in said Roberts Pool through the 11 following-described wells in Township 17 South, Range 32 East, NMPM, Lea County, New Mexico:

Iles Well No. 2, located in Unit D, Section 10;

Iles Well No. 5, located in Unit F, Section 3;

Iles Well No. 7, located in Unit N, Section 3;

Iles Well No. 8, located in Unit J, Section 3;

Iles X Well No. 2, located in Unit B, Section 10;

Iles X Well No. 3, located in Unit F, Section 10;

Phillips State Lexco Well No. 1, located in Unit N, Section 2;

A. C. Taylor A Well No. 2, located in Unit F, Section 11;

A. C. Taylor F Well No. 1, located in Unit D, Section 11;

W. B. Trimble A Well No. 1, located in Unit B, Section 11;

W. B. Trimble A Well No. 4, located in Unit J, Section 11.

(2) That the administrative procedure proposed by the applicants for assignment of capacity allowables to wells in said project be and the same is hereby denied.

(3) That the operation of the water flood project herein authorized shall be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables and expansion of the project area.

(4) That monthly progress reports on the water flood project herein authorized shall be submitted to the Commission in accordance with Rule 704 and Rule 1119 of the Commission Rules and Regulations.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

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

November 30, 1959

COPY

Mr. Jason Kellahin
Attorney at Law
P.O. Box 1713
Santa Fe, New Mexico

Dear Mr. Kellahin:

Enclosed herewith is Commission Order No. R-1538, entered in Case No. 1803, approving the Buller-Nichols Water Flood Project.

According to our calculations, when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 896 barrels per day.

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

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

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

Enc.
cc: OCC, Hobbs

DSN:vem

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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 10, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Boller & Nichols and Leonard Nichols for a water flood project. Applicants, in the above-styled cause, seek an order authorizing the institution of a water flood project in the Roberts Pool in Lea County, New Mexico, by the injection of water into the Grayburg formation through 11 wells located in Sections 2, 3, 10 and 11, Township 17 South, Range 32 East. Applicants further seek the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

Case 1803

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: The hearing will come to order. The next Case is 1803.

MR. PAYNE: Application of Boller & Nichols and Leonard Nichols for a water flood project.

MR. KELLAHIN: If the Commission please, could the record show the same appearancesas in Case 1806?

MR. UTZ: Yes, sir.

MR. McBROOM: We will call Mr. Porter to the stand.

MR. PAYNE: Let the record show that Mr. Porter was

sworn in a previous case. In the previous case.

MR. McBROOM: An application has been filed with the Commission which I have a copy of and which we request be made a part of the record of this hearing. It has attached to it a map which will again be introduced in evidence as an exhibit. That particular map will be numbered Exhibit 5. In order to facilitate this hearing, since it's in many respects similar to the hearing in Case 1806, we'll proceed with getting these exhibits. These are pinned together, but you can unpin them or look at them in that way.

HAROLD PORTER

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

DIRECT EXAMINATION

BY MR. McBROOM:

Q Let me first ask you, Mr. Porter, if you have made a study of this field?

A Yes, sir, a study of this field was made by Bert H. Murphy, Chief Engineer for Water Flood Associates. I assisted him in the study and am familiar with it.

Q I will ask you to identify this exhibit to be numbered Exhibit 1.

A Exhibit No. 1 shows the Iso initial potential for this field, for the Roberts Field, Lea County, New Mexico. This field

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was discovered in 1943 with production from Zones 5 and 6 of the Grayburg formation at approximately 4100 feet in depth. A 34 degree API gravity oil was produced. Primary production from these leases has been on the order of 1,000,000 barrels.

Referring to Exhibit No. 1, you will notice that the field has been defined in this case as shown on this map, the low initial potential of the wells on each flank all around the field, in other words.

Q And exhibit to be marked No. 2?

A Exhibit No. 2 is a graph of the oil-producing rates for the past two years, the producing rate is plotted in barrels per month, and as you will notice, it's down to producing approximately 2500 barrels per month. Also it's plotted barrels per day per well and is now producing around 3 barrels per day per well.

Q On that graph I notice that the last month shows a little increase. Can you tell the Commission why that increase?

A Well, during that month one well on this property was completed and fracked and that accounted for an increase in oil.

Q I think it's Iles No. 9.

A Yes, Iles No. 9, that's in the L Unit of Section 3, 17, 32. I have the production for August to show it is a depleted reservoir and has declined back down. The average barrel per day per well for August, 1959, was 3.09 barrels. This exhibit proves that this field is depleted at or beyond the economic

limit of primary production.

Q That is production from how many wells?

A Twenty-seven wells.

Q I'll hand you an exhibit to be numbered 3 and ask you to identify that.

A Exhibit No. 3 is an Iso recovery map of the field showing the recovery per well in thousands of barrels. This also correlates with the Iso initial potential map which helps define or prove that the field has been defined. It is pinched out on all sides with dry holes and plugged and abandoned wells limiting the production.

Q I'll hand you Exhibit No. 4 and ask you to identify it.

A Exhibit No. 4 gives well completion data, spudded dates, stimulations, IP's, casing program, shows the surface casing and the long strings and the number of sacks of cement used in each case. Also the intervals where the drillers' logs have logged productive pay and the total depth of each well.

MR. McBROOM: We don't have it here, but I'm sure the State Water Board will want it, we just have three copies of the well completion. I'll send you another copy of it, but we don't have it here.

A We do not show the calculated tops of the cement behind these strings of pipe. However, I will calculate that and submit it to the Commission at a later date and to the State Engineer's

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Office.

Q Then Exhibit No. 5.

A Exhibit No. 5 shows the proposed water flood pattern with injection into 11 wells which are now producing and which are to be converted; different plans were studied as to the patterns to most efficiently flood this reservoir and this one more nearly suited the plans to best sweep the reservoir and recover as much secondary oil as possible.

MR. McBROOM: In this connection I would like to make a statement that this pattern indicates two wells on what is known as the J. C. Watson, which is not in the permit request, and one well by Suppes and Kennedy, which is not in this permit in this hearing. Both of these parties have been contacted and know of this hearing and have indicated that if we go ahead that they will work out cooperation so that all of the wells indicated except those two are included in the hearing with the exception of the Texas Company well that is shown in Section 12, and we have discovered since this work was done that that well was plugged and abandoned. We don't know what happened over there.

Q Now, to refer back to your study of this field, Mr. Porter, you have told the Commission that the present production is on an average of about 3 barrels per day. Have you made a study to make recommendations for further work under a primary program or any other program to facilitate the operation of these

leases?

A Yes, sir, we have. The wells are now at the economic limit. Unless production can be stimulated by some means this field must necessarily be plugged and abandoned, at economic considerations the normal stimulation methods such as fracturing and acidizing and shooting it have already been used. However, from our study it seems that this field would lend itself very readily to a pattern water flood. This field has had recoveries which compare very favorably with other fields in the Permian Basin which have been water flooded. There's no evidence of any solution gas drive or water encroachment in the field, and the primary producing energy was from solution gas, solution gas drive reservoir.

Q What do you calculate the primary oil production has been percentagewise to the oil in place?

A From the study that's been made, we have no logs, we have no core data, but we do have drillers' logs, and from the pay thicknesses as indicated on these logs, it would seem that the average recovery would be approximately fifteen to eighteen percent of the oil originally in place.

Q What amount of oil would you expect from your study to be possible to recover from a water flood, and how would you program it?

A From the study that was made, approximately 2,200,000

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barrels of water flood oil should be recovered. This has been figured on a volumetric basis, again using the drillers' logs which we had available to us, and it would seem that from experience in other fields of this type that somewhere on the order of two times primary production should be recovered.

Q Is there an indication of how much water you will need and availability of water to conduct this project?

A Yes, sir, we anticipate that these 11 wells which are applied for, an injection rate of 350 barrels per day per well can be attained, staying well within the formation breakdown pressure we anticipate that our injection pressure after fillup will be somewhere around fifteen to eighteen hundred pounds for the 11 wells, that will be 1150 barrels of water per day.

This water is available from 200 acre feet per annum of water rights held by Leonard Nichols in Sections 1 and 2, Township 17 South, Range 32 East. It is anticipated that a total of 13,200,000 barrels of total injected water will be required.

MR. IRBY: What was the number, please?

A 13,200,000. Approximately 6 barrels of water per barrel of produced oil.

Q Have you, in your study and proposal to water flood this project, made a calculation of how you would expect this oil to be produced under your programming and will you explain to the Commission, I'll hand you this item that should be marked Exhibit 6?

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A Let me say in answer to that question that the program as outlined on the Exhibit No. 5, which is the pattern of the proposed water flood, is necessary in this case to promote the conservation of a natural resource and prevent its waste. We feel that any curtailment of this production would cause an irreparable waste of natural resources, being the secondary oil reserves under this property, and would not be in the interest of conservation.

This Exhibit No. 6 shows the predicted daily oil production curve, and this has been drawn from an imperical curve which plots percent of oil recovery versus percent of flood life, and has been found that nearly all these Permian floods follow very closely to this imperical curve. From this curve you'll see that in the first two years of project after injection has started, 264,000 barrels will be produced, at which time our daily production rate will equal the 42 barrels per day per unit of the proposed order or the new order that has just come out.

During this time if we had had 42 barrels per day our total allowable would have been 816,480 barrels, which would mean that we would underproduce that amount by 552,480 barrels. At this point in time our production curve, if allowed to continue uninterrupted, would increase and be above the 42 barrel per day per unit allowable for a period of slightly over two years. Now, during this time, if allowed to produce at its maximum rate, the project would produce 1,276,000 barrels. Our allowable for that

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period at 42 barrels per unit per day would be 1,020,600 barrels, or we would be overproduced 256,400 barrels. So the amount that we're underproduced in the first part of this flood would be a little more than twice as much as the amount that would be overproduced, two year period, which would exceed the 42 barrel a day allowable.

Q If you were to undertake the development of this project knowing that you had a 42 barrel maximum allowable, what planning and what can you do in order to recover your reserves? How would you proceed and what would your timing be?

A Of course you would start out putting the maximum amount of water in the ground that you could, and within certain limitation until you reached the point where the allowable was curtailing the production from your wells, at which point you would necessarily need to shut in or slow down your producing rate, shut in your wells or slow down your producing rate, and at the same time you must necessarily curtail your injection rate.

Q At the time you would expect for your field average to go above the 42 barrels, how much water approximately would you expect to be producing a day?

A At the time that it goes past?

Q Yes, when you get to the point that you are going to cut back, will you then be producing any water?

A I should say you wouldn't be producing a whole lot, no,

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sir.

Q Then when you cut back your production and injection, would you anticipate a reduction in the percentage of water that you would be producing?

A No, sir, I would expect that the percentage of water, the percentage of total fluid, which would be water, would increase rapidly after curtailment of production.

Q How long if you attempted to work out a program to curtail this production, you have this program worked out on about nine or ten years, would you anticipate that the flood would last, longer than curtailing this production or would you still come to economic limit at about the same time as you have it here?

A I feel you would come to economic limit as soon as or possibly sooner than this shows.

Q It doesn't mean that you are lengthening the life of your flood then when you attempt to reduce the production?

A No, sir, not in my opinion it doesn't.

Q Because your life is conditioned on economic limit, is that right?

A Yes, sir. That is correct.

Q Now, you say that if you tried to program a flood to cut back at the time you got the 42 barrels, would that mean that you could effect a material savings in additional equipment which you would put on to handle these large volumes? Can you

save a lot of money by using the equipment that's there or using small equipment instead of using larger equipment, knowing that you are cutting yourself back to 42 barrel a day allowable?

A No, sir, you can't save on equipment in this case because at the initial stages of the flood you need to put as much water in the ground as you are ever going to, so you have to have as much injection equipment if it were curtailed at 42 barrels as you would if you were allowed to produce uncurtailed.

Q How about the production equipment?

A Well, the production equipment for any flood must be designed to lift large quantities of water. Eventually your water cut will run up as high as 90 to 95% of water, total fluid will be water. Therefore, it doesn't make any difference whether you are being curtailed or whether you are producing at capacity allowables, your production equipment will necessarily have to be designed to handle large volumes.

Q Are you saying then that after you cut back, in order to keep from taking 42 barrels a day, that after you cut back you would still have to later increase your total water injection and you eventually would be producing as much total fluid out of these wells as you would if you followed the curve that you propose?

A Yes, sir. After you reach fillup, total fluid in equal total fluid out with the exception of certain inefficiencies,

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you are going to have to produce as much fluid with curtailed allowables as you would with capacity allowable.

Q Mr. Porter, as consulting engineer and advising with your client on this project, based on the 42 barrel allowable as is presented in the light of the information and the study you made, what would your recommendation to Nichols, Boller & Nichols be?

A My recommendation would be that if no exception can be gained, if some relief cannot be had during this two-year period when we're producing in excess of the 42 barrel allowable, cannot be gained or if the 42 barrel per day allowable cannot be had from the beginning of the project accrued and used during this period of peak performance, then I would recommend that he not undertake such a program inasmuch as it would not yield the reasonable rate of return.

Q What of this 2,200,000 barrels that you have predicted on a pattern water flood with capacity allowables as indicated if this were cut back, based on your best information, how much oil do you think would actually be unrecoverable economically?

A Well, I would say --

Q In effect, lost.

A I would say that somewhere on the order of half the oil would not be recovered. There's no way that I or anyone else that I know of can calculate this without a great deal of reservoir

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data which is not available, but I would estimate that somewhere on the order of half this total predicted might be recovered under a curtailed program.

Q Well, now, if I were proposing to invest money or loan money to Mr. Nichols to do this work, under these restrictions, would there be any additional hazards other than cutting the allowable which you would caution me as a lender for financing such a project as this? Or would you say that's all the hazard that would occur?

A Well, I don't know whether I can advise that or not. What do you mean by hazard, I don't understand that?

Q Well, you say you think that perhaps we would lose half the oil. Would the other half be produced as economically where this money could be paid back, or do you have an additional economic hazard?

A I'll say this, there will be an additional operating cost due to lifting high water cut oil under a restricted allowable program.

Q As my engineer on this, if I were a banking facility, would you recommend that I make a development loan to cover the cost of this based on getting the recovery out of the project to Mr. Nichols under these circumstances?

A No, sir, I wouldn't.

MR. McBROOM: We would like to make a formal offer

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of the exhibits that have been presented to become a part of the record.

MR. UTZ: Without objection, Exhibits 1 through 6 will be admitted in the record.

MR. McBROOM: That's all.

MR. PAYNE: I would like again to move the incorporation of the record in Case 1787 into this case and ask the Examiner to take notice of the administrative order entered in that case.

MR. UTZ: Case 1787 should be made a part of the record in this case.

MR. McBROOM: Inasmuch as the order has already been entered in the other case and that this information was not available to the Commission at that time, was not available for our study, we would just like to make a formal objection to having this matter included in this case.

MR. PAYNE: I would make one brief answer, that should the Examiner see fit not to include the record in Case 1787, I would move to strike all testimony regarding waste being caused by not producing this flood at capacity.

MR. McBROOM: And I in turn would object to that, for the record.

MR. UTZ: Mr. McBroom, I will overrule your objection regarding the entrance of Case 1787 into this record, for the reason, or one of the reasons that you entered testimony into this

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record regarding the waste by controlled water flooding. So your objection is overruled.

MR. McBROOM: Just note my objection.

MR. UTZ: Are there other questions of the witness?

MR. NUTTER: Yes, sir, I have a question or two.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Porter, I don't know if I understood you correct or not, but were you suggesting or intimating that there was possibility of taking this 42 barrel per day allowable and building up a bank of allowable that you would be able to draw on at a later time?

A Yes, sir, I was suggesting that.

Q Are you aware of any rule in the Statewide Rules and Regulations of the Oil Conservation Commission that would permit such a procedure?

A No, sir, I was merely stating that if an exception were made and that could be done, then it would be physically possible to produce this flood at maximum rates all during its life, and the allowable which we did not use during the first year or so before we had response would more than take care of the allowable which we'd need to take care of our excess over 42 barrels per unit, which actually averages out only ten barrels a well per day during that period.

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Q Have you ever heard of any well in New Mexico being primary recovery or secondary that has a bank built up that it didn't use that it could draw on at a later time?

A No, sir, I have not.

Q I believe you also stated that if the project were curtailed to the rate of 42 barrels per day you would have 50% of the secondary reserves that would be unproduced.

A That's what I said.

Q What do you base that figure on, Mr. Porter?

A I don't have any engineering data or completion data to substantiate this, however, I've been, seen, had experience on floods where the production was curtailed through not understanding at that time what needed to be done in a water flood, and I have seen the producing oil rate drop immediately whereas it had been climbing, and the percent water cut increase tremendously.

Q You stated awhile ago you could still produce a well if it were producing 90 to 95% water?

A Of course you could.

Q So even if the water cut were to increase, you would still be able to produce the water and the oil?

A Yes, sir. That's true, you could.

Q Have you ever seen a project that was cut to an allowable of 42 barrel a day and 50% of the oil was lost?

A No, sir, I never have seen a prorated water flood.

I have never been on one that was prorated due to administrative rule. However, I have been on projects where the production and injection were both curtailed due to faulty equipment or mismanagement.

Q Now, did I also understand you, Mr. Porter, to say that you wouldn't recommend this project as a banking investment if it were curtailed to 42 barrels per well per day?

A No, sir, I could not.

Q How much allowable would this project make under that allowable rate per well?

A How much --

Q How much allowable could it have?

A Let me see, I have it here. Approximately 500, no, 1134 barrels per day, yes, sir, that's correct.

Q And 1134 barrels per day wouldn't pay the operating cost and the cost of injecting water?

A I didn't say it would be making the allowable. I said I wouldn't recommend it if it were held to this. I think that the producing oil rate would rapidly fall down below your 42 barrels a day allowable and the increased water production would come immediately.

Q Now, Mr. Porter, as an engineer, does it stand as a reasonable conclusion to draw that if the peak of this daily production curve on your Exhibit No. 6 were removed, that this decline

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curve would be flattened out?

A I can't say on that whether, I'll say it doesn't stand to reason to me. I can't say what it will do. I can't predict it. It stands to reason to me that whenever this injection rate is curtailed and the pressure drop across your front has diminished, then there will be less and less oil recovered from the microscopic small pores and also from the tight strata, and that then if water is again increased, water injection is again increased, that an even lesser percentage would be going into the tight strata than would have been going into it immediately. I mean than was going into it before.

Q But you maintain that if this peak of daily production were removed from this production curve, that this decline curve wouldn't be affected at all?

A No, I don't see it would be affected at all. I see, I doubt if it would flatten it in my experience and my opinion is all I could speak.

Q What would it cause it to do, go down more sharply?

A Yes, sir.

MR. NUTTER: Mr. Examiner, I reiterate Mr. Payne's suggestion that the record in Case 1787 be incorporated in this record. That's all.

MR. UTZ: It's already incorporated. Mr. Irby.

BY MR. IRBY:

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Q I realize that you are going to submit this casing
cementing program, but there's one question I would like to as
Do you know where the surface casing is set with respect to the
Red Bed contact?

A I know where the surface pipe is set and cemented and also know that the Ogala contact with the Red Bed is somewhere in the neighborhood of 300 feet. That's from what I've heard, now I have never drilled any wells out there, but this surface pipe is cemented to somewhere greater than a thousand feet it looks like, in all cases it's greater than 1200 feet of surface pipe has been cemented in the well.

Q And you will give me the cementing program on that later?

A Yes, sir.

Q Will the water that is produced with the oil in this program be recycled?

A Yes, it's our intention to recycle the water as produced water increases.

MR. NUTTER: What was your expected total demand for water, Mr. Porter?

A Let's see, I gave it. 13,200,000 total barrels.

MR. NUTTER: You stated that you would have an injection rate of 1350 barrels a day for 11 wells, but this program would eventually have more than 11 injection wells, would it not?

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Q I realize that you are going to submit this casing and cementing program, but there's one question I would like to ask. Do you know where the surface casing is set with respect to the Ogala Red Bed contact?

A I know where the surface pipe is set and cemented and also know that the Ogala contact with the Red Bed is somewhere in the neighborhood of 300 feet. That's from what I've heard, now I have never drilled any wells out there, but this surface pipe is cemented to somewhere greater than a thousand feet it looks like, in all cases it's greater than 1200 feet of surface pipe has been cemented in the well.

Q And you will give me the cementing program on that later?

A Yes, sir.

Q Will the water that is produced with the oil in this program be recycled?

A Yes, it's our intention to recycle the water as produced water increases.

MR. NUTTER: What was your expected total demand for water, Mr. Porter?

A Let's see, I gave it. 13,200,000 total barrels.

MR. NUTTER: You stated that you would have an injection rate of 1350 barrels a day for 11 wells, but this program would eventually have more than 11 injection wells, would it not?

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A Yes, sir, we haven't applied for any additional wells in this hearing. However, according to our patterns there would be a few additional injection wells to be drilled.

Q You would have a few additional producing wells to be drilled too?

A Yes.

Q This little blank circle are locations of wells that you propose to drill?

A Yes, that's right, but we are not applying for them here now.

Q What's the area outlined in yellow on the various exhibits, Exhibit 5?

A On mine it's a cross-hatched area; that area is the area under consideration belonging to Nichols and, Boller & Nichols.

Q This is the area?

A Yes, sir, inside the cross-hatched area.

Q I notice there are some injection wells as well as production wells outside that area owned by applicant?

A Yes, sir.

Q Will that be put on water flood also?

MR. McBROOM: That was a statement that I tried to make. They have been contacted and they have indicated that they would work out a cooperation, but they didn't want to be in this negotiation at this time.

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MR. PAYNE: How about the, up in the north?

MR. McBROOM: That's out of the San Andres pay and those wells are not included.

MR. PAYNE: We have a proposed injection well there?

A That's not necessarily proposed, but it's a possible reentry into the well.

BY MR. NUTTER:

Q If some negotiations were conducted?

A Yes. And if this is a success as we think it will be.

Q The properties that you say are under negotiation is the Suppes and Kennedy property under negotiation?

MR. McBROOM: Yes.

Q Is the Texas property under negotiation?

MR. McBROOM: No, because the well has been plugged out and it wouldn't be feasible to redrill it or reenter it.

MR. PAYNE: This well is shown as being on the injection pattern also?

MR. McBROOM: It was, yes. It would not affect production because that well would not affect the production of these other people, that J. C. Watson lease.

MR. PAYNE: The J. C. Watson acreage is under negotiation?

MR. McBROOM: Yes, but it's not under consideration in this application.

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Q (By Mr. Nutter) Does the area shown on this exhibit comprise the entire Roberts Pool?

A As far as it has been defined. Like I said, all, as I said, it's defined by plugged and abandoned locations or dry holes and it, I have these Iso recovery maps and so forth and Iso potentials to show that it has been defined. As far as it has been defined it is all shown on this plat.

MR. NUTTER: I believe that's all.

BY MR. UTZ:

Q Mr. Porter, the area outlined in your cross-hatched or x-hatched would be determined as a unit area for this application, would it not?

A I believe it would under these rules as we have them.

Q And the ownership in this area is common?

A I'm not familiar --

MR. McBROOM: Yes.

A With the Boller, Nichols and Nichols differentiation.

Q But it is not unitized?

A No, sir, the leases are not unitized.

MR. UTZ: Any other questions? Did you have something further?

MR. McBROOM: In connection with unitization, although the ownership is all the same, it's the Nichols and Boller-Nichols which is all one family, the deep rights on that which is listed

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as Leonard Nichols belonging to Ohio Oil Company, and he owns only down through this area and he owns other property which would probably preclude him from going into unitization as to his Federal lease that you are generally familiar with.

MR. UTZ: Are there any other questions of the witness? Mr. Irby.

MR. IRBY: I would like to ask both Mr. McBroom and Mr. Porter if they are familiar with the value of this permit which has been granted to Mr. Nichols. Their reference to it as a water right indicates that they're not fully aware of what the exact value of it is.

MR. McBROOM: Well, there's a water lease also that he has I believe from the Land Office.

A He has a permit which has been approved, is that correct, he has to prove up on it before he has established his rights?

MR. IRBY: That's correct.

A Yes, sir, I realize that.

MR. McBROOM: Yes, we understand that.

MR. UTZ: Any further questions? If not the witness may be excused.

(Witness excused.)

MR. UTZ: Any other statements to be made in this case?

MR. KELLAHIN: If the Commission please, in connection

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with the questioning by Mr. Nutter, it seemed to be indicated that an allowable be assigned when the order is initiated, and that allowable be carried forward to the point where peak production is reached is a rather unheard of proposition. I would like to point out in the first place that the Commission heretofore has granted and continues to grant in a number of pools capacity allowables. If they can do that then certainly they can do what we're proposing here. In addition to that we might observe that the Commission has frequently granted back allowable, which essentially is a similar proposition in the field of gas prorationing, of course you carry your allowable forward, it's the only way you can adjust it, it's not so common in the oil production as in gas, but at the same time if the Commission has power in the one instance to grant capacity allowables on those pools which have heretofore been approved, then certainly they have power to grant an exception to the order which has just recently been promulgated.

We find ourselves under a very severe handicap in this connection for the reason that the application was filed and the testimony prepared for hearing prior to the entry of that order, and it was only after the arrival of the witness in Santa Fe and late yesterday afternoon that we learned of the provisions of the statewide order which has been promulgated.

If the Commission, by virtue of entering that order, is

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going to close its eyes to any testimony as to waste, certainly the Commission just as well close up shop insofar as hearing anything in connection with, hearing anything in connection with water flood. The prime function of this Commission is the prevention of waste, and in doing so, the protection of correlative rights. To say that the order which has been entered is the ultimate and final answer in every specific instance in the State of New Mexico would be to close the eyes of the Commission to its duty to the prevention of waste. Certainly I think this Commission has a prime obligation under our statute to listen to testimony in regard to waste in any instance which ever comes before this Commission.

MR. UTZ: Mr. Kellahin, I don't believe in this case we precluded the entrance of any testimony pertaining to waste.

MR. KELLAHIN: The Commission attorneys asked that the testimony regarding waste being caused by not producing the flood at capacity be stricken from the record.

MR. PAYNE: Because you did not wish to incorporate 1787 which also pertains to waste.

MR. UTZ: Actually what you are asking for here in simple language, as I interpret it, is something like a two-year proration period with two or three year balancing periods thereafter, isn't that about what it amounts to?

MR. KELLAHIN: It could be interpreted that way perhaps. I don't think the testimony carried quite that far.

MR. UTZ: Any other statements? If not the case will be taken 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 20th day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1883, heard by me on November 10, 1959.

Examiner
New Mexico Oil Conservation Commission

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NEW MEXICO OIL CONSERVATION COMMISSION

Examiner Hearing (Elvis A. Utz)

Santa Fe, NEW MEXICO

REGISTER

HEARING DATE November 10, 1959 TIME: 9 a.m.

NAME:	REPRESENTING:	LOCATION:
Rogers Aston	Franklin, Aston & Fair	Roswell
Louis C. Todd	" " "	"
Curtis McBroom	Water Flood Associates, Inc.	Artesia & Fort Worth
Hal Porter	"	Artesia, N. M.
J. M. Anderson	Sinclair Oil & Gas Co	Midland, Tex.
Joan Killah	Killah & Fox	Santa Fe
H P [illegible]	[illegible]	[illegible]
Sam F. Harrill	Humble Oil & Ref. Co.	Hobbs
Frank E. Irby	State Engr	Santa Fe
Jim P. Stephens	Franklin, Aston & Fair, Inc.	Roswell, N. M.
Jack M Campbell	Campbell & Russell	Roswell N. M.
Jim Knauf	U. S. G. S.	Artesia
Henry S. Birdseye	Chaco Oil Co.	Albuquerque
Gene D. Snow	[illegible]	[illegible]

LEONARD NICHOLS
1101 MERCANTILE SECURITIES BLDG.
DALLAS 1, TEXAS

OCT 7 11 AM '59

OCTOBER 8, 1959

Case 1803

NEW MEXICO OIL CONSERVATION COMMISSION
Box 871
SANTA FE, NEW MEXICO

GENTLEMEN:

PLEASE ACCEPT THIS LETTER AS THE APPLICATION OF BOLLER & NICHOLS AND LEONARD NICHOLS FOR AN ORDER AUTHORIZING A WATER-FLOOD PROJECT IN THE ROBERTS GRAYBURG POOL, LEA COUNTY, NEW MEXICO. PLEASE SCHEDULE THIS MATTER FOR HEARING BEFORE AN EXAMINER AT THE EARLIEST CONVENIENT DATE.

WE PROPOSE TO INSTITUTE A WATER-FLOOD PROJECT IN THE ROBERTS POOL, WITH A PROJECT AREA CONSISTING OF OUR ILES, ILES X, PHILLIPS STATE LEXCO, A. C. TAYLOR A, A. C. TAYLOR F, A. C. TAYLOR G, W. B. TRIMBLE A, W. B. TRIMBLE B, COMPRISING S/2 SECTION 3, N3/4 SECTION 10 (EXCEPT THE SW NW & NW/SW), SW/4 & S/2 SE/4 SECTION 2 AND SECTION 11 (EXCEPT THE E/2 NE/4 & S/2 SW/4), ALL BEING IN TOWNSHIP 17 SOUTH, RANGE 32 EAST, NMPM, LEA COUNTY, NEW MEXICO.

WE PROPOSE TO INJECT WATER INTO THE GRAYBURG FORMATION THROUGH THE FOLLOWING DESCRIBED WELLS, AS SHOWN ON THE ATTACHED PLAT:

ILES No. 2	D	SECTION 10	T-17-S, R-32-E
5	P	SECTION 3	T-17-S, R-32-E
7	N	SECTION 3	T-17-S, R-32-E
8	J	SECTION 3	T-17-S, R-32-E
ILES X No. 2	B	SECTION 10	T-17-S, R-32-E
3	F	SECTION 10	T-17-S, R-32-E
PHILLIPS STATE LEXCO No. 1	N	SECTION 2	T-17-S, R-32-E
A. C. TAYLOR A No. 2	F	SECTION 11	T-17-S, R-32-E
A. C. TAYLOR F No. 1	D	SECTION 11	T-17-S, R-32-E
W. B. TRIMBLE A No. 1	B	SECTION 11	T-17-S, R-32-E
4	J	SECTION 11	T-17-S, R-32-E

IT IS ALSO REQUESTED THAT AN ADMINISTRATIVE PROCEDURE BE ESTABLISHED WHEREBY CAPACITY ALLOWABLES MAY BE ASSIGNED TO WELLS IN THIS PROJECT WITHOUT NOTICE AND HEARING WHEN SUCH WELLS HAVE RECEIVED A RESPONSE TO WATER INJECTION ENABLING THEM TO PRODUCE IN EXCESS OF TOP UNIT ALLOWABLE FOR THE ROBERTS GRAYBURG POOL.

Docket mailed 10-21-59 jhr.

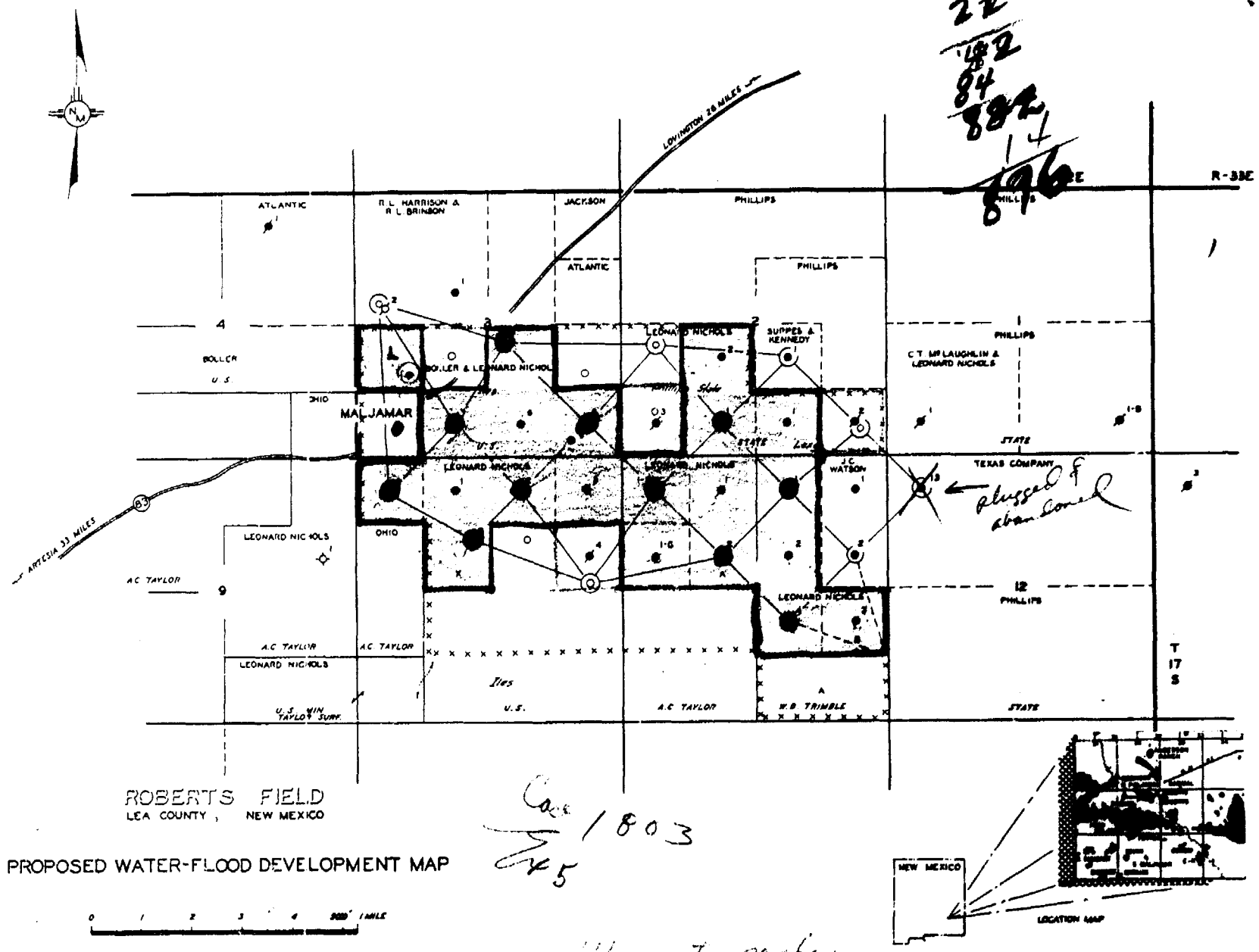
VERY TRULY YOURS,
Leonard Nichols
BOLLER & NICHOLS AND
LEONARD NICHOLS

ATTACHMENT

42
22
82
84
882
14
896

EXHIBIT No 5

WATER FLOOD ASSOCIATES, INCORPORATED
FORT WORTH, TEXAS



Case 1803
Ex 5

propose 350 bbls. water per day per well

Ex 5

Box 305
Artesia, N. M.
December 2, 1959

Mr. Elvis A. Utz, Examiner
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Utz:

Regarding Case No. 1803 heard before you on November 10, 1959, I am sending herewith the theoretical cement tops for each casing string in each well to be converted to a water input well under this application.

Very truly yours,

Harold C. Porter

HCP/nn

Encl.

LEONARD NICHOLS AND ROLLER & NICHOLS
Roberts Grayburg Pool
Lea County, New Mexico

Injection Well	Location	Surface Casing Size	Surface Casing Top Cement	Production Casing Size	Production Casing Top Cement
Iles No. 2	D Sec. 10	8 5/8"	882'	5 1/2"	3151'
Iles No. 5	P Sec. 3	8 5/8"	854'	5 1/2"	3128'
" " 7	N Sec. 3	8 5/8"	857'	5 1/2"	3060'
" " 8	J Sec. 3	8 5/8"	1017'	5 1/2"	3154'
Iles x No. 2	B Sec. 10	8 5/8"	571'	5 1/2"	3082'
Iles x No. 3	F Sec. 10	8 5/8"	488'	7"	3363'
Phillips State Lexco No. 1	N Sec. 2	8 5/8"	486'	5 1/2"	3079'
A. C. Taylor A No. 2	F Sec. 11	8 5/8"	Surface	5 1/2"	1790'
A. C. Taylor F No. 1	D Sec. 11	8 5/8"	Surface	5 1/2"	884'
W. B. Trimble A No. 1	B Sec. 11	8 5/8"	Surface	5 1/2"	1615'
" " " A No. 4	J Sec. 11	8 5/8"	Surface	5 1/2"	2417'

DOCKET: EXAMINER HEARING NOVEMBER 10, 1959

Oil Conservation Commission - 9 a. m., Mabry Hall, State Capitol, Santa Fe, N. M.

The following cases will be heard before Elvis A. Utz, Examiner, or A. L. Porter, Jr., Secretary.

CASE 1803: Application of Boller & Nichols and Leonard Nichols for a water flood project. Applicants, in the above-styled cause, seek an order authorizing the institution of a water flood project in the Roberts Pool in Lea County, New Mexico, by the injection of water into the Grayburg formation through 11 wells located in Sections 2, 3, 10 and 11, Township 17 South, Range 32 East. Applicants further seek the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1804: Application of Cabot Carbon Company for an oil-oil dual completion and for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Howard Fleet Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Pennsylvanian oil pool and the production of oil from the King-Devonian Pool through parallel strings of 1½-inch tubing. Applicant further seeks permission to commingle the Devonian and Pennsylvanian production from said Howard Fleet Well No. 1.

CASE 1805: Application of Chaco Oil Company for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a peripheral water flood project in the Red Mountain Oil Pool in McKinley County, New Mexico, by the injection of water into the Menefee zone of the Mesaverde formation through 11 wells to be located on unorthodox locations in Township 20 North, Range 9 West. Applicant further seeks capacity allowables for producing wells in the project.

CASE 1806: Application of Franklin, Aston & Fair, Inc., for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a water flood project in the Grayburg-Jackson Pool in Eddy County, New Mexico, by the injection of water into the Grayburg formation through 6 wells located in Sections 25 and 26, Township 17 South, Range 30 East. Applicant further seeks the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1807: Application of Humble Oil & Refining Company for an exception to Rule 16 of Order No. R-586. Applicant, in the above-styled cause, seeks the reclassification of its State V-11 Well, located 2080 feet from the South and West lines of Section 10, Township 21 South, Range 37 East, Lea County, New Mexico, as a Tubb gas well in exception to the gravity classification as set forth in Order No. R-586.

pj/

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Supplement to Docket No. 38-59

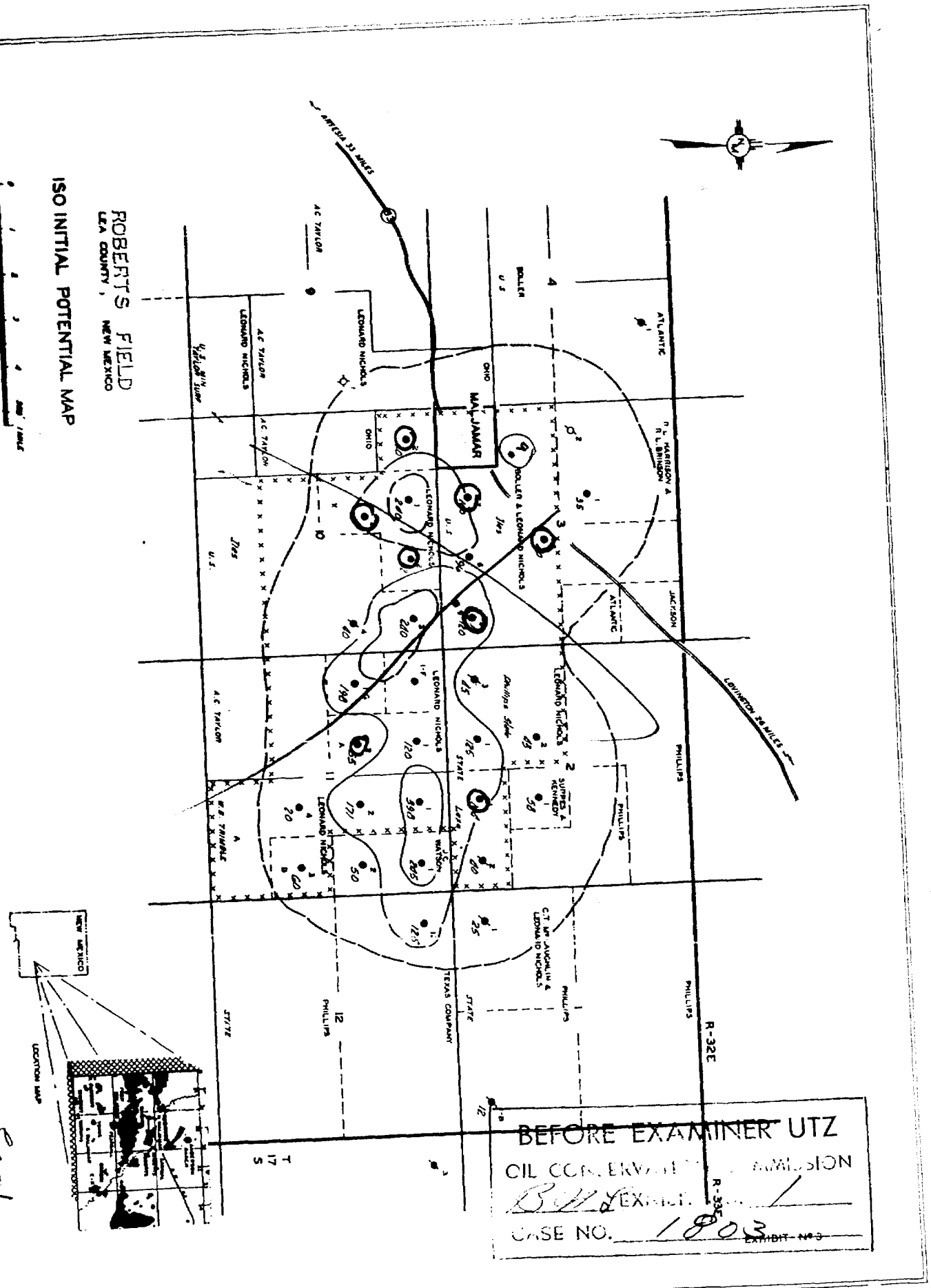
CASE 1808: Application of John H. Trigg to include additional acreage in his water flood project in the Caprock-Queen Pool. Applicant in the above-styled cause, seeks an order including the SE/4 of Section 34, Township 13 South, Range 31 East, in the John H. Trigg water flood project in the Caprock-Queen Pool, Lea and Chaves Counties, New Mexico.

pj/

ROBERTS FIELD

LEA COUNTY, NEW MEXICO

ISO INITIAL POTENTIAL MAP



BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

EXHIBIT NO. 1

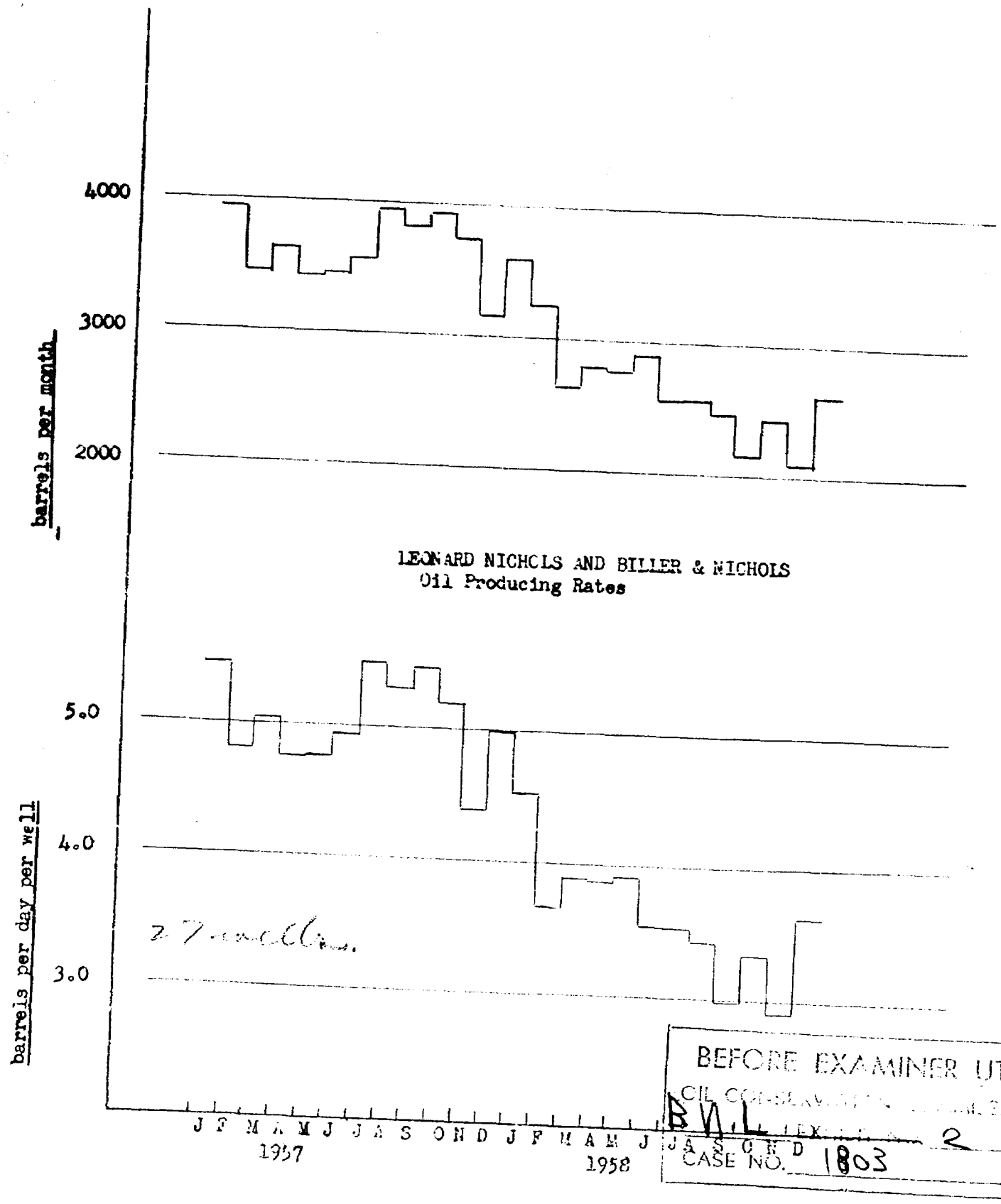
CASE NO. 1803

EXHIBIT No 3

E-1

WATER FLOOD ASSOCIATES, INCORPORATED

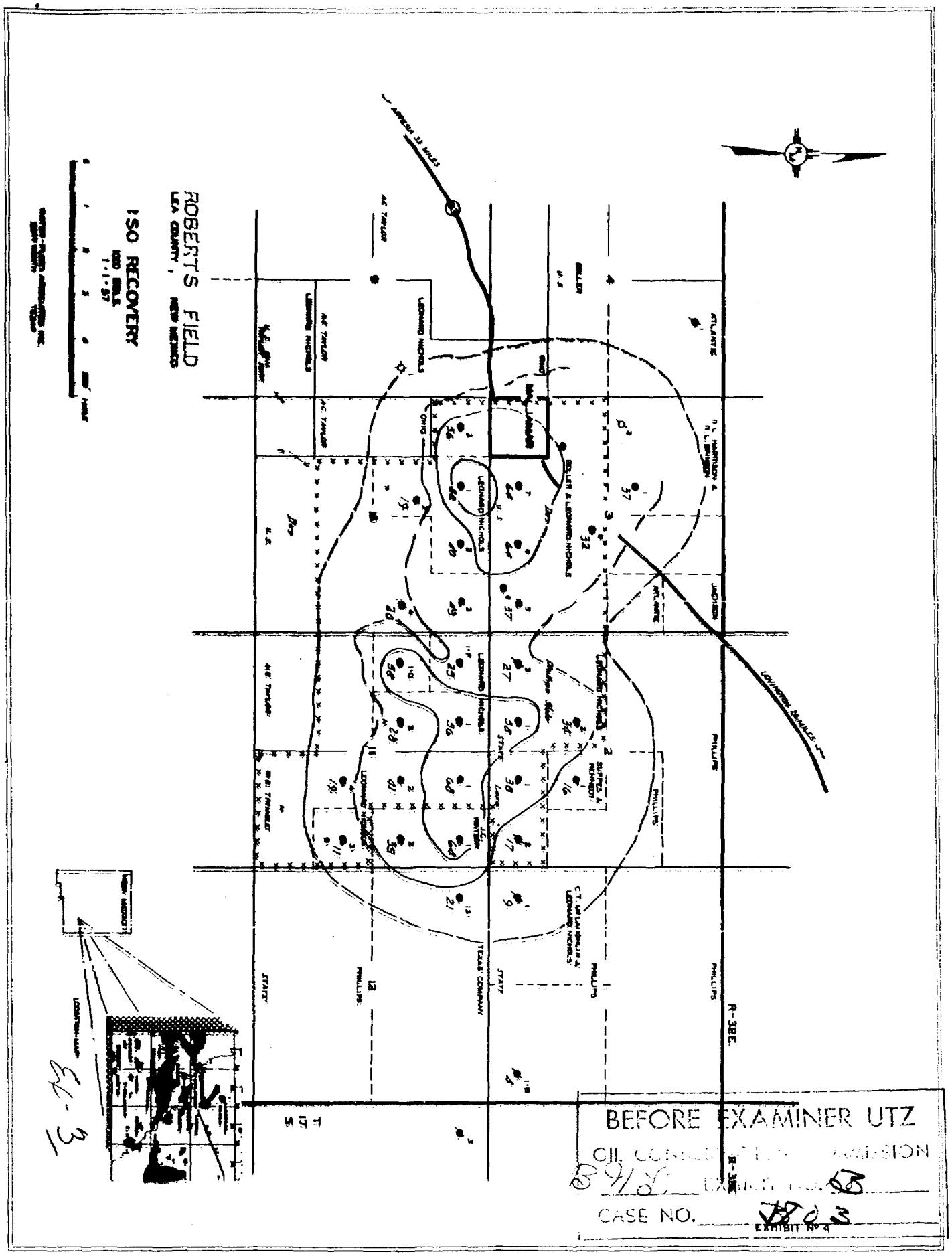
FORT WORTH, TEXAS



LEONARD NICHOLS AND BILLER & NICHOLS
Oil Producing Rates

data from NMO&GEC reports

Ex - 2



WATER FLOOD ASSOCIATES, INCORPORATED

FORT WORTH, TEXAS

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 1[illegible]

WELL DATA

OPERATOR: LEASE:	WELL UNIT/SEC.		ELEV.	DATES SPUDDED - COMPT.	IP	STIMULATION DATE		CASING PROGRAM	PRODUCTIVE INTERVALS	REMARKS TD
LEONARD NICHOLS										
PHILLIPS STATE	#1	N/2	4190	9-14-44/11-30-44	76P	2-2-55	FRAC 10MG 15M#	13" @ 225: 8-5/8" @ 1273: 5½" @ 3983	4005-13: 4025-30: 4055-57	DEEPEN TO 4419, SLIGHT WATER PB 4058
	#2	K/2	4274	11-30-45/3-22-46	39	3-9-46	SHOT 230 QTS 4189-4312	10-3/4" @ 298: 8-5/8" @ 1230: 7" @ 4071	4110 TO 4275	4265 REPORT 6-17-53 SAMPLE FR 4000 TUB. CHIEFLY GYP.
	#3	M/2	NA	5-21-47/7-22-47	66	8-23-47	SHOT 220 QTS 3990-4120	8-5/8" @ 1194: 7" @ 3390: 5½" @ 3970	3990-95: 4036-74: 4089-94: 4105-30	4140 INDICATION OF PARAFFIN & SALT TROUBLE
						2-3-55	FRAC 10MG 15M#			
LEXO	#1	O/2	4265	3-2-45/4-24-45	57	4-29-45	SHOT 140 QTS 4170-4230	8-5/8" @ 1456: 5½" @ 4133 650 SX 250 SX	4150 TO 4298	4298
	#2	P/2	4258	6-2-46/7-14-46	74	7-9-46	SHOT 275 QTS 4197-4285	8-5/8" @ 1285: 5½" @ 4116 700 SX 250 SX	4150 TO 4300	4300 PP&A 10-23-56
TAYLOR A	#1	C/11	4151	10-28-45/1-16-46	110	1-17-46	SHOT 145 QTS 3999-4089	8-5/8" @ 1386: 5½" @ 3957 500 SX 300 SX		4101
	#2	F/11	NA	10-1-46/11-22-46	55	11-23-46	SHOT 210 QTS 4000-4090	8-5/8" @ 1221: 5½" @ 3965 500 SX 500 SX	4000 TO 4090	4110
TAYLOR F	#1	D/11	4123	4-3-47/5-9-47	146	5-5-47	SHOT 190 QTS 4085-3957	8-5/8" @ 1080: 5½" @ 3929 500 SX 700 SX		4085
TAYLOR G	#1	E/11	4158	6-11-47/7-11-47	198	7-12-47	SHOT 205 QTS 3948-4079	8-5/8" @ 1143: 5½" @ 3941 400 SX 700 SX	1070-1180: 1180-2314: 2314-2521: 2521-3320	4079
						6-24-54	FRAC 10MG 20M#			
TRIMBLE A	#1	B/11	4170	1-29-46/3-27-46	398	3-19-46	SHOT 180 QTS 4016-4126	8-5/8" @ 1391: 5½" @ 4007 500 SX 550 SX		4130
	#2	G/11	4149	7-20-46/9-3-46	170	9-4-46	SHOT 230 QTS 3978-4088	8-5/8" @ 1388: 5½" @ 3970 500 SX 550 SX		4104
	#3	J/11	4172	11-27-46/1-11-47	60	1-12-47	SHOT 260 QTS 4053-4181	8-5/8" @ 1165: 5½" @ 4047 500 SX 375 SX	4040 TO 4209	4209
TRIMBLE B	#1	I/11	4138	2-6-47/3-9-47	20	3-11-47	SHOT 380 QTS 3972-4125	8-5/8" @ 1155: 5½" @ 3965 350 SX 500 SX	3972 TO 4125	4125
ILES X	#1	C/10	4173	2-28-46/5-12-46	200	6-6-51	SHOT 260 QTS 4017-4120	8-5/8" @ 1060: 5½" @ 3863 50 SX 100 SX		4222 DEEPENED TD FR 3974 ORIG. 5-21-51 DONE
						6-4-55	FRAC 10MG 15M#			

TABLE NO. 2 - SHEET NO. 1

WATER FLOOD ASSOCIATES, INCORPORATED
FORT WORTH, TEXAS

Ex-4

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 3916

TABLE NO. 2 - SHEET NO. 2

OPERATOR: LEASE: WELL	UNIT/SEC.	ELEV.	DATES SPUDDED - COMPT.	IP	STIMULATION DATE		CASING PROGRAM	PRODUCTIVE INTERVALS	TD	REMARKS
LEONARD NICHOLS - CONTD.										
ILES X #2	B/10	NA*	6-22-51/6-28-51				8-5/8" @ 1161: 5½" @ 3986 75 SX 100 SX	4040-50: 4100-4115		*RESPUDDED ORIG. LOG NA
#3	F/10	NA	4-2-47/6-23-47			SHOT 220 QTS 4090-4200	8-5/8" @ 1275: 7" @ 3520 100 SX 25 SX	TOP OF PAY 4090	4222	
ILES #2	D/10	NO RECORD								
#3	A/10	NA	4-3-47/6-5-47	240	6-5-47	SHOT 220 QTS 4090-4200	8-5/8" @ 1275: 5½" @ 4065 50 SX 100 SX		4211	
#4	H/10	NA	2-9-48(COMPT.)	40		SHOT 360 QTS 4039-4241	5½" @ 3952 100 SX	TOP OF PAY 4014	4241	
#5	P/3	NA	9-14-47/2-19-48	240	NONE		8-5/8" @ 1247: 5½" @ 4032 50 SX 100 SX	3410-16: 4025-45 4066-73 SAMP. LOG AVAIL.	4150	
#6	O/3	NA	5-8-48/7-13-47	96	8-11-54	FRAC 20 MG 38M#	8-5/8" @ 1344: 5½" @ 4063 50 SX 100 SX	4075 TO 4080	4194 DEEPENED 10-20-51 FR 4080	
#7	N/3	4217	10-10-48/1-27-49	100	4-24-55	FRAC 10MG 15M#	8-5/8" 5½" @ 3064	4080 TO 4093	4269 RAD. LOG AVAIL.	
#8	J/3	4285	6-21-49/8-28-49	40	8-29-49	SHOT 130 QTS 4353-4353	8-5/8" @ 1410: 5½" @ 4058 50 SX 100 SX	4081-90: 4199-4210: 4337-44 SAMP. LOG AVAIL.	4353	
					9-1-49	SHOT 200 QTS 4200-4353				
#9	P/3	NA	6-16-52/8-8-52	48	8-8-52	SHOT 310 QTS 4076-4211				
					11-12-54	FRAC 20MG 40M#				
OHIO A. C. TAYLOR #1	1/9	4124	10-4-47/11-6-47	DRY	11-7-47	SHOT 175 QTS 3865-3980	8-5/8" @ 1275: 5½" @ 4043 50 SX 100 SX	4087-94: 4168-77: 4197-4202	4214	
					11-18-47	ACID 2000G				
LEONARD NICHOLS STATE B #1	P/1						8-5/8" @ 1100: 5½" @ 2432 300 SX 500 SX	3685-4000: 4000-26	4026 ROT. -DRY & P&A 11-26-47	
PHILLIPS STATE B #1	M/1		11-2-46/1-19-47	53	1-20-47	SHOT 360 QTS 4150-4308				
BRINSON & WOODALL HARRISON #1	E/3						8-5/8" @ 1230: 5½" @ 4110 100 SX 100 SX	4160-70: 4230-40 4290-4308	4310	
THE TEXAS COMPANY STATE O #13	D/12	4255	4-19-46/7-3-46	52	7-6-46	SHOT 130 QTS 4181-4236	8-5/8" @ 1345: 5½" @ 4143 650 SX 300 SX	4177 TO 4190	4250	

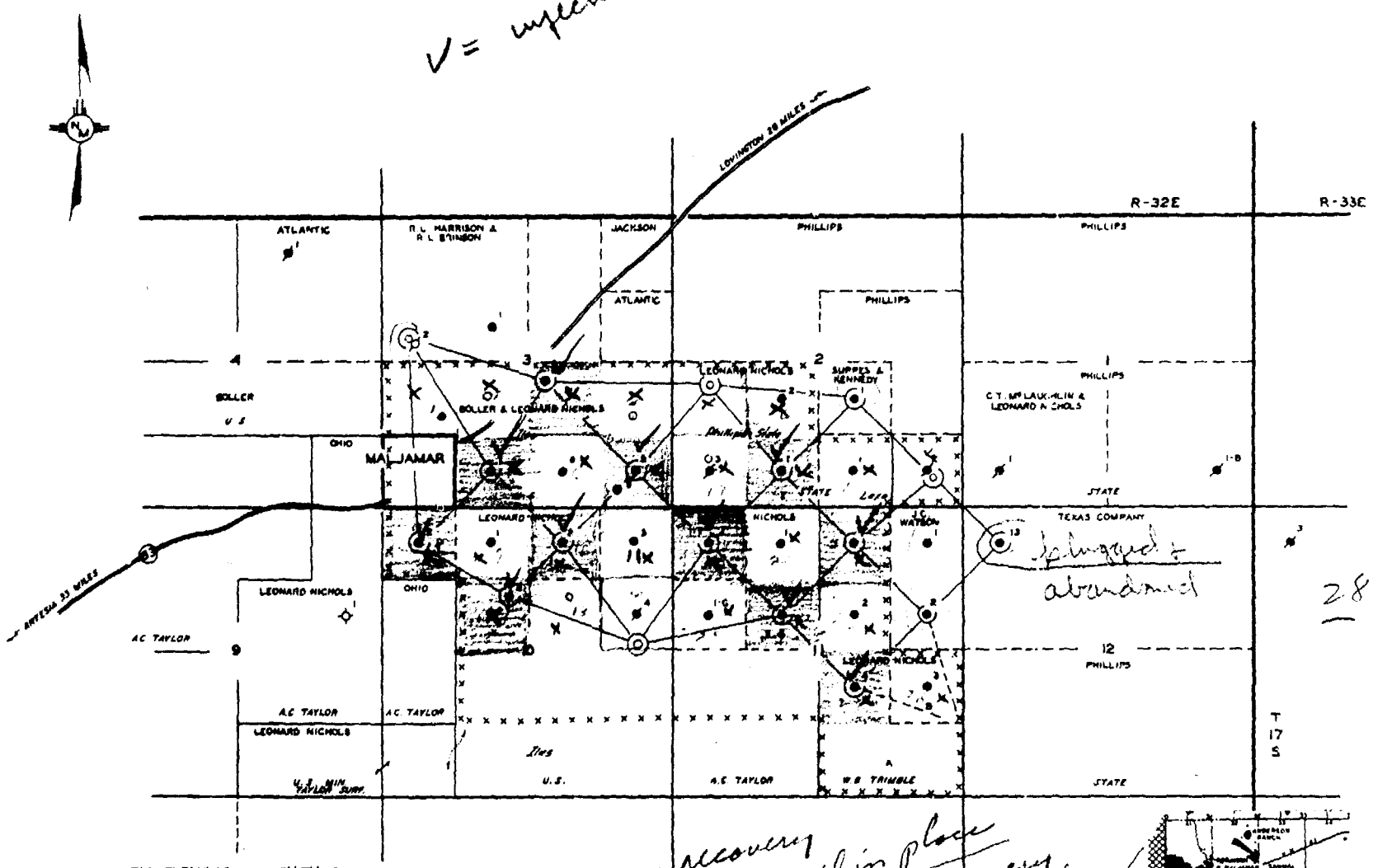
WATER FLOOD ASSOCIATES, INCORPORATED
FORT WORTH, TEXAS

TABLE NO. 2 - SHEET NO. 3

OPERATOR: LEASE:	WELL UNIT/SEC.		ELEV.	DATES SPUDDED - COMPT.	IP	STIMULATION DATE		CASING PROGRAM		PRODUCTIVE INTERVALS	REMARKS TD
SUPPES & KENNEDY											
STATE	#1	J/2	4122	2-9-49/3-18-49	58	3-11-49	SHOT 365 QTS 4106-4314	9-5/8" @ 1200: 600 SX	5½" @ 4000 100 SX	4050-4210: GRAYBURG 4240-4330 SAN ANDRES	
						6-21-54	FRAC 10MG 15M#				
WATSON DRILLING CO.											
TRIMBLE	#1	A/11	NA	10-27-45/1-7-46	200	6-22-49	SHOT 620 QTS 4231-4391	8-5/8" @ 1267: 50 SX	7" @ 3540	4150 TO 4153	4153
	#2	H/11	NA	2-14-46/6-14-46	100	10-25-47	SHOT 320 QTS 4160-4286	8-5/8" @ 1232: 50 SX	5½" @ 4062 50 SX	4160-74: 4248-52: 4285-95	4295

BEFORE EXAMINER UTZ
OIL CONSERVATION
EXHIBIT NO.
CASE NO.

V = injection wells



plugged + abandoned

28

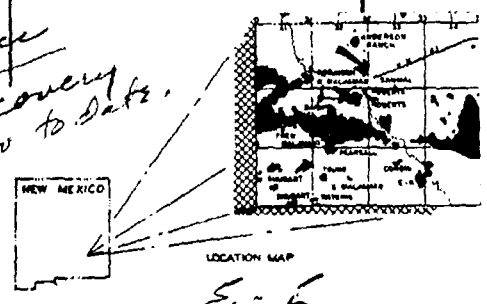
ROBERTS FIELD
LEA COUNTY, NEW MEXICO

PROPOSED WATER-FLOOD DEVELOPMENT MAP

0 1 2 3 4 5000' / MILE

WATER-FLOOD ASSOCIATES INC.
FORT WORTH, TEXAS

Primary recovery
15-18% of orig oil in place
2,200,000 water flood recovery
have recovered 1,000 000 to Date.



E-5

EXHIBIT Nº 5

WATER FLOOD ASSOCIATES, INCORPORATED
FORT WORTH, TEXAS

Water requirements — 350 BPD/well 1500-1800psi 3850 BPD for 11 wells

Application of CABOT
for oil-oil dual of its
Buffet Well No. 1 and to
- Lea County, New Mexico.

Case for Exhibits No. 11 thereon
Testimony.

Case No.

1804

Application, Transcript,
Small Exhibits, Etc.

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
EXAMINER HEARING

IN THE MATTER OF:	
Application of Cabot Carbon Company for an oil-oil dual completion and for permission to commingle the production from two separate pools.	Case 1804 (Continued)

December 11, 1959.

DEARNLEY . MEIER & ASSOCIATES
INCORPORATED
GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
3-6691 5-9546

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING - (Daniel S. Nutter)

SANTA FE, NEW MEXICO

REGISTER

HEARING DATE DECEMBER 11, 1959 TIME: 9 a.m.

NAME:	REPRESENTING:	LOCATION:
W.P. Tomlinson	Atlantic	Roswell
Joe M. Daniel	Cabot Carbon Co	Pampa, Tex
P.G. O'Quinn	Cabot Carbon Co.	Midland, Tex
John M. Kelly	Independent	Roswell N.M.
T.O. Webb	The Ohio Oil Co	Hobbs, N. Mex.
P.T. McGrath	U.S.G.S.	Farmington
VICTOR T. LYON	CONTINENTAL OIL CO	EUNICE, N.M.
Jason Kellahin	Kellahin & Fox	Santa Fe, N.M.
J.H. Hoover	Gulf Oil Corp	Roswell, N.M.
W.U. Kastler		
J.E. ROBINSON, Jr.	TEXACO Inc.	[redacted] Midland
L.O. White		Santa Fe, N.M.

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
December 11, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Cabot Carbon Company for an oil-oil dual completion and for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Howard Fleet Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Pennsylvanian oil pool and the production of oil from the King-Devonian Pool through parallel strings of 1½-inch tubing. Applicant further seeks permission to commingle the Devonian and Pennsylvanian production from said Howard Fleet Well No. 1.

Case 1804
(Continued)

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. PAYNE: "Application of Cabot Carbon Company for an oil-oil dual completion and for permission to commingle the production from two separate pools.

MR. BRATTON: Howard Bratton, Roswell, New Mexico, appearing on behalf of the Applicant, Cabot Carbon. We have one witness, Mr. Daniel, and I ask that he be sworn.

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PHONE CH 3-6691

(Witness sworn.)

(Marked Applicant's Exhibits Nos. 1, 2 and 3, for identification.)

MR. BRATTON: In connection with the application, I might note that as advertised, the Applicant wishes to commingle the production from said Howard Fleet Well, and I believe we have asked to withdraw that. At any event, we will not present any testimony in connection with that, we will not ask for any order to commingle.

JOE M. DANIEL

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

DIRECT EXAMINATION

BY MR. BRATTON:

Q Will you please state your name?

A Joe M. Daniel, Jr., of Pampa, Texas.

Q By whom are you employed and in what capacity?

A I am employed by Cabot Carbon Company as their Senior Petroleum Engineer.

Q Have you previously testified before the New Mexico Oil Conservation Commission as an engineer in matters similar to this application?

A Yes, sir.

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PHONE CH 3-6691

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

Q Are you familiar with the Application filed in this matter?

A Yes, sir.

Q Do you consider all the facts stated in this Application to be true and correct to the best of your knowledge?

A Yes, sir.

MR. BRATTON: Are the witnesses qualifications acceptable?

MR. NUTTER: Yes. Please proceed.

Q Will you please explain to the Commission the purpose of the Application?

A The Application is to dually complete as an oil-oil well, using two tubing strings, the Cabot Carbon Company's Howard Fleet, et al No. 1 well, which is located 1980 feet from the south line and 660 feet from the east line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico, in the King Field. This well is currently producing from the Devonian formation.

We propose to perforate the 5-1/2 inch casing opposite the Pennsylvanian formation from 10,702 feet and 10,726 feet and conduct a production test through straddle packers. If the Pennsylvanian interval is productive, we will set a Baker Model D at approximately 10,750 feet which will separate the Devonian and the Pennsylvanian formations in the well bore. The Pennsylvanian interval will be produced until the equipment for the dual

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completion can be obtained.

After arrival of the dual completion equipment, we propose to set packers at approximately 10,750 feet and 10,675 feet and produce each zone through 1-1/2 inch tubing.

Q Have you conducted tests on this well?

A Yes, sir.

Q Please explain the manner of current completion of this well and the tests taken and the results thereof.

A The subject well has 5-1/2 inch casing set at 12,826 feet and cemented with 500 sacks. Top of cement behind 5-1/2 inch casing was found at 10,115 feet by a temperature survey. The casing opposite the Devonian formation was perforated from 12,525 feet to 12,518 feet, from 12,503 feet to 12,488 feet, and from 12,466 feet to 12,451 feet. These perforations were treated with 1000 gallons of acid and on initial potential the well flowed 500 barrels of oil in 12 hours on a 24/64" choke.

The well started making water in August, 1958, and on a test dated September 4, 1958, the well flowed 225 barrels of oil and 150 barrels of water in 24 hours with a gas-oil ratio of 1503 cubic feet per barrel. A bridging plug was set at 12,440 feet and the casing perforated opposite the Devonian formation from 12,368 feet to 12,328 feet. The well would not flow and gas lift valves were installed. The well would produce 50 to 60 barrels of oil and 10 barrels of water per day. In May, 1959, the



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ALBUQUERQUE, NEW MEXICO PHONE CH 3-6691

bridging plug was driven to total depth, and all perforations exposed. Gas lift valves were run and the well tested 150 barrels of oil and 150 barrels of water per day. The well is currently producing 111 BOPD and 75 BWPD by gas lift.

The Pennsylvanian formation indicated its productivity by a drillstem test. A DST from 10,652 feet to 10,727 feet was open for 44 minutes. Gas to the surface in 4 minutes, oil in 10 minutes. Flowed 34 barrels of 43° gravity oil in 30 minutes. Initial Flowing Pressure 1610 psi. Final Flowing Pressure 2975 psi. A 2-hour and 10-minute shut-in pressure was 4000 psi.

Q Have the tests which have been made indicated that the well is susceptible to production of oil in more than one zone?

A Yes, sir. The subject well was completed and is still producing from the Devonian horizon. The Pennsylvanian appears to be productive by the previously mentioned DST; however, the procedure for the dual completion workover will permit thorough testing and evaluation of the Pennsylvanian prior to ordering the dual completion equipment. The workover procedure was outlined in our Application.

Q I refer you to Exhibit #1 and ask that you identify it.

A Exhibit #1 is a plat of the King Pool showing the location of our Howard Fleet, et al No. 1 well, and further showing all offset wells, their producing horizons, and offset property owners.

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PHONE CH 3-6691

Q I refer you to Exhibit #2 and ask that you identify it.

A Exhibit #2 is a diagrammatic sketch showing the proposed mechanical completion of the well in question. We propose to perforate and complete in the Pennsylvanian horizon between the depths of 10,702 feet and 10,726 feet. A Baker Model "D" permanent type packer is to be set at approximately 10,750 feet. This packer will separate the two pay zones in the casing. The 1-1/2 inch tubing through which the Devonian will be produced will be run next. We will have some 1750 feet of 2" Hydril Type "A" tubing as tail pipe below the Model "D" packer. Above the Model "D" packer seating element we will have some 75 feet of 2-3/8 inch EUE tubing which will be externally wrapped with fiber glass and plastic to protect this interval of tubing from abrasion. The upper packer will be a Baker Model "GB" packer, to be set at approximately 10,675 feet. This packer will be run on the first string of tubing. Above the upper packer we will run approximately 10,675 feet of 1-1/2 inch tubing with Hydril CS couplings. Gas lift valves will be spaced out in this string to be used to lift the Devonian fluid. After the Devonian string of tubing is in place with the upper packer set, we will run the short tubing string to the Pennsylvanian pay. The upper tubing string will also be 1-1/2 inch with Hydril CS couplings. The top 5000 feet of each tubing will be internally coated with plastic for paraffin control.



Q Are the two reservoirs involved separated in the subject well behind the casing?

A Yes, sir. They are separated by some 1600 feet of interval and 500 sacks of cement.

Q Are all fresh water zones and other producing horizons protected?

A Yes, sir. We used 2300 sacks of cement behind the intermediate 8-5/8 inch casing set at 4587 feet. The cement behind the 349 feet of 13-3/8 inch surface casing was circulated to the surface.

Q In your opinion do you feel that there is any possibility of communication or migration of fluids between the Pennsylvanian and Devonian in the annulus between the casing and the well bore?

A No, sir.

Q In your opinion is the proposed dual completion installation in accordance with good engineering practices and principles?

A Yes, sir.

Q Has this type of dual completion installation proven successful in actual field tests?

A Yes, sir.

Q Is the proposed dual completion the type customarily used in the Lea County area?

A There are quite a few dual string installations using

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

2 inch tubing in Lea County. However, I understand there are very few installations using 1-1/2 inch tubing. Cabot Carbon Company has two 1-1/2 inch dual string installations in operation in this field.

Q Would you explain Cabot Carbon Company's experience with 1-1/2 inch tubing in a dually completed well?

A In April, 1958, Cabot received permission to dually complete their H. L. Lowe "B" No. 1 well in the Devonian and Wolfcamp formations. This was Case No. 1365 and Order No. 1126-A. The well was dually completed in July, 1958. The Wolfcamp would not flow and gas lift valves were installed. The Wolfcamp is currently producing 65 barrels of oil and 5 barrels of water per day. The Devonian formation is capable of flowing top allowable through 1-1/2 inch tubing with a flowing tubing pressure of several hundred pounds higher than when the well was producing through 2-3/8 inch tubing. A comparison of flowing pressures, choke sizes, and production rates was explained in the testimony given on our application to dually complete our J. L. Reed No. 2 well.

In February, 1959 we received permission to dually complete our J. L. Reed no. 2, Case No. 1587 and Order No. R-124-42.

The dual completion was performed, the Wolfcamp tested 135 barrels of oil, and 14 barrels of water in 24 hours on a 3664 choke. The well flowed for only a short period and 6 gas lift

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valves were installed. The Wolfcamp is currently producing 65 barrels of oil per day. The Devonian, after the dual completion, tested 250 barrels of oil in 24 hours with a GOR of 1483 cubic feet per barrel on a 12-6/4 inch choke. The tubing pressure was 950 pounds, which is 250 pounds higher than previously noted on well test when using,2-3/8 inch tubing was being used, and yet the shut-in bottomhole pressure has been reduced almost 400 pounds over the same three-year period.

Q Why has Cabot Carbon Company proposed using two strings of 1-1/2 inch tubing when other operators use 2 inch?

A It is a matter of clearance. In wells with 7 inch casing it is possible to use two strings of 2 inch tubing. This well was originally completed with 5-1/2 inch casing and it is a physical impossibility to get two strings of 2 inch tubing in 5-1/2 inch casing.

Q How do you propose to lift the fluid from either or both pays when artificial lift is required?

A The Devonian oil is currently being gas lifted and we plan to continue this method of lifting for the Devonian. The Pennsylvanian interval is expected to flow; however, when necessary we have been insured by several manufacturers of lift valves that we can produce 200 barrels of fluid from each of the reservoirs.

Q Have you considered using rod pumps as a method of

artificially lifting the fluid when it becomes necessary?

A Yes, but it would require 2-1/2 inch tubing to lift the required volume from our pay depth. The 2-1/2 inch tubing would mean that only one zone could be produced at a time.

Q Is the dual completion technique requested in the Application recognized and accepted in general by oil industry and other state regulatory bodies?

A Yes, sir.

Q Do you feel that corrosion would be a possible objection to your proposed manner of dual completion?

A No, sir. We have observed no corrosion in the King Pool.

Q Does this dual completion technique possess any more possibility for leakage or communication of the reservoirs than any other accepted method?

A No, sir.

Q Will Cabot Carbon Company be willing to make packer leakage tests, separation tests, and other tests which might be required by the Commission to determine if there is any commingling or leakage?

A Yes, sir.

Q Under the proposed method of dualling is it possible to take bottomhole pressures on each separate zone, and if so, please explain how?

A Yes, this is possible. A bottomhole pressure bomb

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can be run to the top of the first internal gas lift valve and then the pressure extrapolated to the datum depth for the zone being gas lifted; in the flowing zone, the bomb can be run to the zone of interest.

Q Will it be possible to check at frequent intervals for leakage across the packer separating the two pays?

A Yes, sir. Each zone will have its own separator and storage facilities. The Pennsylvanian pay will have 43° API gravity and the Devonian pay has 45° API gravity. This small gravity difference will provide to some extent a daily check for leakage as any change in gravity will be noted by operating personnel and pipeline gauger. Also, operating personnel will be able to detect down-hole leakage by changes in producing characteristics or rates.

Q Have you made an estimate of oil reserves that will be recovered from the Pennsylvanian formation?

A Yes, sir. I believe the recoverable oil reserves to be in the order of some 68,000 barrels.

Q What will it cost to drill a twin well to the Howard Fleet Well No. 1 to the Pennsylvanian?

A Approximately $175,000.

Q What will it cost to dually complete the Howard Fleet Well No. 1?

A Approximately $75,000.

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Q What are the economics involved when comparing expected recoverable oil reserves with the cost of obtaining this oil from the Pennsylvanian?

A The value of one barrel of oil to us after our royalty and tax is $2.20 per barrel. If we assume $0.40 per barrel for lifting cost, which is reasonable, the revenue to be received from our expected oil reserves in the Pennsylvanian at 6% present worth is $105,000. If we drill a twin well, we would not get our money back. If we are permitted to dual the subject well, a reasonable profit may be expected.

Q In your opinion, do you think that the ultimate oil recovery from the Devonian formation will be reduced as a result of this dual completion?

A The ultimate oil recovery from the Devonian will not be affected as a result of this dual completion. I base this on two facts: (1) the producing efficiency of gas lift using small tubing will not reduce ultimate recovery from the Devonian. The Devonian is currently able to produce only 200 barrels of fluid (60% oil) per day. This producing rate can be maintained with 1-1/2 inch tubing, (2) It now appears that the Devonian may become watered out prior to the end of the producing life of the Pennsylvanian. We can plug off the Devonian and produce the Pennsylvanian by any method that is most economical. The small tubing will improve producing efficiency from the Pennsylvanian by

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prolonging the flowing life. When and if necessary, gas lift valves can be installed and will permit the Pennsylvanian to be depleted by artificial lift.

Q Mr. Daniel, were the exhibits 1 and 2 prepared by you or under your supervision?

A Yes, sir.

Q Have you submitted with your application a copy of the log of this well?

A Yes, sir.

MR. BRATTON: We would like that log considered as an exhibit. I believe it was attached to the application, and we don't have another copy of it.

MR. NUTTER: The log will be identified as Exhibit No. 3 in this case, Mr. Bratton.

MR. BRATTON; Thank you.

Q Do you have anything further you care to say, Mr. Daniel?

A No.

MR. BRATTON: We would like to offer Exhibits 1 through 3 in evidence.

MR. NUTTER: Exhibits 1 through 3 will be admitted in evidence.

MR. BRATTON: We have nothing further.

CROSS EXAMINATION

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BY MR. PAYNE:

Q This Pennsylvanian formation in this area is undesignated, is it not?

A Yes, sir.

Q I believe you testified that you proposed this installation as a matter of clearance. Do you feel that this installation will be as efficient as two inch strings?

A Yes, sir. I feel that our operating condition of depths and gas-oil ratios, our tubing are more efficient, this inch and a half is more efficient than two inch.

Q Has this been your experience in the other two wells that Cabot Carbon has?

A Yes, sir, from the Devonian. The Wolfcamp in both cases are being gas lifted, but we're getting all the fluid that is entering the well bore. Now, in the Devonian we have several hundred pounds higher tubing pressure now than we've ever had before, and we are making the same amount of oil, and over the same interval these wells are about three years old and our bottomhole pressure has declined about 400 pounds in the last three years. So we have a lower shut-in bottomhole pressure, yet we have a higher tubing pressure than we've ever had.

Q You don't feel there's anything peculiar about the Pennsylvanian formation which would make it inefficient to flow through inch and a half tubing?



A No, sir.

MR. PAYNE: Thank you.

BY MR. NUTTER:

Q Mr. Daniel, I believe that this well would be, you might say, a discovery well for the Pennsylvanian in this area, is that correct?

A That is true.

Q What sort of mechanism do you expect that the Pennsylvanian will have as far as reservoir energy is concerned?

A It's only a guess right now since the only data we have is a drillstem test. I expect it to be a solution gas drive.

Q Now, the other dually completed wells in this pool are completed in the Devonian and Wolfcamp, is that correct?

A That is correct.

Q The Devonian in each of the other cases is flowing?

A Yes.

Q I notice that your figures from the Wolfcamp indicated that each of the wells is producing 65?

A That is true.

Q Is this merely the size of the tubing or is it a coincidence?

A I think it's a coincidence.

Q They are making 65 barrels a day?

A We have produced more fluid out of both, but currently

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they are producing 65.

Q This subject well is currently being gas lifted, is that correct?

A Yes.

Q What is the fluid level in the hole?

A May I ask my partner out in the audience?

Q Yes, sir.

A 2500 feet.

Q So that your gas lift valves probably don't have to go too deep to produce the well?

A That's right.

Q Now, in the event that it would be necessary to gas lift the Pennsylvanian as well as the Devonian here, how would you accomplish that?

A We would gas lift both zones. We have a quotation that we can lift 200 barrels a day. That's the qualifications we asked for because that is all that the Devonian is producing now, and we have been, we have a quotation here that says that we can produce each zone at 200 barrels a day and they have designed the valve so that it will do that.

Q What do you do, put the gas down the annulus?

A The gas will go down the annulus.

Q You have one common gas supply for lifting two zones?

A That is true. The Pennsylvanian, the way we have it planned now, will have fluid operated valve. By that we mean that

the valve will not open unless it is covered by fluid. And the Devonian will have pressure operated valves and they will open by the maximum pressure that we set them at, whether they're covered by fluid or not. That's a rather new technique, but, well, it's not new either, it's been used rather extensively in Texas by Pure, Humble and Continental, and they have been very satisfied with this.

Q Is this a common practice in New Mexico to use one common gas supply source to gas lift two zones?

A I couldn't answer that.

Q You don't know of any wells that are gas lifted in that manner?

A No, sir, I do not know.

BY MR. PAYNE: Has Cabot Carbon any other dual completions in other areas with parallel strings of inch and a half tubing where both zones are being gas lifted?

A I don't believe so.

Q Do you anticipate that you will have to gas lift the Pennsylvanian?

A Well, not for a while anyway, based on the results of the drillstem test, 34 barrels of oil in 30 minutes, that's the strongest drillstem test that we have had in this field. In one of the upper pays on the Wolfcamp's well, I don't believe that any of them flowed, they just had a high oil recovery.

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BY MR. NUTTER:

Q Was there any Wolfcamp present in this well?

A No, sir.

Q Would you agree to contact the Oil Conservation Commission prior to using a common source of gas for gas lifting?

A Yes, sir.

Q The two separate zones? A Yes.

Q The reason I asked this, I don't know if this is being done in any other wells.

A Well, I don't either right now. We certainly would be willing to do that though.

MR. NUTTER: Does anyone have any further questions of Mr. Daniel? He may be excused.

(Witness excused.)

MR. NUTTER: Does anyone have anything further for Case 1804? We'll take this case under advisement and take Case 1824.

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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 8th day of December, 1959.

My commission expires:
June 19, 1963.

Ada Dearnley
Notary Public-Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1804 heard by me on 12-11, 1959.

....., Examiner
New Mexico Oil Conservation Commission

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. 1804
Order No. R-1550

APPLICATION OF CABOT CARBON
COMPANY FOR AN OIL-OIL DUAL
COMPLETION IN AN UNDESIGNATED
PENNSYLVANIAN POOL AND IN THE
KING-DEVONIAN POOL, LEA COUNTY,
NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on December 11, 1959, 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 16th day of December, 1959, 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, Cabot Carbon Company, is the owner and operator of the Howard Fleet Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That the applicant proposes to dually complete the above-described Howard Fleet Well No. 1 in such a manner as to permit the production of oil from an undesignated Pennsylvanian pool and the production of oil from the King-Devonian Pool through parallel strings of 1½-inch N-80 tubing with Hydril CS threads and couplings.

(4) That the evidence establishes that in this particular instance production through 1½-inch tubing will be efficient and will not result in waste.

(5) That approval of the subject application will not impair correlative rights.

IT IS THEREFORE ORDERED:

That the applicant be and the same is hereby authorized to dually complete its Howard Fleet Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 13 South, Range 37 East, NMPM, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Pennsylvanian pool and the production of oil from the King-Devonian Pool through parallel strings of 1½-inch N-80 tubing with Hydril CS threads and couplings.

PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Gas-Oil Ratio Test Period for the King-Devonian Pool.

IT IS FURTHER ORDERED:

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order, after proper notice and hearing the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

CABOT CARBON COMPANY

TELEPHONE MO-4-2581

P.O. BOX 1101 PAMPA, TEXAS

Carbon Black · Oil and Gas · Oil Field Pumping Equipment

MAIN OFFICE 000

1959 OCT 15 PM 1:33

tubing?

October 14, 1959

Re: Application for Permission to Commingle at the Stock Tanks the Oil Production from Cabot Carbon Company's Howard Fleet et al, Well No. 1, A Dual String Oil-Oil Completion in the King Devonian Pool and the King Pennsylvanian Pools, Located in Section 35, Township 13S, Range 37E, Lea County, New Mexico

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

Gentlemen:

Cabot Carbon Company respectfully requests a hearing to consider our application for permission to commingle at the stock tanks the oil production from our Howard Fleet, et al Well No.1. A hearing has been requested to consider our application for permission to dually complete the Howard Fleet, et al Well No. 1 as an oil-oil well in the King Devonian and the King Pennsylvanian Pools, Lea County, New Mexico. In support of this commingling application, the following information is given:

1. Cabot Carbon Company's Howard Fleet et al, Well No. 1 is located 660 feet from the east line and 1980' from the south line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico.

2. The oil production will be from the Devonian reservoir with perforations between 12,525' and 12,328' and the Pennsylvanian reservoir with perforations between 10,726' and 10,702'. Each zone will be produced through tubing and the production will remain completely separated in the well bore.

3. The Devonian oil gravity from the Howard Fleet et al, Well No. 1 is 45.5° API corrected. The Pennsylvanian oil gravity is expected to be 43° API. Therefore, the oils should be compatible and result in no loss in revenue from gravity difference.

4. The royalty owners have the same interest in both reservoirs.

5. The oil and gas production from each zone will be measured by meters after passing through separate heater treaters and prior to commingling in the stock tanks. Therefore only treated oils will be measured.

6. Permission to commingle the oil production at the tank battery will permit a large saving in expenditure for surface equipment.

7. The surface installation will permit separate testing of the two reservoirs for special tests such as gas-oil ratios, special production tests, and packer leakage tests.

8. It is the opinion of the applicant that the manner and method proposed for commingling of the oil production is mechanically feasible and practical and is in the interest of conservation.

9. The applicant will comply with all rules and regulations of the New Mexico Conservation Commission regarding production tests and to maintain separation of production from the two producing pay zones until metered.

10. By copy of this letter, all offset operators are notified of the proposed commingling.

Respectfully submitted,

CABOT CARBON COMPANY



Hervey, Dow & Hinkle
P. O. Box 527
Roswell, New Mexico
(Attorneys for Applicant)

NO. 42-59

DOCKET: EXAMINER HEARING DECEMBER 11, 1959

OIL CONSERVATION COMMISSION - 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico.

The following cases will be heard before Daniel S. Nutter, Examiner, or A. L. Porter, Jr., Secretary:

CASE 1804: (Continued)
Application of Cabot Carbon Company for an oil-oil dual completion and for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Howard Fleet Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Pennsylvanian oil pool and the production of oil from the King-Devonian Pool through parallel strings of 1½-inch tubing. Applicant further seeks permission to commingle the Devonian and Pennsylvanian production from said Howard Fleet Well No. 1.

NEW CASES

CASE 1824: Application of The Atlantic Refining Company for an exception to Rule 104 (c) of the Commission Rules and Regulations. Applicant, in the above-styled cause, seeks an exception to Rule 104 (c) so that it may recomplete in the Denton Wolfcamp Pool its Federal Jones Well No. 2, located 330 feet from the South and East lines of Section 34, Township 14 South, Range 37 East, Lea County, New Mexico, said well being located closer than 660 feet to a well producing from the same common source of supply.

CASE 1825: Application of Continental Oil Company for an amendment of Order R-1440. Applicant, in the above-styled cause, seeks an order amending Order R-1440 to permit the commingling of Tubb and Blinebry production on its Lockhart A-17 lease in Section 17, Township 21 South, Range 37 East, Lea County, New Mexico, without separate measurement.

CASE 1826: Application of Continental Oil Company for an amendment of Order R-1445. Applicant, in the above-styled cause, seeks an amendment of Order R-1445 to permit the installation of automatic custody transfer equipment to handle the Delaware production from its Wilder, Payne and Bradley leases in Sections 25, 26 and 35, Township 26 South, Range 32 East, and in Sections 30 and 31, Township 26 South, Range 33 East, Lea County, New Mexico, and for permission to produce more than 16 wells in a common tank battery.

CASE 1827: Application of Gulf Oil Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Learcy McBuffington Well No. 5, located 1650 feet from the South line and 1980 feet from the East line of Section 13, Township 25 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Paddock pool and the production of oil from the Justis-Blinebry Pool through parallel strings of tubing.

CASE 1828: Application of Francis L. Harvey for an exception to Rule 104 of the Commission Rules and Regulations and for certain exceptions to well completion requirements. Applicant, in the above-styled cause, seeks an order establishing 2½-acre spacing for Mesaverde oil wells in Sections 10, 11, 21, 22, 23 and 33 of Township 18 North, Range 3 West, Sandoval County, New Mexico, in exception to Rule 104. Applicant further proposes certain exceptions to well completion requirements.

CASE 1829: Application of John M. Kelly for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its Shahan Well No. 3 in the SW/4 NE/4 of Section 33, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for its overproduced status without being completely shut-in in order to prevent possible waste.

CASE 1830: Application of Texaco Inc. for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its United Royalty "A" Well No. 3 located in Unit F, Section 19, Township 24 South, Range 38 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Dollarhide-Queen Pool and the production of oil from the Dollarhide-Drinkard Pool through parallel strings of tubing.

CASE 1831: Application of Texaco Inc. for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its United Royalty "A" Well No. 4, located in Unit K, Section 19, Township 24 South, Range 38 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Dollarhide-Queen Pool and the production of oil from the Dollarhide-Drinkard Pool through parallel strings of tubing.

CASE 1832: Application of Jal Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for one well in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described well in the Jalmat Gas Pool to compensate for its overproduced status without being completely shut-in in order to prevent possible waste:

Watkins Well No. 2, SE/4 NE/4 of Section 25,
Township 24 South, Range 36 East, Lea County,
New Mexico.

ig/

J. M. HERVEY 1874-1953
HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.
HOWARD C. BRATTON
S. B. CHRISTY IV
LEWIS C. COX, JR.
PAUL W. EATON, JR.
ROBERT C. BLEDSOE

LAW OFFICES
HERVEY, DOW & HINKLE
HINKLE BUILDING
ROSWELL, NEW MEXICO

TELEPHONE MAIN 2-6510
POST OFFICE BOX 547

November 19, 1959

New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Re: Case No. 1804
Application of Cabot Carbon Company
Our No. 128-6

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

Gentlemen:

With reference to the application of Cabot Carbon Company for permission to commingle products from two pools in its Howard Fleet No. 1 Well, in Section 35, Township 13 South, Range 37 East, N.M.P.M., which is a portion of your above Case No. 1804, please be advised that it is the desire of Cabot Carbon Company that such portion of the application be dismissed.

This dismissal should not be construed as a dismissal of the applicant's permission for an oil-oil dual completion of said well.

Respectfully yours,

HERVEY, DOW & HINKLE

By S. B. Christy IV

SBC:ke

1 cc: Joe Daniel, Jr.
2 cc: T. L. Stall
1 cc: M. I. Taylor
1 cc: N. B. Winter
1 cc: John C. Dorn
1 cc: J. W. Fletcher

Docket Mailed
11-30-59

DOCKET: EXAMINER HEARING NOVEMBER 10, 1959

Oil Conservation Commission - 9 a. m., Mabry Hall, State Capitol, Santa Fe, N. M.

The following cases will be heard before Elvis A. Utz, Examiner, or A. L. Porter, Jr., Secretary.

CASE 1803: Application of Boller & Nichols and Leonard Nichols for a water flood project. Applicants, in the above-styled cause, seek an order authorizing the institution of a water flood project in the Roberts Pool in Lea County, New Mexico, by the injection of water into the Grayburg formation through 11 wells located in Sections 2, 3, 10 and 11, Township 17 South, Range 32 East. Applicants further seek the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1804: Application of Cabot Carbon Company for an oil-oil dual completion and for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Howard Fleet Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Pennsylvanian oil pool and the production of oil from the King-Devonian Pool through parallel strings of 1½-inch tubing. Applicant further seeks permission to commingle the Devonian and Pennsylvanian production from said Howard Fleet Well No. 1.

CASE 1805: Application of Chaco Oil Company for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a peripheral water flood project in the Red Mountain Oil Pool in McKinley County, New Mexico, by the injection of water into the Menefee zone of the Mesaverde formation through 11 wells to be located on unorthodox locations in Township 20 North, Range 9 West. Applicant further seeks capacity allowables for producing wells in the project.

CASE 1806: Application of Franklin, Aston & Fair, Inc., for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a water flood project in the Grayburg-Jackson Pool in Eddy County, New Mexico, by the injection of water into the Grayburg formation through 6 wells located in Sections 25 and 26, Township 17 South, Range 30 East. Applicant further seeks the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1807: Application of Humble Oil & Refining Company for an exception to Rule 16 of Order No. R-586. Applicant, in the above-styled cause, seeks the reclassification of its State V-11 Well, located 2080 feet from the South and West lines of Section 10, Township 21 South, Range 37 East, Lea County, New Mexico, as a Tubb gas well in exception to the gravity classification as set forth in Order No. R-586.

pj/

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Supplement to Docket No. 38-59

CASE 1808: Application of John H. Trigg to include additional acreage in his water flood project in the Caprock-Queen Pool. Applicant in the above-styled cause, seeks an order including the SE/4 of Section 34, Township 13 South, Range 31 East, in the John H. Trigg water flood project in the Caprock-Queen Pool, Lea and Chaves Counties, New Mexico.

pj/

J. M. HERVEY 1874-1953

HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.
HOWARD C. BRATTON
S. B. CHRISTY IV
LEWIS C. COX, JR.

PAUL W. EATON, JR.
ROBERT C. BLEDSOE

LAW OFFICES
HERVEY, DOW & HINKLE
HINKLE BUILDING
ROSWELL, NEW MEXICO

TELEPHONE MAIN 2-6510
POST OFFICE BOX 547

November 2, 1959

New Mexico Oil Conseration Commission
Box 871
Santa Fe, New Mexico

Re: Case No. 1804
Application of Cabot Carbon Company
Our Nos. 128-5 and 128-6

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

Gentlemen:

The above case has been set for hearing at 9:00 A.M. on November 10, 1959, at Mabry Hall, State Capitol, Santa Re, New Mexico, before Elvis A. Utz, Examiner or A. L. Porter, Jr., Secretary.

In view of the fact that certain data is still being compiled in connection with the application, it is requested that said case be conintued until the next Examiner hearing in December of 1959, which we understand will probably be at 9:00 A.M. on December 3rd or December 10th.

Thanking you for your cooperationg, we are

Yours very truly,

HERVEY, DOW & HINKLE

By S. B. Christy IV

SBC:ke
2 cc: Mr. T. L. Stall
1 cc: Mr. Joe M. Daniel, Jr.

J. M. HERVEY 1874-1953
HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.
HOWARD C. BRATTON
S. B. CHRISTY IV
LEWIS C. COX, JR.
PAUL W. EATON, JR.
ROBERT C. BLEDSOE

LAW OFFICES
HERVEY, DOW & HINKLE
HINKLE BUILDING
ROSWELL, NEW MEXICO

TELEPHONE MAIN 2-6510
POST OFFICE BOX 547

October 15, 1959

Case 1804

New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Attention: Mr. A. L Porter, Jr.
Secretary-Director

Re: Application for Permission to Commingle at the Stock Tanks the Oil Production from Cabot Carbon Company's Howard Fleet et al, Well No. 1, A Dual String Oil-Oil Completion in the King Devonian Pool and the King Pennsylvanian Pools, Located in Section 35, Township 13S, Range 37E, Lea County, New Mexico
Our No. 128-6

Dear Sir:

We hand you herewith triplicate Application of Cabot Carbon Company in the above matter, and would appreciate your setting the case down for Examiner hearing in December of 1959.

Respectfully yours,

HERVEY, DOW & HINKLE

By S. B. Christy IV

SBC:ke
Enc.

Recvd. Mailed
10-27-59
JK

J. M. HERVEY 1874-1953
HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE A. HUNKER, JR.
HOWARD C. BRATTON
S. B. CHRISTY IV
LEWIS C. COX, JR.
PAUL W. EATON, JR.
ROBERT C. GEDDES

LAW OFFICES
HERVEY, DOW & HINKLE
HINKLE BUILDING
ROSWELL, NEW MEXICO

TELEPHONE MAIN 2-6510
POST OFFICE BOX 547

OCT 1959

October 15, 1959

New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Case 1804

Attention: Mr. A. L. Porter, Jr.
Secretary-Director

Re: Application for Permit to Dually Complete as an Oil-Oil Well Cabot Carbon Company's Howard Fleet et al No. 1 Well, King Devonian and King Pennsylvanian Pools, Section 35, Township 13 South, Range 37 East Lea County, New Mexico
Our No. 128-5

Dear Sir:

We hand you herewith triplicate Application of Cabot Carbon Company in the above matter, and would appreciate your setting the case down for Examiner hearing in December of 1959.

Respectfully yours,

HERVEY, DOW & HINKLE

By S. B. Christy IV

SBC:ke
Enc.

CABOT CARBON COMPANY

TELEPHONE MO-4-2581

P.O. BOX 1101 PAMPA, TEXAS

CABOT Carbon Black · Oil and Gas · Oil Field Pumping Equipment

RECEIVED
OCT 1959

October 17, 1959

Re: Application for Permit to Dually Complete as an Oil-Oil Well Cabot Carbon Company's Howard Fleet et al No. 1 Well, King Devonian and King Pennsylvanian Pools, Section 35, Township 13 South, Range 37 East Lea County, New Mexico

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

Gentlemen:

By this letter and the attached Application for Dual Completion, Cabot Carbon Company respectfully requests a hearing to consider this our application for permission to dually complete the Howard Fleet et al Well No. 1 in such a manner that the Devonian and Pennsylvanian reservoirs may be produced through parallel strings of tubing, and in support thereof states the following:

1. Cabot Carbon Company's Howard Fleet et al Well No. 1 is located 660 feet from the east line and 1980 feet from the south line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico.

2. The subject well has 5-1/2" casing set at 12,826' and cemented with 500 sacks. Top of the cement at 10,115'. The well was drilled to a total depth of 12,839' with a plug back total depth of 12,750'. The Devonian horizon was perforated from 12,451' to 12,466', from 12,488' to 12,503', and from 12,518' to 12,525' and treated with 1,000 gallons of acid. On March 11, 1956, the well was potentialed for 500 barrels of oil in 12 hours on a 24/64" choke.

3. In August, 1958, the well started producing water and on September 4, 1958, the well flowed 225 barrels of oil and 150 barrels of water in 24 hours. A bridging plug was set at 12,440' and the casing was perforated opposite the Devonian from 12,368' to 12,328'. The well would not flow and gas lift valves installed. The well would produce from 50 to 60 barrels of oil and some 10 barrels of water per day. In May, 1959, the bridging plug was removed and all perforations exposed. The well is currently producing 150 barrels of oil and 150 barrels of water per day on gas lift valves.

4. The Pennsylvanian indicated productivity on a drill stem test when it flowed 34 barrels of oil in 30 minutes. We propose to perforate the Pennsylvanian from 10,702' to 10,726' and conduct a production test through straddle packers.

5. If the Pennsylvanian interval is productive, we propose to set a temporary bridging plug at approximately 10,750' to separate the Devonian and Pennsylvanian formations in the well bore. The Pennsylvanian interval will be produced until the equipment for dual completion can be obtained.

6. After arrival of dual completion equipment, we propose to set a permanent packer at approximately 10,750' and a packer at approximately 10,675' and produce each zone through 1-1/2" tubing.

7. We are attaching a plat showing the acreage to be dedicated to the well, well location, offset wells and offset ownership.

8. Also attached is a diagrammatic sketch showing the proposed mechanical completion of the well.

9. It is the opinion of the applicant that the manner and method proposed for the dual completion of this well is mechanically feasible and practical and is in the interest of conservation.

10. The applicant will comply with all rules and regulations of the New Mexico Conservation Commission to maintain separation of production from the two producing pay zones.

11. By copy of this letter and application for dual completion, all offset operators are notified of the proposed dual completion.

Respectfully submitted,

CABOT CARBON COMPANY

Harvey, Dow & Hinkle
P. O. Box 547
Roswell, New Mexico
(Attorneys for Applicant)

Encls. Pool Plat
Diagrammatic Sketch
Electric Log

cc: Gulf, Kerr-McGee, Atlantic, Forrest, T & P

JMD:md

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name	County	Date
King Field, Devonian & Pennsylvanian Pays	Lea	October 14, 1959

Operator	Lease	Well No.
Cabot Carbon Company	Howard Fleet et al	1

Location of Well	Unit	Section	Township	Range
	I	35	19 South	37 East

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES _____ NO X

2. If answer is yes, identify one such instance: Order No. _____ ; Operator, Lease, and Well No.:
There are two dual string completions in the field, both completed in Devonian and Wolfcamp reservoirs. Cabot Carbon Company's H. L. Lowe B-1, Order No. R-1126-A & Cabot's J. L. Read No. 2, Order No. R-1332.

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	Pennsylvanian	Devonian
b. Top and Bottom of Pay Section (Perforations)	10,702'-10,726'	10,328'-10,360'; 10,451'-10,466', 10,488'-10,503' & 10,518'-10,525'
c. Type of production (Oil or Gas)	Oil	Oil
d. Method of Production (Flowing or Artificial Lift)	Flowing	Gas Lift

4. The following are attached. (Please mark YES or NO)

Yes a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.

Yes b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.

Yes c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*

Yes d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Kerr-McGee Oil Industries, Inc. - Production Dept. P. O. Box 1347, Odessa, Texas

Gulf Oil Corporation, P. O. Box 669, Roswell, New Mexico

The Atlantic Refining Company, P. O. Box 871, Midland, Texas

Texas Pacific Coal and Oil Company, P. O. Box 1688, Hobbs, New Mexico

Forrest Oil Corporation, P. O. Box 2066, Midland, Texas

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO ____. If answer is yes, give date of such notification _____.

CERTIFICATE: I, the undersigned, state that I am the Senior Petroleum Engineer of the Cabot Carbon _____ (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Joe M. Daniel Jr.

Signature Joe M. Daniel, Jr.

* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

R 37 E

Cabot, et al

Forest

2
TD 10,240

Cabot

Ventura
1
TD. 6300, 1-C

1-B
T.D 12,437

1
TD 13,145
PB 10,408

H.L. Lowe, et al

H.L. Lowe, et al

Cabot, et al 35

Cabot

Cabot
Lowe
1
TD 11,686

2

4

Cit. Serv.
1
TD 11,570
2-C

3

1

1-C

J.R. Reed, et al

State

T
13
S

Proposed:
Devonian - Pennsylvanian
Dual

Cabot, et al

660'

Kerr-McGee, et al

Tex. Crude
1
T.D. 10,250

3

1
T.D. 12,839

1

40 Acre Unit

1980'

4

2

H.W. Fleet, et al

2

KING PLANT

To Mc Donald 8 Miles

State

T.P.C. & O.

2

Atlantic
Reed
T.D. 12,864

1

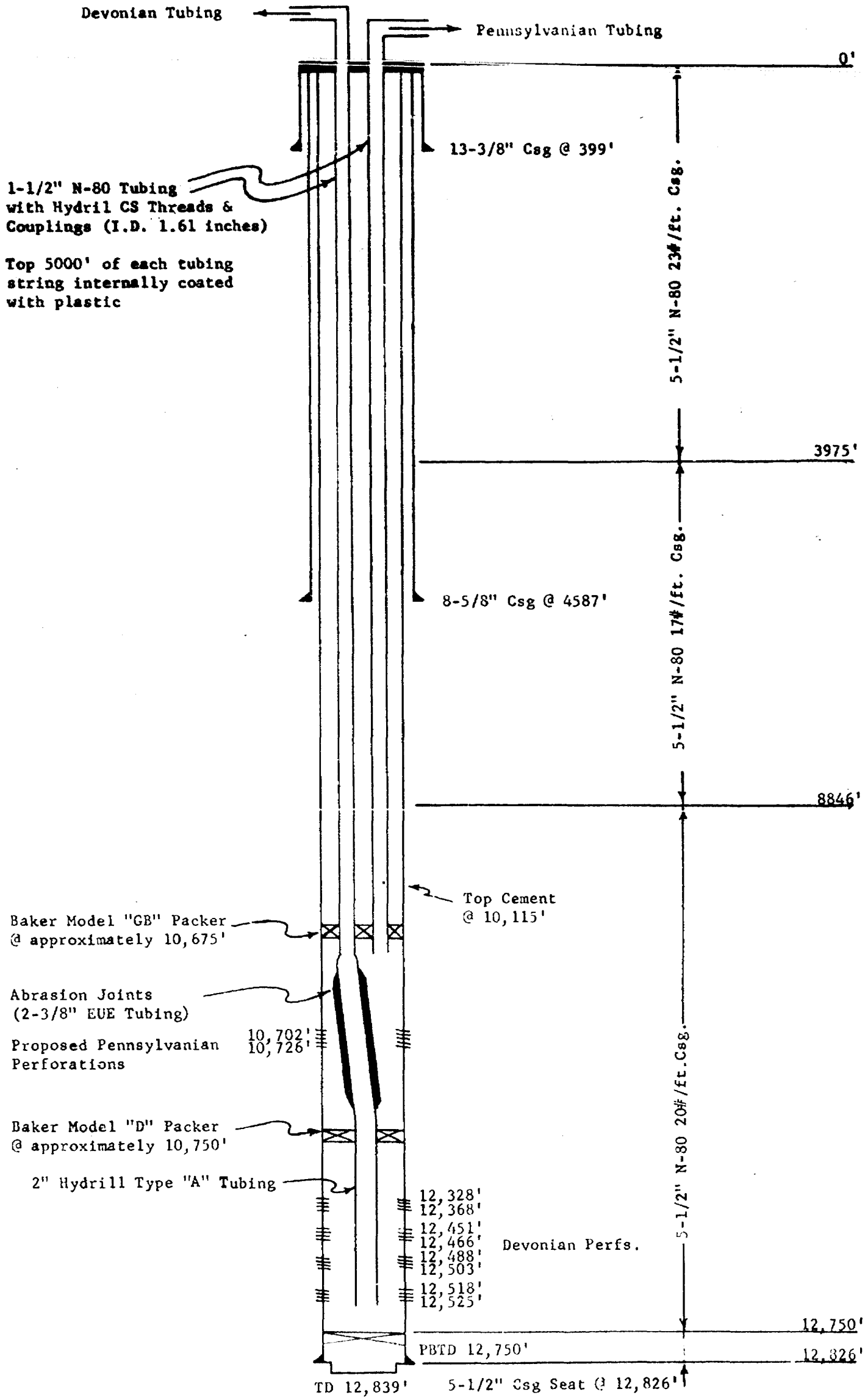
KING FIELD
LEA COUNTY, N.M.
SCALE 1" = 1000'

- DEVONIAN WELL
- WOLFCAMP WELL
- DUAL WOLF & DEV. WELL
- DRY HOLE

T
14
S

State

DIAGRAMMATIC SKETCH OF DUAL STRING COMPLETION
Proposed for
CABOT CARBON COMPANY'S HOWARD FLEET, ET AL NO. 1
Section 35, Township 13 South, Range 37 East



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 10, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Cabot Carbon Company for an oil-oil dual completion and for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Howard Fleet Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Pennsylvanian oil pool and the production of oil from the King-Devonian Pool through parallel strings of 1½-inch tubing. Applicant further seeks permission to commingle the Devonian and Pennsylvanian production from said Howard Fleet Well No. 1. Case 1804

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: The hearing will come to order, please. The first case on the docket will be Case 1804.

MR. PAYNE: We received the request from Cabot Carbon that this case be continued until the first Examiner Hearing in December, which will be December 11, before a different Examiner, so we'll readvertise the case.

DEARNLEY-MEIER REPORTING SERVICE, Inc.
PHONE CH 3-6691
ALBUQUERQUE, NEW MEXICO

MR. UTZ: Any objection to the continuance of Case 1804? Without objection it will be continued to the month of December.

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 19th day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a [illegible] in the [illegible] of Case 1804, heard by me on November 19, 1959.

[signature illegible], Examiner
New Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

R 37 E

Exhibit No. 1

Cabot, et al

Forest

2
TD 10,240

Cabot

Ventura
1
TD 6300 1-C

1-B
TD 12,437

1
TD 13,145
PB 10,408

H.L. Lowe, et al

H.L. Lowe, et al

Cabot, et al 35

Cabot

Cabot
Lowe
1
TD 11,686

2

4

Cit. Serv.
1
TD 11,570
2-C

T
13
S

3

1

1-C

J.R. Reed, et al

State

Cabot, et al

Kerr-McGee, et al

Tex. Crude
1
T.D. 10,250

3

1
T.D. 12,839

40 Acres

1

4

2

H.W. Fleet, et al

KING PLANT

2

State

To Mc Donald 8 Miles

T.P.C. & O.

2

Atlantic
Reed
T.D. 12,864
1

KING FIELD
LEA COUNTY, N.M.
SCALE 1" = 1000'

- DEVONIAN WELL
- WOLFCAMP WELL
- DUAL WOLF. & DEV. WELL
- DRY HOLE

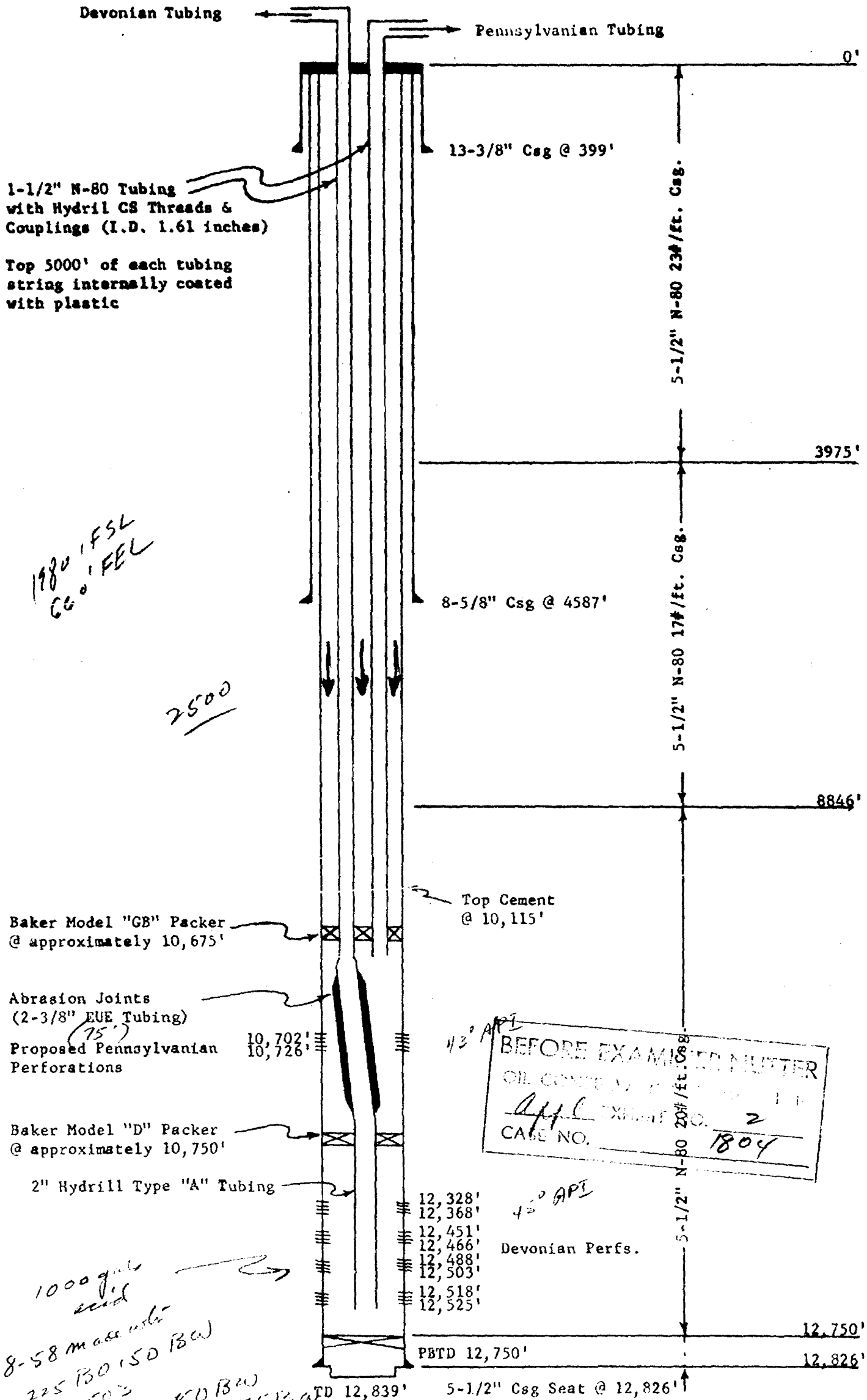
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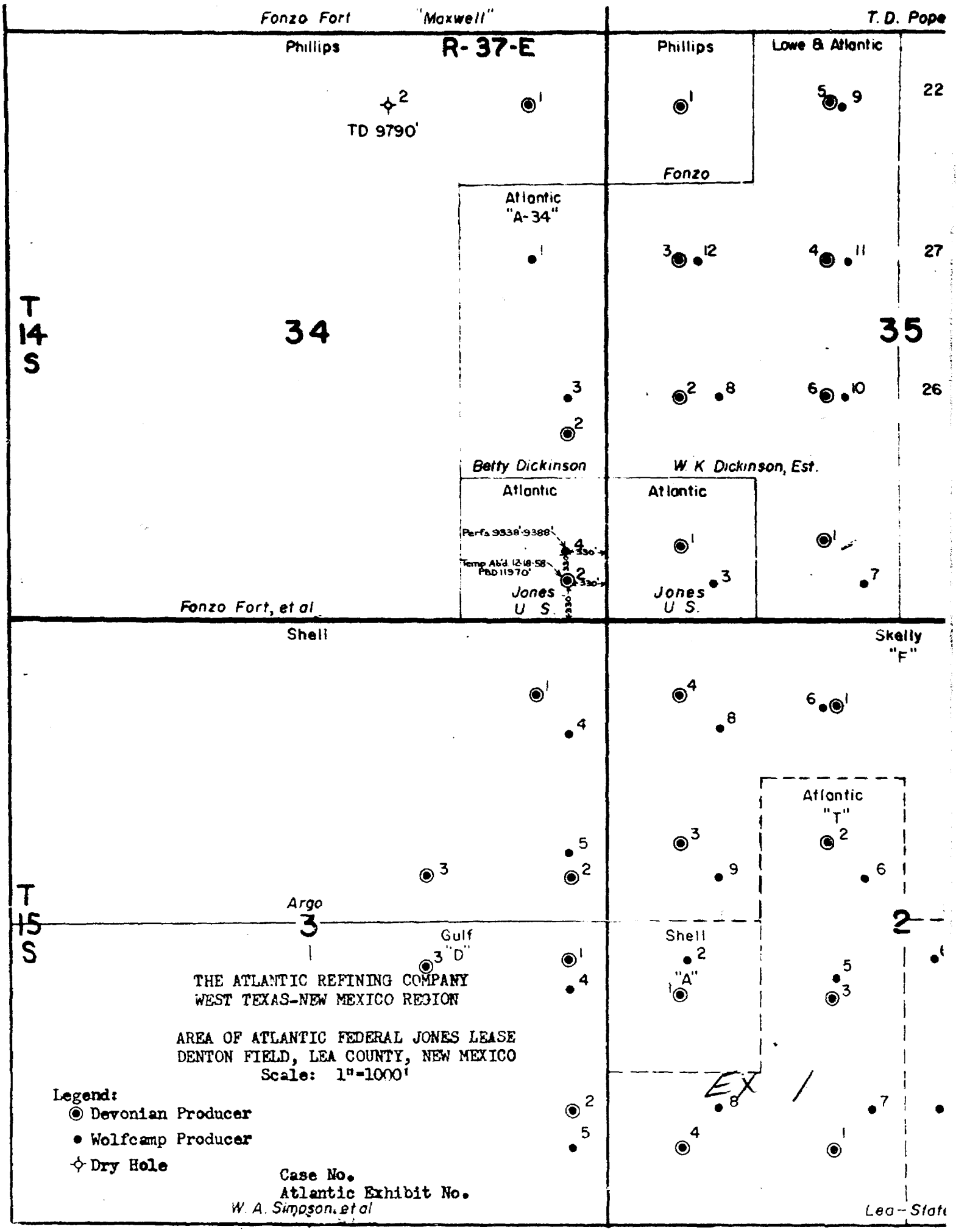
State

BEFORE EXAMINER HUNTER
OIL CONSERVATION COMM.
EXHIBIT NO. 1
CASE NO. 1804

DIAGRAMMATIC SKETCH OF DUAL STRING COMPLETION
Proposed for
CABOT CARBON COMPANY'S HOWARD FLEET, ET AL NO. 1
Section 35, Township 13 South, Range 37 East

Exhibit No. 2




Fonzo Fort
"Maxwell"
T. D. Pope
Phillips
R-37-E
Phillips
Lowe & Atlantic
TD 9790'
Fonzo
Atlantic
"A-34"
T
14
S
34
35
22
27
26
Betty Dickinson
W. K. Dickinson, Est.
Atlantic
Atlantic
Perfs 9338'-9388'
Temp. Abd. 12-18-58
PBD 11970'
Jones
U. S.
Jones
U. S.
Fonzo Fort, et al
Shell
Skelly
"F"
Atlantic
"T"
T
15
S
Argo
3
2
Gulf
"D"
Shell
"A"
THE ATLANTIC REFINING COMPANY
WEST TEXAS-NEW MEXICO REGION
AREA OF ATLANTIC FEDERAL JONES LEASE
DENTON FIELD, LEA COUNTY, NEW MEXICO
Scale: 1"=1000'
Legend:
Devonian Producer
Wolfcamp Producer
Dry Hole
Case No.
Atlantic Exhibit No.
W. A. Simpson, et al
EX
Lea-State

[illegible] COMPANY'S
FEDERAL JONES NO. 2
DENTON (DEVONIAN) POOL

Atlantic's Federal Jones No. 2 is located 330' FSL and 330' FEL of Section 34, T-14S, R-37E, NMPM. It was spudded on June 24, 1952. Surface pipe is set at 324.8' with 350 sacks of cement. Cement circulated to surface. Intermediate casing of 9-5/8" is set at 4753.77' with 3000 sacks of cement. Top of cement is at 1970', behind 9-5/8" casing. Seven inch casing is set at 12,536' with 750 sacks of cement. Top of cement is at 8310'.

Original completion interval 12,536' to 12,600', open hole. The initial potential was 1436 BOPD with no water. It was completed on January 1, 1953. Drilling and completing costs were $379,969.

On March 2, 1954, a workover was started to plug well back 10' to 12,590' in an effort to shut-off water. Water production at that time was in excess of 70%. Well was plugged back to 12,591' but results were unsuccessful. Cost of workover was $6,621.

On April 2, 1954, a workover to squeeze open hole with diesel-oil cement and perforate from 12,468-518' was commenced. This workover was completed on April 14, 1954. The well produced 236 BOPD with 4% water. This gave only temporary water shut off. On April 30, 1954, another series of cement squeezes and perforatings commenced which resulted in a completion interval of 12,468'-12,513' with the well on pump. The well potentialled for 33 BOPD and 77 BWPD on November 23, 1956, immediately after completion of workover. This workover cost $88,982 including pumping equipment.

On January 14, 1958, work commenced to repair pump and acidize well with 10,000 gallons of acid. This work was completed on February 20, 1958, and the well tested 10 BOPD and about 735 BWPD. Cost of workover was $6,128.

Other minor workovers consisting of small acid jobs and pump repairs amounted to $8310.

Cost of setting bridge plug at 11,980' and temporarily abandoning was $1802. Well was temporarily abandoned on December 18, 1958.

Total drilling, completing, and workover costs	$491,812
Total Devonian oil production, barrels	141,224

Ex I

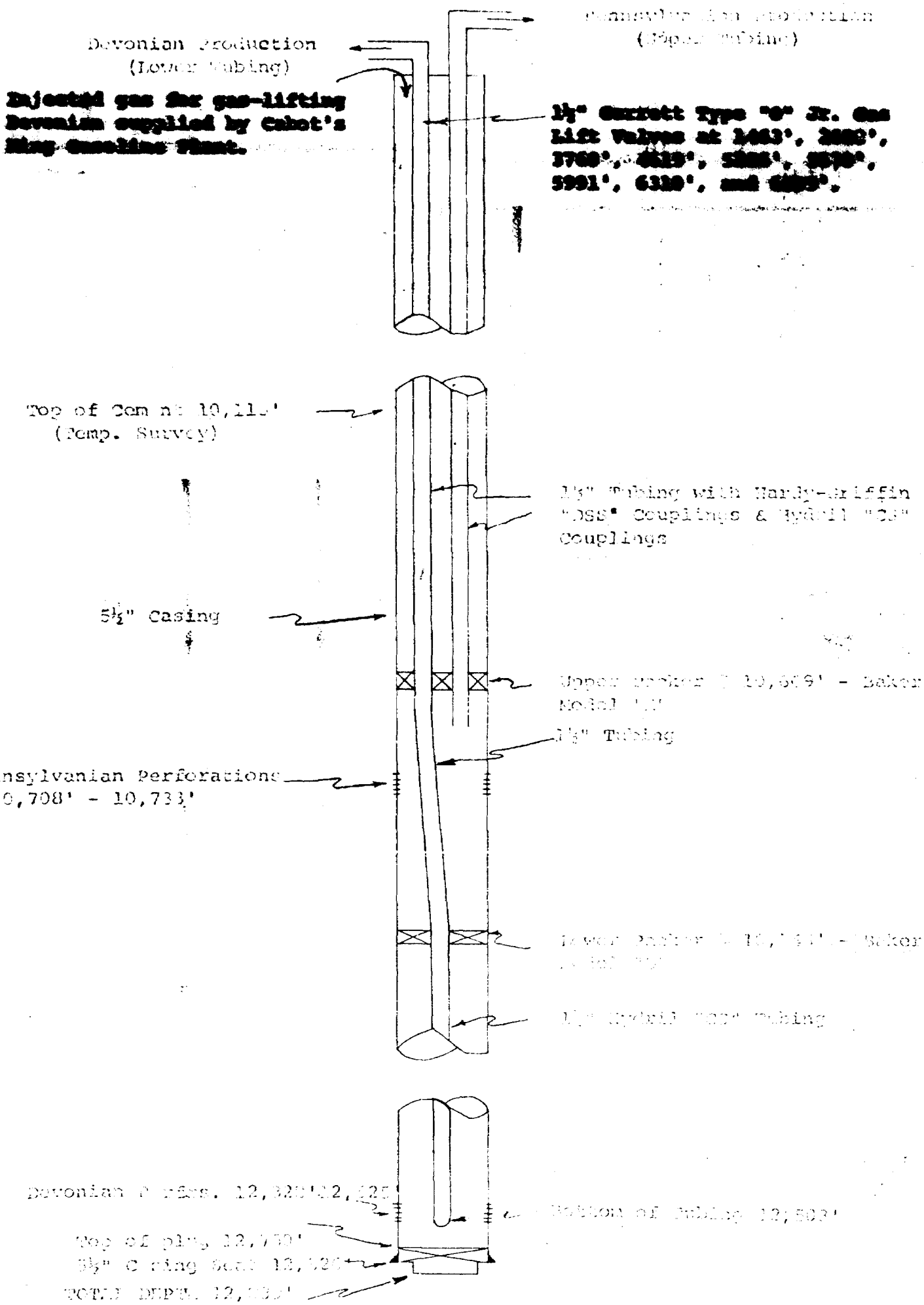
DIAGRAMMATIC SKETCH

[illegible]

[illegible] FIELD OFFICE OCC

[illegible] 1980 APR -3 PM 2 30

[illegible]
[illegible], Township [illegible], [illegible]
[illegible] County, New Mexico



[redacted]

Case No.

1805

Application, Transcript,
Small Exhibits, Etc.

DOCKET: EXAMINER HEARING NOVEMBER 10, 1959

Oil Conservation Commission - 9 a. m., Mabry Hall, State Capitol, Santa Fe, N. M.

The following cases will be heard before Elvis A. Utz, Examiner, or A. L. Porter, Jr., Secretary.

CASE 1803: Application of Boller & Nichols and Leonard Nichols for a water flood project. Applicants, in the above-styled cause, seek an order authorizing the institution of a water flood project in the Roberts Pool in Lea County, New Mexico, by the injection of water into the Grayburg formation through 11 wells located in Sections 2, 3, 10 and 11, Township 17 South, Range 32 East. Applicants further seek the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1804: Application of Cabot Carbon Company for an oil-oil dual completion and for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Howard Fleet Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Pennsylvanian oil pool and the production of oil from the King-Devonian Pool through parallel strings of 1½-inch tubing. Applicant further seeks permission to commingle the Devonian and Pennsylvanian production from said Howard Fleet Well No. 1.

CASE 1805: Application of Chaco Oil Company for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a peripheral water flood project in the Red Mountain Oil Pool in McKinley County, New Mexico, by the injection of water into the Menefee zone of the Mesaverde formation through 11 wells to be located on unorthodox locations in Township 20 North, Range 9 West. Applicant further seeks capacity allowables for producing wells in the project.

CASE 1806: Application of Franklin, Aston & Fair, Inc., for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a water flood project in the Grayburg-Jackson Pool in Eddy County, New Mexico, by the injection of water into the Grayburg formation through 6 wells located in Sections 25 and 26, Township 17 South, Range 30 East. Applicant further seeks the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1807: Application of Humble Oil & Refining Company for an exception to Rule 16 of Order No. R-586. Applicant, in the above-styled cause, seeks the reclassification of its State V-11 Well, located 2080 feet from the South and West lines of Section 10, Township 21 South, Range 37 East, Lea County, New Mexico, as a Tubb gas well in exception to the gravity classification as set forth in Order No. R-586.

pj/

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Supplement to Docket No. 38-59

CASE 1808: Application of John H. Trigg to include additional acreage in his water flood project in the Caprock-Queen Pool. Applicant in the above-styled cause, seeks an order including the SE/4 of Section 34, Township 13 South, Range 31 East, in the John H. Trigg water flood project in the Caprock-Queen Pool, Lea and Chaves Counties, New Mexico.

pj/

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

November 23, 1959

COPY

Mr. Henry S. Birdseye
530 Jefferson NE
Albuquerque, New Mexico

Dear Mr. Birdseye:

We enclose herewith two copies of Order No. R-1533, in Case 1805 issued by the Oil Conservation Commission on this date.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures: (2)

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

November 30, 1959

COPY

Mr. Henry S. Birdseye
530 Jefferson NE
Albuquerque, New Mexico

Dear Mr. Birdseye:

Reference is made to Commission Order No. R-1533, entered November 23, 1959, in Case No. 1805, approving the Chaco Red Mountain Water Flood Project.

According to our calculations, when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 398 barrels per day.

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

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

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

Very truly yours,

A. L. PORTER, Jr.
Secretary - Director

DSN:ig
cc: OCC - Aztec, New Mexico

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. 1806
Order No. R-1533

APPLICATION OF CHACO OIL COMPANY
FOR AN ORDER AUTHORIZING A WATER
FLOOD PROJECT IN THE RED MOUNTAIN
OIL POOL, McKINLEY COUNTY, NEW
MEXICO, AND FOR ELEVEN UNORTHODOX
WATER INJECTION WELL LOCATIONS

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 10, 1959, 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 23rd day of November, 1959, 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 proposes to institute a water flood project in the Red Mountain Oil Pool by the injection of water into the Menefee zone of the Mesaverde formation through the following-described 11 wells at unorthodox locations in Township 20 North, Range 9 West, NMPM, McKinley County, New Mexico:

Well No. I-1, located 980 feet from the South line and 2025 feet from the East line of Section 20;

Well No. I-2, located 490 feet from the South line and 2300 feet from the East line of Section 20;

Well No. I-3, located 80 feet from the South line and 2280 feet from the East line of Section 20;

Well No. I-4, located 310 feet from the North line and 2290 feet from the East line of Section 29;

Well No. I-5, located 615 feet from the North line and 1980 feet from the East line of Section 29;

Well No. I-6, located 600 feet from the North line and 1500 feet from the East line of Section 29;

Well No. I-7, located 370 feet from the North line and 1150 feet from the East line of Section 29;

Well No. I-8, located 5 feet from the North line and 1130 feet from the East line of Section 29;

Well No. I-9, located 450 feet from the South line and 1145 feet from the East line of Section 20;

Well No. I-10, located 900 feet from the South line and 1280 feet from the East line of Section 20;

Well No. I-11, located 1330 feet from the South line and 1490 feet from the East line of Section 20.

(3) That the applicant further proposes that an administrative procedure be established to permit the relocation of injection wells at other unorthodox locations in the event that the injection wells drilled as herein proposed should prove to be productive of oil.

(4) That the producing wells in the area to be water-flooded are substantially depleted.

(5) That the operation of the proposed pilot water flood project should be governed by Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables.

IT IS THEREFORE ORDERED:

(1) That the applicant be and the same is hereby authorized to institute a water flood project in the Red Mountain Oil Pool by the injection of water into the Menefee zone of the Mesaverde formation through the following-described wells at unorthodox locations in Township 20 North, Range 9 West, NMPM, McKinley County, New Mexico:

Well No. I-1, located 980 feet from the South line and 2025 feet from the East line of Section 20;

Well No. I-2, located 490 feet from the South line and 2200 feet from the East line of Section 20;

Well No. I-3, located 80 feet from the South line and 2280 feet from the East line of Section 20;

Well No. I-4, located 310 feet from the North line and 2290 feet from the East line of Section 29;

Well No. I-5, located 615 feet from the North line and 1920 feet from the East line of Section 29;

Well No. I-6, located 600 feet from the North line and 1500 feet from the East line of Section 29;

Well No. I-7, located 370 feet from the North line and 1150 feet from the East line of Section 29;

Well No. I-8, located 5 feet from the North line and 1130 feet from the East line of Section 29;

Well No. I-9, located 450 feet from the South line and 1145 feet from the East line of Section 20;

Well No. I-10, located 900 feet from the South line and 1280 feet from the East line of Section 20;

Well No. I-11, located 1330 feet from the South line and 1490 feet from the East line of Section 20.

(2) That an administrative procedure be and the same is hereby established to permit the relocation of injection wells at other unorthodox locations upon showing the following:

(a) That an injection well drilled at a location herein authorized has proven productive of oil.

(b) That the proposed relocation will place the injection well in a pattern which will result in a thorough and efficient sweep of the oil by the water flood.

(3) That the operation of the water flood herein authorized shall be governed by Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables.

(4) That monthly progress reports on the water flood project herein authorized shall be submitted to the Commission in accordance with Rule 704 and Rule 1119 of the Commission Rules and Regulations.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

DRAFT

HF:vem
Nov. 13

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. 1805

Order No. R-1533

APPLICATION OF CHACO OIL COMPANY FOR AN ORDER AUTHORIZING A WATER FLOOD PROJECT IN THE RED MOUNTAIN OIL POOL, McKINLEY COUNTY, NEW MEXICO, AND FOR ELEVEN UNORTHODOX WATER INJECTION WELL LOCATIONS

ORDER OF THE COMMISSION

BY THE COMMISSION:

~~This cause came on for hearing at _____ o'clock a.m. on _____, 1959, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."~~

~~NOW, on this ____ day of _____, 1959, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,~~

This cause came on for hearing at 9 o'clock a.m. on November 10, 1959, 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 ____ day of November, 1959, 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 proposes to institute a water flood project in the Red Mountain Oil Pool ~~with~~ by the injection of water into the Menefee zone of the Mesaverde formation through the following-described 11 wells at unorthodox locations in Township 20 North, Range 9 West, NMPM, McKinley County, New Mexico:

Well No. I-1, located 980 feet from the South line and 2025 feet from the East line of Section 20;

Well No. I-2, located 490 feet from the South line and 2300 feet from the East line of Section 20;

Well No. I-3, located 80 feet from the South line and 2290 feet from the East line of Section 20;

Well No. I-4, located 310 feet from the North line and 2290 feet from the East line of Section 29;

Well No. I-5, located 615 feet from the North line and 1920 feet from the East line of Section 29;

Well No. I-6, located 600 feet from the North line and 1500 feet from the East line of Section 29;

Well No. I-7, located 370 feet from the North line and 1150 feet from the East line of Section 29;

Well No. I-8, located 5 feet from the North line and 1130 feet from the East line of Section 29;

Well No. I-9, located 450 feet from the South line and 1145 feet from the East line of Section 20;

Well No. I-10, located 900 feet from the South line and 1280 feet from the East line of Section 20;

Well No. I-11, located 1330 feet from the South line and 1490 feet from the East line of Section 20.

(3) That the applicant further proposes that an administrative procedure be established to permit the relocation of injection wells at other unorthodox locations in the event that the injection wells drilled as herein proposed should prove to be productive of oil.

(4) That the producing wells in the area to be water-flooded are substantially depleted.

(5) That the operation of the proposed pilot water flood project should be governed by Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables, ~~and expansion of the project~~.

IT IS THEREFORE ORDERED:

(1) That the applicant be and the same is hereby authorized to institute a water flood project in the Red Mountain Oil Pool by the injection of water into the Menefee zone of the Mesaverde formation through the following-described wells at unorthodox locations in Township 20 North, Range 9 West, NMPM, McKinley County, New Mexico:

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Well No. I-7, located 370 feet from the North line and 1150 feet from the East line of Section 29;

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Well No. I-9, located 450 feet from the South line and 1145 feet from the East line of Section 20;

Well No. I-10, located 900 feet from the South line and 1280 feet from the East line of Section 20;

Well No. I-11, located 1330 feet from the South line and 1490 feet from the East line of Section 20.

(2) That an administrative procedure be and the same is hereby established to permit the relocation of injection wells at unorthodox locations upon showing the following:

(a) That an injection well drilled at a location herein authorized has proven productive of oil.

(b) That the proposed relocation will place the injection well in a pattern which will result in a thorough and efficient sweep of the oil by the water flood.

(3) That the operation of the water flood herein authorized shall be governed by Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables. ~~and expansion of the project~~.

(4) That monthly progress reports on the water flood project herein authorized shall be submitted to the Commission in accordance with Rule 704 and Rule 1119 of the Commission Rules and Regulations.

DONE at SFNM----

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 11-10-59

CASE 1805 Hearing Date 11-10-59

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

1. Grant this peripheral flood as requested.
2. Unorthodox locations as attached for injection wells.
3. Include administrative approval for a change in the location of the injection wells for good reason.
4. Do not grant Capacity allowables but grant in accordance with Case 1787.

Finalize this as soon as possible as he needs the order by the 23rd P Nov.

EG

CHACO OIL COMPANY
P. O. Box 8294
Albuquerque, New Mexico

October, 1959

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

Gentlemen:

The Chaco Oil Company hereby requests an examiner hearing before the Oil Conservation Commission for authority to commence secondary recovery by water flooding in the Red Mountain Oil Field, Sections 20 and 29, Township 20 North, Range 9 West, McKinley County, New Mexico, as covered by O.C.C. Rule 701.

Chaco Oil Company requests permission to drill eleven water injection wells to the 450-foot Menefee oil pay in the Red Mountain Field. The injection wells will have to be drilled on unorthodox locations around the periphery of the field to permit efficient sweep of the reservoir. A high saturation of oil is known to exist in the pay sand, but reservoir pressures have decreased to the point that present production is sub-commercial.

An excellent water supply can be obtained from the Hospah and Gallup sandstones in the Chaco Oil Company #20-1 Santa Fe well in the southeast quarter of the southeast quarter of Section 20. Large flows of useable artesian water were recovered on two drill-stem tests of these formations during the drilling of the well.

Present production from the field is restricted to two 40-acre units, Unit O in Section 20 and Unit B in Section 29. If the water flood is approved as presented, substantial quantities of oil will be produced in addition from Unit P in Section 20 and Unit A in Section 29. Chaco Oil Company desires approval to produce oil under the secondary recovery program without proration, in order that the water-flood may operate at optimum engineering efficiency.

A thorough engineering study of the proposed water injection program has been completed, and will be presented at the hearing.

We should prefer to have this case heard at your earliest convenience, e.g. 12 November, 1959, and will appreciate hearing from you if this date will be convenient.

Cordially,
CHACO OIL COMPANY
Henry S. Birdseye
Henry S. Birdseye

HSB:lm

Docket Mailed
10-27-59

CHACO OIL COMPANY
P. O. Box 8294
Albuquerque, New Mexico
8 October, 1959

DATA REGARDING CHACO OIL COMPANY'S REQUEST UNDER RUL E 701

1. Plat showing locations of injection wells and oil wells accompanies this letter, as does plat showing offset operators.

2. The wells are producing from a sandstone lentil in the Menefee formation of the Mesaverde Group.

3. Injection will be into the oil pay sand at an average depth of 450 feet. This Menefee sandstone averages 10½ feet thick, with average porosity of 25% and average permeability of 341 millidarcies. Cores from four wells show it to be relatively homogeneous.

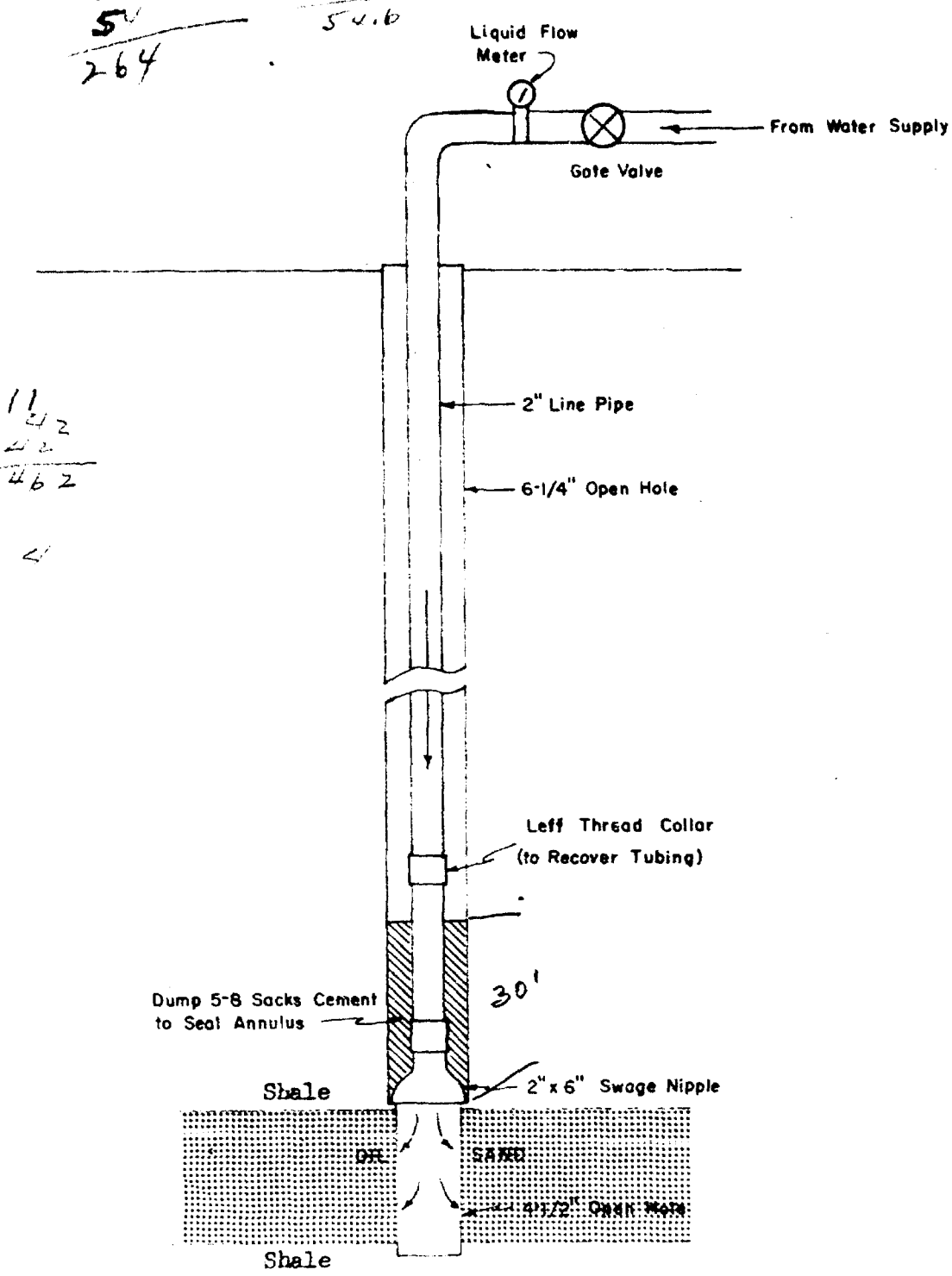
4. No injection wells have yet been drilled. However, a radioactivity log of a typical shallow oil well in the field, the #20-9 Santa Fe, in Section 20, is enclosed.

5. A description of the proposed casing plan for the injection wells is enclosed herewith.

6. Slightly brackish water from the Hospah and Gallup sandstones in the #30-1 well will be used. Drill-stem tests of fifty feet of this sand section flowed 90 barrels per hour of artesian water. The Micro-log shows at least 200 feet of highly porous water sand to be present. It is expected that the initial injection rate will be 100 barrels per well per day, or 3,000 barrels per well per month. After suitable evaluation of the flood results at this rate, it is intended that the injection rate will be increased to an average of 230 barrels of water per well per day.

7. The secondary recovery program will be operated by Chaco Oil Company, under the supervision of Henry S. Birdseye.

N.M.O.C.C. Case Exhibit



CHACO OIL COMPANY

Typical Water Injection Well Completion Method

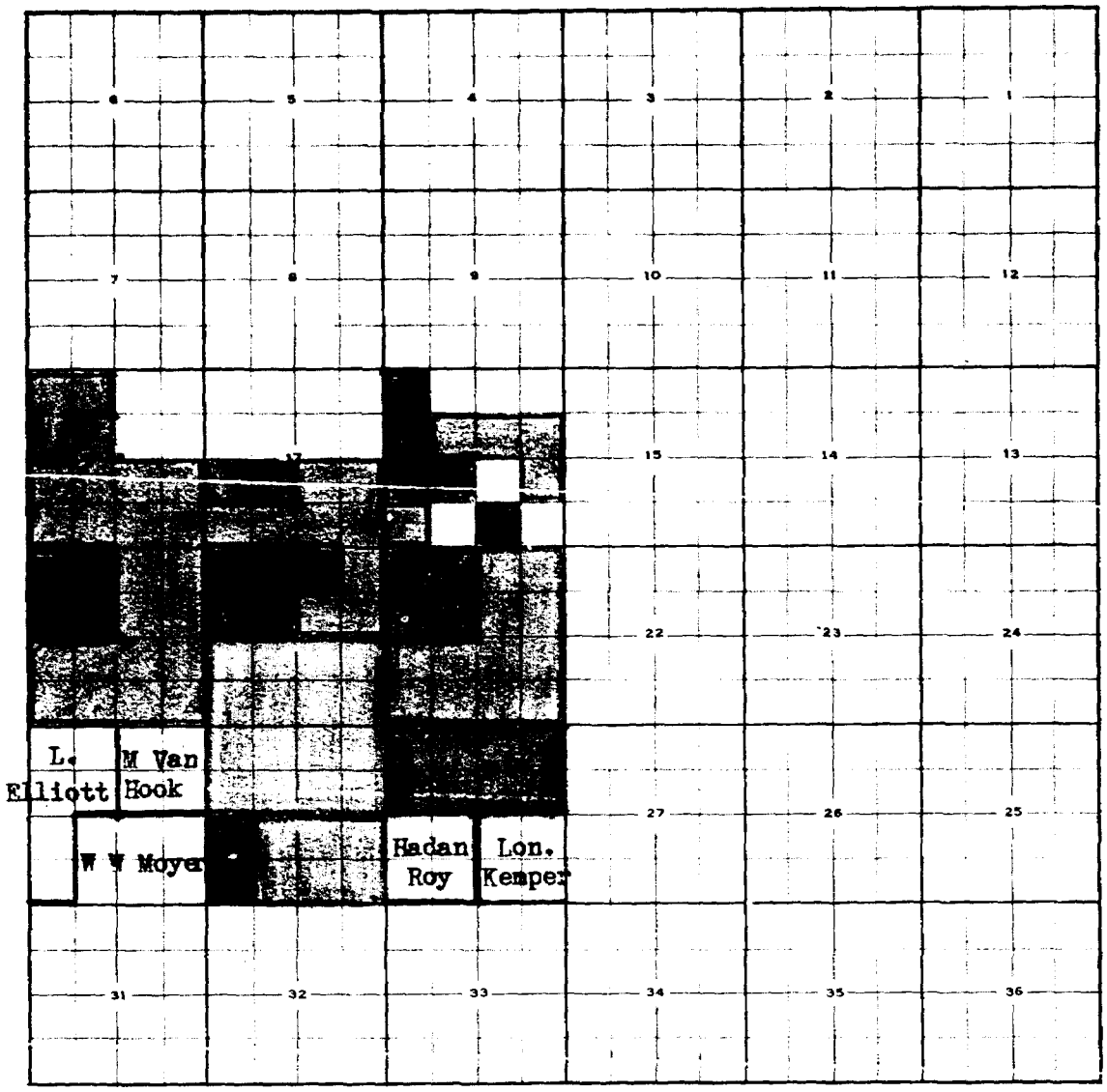
Red Mountain Secondary Recovery Program

892 ROSS-MARTIN CO. TULSA 1, OKLAHOMA TOWNSHIP PLAT (SCALE 1 IN.—1 MI.)

TOWNSHIP 20 N. RANGE 9 W. COUNTY McKinley STATE New Mexico

REMARKS: Ownership Plat showing offset operators to proposed Chaco Oil Company water injection program

COMPANY
CHACO OIL COMPANY



KEY: Sinclair Oil & Gas Co.

Santa Fe Pacific Railroad Co.

CHACO OIL COMPANY

Sun Oil Company

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 10, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Chaco Oil Company for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a peripheral water flood project in the Red Mountain Oil Pool in McKinley County, New Mexico, by the injection of water into the Menefee zone of the Mesaverde formation through 11 wells to be located on unorthodox locations in Township 20 North, Range 9 West. Applicant further seeks capacity allowables for producing wells in the project.

Case 1805

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: The hearing will come to order. The next case on the docket will be 1805.

MR. PAYNE: Application of Chaco Oil Company for a water flood project.

(Witness sworn.)

HENRY S. BIRDSEYE

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

DIRECT EXAMINATION

BY MR. PAYNE:

Q Mr. Birdseye, are you representing yourself as a joint venturer in this Chaco Oil Company?

A Yes, sir. I am Henry S. Birdseye, a co-owner of Chaco Oil Company, a joint venture, which operates Santa Fe Pacific Railroad Company lease SFP 9426 covering the South Half of Section 20, the North Half of Section 29 in Township 20 North, Range 9 West, McKinley County, New Mexico on which is located the Red Mountain Menefee Oil Field.

I have for the members of the Commission three copies of data and a technical report which will be of some benefit in describing our project. This envelope contains logs on certain of our wells and maps to be entered as exhibits showing various pertinent portions of our testimony here today.

The Red Mountain Field was discovered in 1934, in which a producing well was completed by Stacey, Webber et al, in 450 food sand, so-called a stray sand in the Menefee formation of a Mesaverde group. Since that time approximately 25 wells have been drilled of which some 7 were reported producing or productive.

The ownership of the field has changed hands at various times and at the present time the field occupies a portion of the Santa Fe Lease assigned to Chaco Oil Company. The structure of this field is a faulted nosing or possible closed-dome in a down-dropped wedge -shape fault block. As far as we can determine from the data at hand, which admittedly is limited, the producing sand in

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the Menefee formation is continuous at least in this local area.

The field has produced, Page A-2 refers to the B.O.P. report. Page A-2 shows a production summary from the Red Mountain Field which contains reasonably reliable data since 1951. Prior to that date we have no reliable information, but we inherited a cumulative production figure of about 16,000 barrels starting in 1951, and I cannot verify that. The records of the Commission do not reflect the veracity of that figure.

At the present time let us refer to Applicant's Exhibit 1 from the envelope. This is a base map showing well locations and such pertinent data as we have. The wells which are marked Nos. 1, 2, 3 and 4 are presently producing or productive. Well No. 3 in the Southeast Quarter of Section 20 is the only well presently producing. The other wells, No. 1, 2 and 4 are capable of producing but they are temporarily shut down because of mechanical difficulties.

Each of those four wells has a productive capacity of about 2 barrels a day for a total of the four of approximately 8 barrels a day. You will note also Wells No. 20-9 indicated as an oil well, No. 20-9, No. 29-18, No. 29-19 and No. 29-20. Those wells were drilled in the early part of 1959 by Chaco Oil Company and they produced the only accurate and detailed information, technical data which we have on this field.

In each of these wells the pay zone was cored and core

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analyses for porosity and permeability were run. We were unable to freeze the cores due to field conditions, so we do not have connate water and oil saturation from a pay zone of those wells. A detailed description of each of those cores is found on the back of the report, Pages A-4 through A-7 inclusive. Core analyses from these cores are shown on Page A-8 of the report. They show an average porosity of 25, analyzed core intervals of 24.8% and average permeability of 341 millidarcies. Casing was run on Well No. 20-9, through the pay, it was perforated in the pay zone and a small acid treatment was given the well. It has not been produced since that date. Wells No. 29-18, 29-19 and 29-20 have not been completed. They are awaiting on orders with no casing.

We have, therefore, eight either presently productive wells or wells which by being completed or reequipped would be productive. on two 40-acre units which are shown in Applicant's Exhibit No. 2, which is a structural contour map, and the map showing locations of proposed injection wells. At the present time the total productive capacity of the Red Mountain Field is approximately 8 barrels per day, at which rate of production the operating company, Chaco Oil Company, would sustain an operating loss of about $200.00 per month.

We have, therefore, reached the economic point of no return. We either must abandon the field as it is in its late stage of primary production or by water flooding this field institute a

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water flood secondary recovery program which we have reason to believe would create an economically feasible operation.

As you can see, in referring to Applicant's No. 2 in the Southeast Quarter of Section 20, the No. 20-1 Well, this is the deepest well which has been drilled on the structure. It was drilled into the top of the Morrison formation at a total depth of 3935 feet. Pertinent data concerning that well appears on Page A-10 in the report, which includes elevations, a casing record, et cetera, formation tops and drillstem tests.

The drillstem tests are what I would like to direct your attention to now. The well was not commercial in terms of oil or gas production, but in two drillstem tests of the Hospah and Gallup sand, large quantities of Artesian water were recovered. electrologs, gamma ray neutron logs and micrologs of this 20-1 Well, which will be our proposed water supply well, are filed in the large envelope which I handed you.

If you will refer to the microlog you'll note a section has been marked in red showing the porous interval in the Hospah and Gallup formation between approximately 2700 and 2900 feet. We drillstem tested the interval from 2718 to 2750 feet. The tube was opened forty-five minutes, water was to the surface in sixteen minutes, it flowed at the measured rate of 40 barrels per hour. The flowing pressure ranged from 583 to 1161 pounds per square inch. The shutin pressure after forty-two minutes was 1245 pounds.

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We also tested the subjacent interval to the first test I have mentioned from 2750 to 2782 feet. This is including the uppermost portion of the Gallup Sand, the basal portion of the Hospah Sand. Water was to the surface in twelve minutes at the measured rate of 50 barrels per hour. Flowing pressure ranged from 693 pounds to 1217 pounds. The shutin pressure after forty-three minutes was 1272. It is evident from these shutin and flowing pressures that a surface, there is a pressure gradient which would create a surface shutin pressure from these two Artesian zones of approximately 100 pounds per square inch. That is sufficient to raise the Artesian water approximately 200 feet above the present surface elevation of the well. This is the well which we propose to use as an injection well.

You will find in the back portion of the report Applicant's Exhibits 5-A and 5-B which are water analyses which were run on these two samples of Artesian water, one from the Hospah and one from the Gallup zone. From these water analyses you can see that the water is slightly brackish, the mineral constituents of the water are explained in some detail. We have run laboratory tests with this water on cores taken from wells drilled in the early part of 1951 and there was no adverse reaction of this Artesian water with the cores from the pay zone.

There is no reason to expect that there would be any fluctuating or expansion of any of the matrix material in the oil

pay zone. Furthermore, the Artesian water is, as we found, free from suspended solids, which again is reason for us to believe that there will be no plugging of the pay sand upon injection of this Artesian water.

Now, as Applicant's Exhibit 2 shows, we propose a peripheral or edgewater flood of this small, shallow oil field. The pressure in the reservoir at the present time has declined to a point of close to zero; judging from the fillup of the producing wells when they have been shutin for a period of weeks or months, the fillup averaging not over 50 feet, we believe that the reservoir pressure is not in excess of 20 pounds per square inch.

The hydrostatic head, which would result by simply filling the injection wells under gravity or vacuum without exerting any injection pressure on the injection wells, this hydrostatic head would be approximately 200 pounds per square inch, and we have found by simply pouring water in the amount of a few barrels into certain of these producing wells that the wells will certainly take it under gravity. We therefore think that, with the proper completion, the injection wells with their high porosity and permeability will take satisfactory amounts of water under a gravity injection program until such time as the reservoir pressure has been built up to approximately 100 or 150 pounds per square inch, at which point we may have to boost the injection rate by exerting pressure.

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If you'll refer to Applicant's Exhibit 4, it is a schematic plan of the water supply and injection systems. This long, narrow map. Our plan is simply to complete the water well by drilling out six or seven cement plugs which were spudded in that well at the time it was plugged and abandoned. There are actually six cement plugs approximately 25 feet long, each one which would need to be drilled out to open up the Hospah and Gallup Artesian water sands.

These plugs are shown in detail on Page A-10 of the report which is the well record of that 20-1 well. Having drilled out these plugs, the whole diameter 7 7/8s inches, will set a retrievable openhole production packer on 2 7/8s EUE tubing at the top of the Artesian water zone approximately 2700 feet. The well will then be so equipped as to produce Artesian water with a surface head of around 100 pounds per square inch.

It is intended that this water will then be produced through three inches of pipe uphill to a 2,000 barrel open storage tank which is topographically higher than any of the injection or producing wells in the field. From this open storage tank a two inch plastic feeder line will be laid to each of the injection wells. The hookup for each of these injection wells will include a liquid flow meter and a satisfactory arrangement of gate valves that injection can take place into any or all of the injection wells simultaneously and we will have a record of the

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quantities of water injected.

Applicant's Exhibit 2, which shows a progressive movement of the flood front under ideal conditions, is based on an injection of approximately six to seven thousand barrels of water in each injection well per month. This idealized depiction shows the flood front after respective periods of thirty, sixty and ninety days.

Referring again to the back portion of the report, Applicant's Exhibit 3 shows the intended method of completion of the injection wells in such a fashion as to isolate the oil sand and prevent loss to any feed zones of the injected water. As an illustration explains, the two inch by six inch swage nipple will be run on two inch line pipe in approximately a six and a half diameter openhole to a shoulder on top of the pay zone. Sufficient cement will then be dumped on top of the swage nipple to form a seal and cement the swage in position on top of the shoulder, which will make it impossible for the injected water to go anywhere except into the oil sand.

Now, it is pertinent to mention here that the oil sand is isolated between two thick shale members top and bottom, and the only sand which is present at the so-called 450 foot interval is the oil sand. There is a water sand at a depth of about 250 feet in the hole, but we shall effectively seal off the water sand in both the injection and producing wells. Consequently any water

which is injected into the oil sand will be prevented from entering any other formations higher in the hole and the arrangement which we have planned on for this typical water injection well completion will enable us at the completion of the flood project to recover virtually all of the tubular goods in each injection well.

MR. UTZ: I believe you said, Mr. Birdseye, that you had water at 250 feet?

A There is a water sand. It's at some location which occurs at a depth of about 250 feet in the four locations which we have drilled as producing wells.

MR. UTZ: How do you propose to seal off this water?

A Well, that is the only sand, and we think that by running this swage nipple on two inch line pipe and cementing it at the bottom of the hole so that our injection water can't go anywhere, so that this water sand at 250 feet will simply fill up the hole to the depth of the water sand and will not go anywhere else. It's relatively low pressure. It's enough of a nuisance to be able to drill dry. It might take considerable pressure, under high pressure, and consequently it has been our experience and it is my belief that that water sand which is nothing more than a nuisance sand, once it has filled the hole up to its own depth, that is as far as it will go. It will certainly fill the hole to the surface we have found on numerous instances.

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MR. UTZ: Is that a potable water, fresh water?

A I don't know. I doubt it, but at the time we have drilled it there has been mud in the hole and you couldn't actually tell whether it was or not. It makes such small quantities that we haven't attempted to test it. We simply were interested in finding how much fillup it produced, and the fillup was very slight and at a very low rate. That is why we felt it would be an unnecessary expense and technical difficulty to seal off that 250 foot water sand since it is apparently of low porosity and permeability and just dribbles water at a very low rate.

MR. UTZ: What's the average depth of your injection well?

A The average depth of the injection wells will be approximately 450 feet, which is on the average slightly deeper than the average depth of the producing wells because of their structural relationship. Structurally the injection wells will be generally somewhat lower than the producing wells, in order to take maximum advantage of a structural configuration of the field and the apparent hydrodynamic tilted water table which we have here.

There is in the large envelope which I presented to you, there is shown a nuclear log, a radioactivity log on Well 20-9. This is the only log which has been run on any producing well. Even though that well is not presently producing, it is producable. It has some 14 feet of saturated oil sand. It also has such low pressure that it will not make a commercial well

at the present time. This is submitted in the interest of completeness. It's Well No. 20-9.

The oil pay interval is shown at the bottom of the log from approximately 416 to 432 feet. There is a streak of about 3 feet of very hard, tight nonproductive sandstone in the middle of a porous and saturated sandstone. This makes a very good marker zone and we refer to it continuously in well correlations and in predicting the depths of these wells.

The structural relationship of the field was determined by us approximately a year and a half ago by drilling two depths of two to three hundred feet and a series of stratigraphic test holes which were subsequently logged with SP resistivity and gamma ray curves and gave us sufficiently good correlations that we could confirm the structural picture which is shown in Applicant's Exhibit 2.

In the back of the report, the final page, Applicant's Exhibit 6 shows ownership surrounding the lease of Chaco Oil Company, in Township 20 North, Range 9 West. There appears to be no question of violation of correlative rights here insofar as the productive area of the field, as you can see from the larger scale maps, is at least, to date is at least a quarter of a mile from our nearest lease neighbor which is Sinclair Oil Company in Section 21 and the Santa Fe Pacific Railroad Company in Section 28.

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Due to the relatively large number of wells which have been drilled in this small, shallow field, it is extremely doubtful that the field will extend off of structure sufficiently far that it will overlap on to any adjacent lease holder. As far as the economic results of water flooding the property are concerned, calculations of recoverable oil are made and shown in the report on Page A-3 in the back of the report. In this we have used an average porosity of 26% and derived from core analyses connate water saturation of 40%, which is an assumed figure since we have no laboratory determinations of water saturation.

The original reservoir pressure was assumed to have been hydrostatic, the net pay thickness used here of ten and one-half feet is the average of four of the net pay found in the cores of four wells which were cored by Chaco Oil Company, although somewhat questionable data from some of the older wells appears to confirm this as being a reasonable figure of pay thickness.

Employing these figures and a primary recovery factor for the oil produced to date of 15%, it appears that some 14 acres have been voided by primary production. It is our opinion, having made very thorough structural studies and having drilled these additional four wells outside of the older producing area of the field, that a productive area of some 40 acres will be found in the injection program. This is to a large extent the factor responsible for choosing injection locations where they are shown

on the map. We have assumed a secondary recovery factor of 35%, and a secondary productive area of some 40 acres.

These, employing these figures we arrive at a total primary and secondary recovery of 169,435 barrels of which, at the time this report was prepared, some months ago, 25,290 barrels had been produced, leaving a recoverable reservoir of 144,145 barrels under secondary recovery.

Now it's conceivable that in the drilling and coring of some of these injection wells we will encounter locations in which the pay sand rather than being water saturated is oil saturated, and in such an instance as that it would behoove us to move out, to move out another four to five hundred feet for the injection well at that particular portion of the reservoir.

There is included in the report as Page A-9 in the back, a summary of anticipated costs of equipment. What this shows is that the total cost of instituting the water flood as we propose it will be approximately $19,000 with some $3,000 in salvageable equipment. This allows for the drilling and equipping of injection wells, the preparation for production of the water supply well, purchase and stringing of plastic pipe for the water supply and feeder system and other items as specified.

Now, as you can see, referring to Applicant's Exhibit 2, the production at the present time is all on two 40-acre units, Unit O in Section 20, Unit B in Section 29; you can also see from

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Exhibit 2 that the proposed locations of the most easterly injection wells will fall on Units P of Section 20 and A of Section 29, and that if we succeed in flushing oil from those two units we will then be producing oil from at least four 40-acre units. It is our desire, as specified in the application, that this production from the secondary recovery program, the water flood not be restricted to unit allowables. In other words, that we be granted capacity allowables from the producing wells in order that we may establish the flood front by a maximum rate of injection through this highly porous and permeable sand and keep the entire oil bank and flood front moving at such a rate that the field will be easily flushed in a period of somewhat under three years. In other words, it is our anticipation, although there are granted enough unknown reservoir factors that it is somewhat indefinite, it is our anticipation that we can build production up to approximately 250 barrels per day using the present eight wells which are either productive or producable as shown on the map.

We will also be testing from time to time certain of the older wells which have casing in them but which have not, do not have cement plugs in them. We intend to test those wells and continuously ascertain what, if any, fillup there has been as this flood front progresses. And if we are justified, we will put some of those older wells on production. These wells which are presently producing have very small equipment on them, practically

the minimum which is available, and they will produce by pumping about 75 barrels per day on a 24 hour day each well.

Consequently with eight wells we will have certainly ample producing capacity to handle all the oil which those wells are anticipated to produce. Therefore in our application we have asked that these wells be given capacity allowables so as to allow us to inject at a maximum rate of some six to eight thousand barrels per well per month and recover the secondary recoverable oil at a maximum rate and deplete the field in a period of somewhat less than three years.

Gentlemen, I think that's all of my testimony.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Birdseye, do you contemplate reopening the No. 15 Well, the one nearest your water supply well?

A Well, that well, we shall reenter that and deepen it, the well is approximately 40 feet shy of being deep enough, and obviously it will behoove us to see if the productive interval in the other portions of the field is productive in that well. We found in the 20-1 well a few hundred feet to the Northeast of that No. 15 well that the oil sand was completely absent, not completely absent, but only about two feet of it.

Q It appears to me that you are very fortunate here because your allowable, as I compute it, will be considerably in

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excess of 250 barrels a day. It will be approximately 346 or 364 depending on whether you reopen that No. 15 well.

A Well, I reassure you that we shall reopen that No. 15 well.

Q If you moved your injection well No. 1-11 a few feet to the north, would that result in a thorough and efficient sweep of the oil?

A Yes, I should certainly think that there would be definite advantages to moving that well, on the scale of that map, I'll say about 30 feet north.

Q Under the allowable provisions you would then have 52 more barrels?

A Those figures which you have mentioned, Mr. Payne, would be more than adequate for what we consider to be an economic operation of the property under a water flood, and under those conditions we would certainly be willing to strike that portion of the application which deals with capacity allowables.

MR. PAYNE: That's all.

BY MR. UTZ:

Q Have you indicated the location of your injection wells on any of these exhibits?

A I haven't specified the footages. I have them here. The locations are as shown on the map of the various exhibits. I can either read them to you or type them and give them to you

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after the hearing.

Q If you have got them there.

A No. I-1, 980 feet from the South line, 2,025 feet from the East line of Section 20. No. I-2, 490 feet from the South line, 2300 feet from the East line of Section 20. No. I-3, 80 feet from the South line, 2280 feet from the East line of Section 20. No. I-4, 310 feet from the North line, 2290 feet from the East line, Section 29. For I-5 is 615 feet from the North line, 1920 feet from the East line of Section 29. No. I-6 is 600 feet from the North line, 1500 feet from the East line of Section 29. No. I-7 is 370 feet from the North line, 1150 feet from the East line of Section 29. No. I-8 is 50 feet from the North line, I am sorry, correction, 5 feet from the North line and 1130 feet from the East line of Section 29. No. I-9 is 450 feet from the South line, 1145 feet from the East line of Section 20. No. I-10, 900 feet from the South line, 1280 feet from the East line of Section 20 and No. I-11 is 1290 feet from the South line, 1490 feet from the East line of Section 20.

Q Did you give us the location of injection well I-11?

A I think it will be wise, and I hereby revise, the location of the injection, of the injection well to the point where it is 1330 feet from the South line and 1490 feet from the East line of Section 20.

Q Would that be on the quarter quarter section line?

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A ~~No, 1320 feet.~~

Q That would be 10 feet off?

A Yes, sir.

Q I believe your application stated that you wished an orthodox location approval for all of these wells?

A Yes, sir. I would like, however, to amend that to a point whereby the Commission could set up an administrative procedure to grant us additional unorthodox locations for injection wells in the instance that one or more of these specified eleven locations should prove to be oil productive and therefore permit us to produce from such a proposed injection well, produce oil and recover that oil by moving to an appropriate outside unorthodox location for a water injection well. Such a circumstance, of course, could not be anticipated in advance because we simply don't know the productive boundaries of the field.

MR. UTZ: Is there objection to the Applicant's amendment to the application to provide for administrative approval to relocate the unorthodox locations of the injection wells? If there is none it will so be amended.

Q (By Mr. Utz) Now, Mr. Birdseye, I think your request for amendment of the application almost includes this question, but the thought came to my mind in regard to oil in place outside your periphery. Do you intend to solve that problem by determining whether or not your injection locations are productive?

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A Yes, sir, I think that's the only way to do it. As far as we have determined to date, this pay sand, while it varies in thickness from location to location, is everywhere continuous between these wells in which we have reliable control. But the structural position is the other factor in entrapment of oil in this field, and we haven't yet determined what the lowest productive contours will be. The situation is somewhat complicated by the presence of a tilted water table and it is our intention to proceed with drilling and coring of each of these injection wells in rotation, and if necessary, revise our unorthodox locations for injection wells according to the results we encounter in coring the pay sand.

That is the principal reason for coring the pay sand, so that we can be sure we are not bypassing any oil, because actually what we are trying to do is prevent waste and recover the maximum ultimate amount of oil.

Q Do you feel that the productive boundaries of this pool is within the acreage owned by Chaco?

A Yes, sir, very definitely. We have found the boundary to the east in the 20-1 well, and which as I stated previously, the sand is pinched down to approximately two feet, the boundary to the south, not necessarily the production boundary, but the practical boundary is determined by the mesa whose rim is shown on Exhibit 2, which is a large topographic figure which makes it

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economically impractical to drill any wells either on it or very close to its rim, and by the time one proceeds south of the mesa to good drilling locations again it is almost certain that it is outside of the productive area of the pool.

To the west, or to the southwest, there is a well not shown on Exhibit 2 or any of the other exhibits which is in Section 31 just practically at the corner, at the southwest corner, of section 29 just over into Section 31 which was drilled through the 450 foot pay, and it was found to be either absent or nonproductive in that well.

To the north it is both down the regional and local structural dip so far that although we have no good control to the north, it is extremely unlikely that 1300 feet further north, which would mean 150 or 250 feet further down dip in view of the large fault which is present up there, it's extremely unlikely that production will cross that fault and dip to the north on to the adjacent lease to the north.

Therefore, it is our serious contention that there is no problem of correlative rights here. There have been shallow wells drilled on Sections 21 and 28 which were nonproductive, to the east, and wells drilled to the southwest and west which do not show on this map which also were nonproductive. In essence then this is the only area in the entire township which has shown anything approaching commercial production. If it should turn out that

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we are extending the productive area of the field an unexpectedly great distance toward another lease, we would certainly be willing to take necessary steps to unitize with the adjacent lease owners, but this would be extremely unforeseen.

Q Is it your intention to drill any more producing wells except those which might prove to be producing wells by drilling of injection wells?

A Well, our plans along that line involve reentering Well No. 15 in the Southeast Quarter of Section 21 and deepening it to the pay sand to determine just exactly if there is a pay sand in that well and possibly reentering the well shown as No. 5 or No. 6 in Unit O of Section 20 which are further down dip than any present producing wells. If we are unable to recomplete one of those wells in Unit O satisfactorily, then it may be advisable for us to apply for unorthodox locations and drill additional producing wells in that area.

Q Which well was that now?

A They're shown as No. 5 and No. 6 in Unit O. There is casing in both of those wells and both of those wells showed some oil sands, but they were unable to get water shut off, apparently they simply set the casing on a shoulder and didn't satisfactorily get a water shutoff, and rather than try to recomplete those wells it may behoove us to drill new wells, simply plug those old ones and drill new ones and properly complete them.

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Q How are the present producing wells completed with regard to casing?

A Well, the only new well, producing well which Chaco Oil Company has completed since it has had this lease, is the one shown as No. 20-9 and this well, 5½ inch casing was set to total depth through the pay and cemented with the cement circulated and perforated so that after running a correlation log, as we have, this is the ideal, but most expensive method of completing.

It is my intention in the future that in completing or re-completing producing wells, that we shall complete them in approximately the same method as we propose to complete the water injection wells. That is, have a shoulder at the top of the pay and run a swage nipple on two inch line pipe with proper pumping equipment welded to that and cement that at the top of the pay so that we can ultimately recover most of the tubular goods and yet not go to the expense of setting an unnecessary string of casing.

Q How much fillup will you have on the cement above your swage nipple?

A Well, I think that 30 feet would be adequate. The drawing which is shown in the exhibit is not to scale, but I think that 30 feet should be an adequate amount which would be from five to eight sacks of cement.

Q You think that will be sufficient to withstand any pressures that might be exerted upon them?

A Well, I think so. We sincerely hope that we will not have to exert any pressures aside from hydrostatic, but if we do, once the pressure in the reservoir has been built up to 100 or 150 pounds that we may have to boost the pressure by perhaps an additional hundred pounds above hydrostatic.

I think that should be adequate considering the weight of the tubing in the hole, and the fact that it has been cemented with some 30 feet of the annulus has been cemented, the tubing in the hole itself will be grafted to hold the swage nipple on the shoulder.

Q Do you think the regular line pipe you intend to use will be good enough for the duration of this project?

A That's all that has been used in any of these wells to date, and there is a large safety factor over any pressures which we intend to exert. However, in the water supply well, as I mentioned previously, we expect to use regular 2 7/8s inch tubing which has a much higher strength.

MR. UTZ: Are there any other questions of the witness? Mr. Irby.

MR. IRBY: May I ask a question?

MR. UTZ: Certainly.

BY MR. IRBY:

Q I am Frank Irby, State Engineer's Office.

A Yes.

Q I think I might preface my question with a statement

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that we don't have a declared basin up there and therefore have not assumed jurisdiction of water, but we are interested. As I understand it, you went through a water sand at about 250 feet and you don't intend to make any provision to retain it within that sand. My question is, is there any place this water might migrate to in the hole below that level? In other words, will that water all be drained off and go in some other formation?

A No, sir, as we have found in carefully coring and trying to dry drill these holes, there is no sand interval either above or below that 250 foot water sand which could be a thief and cause a continuous drainage from that water sand. In addition, that 250 foot water sand I mentioned more for the sake of completeness than because it is an important water sand. It is there and it's just wet enough that you can't dry drill through it. It gums things up but it doesn't make over a gallon or two a minute and it just dribbles and it doesn't have any pressure behind it. In fact I assume it outcrops within a mile or two to the south and by drilling through that sand and simply leaving it there exposed in an open hole with tubing hung in it, it would seem to me that the worst that can happen is that the hole would fill up to the water sand and just stand there. There would be no further circulation after that has happend.

Q What type of material is between the water sand and your pay zone?

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A It's almost a hundred percent continuous shale section. There are a few silty stringers, there are no other water sands. It's just, we're in the Menefee shale down to this water sand at some 250 feet, which incidently does not occur in every well, and below that we are in the Menefee shale again down to the pay sand at approximately 450 feet.

The Menefee in this area is almost a hundred percent shale. Our oil sand itself is encased, or overlapped and underlain by shale.

MR. IRBY: Thank you.

A Yes, sir. I might point out as regards this water supply well, there is a well ten miles west of here on the Smith ranch which was completed as a water well in the Hospah and Gallup sands. It has a three inch flow line on it, some four feet above the ground and the water comes out of the three inch flow line and goes about 15 feet before it hits the ground and in what I would estimate flowing at the rate that I would estimate to be between ten and fifteen thousand barrels a day, and it's been doing this for thirty years.

There is shown in this report a calculation of the amount of water which will under ideal conditions be required to flood the field and no more than two acres of the Hospah-Gallup water sand would be sufficient to flood the entire oil field.

MR. UTZ: Is this water that you speak of in the Smith

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ranch being put into beneficial use?

A Apparently they have found it is mineral enough that it is not potable, certainly not for humans and cattle, and I am not enough of an agronomist to say, looking at these water analyses, whether it would be used for agriculture or not. I would think that something ought to grow with it that is edible. It hasn't been used, it's just going down an arroyo.

MR. UTZ: Any other questions of the witness? If there are none, the witness may be excused.

(Witness excused.)

MR. UTZ: In regard to your exhibits, how do you wish to enter these exhibits?

MR. BIRDSEYE: If we can enter them with the numbers as specified, I think it will avoid confusion, if that is satisfactory with you, Mr. Utz. There will be numbered Exhibits 1 through 7.

MR. UTZ: This report would be what exhibit number?

MR. BIRDSEYE: Well, we can call t[illegible]xhibit No. 8. There are quite a number of logs in the envelope, if you think it appropriate to number all of them we can do so, otherwise we could leave them as unnumbered exhibits or however you think would be appropriate.

MR. UTZ: I don't think it's necessary to mark them.

MR. BIRDSEYE: All right, let's just leave them then.

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MR. UTZ: Any statements to be made in this case? If there are none, the case will be taken under advisement and the hearing will be adjourned till 1:15.

(Whereupon the hearing was adjourned until 1:15.)

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 19th day of November, 1959.

Ada Dearnley
Notary Public - Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1806, heard by me on Nov. 0, 1959.

....., Examiner
New Mexico Oil Conservation Commission

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N. M. O. C. C. Case 1805:
Application of Chaco Oil Company
for a Peripheral Water Flood Project
in the Red Mountain Pool
Township 20 North, Range 9 West
McKinley County, New Mexico

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 1805

Henry S. Birdseye
CONSULTING GEOLOGIST
P. O. BOX 8294
ALBUQUERQUE, NEW MEXICO
PHONE AL 5-6916

N. M. O. C. C. CASE 1805:
APPLICATION OF CHACO OIL COMPANY FOR A PERIPHERAL WATER FLOOD PROJECT IN THE RED MOUNTAIN POOL, TOWNSHIP 20 NORTH, RANGE 9 WEST, McKINLEY COUNTY, NEW MEXICO

INTRODUCTION

Location

The Red Mountain Field is located in Sections 20 and 29, Township 20 North, Range 9 West, in northern McKinley County, New Mexico. The field is 55 airline miles north of Grants, 50 air miles west of Cuba, 57 air miles south-southeast of Farmington, and 93 air miles northwest of Albuquerque.

Access

The field is reached via 59 miles of dirt road from U. S. Highway 66 at Prewitt, New Mexico, or by 41 miles of dirt road from a point on State Road 44 which is 34 miles west of Cuba. A 3,000-foot dirt landing strip one mile west of the field is satisfactory for light airplanes.

HISTORY

Production was discovered on the Red Mountain structure by the Stacey, Webber et al #1 Santa Fe in Section 29, T. 20 N., R. 9 W., in June, 1934. The discovery well was completed for a reported daily potential of five barrels of oil per day from a Mesaverde sand at 475-498 feet. During the next three years approximately 25 wells were drilled, of which seven were reported productive. State records indicate cumulative production in excess of 26,000 barrels of 39° gravity oil through October, 1959. However, since the field was discovered prior to the establishment of the Oil Conservation

Commission, production and technical data now available are incomplete. The productive area of the field, now covered by a lease from the Santa Fe Pacific Railroad Company on the south half of Section 20 and the north half of Section 29, has changed hands intermittently since the field discovery. In 1955 this lease was assigned to Ben and Celia Sapir. In November, 1957, operation of the lease was assumed by Chaco Oil Company, a joint venture of Ben Sapir and Henry S. Birdseye.

In July, 1958, Chaco Oil Company drilled a Morrison test in the southeast quarter of Section 20. Bottomed at a total depth of 3936 feet, this well was plugged and abandoned after encountering gas-cut salt water in the Dakota formation. However, of great significance to the projected waterflood program was the recovery of 40 barrels per hour of slightly brackish water on a drill-stem test of the lower one-half of the Hospah formation (about 2700 feet) and 50 barrels per hour of water from about 15 percent of the Gallup formation (about 2800 feet). This artesian flow showed surface pressure of about 100 pounds per square inch, extrapolated from the shut-in pressure.

A series of ten stratigraphic holes from 200 to 300 feet deep was drilled in the early part of 1958, and served to established subsurface control for the delineation of the structure, as shown in Exhibit 2.

In January and February, 1959, four new wells were drilled to the oil sand at an average depth of 450 feet. Each of these wells was cored in the pay section, recovering from 5½ feet to 18 feet of saturated sandstone with high porosity (about 25%) and permeability (averaging 341 millidarcies). For financial reasons, completion was attempted on only one of these new wells. It was found that reservoir pressure was insufficient to produce the

oil known to be in place.

GEOLOGIC SETTING

Physiography

The Red Mountain structure is situated in a broad strike valley in shale members of the Mesaverde formation some two miles south of the escarpment known as Chacra Mesa, which is capped by the uppermost member of the Mesaverde Group, the Cliff House sandstone. Topographic relief in this portion of the San Juan Basin is generally slight, interrupted by occasional buttes capped by erosion-resistant sandstone beds. Such a butte lies just south of the Red Mountain field, rising to an elevation of about 6700 feet, some 350 feet higher than the field area itself.

Structure

In a regional sense, the Red Mountain field is on the Chaco Slope between the Zuni Uplift to the south and the San Juan Basin to the north. Regional dip is to the northeast at an average of about 100 feet per mile. On the south flank of the San Juan Basin, local structure reversal has played an important role in the accumulation of oil at the Hospah field, which has produced more than $3\frac{1}{2}$ million barrels of oil from an area of about 400 acres on a small north-trending, faulted anticline. Various other small structures in this area have been drilled with negative results, probably because of unfavorable stratigraphic and hydrodynamic conditions. The Red Mountain structure has been mapped by personnel of the U. S. Geological Survey as an anticline within a wedge-shaped down-dropped fault block. However, it is apparent that structural reversal is present aside from fault closure, possibly accentuating a fault trap.

Stratigraphy

Surface exposures at Red Mountain are of the Menefee formation of the Mesaverde Group. The uppermost beds of the Menefee formation and the entire Cliff House Formation have been removed by erosion. The approximate stratigraphic section (through the Permian only) at this locality is as follows:

PERIOD	FORMATION	DEPTH TO TOP
Upper Cretaceous	Menefee formation	Surface
	Point Lookout ss.	1650'
	Crevasse Canyon fm.	1760'
	Hospah sandstone	2690'
	Gallup sandstone	2750'
	Lower Mancos shale	2860'
	Dakota sandstone	3710'
Jurassic	Morrison formation	3920'
	Entrada sandstone	4985'
Triassic	Chinle shale	5200'
	Moenkopi formation	6100'
Permian	Glorieta	6365'
	Yeso	6520'

FACTORS AFFECTING HYDROCARBON ACCUMULATION

While the majority of oil and gas fields to the north in the San Juan Basin are controlled almost entirely by lateral variations in porosity and permeability, production on the south flank of the Basin, as at Stoney Butte, Red Mountain, and Hospah, is dominantly controlled by structural features, with minor control by lenticularity of producing sands. Extensive wildcat drilling by various operators to the north, east, south, and west of Red

Mountain has failed to establish production where structure is absent, even though lenticularity of porosity and permeability may be present. This is probably the result of excessive water saturations due to the proximity of recharging outcrops to the south. The only examples of stratigraphic entrapment in this area are at Seven Lakes, 14 miles southwest of Red Mountain, and in the Torreon area, some 20 miles east of Red Mountain, where lenticularity has permitted the segregation of minor quantities of oil independent of structure. Thus, exploration has rather clearly established that structural closure, by either faulting or folding or both, is important to commercial oil accumulations within a few tens of miles of the outcrops on the south flank of the San Juan Basin. Vertical closure in the important Hospah field is at least 100 feet. The amount of closure on the Red Mountain structure is not yet known; however, it is considered possible that upwards of 50 feet of closure may be established as a result of future development. Rather sparse subsurface control has shown continuity in the Menefee producing zone. An attempt has been made to estimate the area of primary depletion during the production of some 26,000 barrels of oil to date. As shown on Exhibit 2, the depleted area of about 14 acres lies northwest (down-dip) from the axis of the nosing or dome. This is probably the result of a tilted water table, due to the hydrodynamic potential of the recharging outcrops to the south.

FEASIBILITY OF A SECONDARY RECOVERY PROGRAM

Production of oil from the "450-foot" zone at Red Mountain has totalled about 26,000 barrels to date. Four wells are now productive, with a combined daily capacity of about eight barrels, which is barely adequate to pay the costs of operating the property. In view of geological and engineering data

acquired during the past two years by Chaco Oil Company, it is now apparent that a profitable operation at Red Mountain will ensue only as a result of repressuring and flushing the producing zone by a water-flooding program. The reasons for anticipating success by such a secondary recovery program are as follows:

(1) Reservoir Drive: the quantity of gas produced with oil at present is so slight as to be unmeasureable. It is evident from the amounts of water produced with oil in the various wells, and from the low fluid fill-up in the wells (averaging less than 50 feet), that the only drive mechanism in the reservoir is a very low pressure water drive. By injecting water from the supply well in the southeast quarter of Section 20, even the hydrostatic head of 450 feet would bring about 200 pounds per square inch to bear on the sand in the vicinity of the injection wells. The repressuring effect on a well-planned peripheral injection program should be ample in forcing the migration of the remaining oil to interior producing locations.

(2) Remaining Recoverable Oil Reserves: as shown on appendix page A-3 of this report, it is possible that as little as 15% of the recoverable oil in the Red Mountain field has been produced to date. That is, using known data from core analyses it is calculated that about 170,000 barrels of oil should be recoverable from an assumed productive area of 40 acres, and of this reserve only 25,569 barrels was produced through 1958, leaving a remaining recoverable reserve under secondary recovery of about 144,000 barrels.

(3) Physical Feasibility of Water-Flooding: porosity and permeability of the pay zone, as found in 25 core analyses from the four wells cored in

January and February, 1959, are sufficiently high and uniform that the reservoir sandstone should yield well to flushing by water-flooding. (See Core Analyses, Page A-8). While it was not possible to preserve the cores by freezing for connate water and oil saturation determinations, the past performance of the field, in which most of the wells produced clean oil with only minor amounts of water, indicates that connate water saturations are low enough to permit migration of essentially clean oil.

(4) Projected Development of Water-Flood: on Exhibit 2, the Structural Map of the Red Mountain Field, there is shown the apparent (primary) depleted area of the reservoir, the additional area which may be expected to yield to flooding, and the proposed locations of eleven injection wells. In order not to by-pass an appreciable quantity of oil around the periphery of the field, it is planned that the injection wells be situated an average of 500 feet from the nearest producing well. As Exhibit 2 shows, the injection wells will be spaced from 400 to 700 feet apart, distances which should establish a continuous flood front within 120 days after injection commences. At the injection points where the stratigraphic test holes are not available for deepening, it will be necessary to drill new wells to the 450-foot pay sand. After logging, two-inch line pipe will be run to a shoulder at the top of the pay zone, with a two-inch by six-inch swage nipple cemented immediately above the injection zone to prevent loss of injection water. (See Exhibit 3).

The water supply well will be the deep well located 660 feet from the south and east lines of Section 20, approximately 1300 feet from the center of the field. (See Page A-10). The basic requirements for injection water are: (1) Available in adequate quantities as needed, (2) free from silt or

other suspended material, and (3) chemically stable and inactive with respect to compounds and elements present in the reservoir.

Availability of injection water. The water supply well, Chaco Oil #20-1 Santa Fe, produced artesian water at the rate of 90 barrels per hour on two drill-stem tests which included only 50 feet of the 196 feet of water sand present. It is reasonable to extrapolate that when the entire Hospah and Gallup water sand intervals are completed for production, the well should have a capacity of more than 300 barrels per hour, or over 7,000 barrels of artesian water per day. Applying porosity of 24 percent for the Hospah and Gallup sands as determined by Sinclair Oil & Gas Company in wildcat wells near Red Mountain, and using a sand thickness of 200 feet as found in the Chaco Oil #20-1 well, the calculated water in place in the Hospah and Gallup water sands amounts to 372,000 barrels per acre. The rule of thumb used to approximate the quantity of water required to flood a given property is to multiply the reservoir pore volume in barrels by $1\frac{1}{2}$. Roughly half of this quantity will be available as produced water, while the other half must be supplied from an outside source. Since the total reservoir pore volume in the Red Moutain Menefee pool is calculated at 896,049 barrels, the above rule indicates that about 672,000 barrels of injection water will ultimately be needed for the flood. The virtually inexhaustible water supply will clearly be more than adequate for the proposed edgewater or peripheral flood. It is pertinent to point out here, that an artesian Hospah-Gallup water well ten miles west of Red Mountain has been flowing an estimated 10,000 barrels of artesian water per day for more than thirty years.

Quality of injection water. Water analyses of both Hospah and Gallup

formation water recovered on drill-stem tests accompany this report. (See Exhibits 5-a and 5-b). The analyses show such similarity of constituents that one may conclude the Hospah and Gallup sandstones to be a common reservoir in a regional sense. At any rate, microscopic laboratory tests on cores of the Menefee pay sand show an absence of any chemical reaction which could plug the sand face at the injection well or further into the sand body itself. Also, during the drill-stem tests, when the water flowed for approximately a half hour, rapid clearing of the water occurred, indicating an absence of suspended material which could block the injection.

Preparation of injection well. To prepare the well for use, it will be necessary to drill out six cement plugs, each about 25 feet long. A retrievable production packer will then be run on 2-7/8" tubing to the top of the Hospah sandstone at about 2700 feet. As the accompanying schematic plan shows, 3-inch semi-rigid plastic pipe will then be laid from the water supply well to the open storage reservoir on the high ground just south of the field. This line will be buried to a depth of about two feet to prevent freezing during the winter. The open storage reservoir will be some 50 feet topographically higher than the supply well, to permit gravity feed to all injection wells. While it is anticipated that artesian pressure in the water supply well will be sufficient to raise the water to the reservoir, experience may prove that a booster pump is necessary. A pump satisfactory for this purpose is already owned by Chaco Oil Company. (See Exhibit 4).

Later water supply system. From the open storage water reservoir, 2-inch polyethylene plastic pipe will be laid to the eleven injection wells. It is expected that for at least the first several months, until reservoir

pressure has built up to perhaps 100 pounds per square inch, the hydrostatic pressure of some 200 p.s.i. will be ample to force water into the porous and permeable pay sand. After pressure build-up prevents satisfactory gravity injection, a small booster pump may be required to maintain proper injection rates. Gate valves at each well-head and between each injection well will permit injection simultaneously into any combination of the eleven wells. Liquid flow meters at each well-head will enable the keeping of accurate records of water injection, an important factor in the efficient operation of the secondary recovery program.

(5) Anticipated Cost of Water-Flood Program: the principal cost items in establishing secondary recovery are the following: (a) drilling out plugs in the water supply well, and installing production packer and tubing; (b) drilling eleven injection wells and equipping with 2-inch line pipe (tubing); (c) electrical and gamma logging of the supply and injection wells and certain oil wells where these data are needed; (d) stringing and burying water supply and injection feeder lines; (e) booster injection pump when reservoir pressure reaches a point prohibiting gravity injection.

The total estimated cost of instituting secondary recovery should not exceed $20,000, as itemized in the Appendix of this report.

Respectfully submitted,

Henry S. Birdseye

Albuquerque, New Mexico

RED MOUNTAIN OIL FIELD

Key to Wells Shown on Base Map (Exhibit 1)

Number on Map	Operator, Well No.	Total Depth	Casing, Depth	Depth Oil ss	When Drld.	Grnd. Elev.	Present Status
1	Forth #4 or Grier #5	473	6¼/458	462	1936	6427	Producing
2	Newton 2 or Grier 2	483	?	?	1947	6394	Producing
3	Newton 3 or Walker 6	455 460?	6-5/8/426	439-455	1937	6404	Producing
4	Walker 7	435	?	423	?	6391	Producing
5	Naposuta 1	501	5"/422	422-6½ 458-62	1944	6369	Plugged
6	Naposuta 2	483 PB 430	6"/415	415-27	1944	6378	Plugged (no water s.o.)
7	No Record					6377	Plugged
8	Walker 4	460	?	?	1936	6416	Temp. Aband.
9	Grier 10	952	6"/455?	446-56	1953-1954	6421	Plug @ 442
10	No Record					6404	Open to 338
11	Forth 1 or Grier 4	438 527?	?	430-38	1936?	6436	Plugged
12	Grier 6	503	5½/459	476-90	1954	6455	Plug @ 460
13	Naposuta 5	971	5"/930	445-51 942-71	1944	6431	Plugged
14	Bennett ?	527?	4½"/445?	469-72?	1934	6423	Plugged
15	Sapir (Chaco) 15	538	none	insuff. depth	1958	6417	Temp. aband.
16	Smith 1	125	est. 20'	insuff. depth	?	6414	Plugged
17	Dibble 1	586	6-5/8/388	?	1943	6435	Plugged

PRODUCTION SUMMARY, RED MOUNTAIN FIELD
McKINLEY COUNTY, NEW MEXICO

Barrels of Oil Produced

	1951	1952	1953	1954	1955	1956	1957	1958	1959
January	Unk.	213	119	210	60	0	0	175	174
February	"	77	0	80	135	0	0	200	29
March	"	308	494	162	135	0	0	250	74
April	"	297	0	140	195	0	0	225	0
May	"	306	180	115	195	0	0	125	0
June	"	231	156	180	165	0	0	125	116
July	"	153	200	225	0	0	0	100	105
August	"	231	0	195	0	0	314	50	105
September	"	0	222	75	0	0	376	95	100
October	"	201	128	75	0	0	287	170	
November	"	0	180	0	0	0	300	149	
December	517	0	71	120	0	0	284	130	
TOTALS	517?	2017	1750	1577	885	0	1561	1794	
CUMULATIVE:	15985	18002	19752	21239	22214	22214	23775	25569	

ASSUMED RESERVOIR DATA SHEET

RED MOUNTAIN OIL FIELD

McKinley County, New Mexico

"450-foot" Producing Sand (Menefee formation)

Average Porosity (from core anal.)	26%
Average Connate Water Saturation	40%
Original Reservoir Pressure	195 psi
Reservoir Temperature	70°F
Average Net Pay Thickness (core)	10½ feet
Average Recoverable Oil per Acre-foot	173 barrels (primary only)
Average Recoverable Oil per Acre	1,815.4 barrels (primary only)
Reservoir Volume Factor	1.05
Estimated Recovery Factor (primary)	15%
Oil Produced to 11/1/58	25,290 barrels
Number of Reservoir Acres Voided	13.93 acres (primary only)
Estimated Recovery Factor (secondary)	35%
Estimated Productive area (secondary)	40 acres

Estimated Secondary Recovery	169,435 barrels
Less Production to Date	25,290 barrels
Remaining Recoverable Oil under Secondary Recovery	144,145 barrels

DATA REGARDING CHACO OIL COMPANY WELLS, McKINLEY CO.

#20-9

Sec. 20, T. 20 N., R. 9 W. 110/S, 1910/EL
Spudded: 1/7/59. Completed: Total Depth: 458'
Casing: 5½" 14# J-55 @ 454' with 50 sax.
Perforated 128 (1 per foot) from 416-432.
Acidized perfs. with 200 gal. mud acid.
Drilled to 410 feet; cored 410-453. Reamed hole to 7-7/8" to 458'.
Core Descriptions:

#1. 410-19. Rec. 7':
2' dk gry shale
2' grn sdy shale
3' mg glauc gry ss, oil sat., good poros.

#2. 419-20½. Rec. 2':
2' mg glauc gry ss, oil sat., good poros.

#3. 420½-421. Rec. 0

#4. 421-426. Rec. Rec 4½':
2½' hd tight fg gry ss, no show
2' mg soft gry ss, oil sat., v. good poros.

#5. 426-433½. Rec 6½':
3½' oil ss as above
2½' mg soft gry ss, good odor, less vis. oil
½' dk brn carb shale

#6. 433½-437. Rec 3½':
1' dk brn carb shale
2½' lt gry carb siltstone

#7. 437-446. Rec. 8':
8' gry fiss shale

#8. 446-453. Rec 5':
5' gry fiss shale

HENRY S. BIRDSEYE

DATA REGARDING CHACO OIL COMPANY WELLS

#29-18

Sec. 29, T. 20 N., R. 9 W. 100'/N, 1380'/EL
Spudded: 12/29/58. Completed: Total Depth: 464'
Casing:
Perforated:
Drilled to 410'; 410-464'.
Core Descriptions:

#1. 410-19. Rec. 6':
2' fg gry ss
4' dk gry carb shale

#2. 419-21. Rec. 2':
2' shale as above

#3. 421-26. Rec. 2':
2' shale as above

#4. 426-32. Rec. 7':
7' shale as above

#5. 432-37. Rec. 6':
6' shale as above

#6. 437-49. Rec. 10':
2' gry sdy shale
3' fg oil-sat. ss
4' mg gry oil-sat. ss., good poros.
2' vfg hd tight gry ss

#7. 449-56. Rec. 7½':
½' vfg hd tight ss
7' mg gry oil-sat. ss, good poros.

#8. 456-64. Rec. 5':
½' mg gry oil-sat. ss, good poros.
1' lt gry sdy sh
3' fg lt gry ss
½' gry siltstone

HENRY S. BIRDSEYE

DATA REGARDING CHACO OIL COMPANY WELLS

#29-19

Sec. 29, T. 20 N., R. 9 W. 100'/N, 1800'/EL
Spudded: 1/5/59. Completed: Total Depth: 457'.
Casing:
Perforations:
Drilled to 410'. Cored 410-457'.
Core Descriptions:

#1. 410-15. Rec. 4':
3½' lt gry siltstone
½' coaly siltstone

#2. 415-24. Rec. 8':
2' dk gry carb sh
1' lt gry sdy sh
1½' lt gry vfg shly ss, oil-sat.
3½' lt gry sdy sh

#3. 424-31. Rec. 6½':
4½' dk gry carb sh
½' fg lt gry ss, fair oil-sat
1' interbedd blk sh & vfg ss
½' mg gry ss, fair oil-sat

#4. 431-34. Rec. 2'
2' hd tight vfg ss, good 0, no vis oil

#5. 434-38½. Rec. 1':
1' mg gry ss, fair sat, good 0 & poros.

#6. 438½-39. Rec. 2½':
2½' vfg hd tight ss, good 0, no vis oil

#7. 439-41. Rec. 2':
2' hd tight fg gry ss, good 0
Drilled 441-443 through hard bed

#8. 443-49. Rec. 5½':
5½' mg v. soft oil-sat ss

#9. 449-51. Rec. 2':
dk gry-brn carb sh

#10. 451-57. Rec. 6½':
6½' dk gry carb sh

DATA REGARDING CHACO OIL COMPANY WELLS

#29-20

Sec. 29, T. 20 N., R. 9 W. 300'/N, 1800'/EL
Spudded: 1/3/59. Completed: Total depth: 467'
Casing:
Perforations:
Drilled to 420 feet. Cored 420-467'.
Core Descriptions:

#1. 420-427. Rec. 7':
4' gry carb. sh
2' vfg shaly gry ss
1' dk gry sh

#2. 427-432. Rec. 4':
4' dk gry sh

#3. 432-437. Rec. 6':
6' dk gry sh

#4. 437-447. Rec. 9':
1' vfg shly ss, good odor
5' vfg shly ss, no show
2' dk gry sh
1' vfg shly ss

#5. 447-457. Rec. 8':
2' mg oil-sat ss
2' very hd tite ss
4' mg oil-sat ss

#6. 457-467. Rec. 10':
5' mg oil-sat ss
5' dk gry carb sh

HENRY S. BIRDSEYE

CORE ANALYSIS RESULTS

Well No.	Interval (depth)	Permeability (millidarcies)	Porosity (percent)
20-9	416-16½	21	23.1
	431-31½	981	28.9
29-18	442	68	26.8
	443	158	26.1
	444	32	23.8
	445	256	27.7
	446	60	17.9
	449½	tr.	4.9
	450½	145	24.0
	451½	760	26.7
	452½	201	26.2
	453½	113	24.8
	454½	2.6	21.7
	455½	128	27.5
	456	125	24.9
29-19	458½	91	24.2
	459½	882	27.4
	460½	785	29.0
29-20	447½	204	22.9
	448½	102	27.8
	453½	24	11.6
	454½	656	22.1
	455½	908	27.8
	456½	565	25.5
	457½	913/341 md avg.	27.2/24.8% avg. por.

ANTICIPATED COSTS OF WATER FLOOD EQUIPMENT & SERVICES

Equipment	Cost	Salvage
2700 ft. 2-7/8" EUE tubing, J-55, @ 83¢/ft.	$2241.00	$1300.00
600 ft. 2" black line pipe @ 44¢/ft.	2640.00	1320.00
1600 ft. ABS plastic pipe, 3", w/fittings	840.00	?
5200 ft. 2" polyethylene pipe w/fittings	1697.00	?
11 each 2" x 6" swage nipple @ $15	165.00	----
11 each 2" rt.-left thread collars @ 85¢	10.00	----
100 sacks common cement @ $2.00	200.00	
1 Open-Hole Gulberson Production Packer	335.00	150.00
11 each 1" Liquid Flow Meters @ $53	583.00	200.00
11 each 2" T's and L's	22.00	10.00
22 Bronze Gate Valves, 2", @ $9	198.00	100.00
TOTAL ESTIMATED EQUIPMENT COST - - -	$8931.00	
TOTAL ESTIMATED SALVAGE VALUE - - -		$3080.00

Labor and Services	Est. Cost
Drilling Plugs, Running Tubing, Supply Well	$ 500.00
Drilling, coring, reaming, equipping inj. wells	3000.00
Electrical and Gamma Logging	1500.00
Ditching Water and Oil Lines	500.00
Trucking (pipe, ditcher, etc.)	500.00
Labor (laying pipe, ditching, nippling up, etc.)	1750.00
Digging Open Water Storage Reservoir	500.00
Supervision and Incidental Expense	1100.00
TOTAL ESTIMATED LABOR AND SERVICES - - -	$9350.00

WELL RECORD

Chaco Oil Company #20-1 Santa Fe Pacific

Location: 660 feet from South and East Lines of Sec. 20, T. 20 N., R. 9 W.
Spudded: July 15, 1958. Completed: July 31, 1958.
Elevation: 6471, ground level (L & S)
Total Depth: 3935 feet
Casing: 8-5/8" (new) 24-lb. at 96 ft. with 75 sacks, circulated
Cement Plugs as follows:

0-30'	10 sacks
90-120'	10 sacks
1690-1720'	10 sacks
1810-1840'	10 sacks
2660-2690'	10 sacks
2750-2780'	10 sacks
2900-2930'	10 sacks
3740-3780'	10 sacks

Formation Tops:

Menefee	surface
Point Lookout	1652
Crevasse Cn.	1840
Hospah	2692
Gallup	2772
Mancos	2907
Dakota	3714
Morrison	3920

Deviation Surveys (Totco):

1955 feet:	$\frac{1}{2}^{o}$
3675 feet:	2^{o}

Drill-Stem Tests (all Straddle Tests):

#1. 3880-3902. Open 45 minutes. Good blow air throughout. Recovered 1020' drlg mud (small leak in drill pipe), 180' water-and heavily gas-cut mud, 420' heavily gas-cut water. HP 1990#. FP 190-495#. SIP (15") 1485#.

#2. 3812-3828. Open 105 minutes. Good blow air throughout. Recovered 3400' heavily gas-cut salt water. IHP 1975#. FHP 1965#. FP 200-1475#. SIP (30") 1665#.

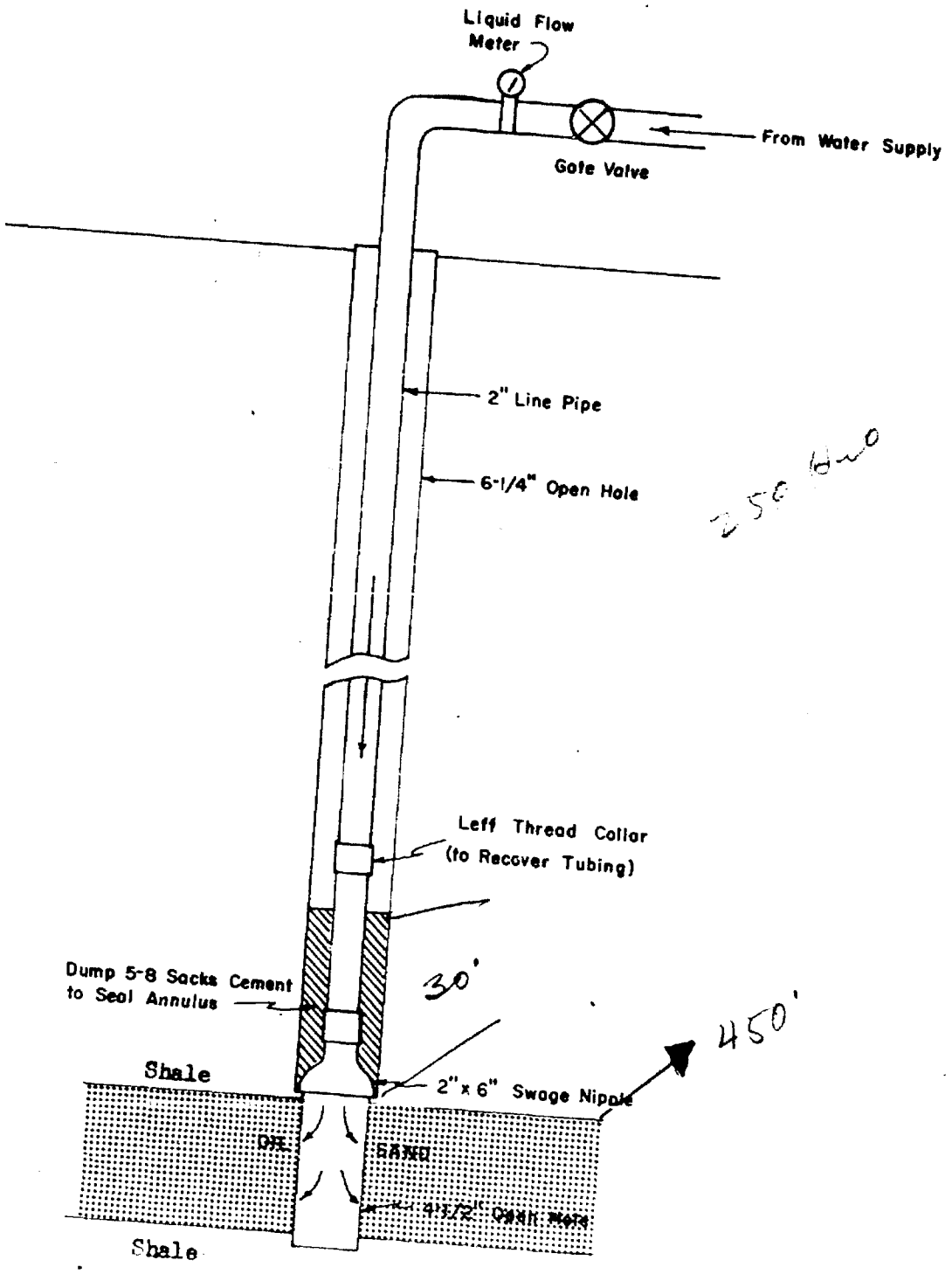
#3. 2750-2782. Open 48 minutes. Good blow air. Fresh water to surface in 12 minutes, flowed at rate of 50 barrels per hour. IHP 1382#. FHP 1382#. FP 693-1217#. SIP (43") 1272#.

#4. 2710-2748. Misrun (packer failed).

#5. 2718-2750. Open 45 minutes. Good blow air. Fresh water to surface in 16 minutes, flowed at rate of 40 barrels per hour. HP 1382#. FP 583-1161#. SIP (42") 1245#.

N. M. O. C. C. Case

Exhibit 3



CHACO OIL COMPANY

Typical Water Injection Well Completion Method

Red Mountain Secondary Recovery Program

Case 1805, Applic. Exhibit 5-A

NCLAIR RESEARCH LABORATORIES, INC.
TULSA, OKLAHOMA

SAMPLE NO. S-7104 ANALYST SLP:ME FORMATION: Gallup DEPTH DST #3 2772'-

DESCRIPTION Chaco Oil Company-Santa Fe Pacific #20-1, C SE SE Sec.20-20N-9W,

COUNTY McKinley STATE New Mexico TAKEN 7-30-58 RECD 8-11-58 ANALYZED 8-19-58

CONSTITUENTS IN PARTS PER MILLION		MEQ PER LITER	REACTING VALUES IN PERCENT
POTASSIUM (K)	None		
SODIUM (Na)	338	14.71074	46.64
LITHIUM (Li)	None		
CALCIUM (Ca)	10	0.49900	1.58
MAGNESIUM (Mg)	6	0.49344	1.58
BARIUM (Ba)	-		
STRONTIUM (Sr)	None		
MANGANESE (Mn)	None		
CARBONATE (CO_3)	36	1.19860	3.81
BICARBONATE (HCO_3)	381	6.24459	19.39
HYDROXIDE (OH)	None		
SULPHATE (SO_4)	1,409	3.97339	12.65
CHLORIDE (Cl)	152	4.28640	13.65
TOTAL SOLIDS	2,332		

SPECIFIC GRAVITY AT 15.6° C = 1.003 pH 8.26 @ 78 °F

PROPERTIES OF REACTION IN PERCENT

PRIMARY SALINITY 52.60 PRIMARY ALKALINITY 41.08 CHLORIDE SALINITY 51.90 RES 2.572 OHM 70 °F

SECONDARY SALINITY - SECONDARY ALKALINITY 6.32 SULPHATE SALINITY 46.10 NaCl EQ 1,391 PPM

Case 1805, Applic. Exhibit 5-B

NCLAIR RESEARCH LABORATORY, INC.
TULSA, OKLAHOMA

SAMPLE NO. S-7105

DESCRIPTION: Chase Oil Company-Santa Fe Pacific #21-1, [illegible]

COUNTY McKinley STATE New Mexico [illegible] 7-31-85

CONSTITUENTS IN PARTS PER MILLION	REMARKS	ANALYZED
POTASSIUM K	None	
SODIUM Na	376	
LITHIUM Li	None	
CALCIUM Ca	11	
MAGNESIUM Mg	-	
BARIUM Ba	None	
STRONTIUM Sr	None	
MANGANESE Mn		
CARBONATE CO_3	48	
BICARBONATE HCO_3	305	
HYDROXIDE OH	None	
SULPHATE SO_4	2,213	
CHLORIDE Cl	2,213	
TOTAL SOLIDS		
PRECIPITATES OF [illegible]		
[illegible]		
[illegible]		

NCLAIR RESEARCH LABORATORIES, INC
TULSA, OKLAHOMA

SAMPLE NO. S-7105

DESCRIPTION Chaco Oil Company-Santa Fe Pacific #21-1, [illegible] Hospah DST #[illegible] DEPTH 271[illegible]-[illegible]

COUNTY McKinley STATE New Mexico FILE NO. 7-31-58 REPORT 8-11-[illegible] ANALYZED [illegible]

CONSTITUENTS IN PARTS PER MILLION		MILLIEQUIVALENTS PER LITER	PERCENTAGE REACTING VALUE
POTASSIUM (K)	None		
SODIUM (Na)	376		
LITHIUM (Li)	None	[illegible]	[illegible]
CALCIUM (Ca)	11		
MAGNESIUM (Mg)	[illegible]	[illegible]	1.39
BARIUM (Ba)	-	.[illegible]150	1.19
STRONTIUM (Sr)	None		
MANGANESE (Mn)	None		
CARBONATE (CO_3)	48		
BICARBONATE (HCO_3)	305	[illegible]	[illegible]
HYDROXIDE (OH)	None	[illegible]	[illegible]
SULPHATE (SO_4)	1,243		
CHLORIDE (Cl)	2[illegible]5	[illegible]	[illegible]
TOTAL SOLIDS	3,2[illegible]1	[illegible]	

PERCENTAGE OF REACTING [illegible] [illegible] 1.32 [illegible]

[illegible] 31, [illegible] 32.[illegible] [illegible].[illegible] [illegible]

SE[illegible] [illegible] [illegible] [

894 ROSS MARTIN CO. TULSA, OKLAHOMA TOWNSHIP PLAT (SCALE 1 IN. = 1 MI.)

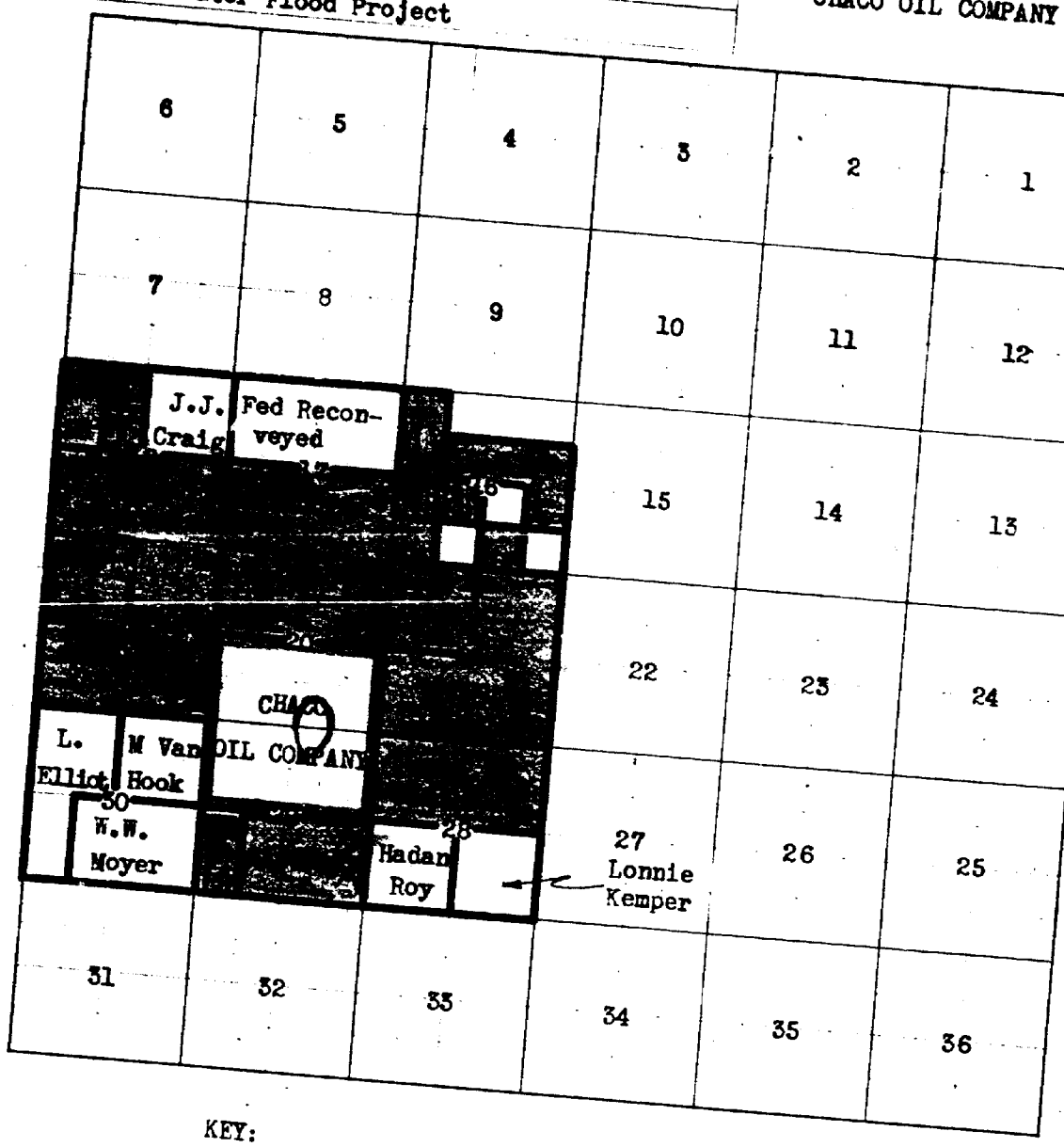
NMOCC Case 1805. Applic. Fxh. 6

TOWNSHIP 20 N RANGE 9W COUNTY McKinley STATE New Mexico

REMARKS

Plat Showing Ownership in Vicinity of Proposed Water Flood Project

COMPANY CHACO OIL COMPANY



KEY:

Chaco Oil Co.

Sinclair O & G

Santa Fe Pac R R

Sun Oil Company

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

April 20, 1960

COPY

Chaco Oil Company
P. O. Box 8294
Albuquerque, New Mexico

ATTENTION: Henry S. Birdseye

Gentlemen:

Pursuant to the provisions of Order No. R-1533 and Rule 104 of the Commission Rules and Regulations, you are hereby authorized to relocate the following-described injection wells in the Red Mountain Oil Pool, McKinley County, New Mexico, as follows:

Well No. I-6, to be located 395 feet from the North line and 1265 feet from the East line of Section 29.

Well No. I-7, to be located 225 feet from the North line and 1265 feet from the East line of Section 29.

It is our understanding that the relocation of the above-described injection wells is necessitated by the extremely rough terrain in the area. It is also our understanding that these relocations will place the injection wells in a pattern which will result in a thorough and efficient sweep of the oil by the water flood.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/OEP/ir

cc: Mr. Emery Arnold

CHACO OIL COMPANY
P. O. Box 8294
Albuquerque, New Mexico
17 April, 1960

Case file 1805

New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Gentlemen:

Chaco Oil Company hereby requests administrative approval from the Oil Conservation Commission to move two of the unorthodox locations of water injection wells in the Red Mountain Field, T20N, R9W, Mckinley County, New Mexico, due to prohibitively rough terrain.

Permission is requested to change the location of injection well I-6 from 600 feet from the north line and 1500 feet from the east line of Section 29 to 395 feet from the North Line and 1265 feet from the East line of Section 29. It is also requested to move Well #I-7 from 370 feet from the north line and 1150 feet from the East Line to 225 feet from the North Line and 1265 feet from the East Line of Section 29.

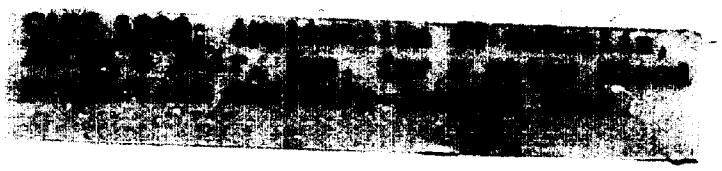
The original unorthodox locations were approved under NMOCC Order No. R-1533, which also provided for the establishment of an administrative procedure for relocating injection wells. From the enclosed plat, is may be seen that the desired relocations will place wells I-6 and I-7 in a pattern which will result in a thorough and efficient sweep of the oil by the water flood.

The relocations are necessitated by extreme terrain, namely a steep butte more than 300 feet high, which would require costly road-building and location work if the original locations were adhered to.

Your prompt consideration of this request will be appreciated.

Cordially,
Henry S. Birdseye
Henry S. Birdseye
Co-owner

HSB:lm
enc plat



Case No.

1806

Application, Transcript,
Small Exhibits, Etc.

Box 395
Artesia, N. M.
December 2, 1959

Mr. Elvis A. Utz, Examiner
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Utz:

Regarding Case No. 1806 heard before you on November 10, 1959, I am sending herewith the calculated theoretical cement tops for each casing string for each well to be converted to water input under this application.

Very truly yours,

FRANKLIN, ASTON & FAIR, INC.

Harold C. Porter,
Agent

HCP/nn

Encl.

RECEIVED OCC
FEB 7 PM 1:22

FRANKLIN, ADKON & FAIR, INC.
Grayburg Jackson Field
Eddy County, New Mexico

Lease & Well	Location	Surface Casing Size	Surface Casing Top Cement	Production Casing Size	Production Casing Top Cement
Arnold No. 2	A Sec. 26	8 5/8"	537'	7"	1588'
Brigham J No. 1	K Sec. 26	8 5/8"	540'	7"	1489'
Stevens No. 2	I Sec. 26	8 5/8"	552'	5 1/2"	2009'
" " 3	L Sec. 26	8 5/8"	541'	5 1/2"	2094'
" " 6	K Sec. 26	8 5/8"	[illegible]127'	5 1/2"	2267'
" " 7	M Sec. 25	8 5/8"	547'	7"	1792'

Cement tops are "calculated theoretical tops"

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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 10, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Franklin, Aston & Fair, Inc., for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a water flood project in the Grayburg-Jackson Pool in Eddy County, New Mexico, by the injection of water into the Grayburg formation through 6 wells located in Sections 25 and 26, Township 17 South, Range 30 East. Applicant further seeks the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing. Case 1806

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: The next case will be Case 1806.

MR. PAYNE: Application of Franklin, Aston & Fair, Inc., for a water flood project.

MR. KELLAHIN: If the Commission please, Jason Kellahin, Kellahin and Fox, Santa Fe, representing the Applicant. Associated with me is Mr. Curtis McBroom, a member of the Texas Bar, who will handle the presentation of this case.

MR. McBROOM: On October 1st, Franklin, Aston & Fair filed an application with the Commission which will be of record

in the case and the Commission has a copy of it, requesting permission to institute a water flood on certain of their leases in the Grayburg-Jackson Field in Eddy County, New Mexico. The plat was attached to that and we wish to have it as part of the record of this case. However, we will introduce as an exhibit a larger plat which may help the Commission in its looking at the matter. The application was made under the rules which were in effect at that time. We understand that yesterday the Commission issued a new rule. We have not had an opportunity to study that rule except those phases of it which had previously been presented. We understand that there are some changes made over the recommendations of the rule that was proposed, so our presentation of this case is based on the information that we presumed that we would need under the previous rule. If we have not assembled sufficient data to meet the requirements of the new rule, if we come under the new rule, we will get that information for the Commission as readily as possible.

We would like to go ahead and present everything we have. We believe we have everything that will be needed.

MR. UTZ: All right, sir, you may proceed. Are there other appearances to be made in this case? If not, you may continue.

MR. McBROOM: I want to call the attention and get in the record that the application did request the right to put water

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in the Applicant's Arnold No. 2, Brigham J. No. 1, Stevens No. 1, Stevens No. 2, Stevens No. 3 and Stevens No. 6 and Stevens No. 7. I would like to call Mr. H. C. Porter to the witness stand.

MR. PAYNE: Would you stand and be sworn, please?

(Witness sworn.)

HAROLD PORTER

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

DIRECT EXAMINATION

BY MR. McBROOM:

Q Mr. Porter, I will ask you to state your full name, address and your technical qualifications to appear as a technical witness in this case.

A My name is Harold Porter. I live at Artesia, New Mexico. I attended college and graduated from the West Point Military Academy in 1943. I am a graduate of the Engineering Reservoir School at Texas A. and M. I have worked for Delhi-Taylor Oil Corporation as a production engineer from 1953 until 1956 where I went through their training program and was field engineer in charge of a water flood project for them. Subsequent to that I worked for the Kewanee Oil Company on a water flood project in Oklahoma. I've worked for Ambassador Oil Corporation and Water Flood Associates, Incorporated of Ft. Worth. I have been in direct charge of the engineering and the operations of four major water flood projects. I'm a registered

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professional engineer in the State of Texas.

Q And you are presently associated with Water Flood Associates?

A Yes, I am.

Q Mr. Porter, I hand you herewith this large plat that we mentioned and ask you to identify it.

A This plat shows the ownership and well status of the leases and the field under consideration and will be marked as Exhibit No. 1. It shows the well location on the Franklin, Aston & Fair properties, and also offset wells.

MR. UTZ: Just a moment, do you have copies of this exhibit?

Q Do you have extra copies of this exhibit?

A Yes, I do. Would you like for me to pass this down?

MR. UTZ: Yes, we would like to follow it as you testify.

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

Q (By Mr. McBroom) Mr. Porter, have you made a field study and a study particularly pertaining to these leases?

A Our company has made a study of this field. The study was made by Bert Murphy of Ft. Worth. However, I helped him and am familiar with the study. This field was discovered in 1930 with production from Zone 6 of the Grayburg formation at approximately 3100 feet deep. The formation produces 36 degree API

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gravity oil. The cumulative primary production from the subject Franklin, Aston, Fair lease has been on the order of 338,000 barrels. Exhibit No. 2 will show --

Q I'll hand you this and ask you to identify it.

A This is Exhibit No. 2. It shows the monthly production rate from the leases of Franklin, Aston, Fair in question, or under consideration. It shows the oil production rate in barrels per month and in barrels per day per well over the past two years.

Q What does that show?

A Well, it shows a completely depleted reservoir.

Q What is the average well production?

A The average well production is less than 2 barrels per well per day.

MR. McBROOM: I present this as Exhibit No. 2.

Q In the course of your field study you assembled the data on the wells that was available. I hand you here what will be Exhibit No. 3. Will you identify that?

A Yes, sir, Exhibit No. 3 shows geologic data for the whole Premier field, shows the top of the Grayburg, top of the San Andres, size and depth of the loose casing, oil pay thickness and a total depth, initial potential, and other completion data.

Q Let me ask you a question. I notice this is marked Premier Field. I'm sure the Commission knows, but for the record will you tell about this changeover from Grayburg-Jackson to Premier?

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A This was originally carried as the Premier Field, I believe in 1957, for keeping data for the New Mexico Engineering Committee, it was all classified as Grayburg-Jackson. However, this is what was previously known as the Premier Field.

Q The pay from these wells is not typical of the pay in the whole Grayburg-Jackson Field?

A No, the whole Grayburg-Jackson Field produces from many zones, the Queen, San Andres and Grayburg. This field produces from Zone 6, which is one of the Grayburg series.

MR. McBROOM: In order to get as much of the preliminary information before the Commission, we'll go ahead with the exhibits.

Q I hand you what will be Exhibit No. 4 and ask you to identify it.

A Exhibit No. 4 shows the productive limits of the Premier Field.

Q That's of this Zone 6?

A Yes, this is of the Zone 6. The reservoir is a true sand lens with permeability pinchouts occurring around all flanks. The principal primary reservoir energy source were the expansion from solution or solution gas drive reservoir.

(Marked Applicant's Exhibit No. 4, for identification.)

Q I hand you what will be Exhibit No. 5 and ask you to

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identify it.

A Exhibit No. 5 is a map showing the recovery in thousands of barrels per well and also the net productive interval in each well. The significance of this is that it does verify the Exhibit No. 4 that was just submitted defining the limits of the field.

Q These figures on here are what's indicated as the net feet of sand and the original I.P.?

A No, that's Iso recovery. That is the thousands of barrels recovered from each well.

MR. McBROOM: The top number is in thousands of barrels, that 57,000, and that's what the log showed to be nine feet of pay.

Q At this point, in connection with that, let me ask if you have any core analysis or electric logs, anything other than just the old driller's logs to back up this data?

A No, sir. This data was all taken from driller's logs, there are no electric logs or gamma ray neutron logs or core data available on any of these wells.

MR. UTZ: So your pay was taken from samples?

A Yes, sir, driller's logs samples.

Q I hand you Exhibit No. 6 and ask you to identify it.

A Exhibit No. 6 is an Iso initial potential map of the Premier Field showing the number of barrels per day for which each well was initially potentialed, it correlates very well with that Iso recovery map, by the way.

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Q In other words, the wells that made high initial potentials made the most oil?

A As a rule, that's true.

Q I'll ask you to identify what appears to be a cross section to be identified as Exhibit No. 7.

A This is a cross section of the Grayburg-Jackson and Premier Fields running north and south. It will serve to show the continuity of Zone No. 6 across the Premier Field.

MR. McBROOM: I believe we only have one copy of this, but we will furnish you additional copies. We just don't have them with us.

MR. UTZ: Well, that won't be necessary after the hearing is over.

(Marked Applicant's Exhibit No. 7, for identification.)

A I have one here, I can take it off this report.

MR. McBROOM: Here's an extra copy.

Q (By Mr. McBroom) I hand you what will be identified as Exhibit No. 8 and ask you to explain that.

A Exhibit No. 8 is a table showing the well data; included in that is the elevations, the present well status, completion dates, any stimulations, all the casing data, size and depths and number of sacks of cement and so forth, cumulative production from each well and geologic data such as the tops of the Grayburg,

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producing zones, and zone thickness. You'll notice in each case that the surface casing has been cemented to below 500 feet with 50 sacks of cement. The long strings have been 5½ inch or 7 inch cemented with 100 sacks of cement on top of the productive interval, and the completion has been an open hole. Several of the wells have been shot with nitroglycerin and several of them have also been subsequently fractured with sand-oil treatment.

(Marked Applicant's Exhibit No. 8, for identification.)

Q You have analyzed the present condition of the lease as far as equipment and usability and operation, you say it's only producing an average of about 2 barrels a day but is the lease in an operative condition?

A Yes, sir, it's producing approximately 2 barrels per well per day. The production equipment is in very good operative shape.

Q In other words, if more oil would come in you would have the equipment there to produce a great deal more oil than the 2 barrels per day?

A Yes, sir, it has very good lifting equipment and can probably, I would say off hand that the present equipment could lift 200 barrels of total fluid per day per well.

Q Now, is it at this depth and under the operating conditions, is it practical to continue to operate this lease as it is presently being operated?

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A No, sir, unless production can be stimulated by some secondary recovery method, these wells are at or beyond the economic limits.

Q Have efforts been made to stimulate them by frack and acid?

A Yes, sir, efforts have been made, they have been shot with nitroglycerin and they have been fracked and that sort of stimulation has been tried.

Q As an engineer have you made any recommendations, or are there any recommendations that you would make to stimulate this production where it would make it a commercial operative lease?

A Yes, sir, our study shows that this lease has very good water flood potential. This sand is very similar to other Permian sands being successfully flooded in other portions of the Permian Basin. The reservoir statistics compare very favorably and there's every reason to believe it would respond very well to a pattern water flood.

Q Are there any other floods in this field?

A No.

Q Where is the closest water flood to this field?

A The Newmont Oil Company flood in the Loco Hills is, as far as I know, the closest.

Q About how far away would that be in miles?

A I would say around three miles. I don't know exactly.

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Q This is not a part of the same field?

A No, sir, it's a different field.

Q Have you calculated what you could expect by water flooding and how you would plan a water flood on these leases?

A Yes, sir. We have calculated that the primary, cumulated primary recovery from these leases would be 9.2% of the original oil in place, or 2 barrels per acre foot. A pattern water flood should recover something on the order of 205 barrels per acre foot, which would be 844,000 barrels of secondary oil.

Q Have you worked out a pattern or plan?

A Yes, sir. That's Exhibit No. 8 I believe.

MR. McBROOM: No. 9.

(Marked Applicant's Exhibit No. 9, for identification.)

Q Will you identify this?

A This is Exhibit No. 9, the proposed water flood development program of the Premier Field, which shows the wells which we have applied for to be converted from producing oil wells to injection wells. It shows how the rest of the field could be developed on a cooperative basis by the conversion of other operator's wells to injection wells.

MR. McBROOM: For the benefit of the Commission I would like to make a statement right here which is not a technical statement and Mr. Porter can't testify to. But I want to tell the

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Commission that the property shown as Nash, Windfohr and Brown, that our people have had discussions with them. Mr. Windfohr is in Europe right now. Just before he left in September, at which time it was not presumed that it would move quite so fast, he indicated his interest and willingness to cooperate immediately. As I say, he's in Europe and he handles this thing exclusively. It was not possible to get him to join in the application. I cannot tell the Commission that he will make application. I can only say that he has told me that his wells are down to making nothing too and he said, "Well, if you can get this worked out, why we would be interested in going along."

Another offset operator is Ambassador Oil Company, who have been contacted, and I thought would be here today or have some representation here today. They have indicated that they actually acquired this property along with other properties for the purpose of water flood.

The other offsetting property, which is marked as Knox in the North Half of the Northwest Quarter of 26, is now owned by Mrs. Knox, a widow whose husband was a very close friend of mine, and I have been advising with her on that and we have offered to handle it for her on a cooperative basis, and she has said "Well, fine, if you get this thing started I'll let you handle it."

The General American people have already started a flood in the, I believe it's in the Grayburg-Jackson Field in the limestone,

not in the sandstone. That we should correct in your reference, Mr. Porter, to not being any other floods in this field. General American does have a pilot or something in that limestone, am I right?

A Yes, sir, it's in the Grayburg-Jackson Field, but it's not in the Premier sand as such.

Q (By Mr. McBroom) That is still very new, has it had any indications yet of anything?

A Yes, it's responded and is still in a pilot stage, but it's looking very good.

Q So that what I was trying to say in this statement is that although the other offset operators are not here and have not filed or joined in this petition, they have all been contacted and we are prepared to go ahead with this project, which would give us instead of a regular five-spot, would give us a staggered line type of flood until the other people do decide to flood, which is just the way it was originally started in the Artesia Field, just the way it was originally started in the Caprock Field, and is the typical way that small water flood projects are started all over the country. I just wanted to get that statement in to clarify this offset ownership which you couldn't testify on.

A Yes, sir, to finish answering your question., this pattern which is shown on Exhibit 9 will effectively recover the secondary reserves of this field and at the same time will protect the

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correlative rights of royalty owners and operators. From this pattern I can see no adverse effect to other operators or royalty owners other than, well, no adverse effect to operators or royalty owners, period.

Q Where will you get the water to inject in these wells?

A Arrangements have been made with the Caprock Water Company of Artesia, New Mexico to sell us water. I have a letter which was written to Franklin, Aston, Fair, Incorporated dated November 6, 1959. It says, "Gentlemen: In reply to your inquiry, the Caprock Water Company is pleased to offer 4,000 barrels of water per day to you for water flooding purposes to be used on your leases in Sections 25 and 26, Township 17 South, Range 30 East, Eddy County, New Mexico. Our main 6 inch line runs approximately 5,000 feet north of your property line. The water will be made available to you at this point at the price quoted in our letter to you: this starting at 3 3/4 cents per barrel and graduating down to 2 1/2 cents per barrel as total accumulated water increases. This water is available at present and will be kept available for six months from this date and, if purchase is begun within this six months, for as long thereafter as your demands may require. Very truly yours, CAPROCK WATER COMPANY, Harold N. Morgan."

MR. McBROOM: I didn't think it necessary to put that in as an exhibit since you read it. Do you think it's a necessary

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item for an exhibit?

MR. UTZ: Not unless you care to put it in it won't be, it's in the record.

A To finish answering your question, the anticipated injection rate for the six wells is 2,000 barrels per day or 333 barrels per well per day, and it is anticipated that this will be at approximately 1200 pounds per square inch after fillup. The total amount of water which will be used over the anticipated seven and a half year life of this project will be 5,480,000 barrels.

Q Now, Mr. Porter --

MR. UTZ: Excuse me just a minute. That 5,280,000 is just for the area that you have outlined here?

A Yes, just for the leases Franklin, Aston, Fair which is outlined there.

MR. IRBY: Is that figure five, two, eight, 5,280,000?

A 5,480,000.

Q (By Mr. McBroom) Now, Mr. Porter, in connection with this programming of a water flood and the injection of water, you've already testified that you have an expected potential of 844,000 barrels from these wells. Have you planned to the point where you can tell the Commission how this will happen?

A Would you restate that question?

A Well, have you made a study in connection with preparing your program and recommendations which will show the Commission

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how you would expect this program to react over the period of time, the production in barrels and time?

A Yes, sir. From empirical curves which have been made of other water flood projects in Permian sands, it is known the percentage of oil which will be recovered in each increment of percentage of total time of the flood. That empirical curve has been applied here, and Exhibit No. 10, which will be entered, shows a projected production curve for the project.

(Marked Applicant's Exhibit No. 10, for identification.)

Q Will you explain to the Commission this curve and how you expect it to happen on this production, why it would work that way?

A Well, beginning with injection say on the first of 1960, the production would increase to a point which would be equal to 42 barrels per day, by the end of 1960 or the beginning of 1961. During this period of time 58,500 barrels of oil would have been produced. The allowable, had it been 42 barrels a day for that period, would be 262,800 barrels, or we would have underproduced 204,300 barrels.

Q Let me ask you right there, Mr. Porter, could you hurry that production up any faster than you have it outlined there by your injection, or is this a maximum?

A This injection is a maximum adequate rate.

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Q Why do you predict your curves here based on injection at a maximum rate?

A In order to recover the most primary reserves and not to do any bypassing from not having the greatest amount of water entering the stands, possibly, still staying beneath the breakdown pressure. You understand that in my opinion the oil production is directly proportionate to the pressure drop across the water flood front, and in order to maintain that pressure drop at the maximum it is necessary to inject the maximum pressure, and therefore you have to inject the maximum quality of water you can, any slowdown of injection would necessarily bypass water in the tight zones.

Q You think from your curves here that by putting the maximum, your study of this field, of these leases, that putting in the maximum amount of water that this actually is what you would expect to happen as represented by the curve on this Exhibit 10?

A Yes, sir, that's true. That's what we would expect the production curve to look like.

Q And that is based on actual experience in other floods, Mr. Porter?

A Yes, sir, this curve is drawn from an empirical curve from actual field data from other Permian Basin water floods.

Q Let me ask you if in light of the allowable limitations which have been indicated, if you were to attempt to water flood

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this project knowing that you could not produce more than the average of 42 barrels on the unit, would you still put in your maximum amount of water at the beginning?

A Yes, sir, I would.

Q Then how would you stop your production when it reached the 42 barrel average?

A The only way, of course you can't produce the oil if you can't sell it, therefore you have to limit the production from your well. If you have to do that you also have to limit the injection into your injection wells.

Q In other words, you are saying that you would push this as hard as you could until you got your production up to 42 barrels a day as indicated on this graph?

A That's right.

Q Then you would reduce your injection?

A Yes, sir.

Q What happens then?

A Well, like I said,before, when you reduce your injection and also reduce your production, you necessarily reduce the pressure drop across any flood that currently may have been established and bypass the oil in the tight microscopic pores and also in the, on a larger scale in the tighter sand strata.

Q This graph here indicates that during a two and a half year period you would produce 300, it's a two-year period, you would

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produce 362,088 barrels, no, your line is down here, that you would produce 492,000 barrels.

MR. McBROOM: So the Commission understands what this graph is, the bottom two lines here represent the production for two years based on a 42 barrel allowable, or the production for two and a half years if you were on a 35 barrel allowable. So we're now thinking of the 42 barrels, so this 492,000 barrels is the barrels that would be produced during that period if there was no restriction.

Q Under the restriction how many barrels would you produce?

A If you were limited to 42 barrels per day per unit you would have produced during that period of time 362,880 barrels, which means that you would, your allowable would have meant that you would not have produced 129,180 barrels had you been subject to no curtailment. This is average over a two-year period of only 15 barrels per day per well over that two-year period.

Q What we would like to tell the Commission is that by cutting this back where you would produce or try to produce 362,000 barrels which you would be allowed instead of the 492,000, you would not produce this 129,000, what do you think you would to your flood in terms of ultimate recovery?

A Well, based on my experience, and I have had an experience very similar to this in a flood in Texas, your flood when you start out would respond very similar to this. When you curtail

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your production, curtailed your injection, your water cut would immediately increase, I mean your percentage water cut would immediately increase, even though as you started lifting more total fluid, I mean more water with your oil and increased your injection later, you still would never recover your oil production that you would have had.

Q In other words, it's your thought then that, as I understand it, that probably when you cut this back that you wouldn't even be able to produce your 362,000 of oil because of your increased water cut?

A Yes, sir, that's what I believe and that has been my experience.

Q How much of this total cumulative of 884,000 barrels would you estimate would be lost by this cutback?

A I'd estimate somewhere around half of it would be lost.

Q That you would lose actually more than 362,000?

A Yes, that's true.

Q You would actually lose some of the additional?

A Yes, one, the water has established a high saturation through a highly permeable zone, a greater percentage of your water will be going through this zone.

Q Now, Mr. Porter, your graph shows that during the first two years, the first year and a half, that you would produce only 58,500 barrels, but under your allowable up here of 42 barrels

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you would be allowed to produce 262,800 barrels, is that right?

A Yes, sir, in that case had you been assigned 42 barrels a day for this initial period of a little over a year, you would have been underproduced 131,100 barrels. Pardon me, the wrong number. 204,300 barrels.

Q Now, if there were some way under the regulation to be allocated this allowable from the beginning of water flood, this 204,000 barrels that you are underproduced during this initial period, would more than offset the 129,000 barrels that you would be overproduced during this peak period, is that right?

A Yes, sir, if there was some way that you could accrue this 42 barrels per day over your initial period when your production was low and waiting for response, it would more than offset any peak production that you had over and above the 42 barrels a day allowable.

Q Now, in order to get a flood like this started you have shown that you have water here that will be furnished at a beginning rate of over three cents, almost four cents a barrel. What other expenses go into this first year or so before you start getting any oil?

A Well, you have a terrific expense of operating plant, and your technical services, your engineering costs and so forth and your outlay as far as equipment is concerned is just as great as if you had a capacity allowable or whether you are limited

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capacity, because you are putting the maximum amount of water in the ground that you possibly can, because there's no depreciable investment on plant and equipment.

Q From the very beginning you are water flooding, even though you aren't producing the oil yet?

A Yes.

Q You have all those expenses and all that outlay?

A Yes, sir.

Q As a consultant and engineer on this particular project, Mr. Porter, without in any way binding your principals, without in any way binding Franklin, Aston & Fair or anyone else that's involved on this program, if you are limited to 42 barrels a day at the time this starts to peak out without any credit given for previous production or anything, if you just have to cut your production back to 42 barrels a day, would you be willing to take the responsibility to program that for them?

A No, sir, I wouldn't recommend that this project be flooded. I feel that it would be a waste of a natural resource to do so if it were necessary to curtail this production as limited by this 42 barrels a day.

Q Now, they can make some money out of it even if they cut back, can't they, or can't they?

A Well, they possibly would break even. They wouldn't make a reasonable return.

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Q In other words, you think they would be smarter to take all this equipment that they have on the nine or ten wells and use it some place else rather than use it in a water flood under these conditions?

A Yes, sir, under these conditions the only thing that I could recommend to them would be to plug and abandon these wells if the thing cannot be water flooded without curtailment.

Q I understand that this testimony in no way is reflecting on them and they still are asking for their permit even on this whether you do it or somebody else does it for them?

A Yes, sir.

Q In other words --

A That's my belief. That's what I think about it.

MR. McBROOM: I believe that is all that we have. That's all as far as we are concerned, if the Commission has some questions to ask.

MR. UTZ: Did you wish to enter your exhibits?

MR. McBROOM: Yes.

MR. UTZ: Is there objection to the introduction of Exhibits 1 through 10? Without objection they will be entered into the record.

MR. ASTON: Would it be possible for me to make a statement at the close?

MR. UTZ: Yes, sir, we will hear the statements at the

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close of the case.

MR. PAYNE: Before proceeding further, in view of the testimony of this witness, I move that the record in Case 1787 be incorporated into this record and that the Examiner take administrative notice of the order entered in that case.

MR. UTZ: That was the water flood case in Roswell recently?

MR. PAYNE: Yes, sir.

MR. UTZ: I think it's appropriate that the record in Case 1787 be entered in this record and it is so ordered.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Porter, referring to your Exhibit No. 10, will you tell me how much oil you intend to recover by secondary methods?

A Which exhibit is that?

Q That's your last curve. To depletion of the field or depletion of the project in question here by the use of capacity allowables.

A It has been estimated that 844,600 barrels of cumulative secondary recovery will be produced.

Q That's to the end of 1967?

A Yes, sir.

Q That curve is your production curve?

A That's the cumulative production curve. This other curve,

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the one shown here, is your daily rate.

Q I see.

MR. McBROOM: That's marked on what I intended to have it, on the original exhibit.

A This is cumulative.

Q (By Mr. Utz) How much oil to depletion, to the end of your project, do you anticipate that you would obtain with the 42 barrel per day limitation?

A That has not been calculated, and I don't know of any way to calculate it. It can be estimated from other floods that we have seen which have been for some reason or another production has been, production and injection has been curtailed, and of course we know it would peak out at 42 barrels per day per unit, which here would be just slightly over 500 barrels per day, and then it is my feeling that the project would fall off at a rapid rate, and I would estimate that it would be somewhere around half of the 844,000 barrels.

Q What was the figure that you gave for primary recovery for this area in question?

A 338,000 barrels cumulative primary.

Q That's just in the area that you have outlined on your exhibits?

A Yes, sir.

Q Did these wells, when they produced 333,000 --

A Yes, sir, I am quite sure they did.

Q --did your operators make money?

A Yes, sir, I'm quite sure they did.

Q If you only recovered half of 844,600 will you not make money on this project?

A I feel that you might possibly break even. Your operating costs to operate a water flood project are tremendously greater than primary operating cost.

Q You mean the initial cost, the overall cost costs more than it does to operate a primary?

A No, I wasn't referring to the development costs. The operating costs, the overhead, the labor, the intangible costs such as for power and so forth are at least double the operating cost for a primary lease.

Q But you are not including any investment for drilling wells and so forth?

A Not when I say operating costs, no, sir, that would be development.

Q The question I'm asking is including all the costs contingent with your water flood operation, if you recovered 422,300 barrels of oil out of this project, will you make money?

A I don't feel that you will. I feel that possibly you'll break even. I can give you development cost figures on that if you would like.

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Q I just want to make a comparison between your operating costs, not only your operating cost, but the complete cost of your water flood project as compared to your project. You say you made money producing 338,000 barrels. I want to understand why you can't make money producing 422,000 barrels.

Q Sir, there were eight wells produced on the project including the two plugged and abandoned wells. I would estimate that they cost, put them in the tank ten dollars per foot, which would be around $31,000 apiece, which would give you a total investment for primary of somewhere around $250,000. Thereafter your operating costs, now that would be a development cost, the operating cost would be for that lease, I would not think it would run over $800.00 per month. I mean that would be an estimate on my part. The money that we must spend to develop that thing for water flood I estimate to be around $234,000.

Q That's in addition to the equipment that's already on the lease?

A Yes, sir. The operating costs we've found from experience on a water flood project is $250.00 per well per month, which is $2,000 per month or double your operating costs for primary production. So your development cost is very nearly the same and your operating costs are practically double.

Q You anticipate that you will recover considerably more oil than you did in primary?

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A If we're allowed to produce it the way we would like to.

Q Even producing at the 42 barrel rate, I believe your testimony was that you would recover 422,000 barrels or half of the 844,000 barrels?

A Yes, I said I felt that we would produce somewhere around half of what we would without restriction.

MR. UTZ: Are there other questions of the witness?

MR. PAYNE: Yes.

BY MR. PAYNE:

Q You can increase your allowable by putting additional injection wells on the 40's, could you not, under Rule 701 as revised?

A I haven't studied that rule. It only came out yesterday. If you say so, I'm sure you are familiar with it.

Q I believe you testified that you have the same expenses in a water flood project whether you are producing at capacity or whether you are producing at restricted rates since you have, you install your equipment and you have a water flood project going and therefore the expenses would be the same, is that right?

A Yes, sir, I would say they would be practically the same.

Q What if you back pressure the producing wells and make them flow, you don't have to have pumps on them, do you?

A No, sir, that's right, you don't.

Q That would cut your cost, wouldn't it?

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A Yes, sir, that would cut your cost.

MR. PAYNE: That's all. Thank you.

REDIRECT EXAMINATION

BY MR. McBROOM:

Q What happens when you back pressure a water well on water flood?

A Well, as I mentioned before, if you did this you would cut down your pressure differential across your front because you are not pumping. In all the literature, one of the principles of operating water flood is that you pump your producing well down to the lowest possible depth. In other words, you set your pump on bottom and produce all the fluid out of the well that the well will make.

Q Why do you do that?

A In order to keep your pressure drop across your front as great as possible and to flood out the tight zones along with the permeable zones.

Q Are you familiar with the experiments that Sinclair Oil Company conducted in trying to flow water floods on the Bartlesville sand floods in October?

A No, sir, I don't believe I am.

RECROSS EXAMINATION

BY MR. PAYNE:

Q You say all the literature, Mr. Porter. You are not

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familiar with any literature the other way?

A No, sir, I'm not; in all the literature that I'm familiar with.

Q Now, Mr. Porter, do you propose to inject your water through the casing rather than through tubing?

A Initially, yes, sir, I do.

Q What shape is this casing in, do you know? I notice these wells were drilled during World War II, I was just wondering whether the casing was so-called wartime casing which didn't have the life expectancy that present day casing has.

A I do not know whether it was wartime or not. However, on initiation of injection it is easy to find out whether you have any leaks in your casing or behind your pipe. It could be ascertained when injections were started.

Q Now, are there any fresh waters above the injection interval in this area?

A No, sir, this is outside of any declared basin and no water has been reported and drilled in these wells which was fresh water.

MR. PAYNE: I see. Thank you.

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

BY MR. IRBY:

Q I'm not sure this is important, but this application is in the name of Franklin, Aston & Fair, and the witness, Mr. Porter,

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says that he has some connection with the Water Flood Associates, I'm not sure what that is, and that they are getting their water from Caprock Water Company. I would be interested to know what the connection is between these three different outfits.

A Well, of course Caprock Water Company is a public utility in that area which transports water and sells it to commercial establishments and for oil field purposes, residences and so forth and have a pipeline down along the highway from Caprock to below the Loco Hills. Franklin, Aston & Fair are the operators of this property, Water Flood Associates is a consulting engineering and operating company.

Q Yes, sir. Now, you've told me what each of them are, what is the connection between them, please?

A Well, as far as Franklin, Aston & Fair is concerned, we are representing them at this hearing. As far as Water Flood Associates and Caprock Water Company is concerned, they have retained us to do certain work for them. However, there's no joint ownership or anything like that concerned.

Q Are you a member of Water Flood Associates?

A Yes, sir.

Q A partner in the firm?

A I'm an officer, I am not a partner.

Q And Water Flood Associates has been retained by Franklin, Aston & Fair?

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A I believe that's correct.

MR. McBROOM: That's right.

Q And there is a contract between Caprock and Franklin, Aston & Fair for water for this water flood?

A No, sir, there's been an offer made.

Q I heard the letter read.

A Well, that's the offer, yes, sir.

Q Where is Caprock getting this water?

A To the best of my knowledge they're getting it from that Ogala formation, I am not sure about the pronunciation of that, on the Caprock it's the Lea County Underground Basin.

Q Do they have enough water legally appropriated to furnish you 4,000 barrels a day to an ultimate of 5,480,000 barrels?

A Yes, sir, they have somewhere on the order, I'm not sure what their water rights on, but it's in the name of I believe Hollman and Taylor and is on the order of 700 acre feet per year.

Q Over and above their other uses they can supply this water to you?

A Yes, sir. Their present uses, I'm not sure about this, but their present uses are running to where they can supply it, I'm sure. I don't know, I would have to check with Caprock Water Company on that. I am not in a position to testify on that.

Q You said that your injection rate would be 4,000 barrels per day. Is that going to be constant?

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A No, sir, I said 2,000 barrels per day. I said they're offering to sell us 4,000, but our rates would be 2,000, anticipated rates.

REDIRECT EXAMINATION

BY MR. McBROOM:

Q The 4,000 figure would take care of these other joint operators if they joined in the flood, is that right?

A Well, that's for our disposal to water flood with, according to the offer that's the way it read, yes, sir.

Q Is there any brine or brackish water available in the vicinity of this water flood?

A Not that I know of. None has been reported in any sufficient quantities around on the drillers' logs that I have examined in that area. As far as, I don't believe anybody has made any exploration for it, but in all these wells that have been drilled they have been drilled with cable tools. If there were water, it would, of course, have showed up and filled up the hole without any fluid in the hole.

Q How far away is the nearest salt water production of appreciable quantity?

A I really couldn't say. None of those fields in the Artesia vacuum trend, which are all the fields from Artesia over to, nearly to Hobbs, make any salt water that I know of. Now, over around Lovington, of course, they make quite a bit of salt water.

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Farther south, I would say maybe twenty or thirty miles south in the Capitan Reef, there's salt water. But there's no method of transporting it that I know of and I know some of it has been examined and it has been declared unfit for injection, the Capitan Reef water, by chemists.

RECROSS EXAMINATION

BY MR. PAYNE:

Q The cost would be prohibitive to transport and treat it?

A Yes, sir, that's right, that far away.

MR. PAYNE: That's all.

BY MR. IRBY:

Q Then I take it that the nearest salt water you know of is approximately twenty miles west?

A That's what I would estimate, yes, sir.

Q You had an exhibit there on your casing and cementing which I didn't see. I would like for you to tell me in detail what the casing and cementing construction is immediately above the commercial zone which is somewhere around 250 or 350 feet.

A You want this by well?

Q Yes.

A The Stevens No. 1 has 8 5/8 casing at 525 feet which was cemented with 50 sacks.

Q Where is the top of it?

A The top of it is at the surface, the top of the pipe?

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Q No, the cement.

A Oh, well, sir, I'll have to calculate that. I could calculate it, I don't have it calculated. I would be glad to do that and I would like to have it.

MR. IRBY: I think it's important that it be in the record.

A If it's all right I'll submit that data to you after I have had time to calculate it.

MR. UTZ: You want that, Mr. Irby, on all wells on this exhibit?

MR. IRBY: Yes, sir.

MR. UTZ: What exhibit number is that, No. 8?

A No. 8.

MR. PAYNE: On injection wells?

MR. IRBY: Yes.

A Just on injection wells.

MR. UTZ: If you will calculate the tops of the cement on both strings of casing. I wanted to include everything you wanted in this.

MR. IRBY: Yes, I want the type of casing, the depth at which it's set, and the top of the cement on each string of casing and each injection well.

MR. UTZ: Everything he asked for I believe except the tops of the cement is on Exhibit No. 8, is that correct?

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A Yes, sir, that's true.

MR. UTZ: And if you will submit the tops of the casing on both the surface string and the production string, the tops of the cement I mean, it will be entered as a part of the record in this case.

MR. IRBY: That's all. Thank you.

BY MR. UTZ:

Q I believe I'm correct, Mr. Porter, in that all your injection wells have casing run to the top of the formation in which you intend to inject?

A Yes, sir, into the limestone above the pay.

Q And that is the only section that you will inject in in this project?

A Yes, sir.

Q Your Zone No. 6? A Yes, sir.

Q How about your producing wells, are they cased in the same manner?

A Yes, sir, they are.

Q You will inject the openhole, and produce from the openhole?

A Yes, sir.

Q And pump the producing wells?

A Yes, sir, that's correct.

MR. UTZ: Are there any other questions? If there are

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no other questions, the witness may be excused.

(Witness excused.)

MR. UTZ: Are there other statements to be made in this case?

MR. ASTON: If I may, I would like to make a statement. Rogers Aston with Franklin, Aston & Fair, Incorporated. I would just like to make one statement that I think is of paramount importance that we not lose sight of, in our hearings in Roswell recently conservation was somewhat bypassed. We placed our main emphasis on market impact, which means that primarily that hearing down there seemed to deal ultimately with economics, and if that's the yardstick by which the rule was passed, I should like to apply that same rule of economics to consideration of a case such as this. The ultimate feasibility and workability of any rule is not proved in the laboratory or not proved in engineering studies. It's proved in the market place where you have to go to get your finances.

I think you should give sincere consideration to the impact of this ruling on the marketability of such a project. One of the reasons that we're pursuing this permit at this time is to determine in our own minds the impact that such a ruling would have on the ability to get the risk capital available. If we refer to conservation by the figures that you yourself mentioned and that have been discussed, we take in the neighborhood of an excess of

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400,000 barrels of possible recovery that might be lost so that conservation becomes vitally important, but as a small operator who has been operating in the State of New Mexico since the early 30's, we want to point out that here we have a stripper property. The major companies can lay their operation over a very wide basis, but an independent company that operates in a limited area, a ruling such as has been passed has a tremendous impact on that company which is not true of the other major companies involved because they operate in many, many areas.

Here we have a property that is a stripper property. In the event that the recovery figures do not allow sufficient margin of profit to interest risk capital, in effect, you could preclude a small operator from taking a stripper property which can no longer operate economically, and at the same time prevent him from getting the necessary outside capital to undertake a water flood. Very few small independents are capable of setting up their own water flood operation. That's a business in itself, you gentlemen will agree. We don't care to try to set up such an organization in our firm.

Therefore, we have to hire concerns which undertake this. That is the purpose of making this relation with Water Flood Associates, but the marketability of this prospect is of vital importance to us because it is a stripper property, in this case the impact is not as great as it would be on preference right

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Federal leases which are held only by production and in which you have to keep your production going or you are going to lose your lease. That factor is also going to be faced by many of the independent operators in this general area.

So I merely wanted to point those things out and state our case very clearly, that we feel that this ruling, any ruling that would place in jeopardy in excess of 400,000 barrels. I still can't quite grasp why secondary oil has an unpleasant connotation when if we can say we will go out and discover a new field with 300,000 barrels of reserves under which the State is going to get its royalty, I am sure the State would say we are glad we have a new oil field. This constitutes the same thing. I merely wanted to make that statement and give our position on this.

It's rather like saying this is an excellent rule, the operation was a terrific success but the patient died. And gentlemen, you can contribute to material damage to the small operator who operates limited properties if there is no exception or right of review. I can certainly sympathize and understand the Commission's viewpoint, but I think any rule that is promulgated to apply to all possible circumstances for all time to come is an exceedingly tricky rule. I think it's going to be hard to apply because I think it's going to be hard to foresee all the multitude of problems that are going to arise here. We went ahead to get the permit with the idea we are going to pursue this thing

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of marketability. After all, if the profit incentive is gone ultimate loss is going to occur to the State of New Mexico.

Mr. Irby made reference to the water rights. I would like to make one. We have 750 acres of commercial water rights in the same general vicinity, which if necessary we would make arrangements to get transported and make our own water rights free for the same flood. My feeling is it's water from the same bucket. I have calculated roughly and it's approximately 128 feet of water per acre. Having large farm holdings in the Pecos Valley, I challenge economic return factor on motivation of that small quantity of water for the type of yield that's returned to the State of New Mexico. Thank you very much.

MR. UTZ: Are there other statements?

MR. PAYNE: I would make one observation, Mr. Examiner. As you well know, the Examiner is not in a position to overrule the Commission, period.

MR. UTZ: It is well taken and quite obvious.

MR. McBROOM: With that very astute comment, I would like to close this with making it clear that as I understand it, from what Mr. Aston has said, that regardless of the restrictions that may be imposed, their firm wants to have a permit granted of whatever nature it may be. Let me urge in that connection that you give serious consideration, and ask the Commission to give serious consideration to allowing under your rules, which I don't

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believe, I haven't had a chance to study them, but if it is as it was before, that this cumulative 42 barrels per day from the beginning of the time that water is injected would give the relief that would be necessary to take care of this relatively short peak period still staying within the rules.

I suppose it would have to be treated as an exception, since your daily allowable, ordinarily we think of what it will make today. But we're saying we are doing all the work, we are doing everything to build up that production from the minute we start water in. Therefore, it's not an unreasonable thing that we would accumulate our allowable, because if on that day that we started water in we could take the 42 barrels and put it in a tank some place and hold it until the market permitted us to market it, we could abide by the, any restrictions on allowables which might be imposed. So we urge that the Examiner consider that and that he pass it on to the Commission for their consideration that a cumulative allowable from the beginning of water flood on the 42 barrel a day basis be permitted.

Another statement which I feel needs to be dealt with just very slightly, but it could have considerable impact under the new rules, as I understand them, where a unit allowable would be set up under a flood of this kind where you have 320-acre strip of production here and another 320 acre strip up here that belongs to somebody else, that I haven't figured out in my mind even

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if we were able to do it, how you could balance out that unit allowable as between two operators when the production gets out of balance. You've got, you are taking all the wells around, some are on my lease, some are on the other fellow's lease. Then my lease happens to hit first. I get a well that goes 50 or 60 barrels, 70 barrels produced by the allowable, the unit has a sufficient allowable to allow me to sell that, but if the other man at the same time gets his production above, who gets it, do I get to take it or does he get to take it? It needs a clarification, or I don't understand the rule. Maybe it doesn't need clarification, maybe I just need to be clarified.

MR. PAYNE: In that regard, Mr. McBroom, you can't get credit for somebody else's tract. He would get credit for his tract if he had a water flood.

MR. McBROOM: The point is, he has a well up here that is going above the allowable, I have got a well that's going above the allowable, the two of them put together go above the unit allowable. How do we split that out? How is it decided which one of us gets that oil?

MR. PAYNE: There's two different units in the case you pose there. Are you talking about royalty owners?

MR. McBROOM: No, I'm talking about working interest. Say this was right he and you have allowables allocated to the wells around.

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(Whereupon a recess was taken.)

Let's take a ten minute recess.

MR. UTZ: Are there any other statements? If there are no other statements, the case will be taken under advisement.

I didn't understand just how those would balance out.

Five years, but it can't be utilized right now for various reasons. Which it might, they might get it utilized over the next four or needs clarification. Here's an instance which is not utilized I haven't got it figured out.

MR. MCBROOM: Well, if you own the office building acreage. In other words, you only get the allowable under 42 would be 50% barrels per day.

MR. PAYNE: You only get the allowable for your acreage. It still isn't quite clear to me. As I say, maybe I'm the one that

MR. PAYNE: You only get the allowable for the offsetting well if you own the offsetting acreage. In other words, your allowable under 42 would be 504 barrels per day.

MR. McBROOM: Well, it still isn't quite clear to me. I haven't got it figured out. As I say, maybe I'm the one that needs clarification. Here's an instance which is not unitized which it might, they might get it unitized over the next four or five years, but it can't be unitized right now for various reasons. I didn't understand just how those would balance out.

MR. UTZ: Are there any other statements? If there are no other statements, the case will be taken under advisement. Let's take a ten minute recess.

(Whereupon a recess was taken.)

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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 day of November, 1959.

Notary Public-Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1806, heard by me on Nov. 10, 1959.

, Examiner
New Mexico Oil Conservation Commission

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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. 1806
Order No. R-1587

APPLICATION OF FRANKLIN, ASTON
& FAIR, INC. FOR AN ORDER AUTHOR-
IZING A WATER FLOOD PROJECT IN
THE GRAYBURG-JACKSON POOL, EDDY
COUNTY, NEW MEXICO, AND FOR AN
ADMINISTRATIVE PROCEDURE WHEREBY
CAPACITY ALLOWABLES MAY BE
ASSIGNED TO WELLS IN SAID PROJECT

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 10, 1959, 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 27th day of November, 1959, 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 proposes to institute a water flood project in the Grayburg-Jackson Pool with injection of water into the Grayburg formation through the six following-described wells in Township 17 South, Range 30 East, Eddy County, New Mexico:

Arnold Well No. 2, located in the SW/4 NW/4 of Section 26;

Brigham J Well No. 1, located in the NE/4 SW/4 of Section 26;

Stevens Well No. 2, located in the NE/4 SE/4 of Section 26;

Stevens Well No. 3, located in the SW/4 SE/4 of Section 26;

Stevens Well No. 6, located in the NE/4 SW/4 of Section 25;

Stevens Well No. 7, located in the SW/4 SW/4 of Section 25.

(3) That the applicant further proposes that an administrative procedure be established whereby capacity allowables may be assigned to wells in said project.

(4) That the record in Case No. 1787 was incorporated in this case and that administrative notice was taken of Order No. R-1525, entered in Case No. 1787.

(5) That the applicant, seeking an exception to statewide Rule 701 of the Commission Rules and Regulations promulgated by said Order No. R-1525, has failed to prove by a preponderance of the evidence that restriction of production in the subject water flood project will result in a loss of ultimate oil recovery.

(6) That the producing wells in the area to be water flooded are substantially depleted.

(7) That the proposed water flood project should be authorized and the operation thereof should be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables and expansion of the project area.

IT IS THEREFORE ORDERED:

(1) That the applicant be and the same is hereby authorized to institute the F.A.F. Grayburg-Jackson No. 1 water flood project in the Grayburg-Jackson Pool and to inject water into the Grayburg formation through the six following-described wells in Township 17 South, Range 30 East, Eddy County, New Mexico:

Arnold Well No. 2, located in the SW/4 NW/4 of Section 26;

Brigham J Well No. 1, located in the NE/4 SW/4 of Section 26;

Stevens Well No. 2, located in the NE/4 SE/4 of Section 26;

Stevens Well No. 3, located in the SW/4 SE/4 of Section 26;

Stevens Well No. 6, located in the NE/4 SW/4 of Section 25;

Stevens Well No. 7, located in the SW/4 SW/4 of Section 25.

(2) That the administrative procedure proposed by the applicant for assignment of capacity allowables to wells in said project be and the same is hereby denied.

(3) That the operation of the water flood project herein authorized shall be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables and expansion of the project area.

(4) That monthly progress reports on the water flood project herein authorized shall be submitted in accordance with Rule 704 and Rule 1119 of the Commission Rules and Regulations.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

Case file

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

November 30, 1959

COPY

Mr. Jason Kellahin
Attorney at Law
P.O. Box 1713
Santa Fe, New Mexico

Dear Mr. Kellahin:

Enclosed herewith is Commission Order No. R-1537, entered in Case No. 1806, approving the FAF Grayburg-Jackson No. 1 Water Flood Project.

According to our calculations, when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 378 barrels per day.

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

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

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

Enc.
cc: OCC, Hobbs
OCC, Artesia
DSN:vem

Memo

From
Oliver E. Payne
General Counsel

To Ida —

Jim must get case file and order as soon as its finalized

DRAFT

HF:vem
Nov. 23

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. 1806

Order No. R-537

APPLICATION OF FRANKLIN, ASTON & FAIR, INC. FOR AN ORDER AUTHORIZING A WATER FLOOD PROJECT IN THE GRAYBURG-JACKSON POOL, EDDY COUNTY, NEW MEXICO, AND FOR AN ADMINISTRATIVE PROCEDURE WHEREBY CAPACITY ALLOWABLES MAY BE ASSIGNED TO WELLS IN SAID PROJECT

ORDER OF THE COMMISSION

BY THE COMMISSION:

~~This cause came on for hearing at _____ o'clock a.m. on _____, 1959, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."~~

~~NOW, on this _____ day of _____, 1959, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,~~

This cause came on for hearing at 9 o'clock a.m. on November 10, 1959, 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 _____ day of November, 1959, 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 proposes to institute a water flood project in the Grayburg-Jackson Pool with injection of water into the Grayburg formation through the six following-described wells in Township 17 South, Range 30 East, Eddy County, New Mexico:

Arnold Well No. 2, located in the SW/4 NW/4 of Section 26;

Brigham J Well No. 1, located in the NE/4 SW/4 of Section 26;

Stevens Well No. 2, located in the NE/4 SE/4 of Section 26;

Stevens Well No. 3, located in the SW/4 SE/4 of Section 26;

Stevens Well No. 6, located in the NE/4 SW/4 of Section 25;

Stevens Well No. 7, located in the SW/4 SW/4 of Section 25.

(3) That the applicant further proposes that an administrative procedure be established whereby capacity allowables may be assigned to wells in said project.

(4) That ~~the Examiner incorporated into this case~~ the record in Case No. 1787 was incorporated into this case and that administrative ~~and took administrative notice of Order~~ notice was taken of Order No. R-1525, entered in ~~said case~~. Case No. 1787.

(5) That the applicant, seeking an exception to statewide Rule 701 of the Commission Rules and Regulations promulgated by said Order No. R-1525, has failed to prove by a preponderance of the evidence that restriction of production in the subject water flood project will result in a loss of ultimate oil recovery, ~~of oil~~.

(6) That the producing wells in the area to be water flooded are substantially depleted.

(7) That the proposed water flood project should be authorized and the operation thereof should be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables and expansion of the project area.

IT IS THEREFORE ORDERED:

(1) That the applicant be and the same is hereby authorized

the F.A.F. Kingdom-Jackson #1

to institute a water flood project in the Grayburg-Jackson Pool and to inject water into the Grayburg formation through the six following-described wells in Township 17 South, Range 30 East, ~~Lea~~ Eddy County, New Mexico:

Arnold Well No. 2, located in the SW/4 NW/4 of Section 26;

Brigham J Well No. 1, located in the NE/4 SW/4 of Section 26;

Stevens Well No. 2, located in the NE/4 SE/4 of Section 26;

Stevens Well No. 3, located in the SW/4 SE/4 of Section 26;

Stevens Well No. 6, located in the NE/4 SW/4 of Section 25,

Stevens Well No. 7, located in the SW/4 SW/4 of Section 25.

(2) That the administrative procedure proposed by the applicant for assignment of capacity allowables to wells in said project be and the same is hereby denied.

(3) That the operation of the water flood project herein authorized shall be governed by the provisions of Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables and expansion of the project area.

(4) That monthly progress reports on the water flood project herein authorized shall be submitted in accordance with Rule 704 and Rule 1119 of the Commission Rules and Regulations.

DONE at SFNM-----

DOCKET: EXAMINER HEARING NOVEMBER 10, 1959

Oil Conservation Commission - 9 a. m., Mabry Hall, State Capitol, Santa Fe, N. M.

The following cases will be heard before Elvis A. Utz, Examiner, or A. L. Porter, Jr., Secretary.

CASE 1803: Application of Boller & Nichols and Leonard Nichols for a water flood project. Applicants, in the above-styled cause, seek an order authorizing the institution of a water flood project in the Roberts Pool in Lea County, New Mexico, by the injection of water into the Grayburg formation through 11 wells located in Sections 2, 3, 10 and 11, Township 17 South, Range 32 East. Applicants further seek the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1804: Application of Cabot Carbon Company for an oil-oil dual completion and for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Howard Fleet Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Pennsylvanian oil pool and the production of oil from the King-Devonian Pool through parallel strings of 1½-inch tubing. Applicant further seeks permission to commingle the Devonian and Pennsylvanian production from said Howard Fleet Well No. 1.

CASE 1805: Application of Chaco Oil Company for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a peripheral water flood project in the Red Mountain Oil Pool in McKinley County, New Mexico, by the injection of water into the Menefee zone of the Mesaverde formation through 11 wells to be located on unorthodox locations in Township 20 North, Range 9 West. Applicant further seeks capacity allowables for producing wells in the project.

CASE 1806: Application of Franklin, Aston & Fair, Inc., for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a water flood project in the Grayburg-Jackson Pool in Eddy County, New Mexico, by the injection of water into the Grayburg formation through 6 wells located in Sections 25 and 26, Township 17 South, Range 30 East. Applicant further seeks the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1807: Application of Humble Oil & Refining Company for an exception to Rule 16 of Order No. R-586. Applicant, in the above-styled cause, seeks the reclassification of its State V-11 Well, located 2080 feet from the South and West lines of Section 10, Township 21 South, Range 37 East, Lea County, New Mexico, as a Tubb gas well in exception to the gravity classification as set forth in Order No. R-586.

pj/

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Supplement to Docket No. 38-59

CASE 1808: Application of John H. Trigg to include additional acreage in his water flood project in the Caprock-Queen Pool. Applicant in the above-styled cause, seeks an order including the SE/4 of Section 34, Township 13 South, Range 31 East, in the John H. Trigg water flood project in the Caprock-Queen Pool, Lea and Chaves Counties, New Mexico.

pj/

FRANKLIN, ASTON & FAIR, INC.
BOX 395
ARTESIA, NEW MEXICO

OCTOBER 1, 1959

NEW MEXICO OIL CONSERVATION COMMISSION
Box 871
SANTA FE, NEW MEXICO

GENTLEMEN:

PLEASE ACCEPT THIS LETTER AS THE APPLICATION OF FRANKLIN, ASTON & FAIR, INC. FOR AN ORDER AUTHORIZING A WATER-FLOOD PROJECT IN THE GRAYBURG-JACKSON POOL, EDDY COUNTY, NEW MEXICO. PLEASE SCHEDULE THIS MATTER FOR HEARING BEFORE AN EXAMINER AT THE EARLIEST CONVENIENT DATE.

WE PROPOSE TO INSTITUTE A WATER-FLOOD PROJECT IN THE GRAYBURG-JACKSON POOL, WITH A PROJECT AREA CONSISTING OF OUR STEVENS, BRIGHAM J. AND ARNOLD LEASES COMPRISING THE SW/4 OF SECTION 25, THE SE/4 OF SECTION 26, THE E/2 OF THE SW/4 OF SECTION 26 AND THE S/2 OF THE NW/4 OF SECTION 26, ALL BEING IN TOWNSHIP 17 SOUTH, RANGE 30 EAST, NMPM, EDDY COUNTY, NEW MEXICO.

WE PROPOSE TO INJECT WATER INTO THE GRAYBURG FORMATION (PREMIER SAND) IN THE GRAYBURG-JACKSON POOL THROUGH THE FOLLOWING DESCRIBED WELLS AS SHOWN ON THE ATTACHED PLAT:

ARNOLD No. 2	LOCATED IN THE SW/4 NW/4 OF SECTION 26, T-17-S, R-30-E
BRIGHAM J No. 1	LOCATED IN THE NE/4 SW/4 OF SECTION 26, T-17-S, R-30-E
STEVENS No. 2	LOCATED IN THE NE/4 SE/4 OF SECTION 26, T-17-S, R-30-E
STEVENS No. 3	LOCATED IN THE SW/4 SE/4 OF SECTION 26, T-17-S, R-30-E
STEVENS No. 6	LOCATED IN THE NE/4 SW/4 OF SECTION 25, T-17-S, R-30-E
STEVENS No. 7	LOCATED IN THE SW/4 SW/4 OF SECTION 25, T-17-S, R-30-E

IT IS ALSO REQUESTED THAT AN ADMINISTRATIVE PROCEDURE BE ESTABLISHED WHEREBY CAPACITY ALLOWABLES MAY BE ASSIGNED TO WELLS IN THIS PROJECT WITHOUT NOTICE AND HEARING WHEN SUCH WELLS HAVE RECEIVED A RESPONSE TO WATER INJECTION ENABLING THEM TO PRODUCE IN EXCESS OF TOP UNIT ALLOWABLE FOR THE GRAYBURG-JACKSON POOL.

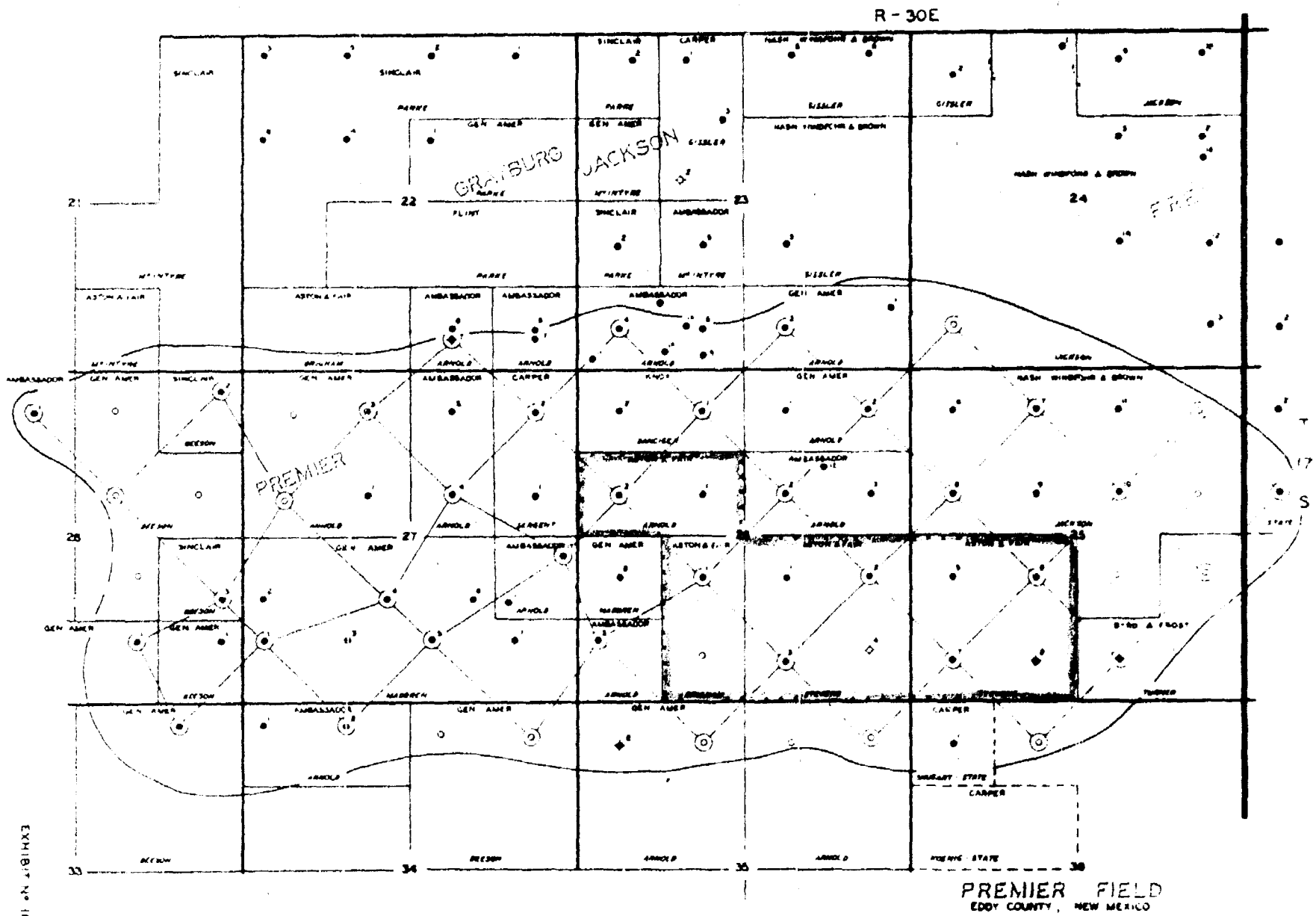
VERY TRULY YOURS,

FRANKLIN, ASTON & FAIR, INC.

Harold C. Porter

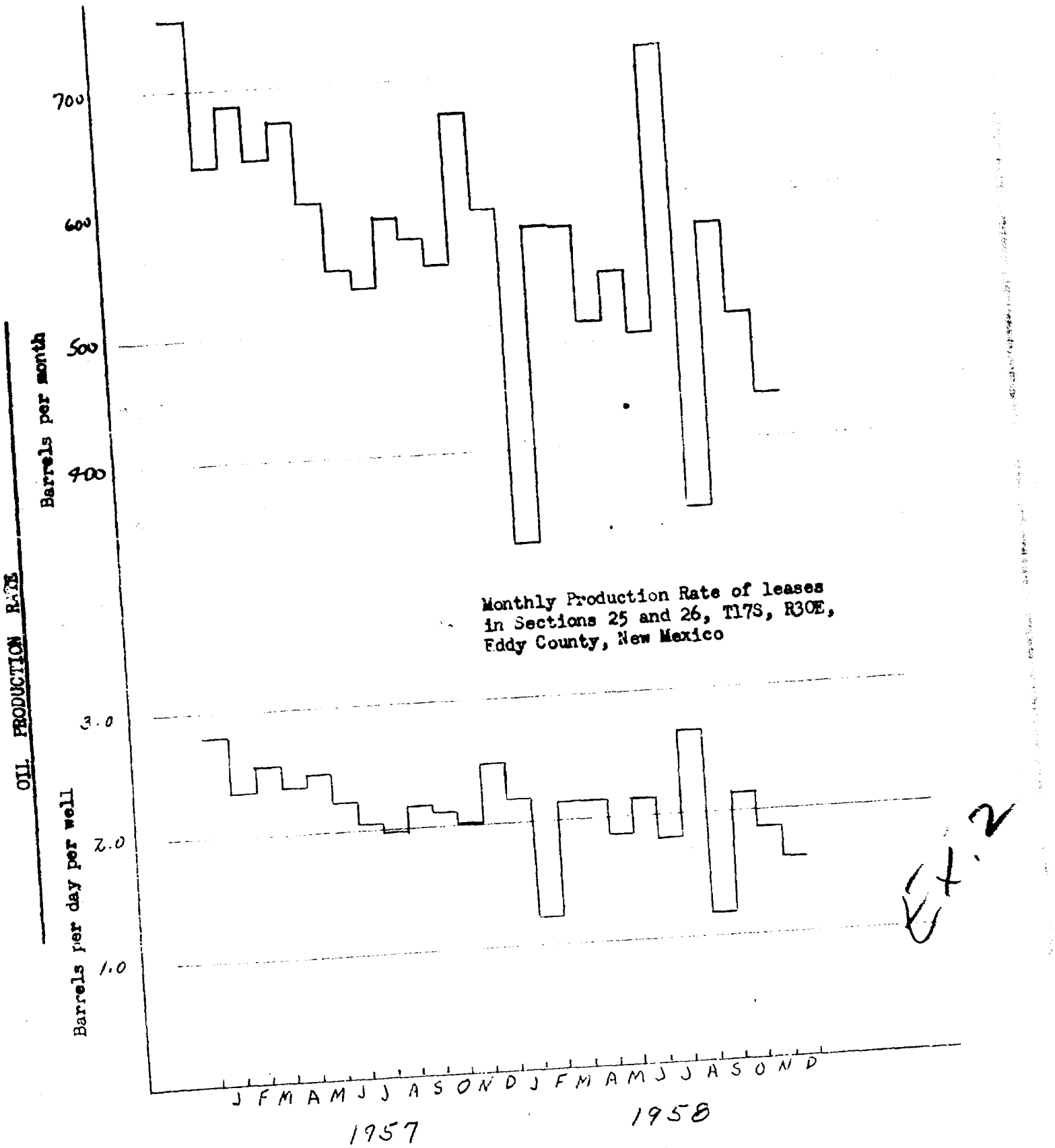
HAROLD C. PORTER
AGENT

ATTACHMENT



PREMIER FIELD
EDDY COUNTY, NEW MEXICO

PROPOSED WATER-FLOOD DEVELOPMENT PROGRAM



Monthly Production Rate of leases
in Sections 25 and 26, T17S, R30E,
Eddy County, New Mexico

Ex. 2

FRANKLIN, ASTON AND FAIR, INC.

data from NMO&GEC reports

Case No. Application of [redacted] Oil
[redacted]
[redacted]

Case No.

1807

Application, Transcript,
Small Exhibits, Etc.

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. 1807
Order No. R-1530

APPLICATION OF HUMBLE OIL AND
REFINING COMPANY FOR THE RE-
CLASSIFICATION OF A WELL IN THE
TUBB GAS POOL, LEA COUNTY, NEW
MEXICO, AS A GAS WELL IN EXCEP-
TION TO RULE 16 OF ORDER NO. R-586

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 10, 1959, 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 17th day of November, 1959, 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 is the owner and operator of the State V-11 Well, located 2080 feet from the South line and 2080 feet from the West line of Section 10, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That the subject well was originally classified as an oil well in the Tubb Gas Pool, but due to the fluctuation of liquid gravities from approximately 42° to 48° API, it was subsequently re-classified as a gas well and later re-classified as an oil well again.

(4) That in order to avoid the necessity of frequent re-classification of the subject well, the applicant proposes that this well be permanently re-classified as a Tubb gas well in exception to the gravity classification as set forth in Rule 16 of Order No. R-586.

(5) That the said State V-11 Well should be re-classified as a Tubb gas well serving as the unit well for a 120-acre non-standard gas proration unit comprising the N/2 SW/4 and the SW/4 SW/4 of said Section 10 as provided in Administrative Order NSP-469. During December, 1960, the applicant should provide the Commission with such pertinent data as may be necessary to determine whether the subject well should continue to be so classified or whether an additional hearing should be called.

IT IS THEREFORE ORDERED:

That the State V-11 Well, located 2080 feet from the South line and 2080 feet from the West line of Section 10, Township 21 South, Range 37 East, Tubb Gas Pool, Lea County, New Mexico, be and the same is hereby re-classified as a Tubb gas well, in exception to the gravity classification as set forth in Rule 16 of Order No. R-586. Said well shall be dedicated to a 120-acre non-standard gas proration unit comprising the N/2 SW/4 and the SW/4 SW/4 of said Section 10 as provided in Administrative Order NSP-469, with the allowable to be also governed by said NSP-469.

PROVIDED HOWEVER, That during December, 1960, the applicant shall provide the Commission with such pertinent data as may be necessary to determine whether the subject well should continue to be so classified or whether an additional hearing should be called.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

DOCKET: EXAMINER HEARING NOVEMBER 10, 1959

Oil Conservation Commission - 9 a. m., Mabry Hall, State Capitol, Santa Fe, N. M.

The following cases will be heard before Elvis A. Utz, Examiner, or A. L. Porter, Jr., Secretary.

CASE 1803: Application of Boller & Nichols and Leonard Nichols for a water flood project. Applicants, in the above-styled cause, seek an order authorizing the institution of a water flood project in the Roberts Pool in Lea County, New Mexico, by the injection of water into the Grayburg formation through 11 wells located in Sections 2, 3, 10 and 11, Township 17 South, Range 32 East. Applicants further seek the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1804: Application of Cabot Carbon Company for an oil-oil dual completion and for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Howard Fleet Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Pennsylvanian oil pool and the production of oil from the King-Devonian Pool through parallel strings of $1\frac{1}{2}$-inch tubing. Applicant further seeks permission to commingle the Devonian and Pennsylvanian production from said Howard Fleet Well No. 1.

CASE 1805: Application of Chaco Oil Company for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a peripheral water flood project in the Red Mountain Oil Pool in McKinley County, New Mexico, by the injection of water into the Menefee zone of the Mesaverde formation through 11 wells to be located on unorthodox locations in Township 20 North, Range 9 West. Applicant further seeks capacity allowables for producing wells in the project.

CASE 1806: Application of Franklin, Aston & Fair, Inc., for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a water flood project in the Grayburg-Jackson Pool in Eddy County, New Mexico, by the injection of water into the Grayburg formation through 6 wells located in Sections 25 and 26, Township 17 South, Range 30 East. Applicant further seeks the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1807: Application of Humble Oil & Refining Company for an exception to Rule 16 of Order No. R-586. Applicant, in the above-styled cause, seeks the reclassification of its State V-11 Well, located 2080 feet from the South and West lines of Section 10, Township 21 South, Range 37 East, Lea County, New Mexico, as a Tubb gas well in exception to the gravity classification as set forth in Order No. R-586.

pj/

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Supplement to Docket No. 38-59

CASE 1808: Application of John H. Trigg to include additional acreage in his water flood project in the Caprock-Queen Pool. Applicant in the above-styled cause, seeks an order including the SE/4 of Section 34, Township 13 South, Range 31 East, in the John H. Trigg water flood project in the Caprock-Queen Pool, Lea and Chaves Counties, New Mexico.

pj/

DRAFT

HF:vem
Nov. 12

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. 1807

Order No. R- 1530

APPLICATION OF HUMBLE OIL AND REFINING COMPANY FOR THE RE-CLASSIFICATION OF A WELL IN the Tubb Gas Pool, LEA COUNTY, NEW MEXICO, AS A GAS WELL IN EXCEPTION TO RULE 16 OF ORDER NO. R-586.

ORDER OF THE COMMISSION

BY THE COMMISSION:

~~This cause came on for hearing at _____ o'clock a.m. on _____, 1959, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."~~

~~NOW, on this _____ day of _____, 1959, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,~~

This cause came on for hearing at 9 o'clock a.m. on November 10, 1959, 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 _____ day of November, 1959, 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 is the owner and operator of the State V-11 Well, located 2080 feet from the South line and 2080 feet from the West line of Section 10, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That the subject well was originally classified as an oil well in the Tubb Gas Pool, but due to the fluctuation of liquid gravities from approximately 42° ~~degrees~~ to 48° ~~degrees~~ API, it was subsequently re-classified as a gas well and later re-classified as an oil well again.

(4) That in order to avoid the necessity of frequent re-classification of the subject well, the applicant proposes that ~~the subject~~ this well be permanently re-classified as a Tubb gas well in exception to the gravity classification as set forth in Rule 16 of Order No. R-586.

(5) That the said State V-11 Well should be re-classified as a Tubb gas well ~~for a period of one year and dedicated to a~~ serving as the unit well for a 120-acre non-standard gas proration unit comprising the N/2 SW/4 and the SW/4 SW/4 ~~of said Section 10~~ as provided in Administrative Order ~~NSP-469~~. During December, 1960, the Applicant should provide the Commission with such pertinent data ~~to aid in determining whether the subject well should continue to be classified as a gas well~~ as may be necessary to determine whether the subject well should continue to be so classified or whether an additional hearing should be called.

IT IS THEREFORE ORDERED:

That the State V-11 Well, located 2080 feet from the South line and 2080 feet from the West line ~~in the NW/4 SW/4~~ of Section 10, Township 21 South, Range 37 East, ~~Tubb Gas Pool~~, Lea County, New Mexico, be and the same is hereby re-classified as a Tubb gas well, ~~for a period of one year~~, in exception to the gravity classification as set forth in Rule 16 of Order No. R-586. Said well shall be dedicated to a 120-acre non-standard gas proration unit comprising the N/2 SW/4 and the SW/4 SW/4 of said Section 10 as provided in Administrative Order NSP-469, with the allowable to be also governed by Order NSP-469.

Provided However, that during December, 1960, the Applicant shall provide the Commission with such pertinent data ~~to aid in determining whether the subject well should continue to be classified as a gas well~~ as may be necessary to determine whether the subject well should continue to be so classified or whether an additional hearing should be called.

Done at....

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 11-10-59

CASE 1807 Hearing Date 11-10-59

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

That the Humble - New Mexico State V-11, 2050 feet from S & W lines of Sec. 10 - 21S - 37E, Lea Co. be granted and exception to Rule 16 of R-586.

This will allow this well to be classified as a gas well with a liquid gravity of 42° A.P.I.

The gravity of liquids in this well will vary from 42° to 48° A.P.I.

Grant this for a period of 1 year.

Staff Member

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

November 17, 1959

COPY

Mr. Howard Bratton
Hervey, Dow & Hinkle
Box 547
Roswell, New Mexico

Dear Mr. Bratton:

On behalf of your client, Humble Oil & Refining Company, we enclose two copies of Order No. R-1530 in Case No. 1807. This order was issued by the Oil Conservation Commission on this date.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures: (2)
Copy to Hinkle

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

COPY

January 19, 1961

Humble Oil and Refining Company
P. O. Box 1600
Midland, Texas

Attention: Mr. Henry B. Meadors

Gentlemen:

Reference is made to Commission Order R-1530, which classified Humble's New Mexico State "V" Well No. 11 as a gas well in the Tubb Gas Pool and which requested that Humble conduct a series of tests to help determine whether such classification should be on a temporary or a permanent basis.

We are in receipt of your letter of December 29, with which you enclosed a tabulation of the results of these tests.

In our opinion the tests have failed to show that the classification as a gas well should be extended. On the other hand, they have also failed to show any real evidence that the classification should be changed.

We therefore believe that it would be advisable to continue the present classification of the Humble New Mexico State "V" Well No. 11, Tubb Gas Pool, Lea County, New Mexico, as a gas well in said pool for at least one more year, during which time Humble should continue to take

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

monthly tests similar to those which have previously been conducted.

The data obtained during this next one-year testing period should be reported to the Santa Fe office of the Commission during December, 1961, at which time we will determine what future course to follow as regards this well.

Very truly yours,

DANIEL S. NUTTER
Chief Engineer

DSN/eg

cc: Mr. Joe Ramey
Oil Conservation Commission
Hobbs, New Mexico

COPY

PRODUCTION DEPARTMENT
WESTERN AREA
R. R. MCCARTY
MANAGER
J. S. GOLDRICK
OPERATIONS SUPERINTENDENT
H. L. HENSLEY
OPERATIONS SUPERINTENDENT
H. E. MEADOWS
ENGINEERING COORDINATOR
A. J. BEDFORD
ADMINISTRATIVE COORDINATOR

HUMBLE OIL & REFINING COMPANY

HUMBLE DIVISION
P. O. BOX 1600
MIDLAND, TEXAS

December 29, 1960

6-1

New Mexico State "V"-11
Tubb Gas Pool

Case 1807 File

New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

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

Gentlemen:

By Order R-1530 dated November 17, 1959, the Commission classified Humble's New Mexico State "V"-11 as a gas well in the Tubb Pool. A provision was made that in December 1960 Humble would furnish pertinent data necessary to determine whether such classification should be continued. The classification by the Commission was requested since variations in the liquid hydrocarbon gravity necessitated continual reclassification of the well in accordance with Rule 16 of Order R-586 which defines an oil well as one with a liquid hydrocarbon gravity of 45° API or less.

Attached is a tabulation of test and production data for 1960. The well has continued to produce with considerable variation in gravity such that if the Tubb Pool gravity rule had been applied during 1960 reclassification would have been necessitated three times. No consistent correlation between the gravity fluctuations and any other factor has been found. Packer leakage tests taken twice annually have indicated no communication between the two zones in this dual completion.

Since the well is believed to be essentially a gas well and has exhibited the same characteristics that brought about the original classification request, the Commission is hereby requested to grant a permanent exception to the gravity limitation in order that continual reclassification can be avoided.

Sincerely,

HUMBLE OIL & REFINING COMPANY

R. R. McCarty

By: Henry E. Meadows

RLB/va
Attachment

TEST DATA ON N. M. STATE V-11
TUBB POOL

Date	Duration Hours	Choke In.	Oil Bbls.	Water Bbls.(%)	Gas Mcf/Day	GOR	Pressure Tbg./Line		Gravity Observed	Gravity Temperature	Gravity Corrected
1-16-60	24	20/64	19.0	1 (5%)	621.30	32,700	655/595	625	40.0	39	41.7
2-27-60	24	20/64	17.0	1 (6%)	638.34	37,549	750/709	730	40.1	40	41.7
3-9-60	24	12/64	14.25	0.75(5%)	374.13	26,255	1000/653	875	41.0	40	42.6
4-9-60	24	14/64	14.40	0.60(4%)	392.06	27,226	900/	900	41.4	57	41.6
6-16-60	24	20/64	14.55	0.43(3%)	540.67	37,159	750/555	650	48.5	68	47.8
7-1-60	24	12/64	14.70	0.30(2%)	452.48	30,781	850/560	700	47.5	57	47.8
7-13-60	24	16/64	19.50	0.50(2.5%)	667.75	34,244	560/550	550	46.5	60	46.5
8-17-60	24	13/64	6.79	0.21	78.2	11,520	608/580	590	42.8	60	42.8
8-25-60	24	1/4	24.35	0.65(2.5%)	441.05	18,113	575/560	565	41.7	75	40.5
~~8-26-60~~	~~24~~	~~1/4~~	~~24.35~~	~~0.65(2.5%)~~	~~458.32~~	~~18,822~~	~~575/560~~		~~41.7~~	75	40.5
~~8-27-60~~	~~24~~	~~1/4~~	~~24.35~~	~~0.65(2.5)~~	~~461.58~~	~~18,955~~	~~575/560~~		~~41.8~~	78	40.4
9-30-60	24	7/32	19.0	0.25(2.3%)	541.00	28,469	600/590	595	45.5	65	45.1
10-29-60	24	7/32	19.52	0.48(2.5%)	549.08	28,129	585/570	580	47.5	50	48.4
11-10-60	24	7/32	19.50	0.50(2.5%)	594.23	30,473	610/595	605	47.8	44	49.3
12-13-60	24	5/32	11.00	0.20(2.5%)	475.34	43,213	650/615	630	46.0	60	46.0

PRODUCTION DATA - N. M. STATE V-11
TUBB POOL

Date	Oil Production Bbls.	Cumulative Production Bbl.	Gas Production Mcf	Cumulative Production Mcf	Producing GOR
1960		2,382		42,458	
Jan.	147		15,946		108,476
Feb.	468		17,375		37,126
Mar.	258		10,592		39,891
Apr.	320		9,848		30,775
May	266		7,250		27,256
June	229		14,061		61,401
July	530		18,647		35,183
Aug.	97		2,925		30,154
Sept.	189		8,461		44,767
Oct.	430		9,609		22,346
Nov.	438	5,754	16,837	174,009	38,440

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 10, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of Humble Oil & Refining Company for an exception to Rule 16 of Order No. R-586. Applicant, in the above-styled cause, seeks the reclassification of its State V-11 Well, located 2080 feet from the South and West lines of Section 10, Township 21 South, Range 37 East, Lea County, New Mexico, as a Tubb gas well in exception to the gravity classification as set forth in Order No. R-586.) Case 1807

BEFORE:
Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: The next case will be 1807.

MR. PAYNE: Case 1807. Application of Humble Oil & Refining Company for an exception to Rule 16 of Order No. R-586.

MR. BRATTON: If the Commission please, Howard Bratton, Hervey, Dow & Hinkle, Roswell, New Mexico, appearing on behalf of the Applicant. We have one witness and ask that he be sworn.

(Witness sworn.)

SAM F. HARRILL

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

DIRECT EXAMINATION

BY MR. BRATTON:

Q Will you state your name, address and occupation?

A My name is Sam F. Harrill. I live in Hobbs, New Mexico, I am a Senior Petroleum Engineer for the Humble Oil and Refining Company at Hobbs.

Q Have you previously testified before this Commission as an expert witness?

A Yes, sir, I have.

Q Are you familiar with the application in this case and the area covered and have you made a study of the well in the area in question?

A Yes, sir.

(Marked Applicant's Exhibits 1 and 2, for identification.)

Q Mr. Harrill, will you state what the application is in this case and what rule they're asking an exception from?

A We are asking for an exception to Rule 16 of Commission Order R-586 so that we may classify our New Mexico State V-11 which is currently a Tubb Gas Pool completion as a Tubb gas well. Rule 16, in effect, defines a gas well in the Tubb Pool as one producing liquid hydrocarbons with a gravity above 45 degrees. Our well initially produced with a gravity of 43 degrees and was classified as an oil well. Gravity increased to 46.7 degrees and was classified as a gas well. The current gravity is 42.3 degrees and

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it is now classified as an oil well. We desire to get this exception to prevent this frequent reclassification of the well.

Q Referring to what has been marked Exhibit 1, is that a plat of the area in question?

A Yes, it shows our Well No. 11.

Q The location of that is where?

A The well is 2,080 feet from the South line and 2,080 feet from the West line, Section 10, Township 21 South, Range 37 East.

Q Does that well have a non-standard gas unit assigned to it?

A Yes, sir, it does.

Q That consists of what acreage?

A It consists of the North one-half of the Southwest Quarter and the Southwest Quarter of the Southwest Quarter of Section 10, 21, 37.

Q That 120-acre gas unit was assigned to that well by Order NSP469?

A That's correct.

Q Referring briefly to your log, your Exhibit No. 2, Mr. Harrill, will you explain what that shows?

A Exhibit 2 is a log section of the Tubb Zone in our Humble State V No. 11. It shows the top of the Tubb marker, which is at 6130, the upper limit of the Tubb Zone which is at

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6,030 or 100 feet above the Tubb marker and the lower limit of the Tubb Zone which is at 6355 or 225 feet below the Tubb marker. The perforated interval in the Tubb zone is from 6108 to 6290 in five different sections. This illustrates that the well is completed within the Tubb Pool.

Q Will you give the history of this well from the time it was recompleted in the Tubb?

A The well was initially completed on 12-2-58 as a dual Blinebry-Tubb gas well. On testing the gravity of the liquid hydrocarbon from the Tubb Zone varied from 38.2 to 51.0 and leveled out at about 43 degrees at the end of testing. It was decided to not ask the exception at that time but to put the well on test or on production as an oil well to determine what might, what we might find out more about the gravity.

It was placed on production, excuse me, the initial potential of the well, in 24 hours it produced 20 barrels of liquid hydrocarbons, 1220 MCF of gas for a GOR of 61,000. The gravity of the liquid hydrocarbons was 43 degrees. The well was placed on production on the 5th of January, 1959, as an oil well and produced until the 23rd of January, 1959. During that time the average gravity was 46.6, varying from 45.6 to 47.6. We requested that the Commission reclassify the well, and it was so done effective February 1st, 1959, it was placed on production June the 2nd, 1959 and produced until September the 10th, 1959,

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at which time it was shut in due to the low fravity. On the last test the official GOR test, it produced 17 barrels of liquid hydrocarbon, 784 MCF of high pressure gas, for a high pressure gas liquid ratio of 46,941. The gravity of the fluid produced was 42.30 degrees. The well has been shut in since September 10th.

Q Referring back to your plat to your Exhibit No. 1, Mr. Harrill, will you go over the figures shown on there and compare this well with the surrounding wells shown on that plat?

A Exhibit 1, as mentioned before, is a plat showing our State V Well No. 11 and the offset oil and gas units in the Tubb Gas Pool. The numbers shown are the latest test data and the latest shutin wellhead pressure. The figure in green is the liquid hydrocarbon production. The figure in red is the high pressure gas production. The next number is the gas liquid ratio, the next number is the gravity of the liquid hydrocarbon, and the next number is the shutin wellhead pressure.

These tests, except as indicated, were taken during the July and August official GOR survey. The wellhead pressures were taken during October, 1959 except as indicated. In some cases the information was not available, in which case we show a dash. The average for the offset wells, the offset gas wells, that is the average of the test data, is 29 barrels of liquid hydrocarbon, 1195 MCF of high pressure gas, and a high pressure gas liquid ratio of 41,000.

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The arithmetic average of the gravity is 54.9 degrees. Arithmetic average of the shutin wellhead pressures is 1290 PSI. Fieldwide, based on 124 tests that were available at the Commission office at the time that the check was made, these tests being taken during July and August, 1959, these 124 wells had an average liquid hydrocarbon of 24 barrels per day, high pressure gas of 1275 MCF per day, high pressure gas liquid ratio of 54,000, and average of, the arithmetic average of the gravity for 106 wells for which the gravity was reported was 61.4 degrees API. The average pressure, shutin wellhead pressure for 37 wells that had been reported was 1517 PSI. These, of course, are only averages. We only give those to give some idea of just how the other gas wells in the pool, just what their production characteristics are.

MR. NUTTER: Were all of the wells included in the average gas wells?

A Yes, sir, they were all gas wells.

Q Have you made any comparisons with oil wells in the pool, Mr. Harrill?

A Yes, sir, I have the latest te... ...ata on all the oil wells in the pool. There are 15 oil wells. We aren't including our State V-11. On the tests that were taken during July and August of 1959, and there are one or two exceptions when the tests were taken later or at other dates, the average production was 28 barrels of oil, 138 MCF of gas, the gas-oil ratio average was

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4874. The arithmetic average of the gravities as reported on the C-115's for August, 1959 was 39.2 degrees. The range of gravities was from 36.5 to 43 degrees API.

Q Are the gas-oil ratios on the oil wells above 40 degrees, with gravities above 40, do any of them have GOR like this well?

A No, sir, they don't. The highest gas-oil ratio for any oil well, based on the latest test, is 12,615, the gravity of that well or liquid hydrocarbons produced is 41 degrees.

Q Are there any other comparisons that you have made, Mr. Harrill, to the other gas or oil wells in the pool?

A The comparison that would indicate or show that this well is more of a nature of a Tubb gas, which we feel it is, is mainly based on the GOR and shutin wellhead pressure. Also the gravity itself is an indication that it is producing from the gas zone.

Q Do you have those samples you would like to show the Commission?

MR. BRATTON: We will not introduce them as exhibits because they don't store too well in your filing cases.

A The reason we say this is, that a Tubb condensate will have a gravity of about 72 degrees or somewhere in that neighborhood, it's actually hard to determine when you are trying to measure the gravity of the liquid that has a gravity that high. The gravity of a Tubb oil is about 38 degrees. We feel that any time

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that you are producing a liquid, generally speaking, between these two limits that you are producing both oil and condensate from the well. In other words, we feel like that from our State V-11 we are producing from this oil rim that has been recognized by the operators and by the Commission and that we are also producing from the gas zone.

The clear bottle is a sample of the condensate, the next bottle is a sample of fluid obtained taking 100 parts of condensate and adding 10 parts of oil. That was just done as a matter of convenience, showing that it does color the oil. This is a sample of the oil from the State V-11. Actually the majority, we feel that the majority of the current Tubb gas well completions do produce some of this oil from the oil rim.

Q Mr. Harrill, is this well unusual? In other words, are there a number of wells like this in the pool or is this one rather in an unusual category?

A Well, in this sense, as far as I know at this time it would be the only well that might, that someone might desire to reclassify, and we so desire to reclassify.

Q In other words, it is about the only well in the pool that you have found with this high a gas-oil ratio, and where the gravity is fluctuating and has edged down below the 45 degree mark?

A That is true. There may be one or more cases, it would be hard to say without having more information than is available.

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Q You already have a two-stage separator hooked up, do you not?

A Yes, sir, that is correct.

Q Would you explain your separator problem and also your price problem?

A Well, as far as that goes, we feel that there will be waste of reservoir energy if we are required to produce the well as an oil well. As a gas well it can produce into the gas purchaser's high pressure gas line which is about 600 PSI. As an oil well it would have to be flagged down to a low pressure gas line of about 10 PSI. The price of the high pressure gas is about nine cents per MCF and the price of the low pressure gas is about 7 MCF.

Q As an oil well you would be dissipating that reservoir energy from 600 pounds down to 10 pounds?

A Yes, sir.

Q In addition to your loss of price?

A That is correct.

Q In your opinion, Mr. Harrill, is it necessary that this well be classified as a gas well in order to protect your correlative rights?

A Yes, sir, I do. We feel that this well can well drain the 320 acres assigned to it. It would not be economical to drill the other two oil wells that would be required to develop the acreage, assuming that this same type completion would be made.

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Q Actually you don't know if you drilled over there whether you would get a well above or below 45 degrees, do you?

A No, sir.

Q In summary, Mr. Harrill, what are your reasons why you believe this well should be classified as a gas well?

A Well, ignoring the gravity rule, and I would like to say here that we do not propose any change in this rule, I propose we do not infer there should be any change, we feel like this is a case where the arbitrary gravity that was assigned back in Case 1221 does not apply. This well has all the characteristics of the gas well, ignoring the gravity again. It can be produced into the high pressure gas line of the gas purchaser, and it would be a waste to produce it as an oil well.

Q It is completed in the Tubb Gas Zone?

A Yes, sir, it is completed within the Tubb Gas Zones.

Q All of its characteristics, producing history and fluctuation indicate to you that it is primarily a Tubb gas well?

A Well, yes.

Q Is there anything else you would care to say in this case, Mr. Harrill?

A No, sir, I don't believe I do.

Q Did you prepare Humble's Exhibits Nos. 1 and 2?

A Yes, I did.

MR. BRATTON: We would like to offer Humble's Exhibits

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1 and 2.

MR. UTZ: Without objection they will be entered.

MR. BRATTON: We have nothing further to offer, Mr. Examiner.

CROSS EXAMINATION

BY MR. UTZ:

Q How much fluid do you estimate this well will produce at normal allowables?

A It averages nine barrels per day.

Q Nine barrels? A Yes, sir.

Q Is the color of most of the liquids from other gas wells in the pool similar to this or are they all lighter?

A Well, we have made a comparison of our Tubb wells that substantiates more or less what we found. We concluded in our State V-11 we have 10 Tubb wells and we have found that the gravity or the color of the fluid is actually an indication of what its gravity might be. It's hard to determine too well because it only takes a small amount of the oil to discolor the condensate. However, it is very apparent that somewhere around 68 or 69 degrees or anything below that should or will be a dark fluid based on what we have found.

MR. UTZ: Any other questions of the witness? Mr. Nutter.

BY MR. NUTTER:

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Q Mr. Harrill, I know some Tubb oil wells occur in the sinclinal structures. Do you think that there is a possibility that this well may be drilled into such a sinclinal structure?

A No, sir.

Q You haven't made any contour map of the Tubb for this study, have you?

A No, sir, I haven't. I'm just comparing it with cross sections through other wells.

Q I notice you have got 182 feet of perforated interval here. What is the average perforated interval in a Tubb well?

A I do not know, but I would say that our perforations aren't, I would not consider those excessive.

Q Do you think there's a possibility that the high GOR of this well may be attributed to the high perforations and the low gravity of the oil attributed to the low perforations?

A I think there's no doubt about it. I see no doubt. We really don't know where the oil is coming from, but I would say that that is true that the oil is coming from the lower part of the Tubb interval.

Q You may be more or less completed in a gas section in part of it and an oil section in another part of the well?

A Yes, sir. And if I may, I would like to say that most Tubb wells are so completed, or it is my opinion that they are.

Q Did you state that the highest GOR that you were able to

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find for oil wells in the Tubb field was 12,615?

A I said that the latest test available, the tests that were taken during July and August show that to be the highest ratio. There may have been tests showing higher ratio, and they may actually produce at higher ratios.

Q This ratio on your well is 46,941 that you show on Exhibit No. 1, is that the test ratio or is that a producing ratio?

A That is a test ratio.

Q Have you taken any tests to determine what the producing ratios are?

A The producing ratio is about 24,000. I would like to go on, explain the reason for that, the wells are not produced continuously, that is the gas well. They are quite frequently produced for a few days and then shut in and they do not have time to stabilize. I feel that is the reason for the fact the ratio varies as it does.

Q Is there any tendency for wells in the Tubb Gas Pool to have a change in their gravity or their GOR's as time goes on?

A That's a very good question, but I do not have that data available.

Q This well doesn't have really a lengthy producing history to determine what the trend is as far as this well, does it?

A I would say not, although, well, you are right there. Enough production history, although I would think it would not

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change much from what it is now, that is over the next year or so.

Q Mr. Harrill, what would the attitude of Humble be towards an order to classify the well one way or the other and then review the status of the well after a period of say one year and adequate producing history to make a final determination?

A I can certainly see nothing wrong with such an order.

MR. NUTTER: I believe that's all. Thank you.

MR. UTZ: Are there other questions? If not the witness may be excused.

(Witness excused.)

MR. UTZ: Are there other statements in this case? If not the case will be taken under advisement.

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

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 20th day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1807, heard by me on Nov. 20, 1959.

, Examiner
New Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

[redacted] applications of JOHN H.
[redacted] to include additional acreage
in his water flood project in the
[redacted]-Queen Pool - Lea & Chaves Co.

Case No.

1808

Application, Transcript,
Small Exhibits, Etc.

Docket Mailed
Oct 27, 1959

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF JOHN H. TRIGG TO INCLUDE ADDITIONAL ACREAGE IN A WATERFLOOD PROJECT IN THE CAPROCK QUEEN POOL BY INCLUDING THE SE¼ OF SECTION 34, TOWNSHIP 13 SOUTH, RANGE 31 EAST IN THE JOHN H. TRIGG WATER FLOOD PROJECT IN THE CAPROCK QUEEN POOL, LEA AND CHAVES COUNTIES, NEW MEXICO	)	Case No. 1808

APPLICATION

COMES NOW John H. Trigg, by his attorneys, and states:

1. By its Order No. R-1456 the Oil Conservation Commission authorized a pilot waterflood project in the Caprock Queen Pool, Lea and Chaves Counties, New Mexico, and included within the project area all of Section 4, all of Section 9 and the E½NE¼ and NE¼SE¼ of Section 5, Township 14 South, Range 31 East.

2. At the time of the issuance of said Order, the Commission found that the SE¼ of Section 34, Township 13 South, Range 31 East need not be included in the project area.

3. Since the aforesaid Order was issued, the waterflood project of Cities Service Oil Company in the Caprock Queen Pool has approached and is now offsetting the SE¼ of Section 34, Township 13 South, Range 31 East.

4. As presented at the hearing in Case No. R-1456, Applicant has a cooperative agreement with Cities Service Oil Company relating to the injection of water in the areas of common boundary between the two projects.

5. It is necessary in order to protect the correlative rights of Applicant and to prevent waste that the SE¼ of Section 34 Township 13 South, Range 13 East be included in the project

authorized by Commission Order No. R-1456.

WHEREFORE, Applicant requests the Commission to set this matter down for hearing before an examiner, to publish notice as required by law and after hearing issue its Order including the SE¼ of Section 34, Township 13 South, Range 31 East, in the John H. Trigg waterflood project in the Caprock Queen Pool, Lea and Chaves Counties, New Mexico.

Respectfully submitted,

CAMPBELL & RUSSELL

By Jack M. Campbell
Jack M. Campbell
Attorneys for John H. Trigg

P. O. Box 766
Roswell, New Mexico

DATED: October 20, 1959

FEDERAL ABSTRACT CO.

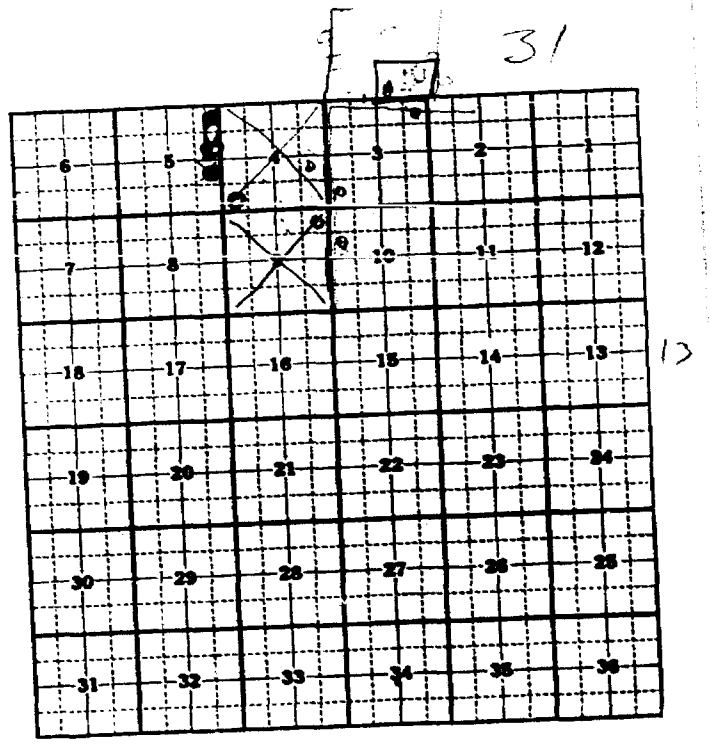
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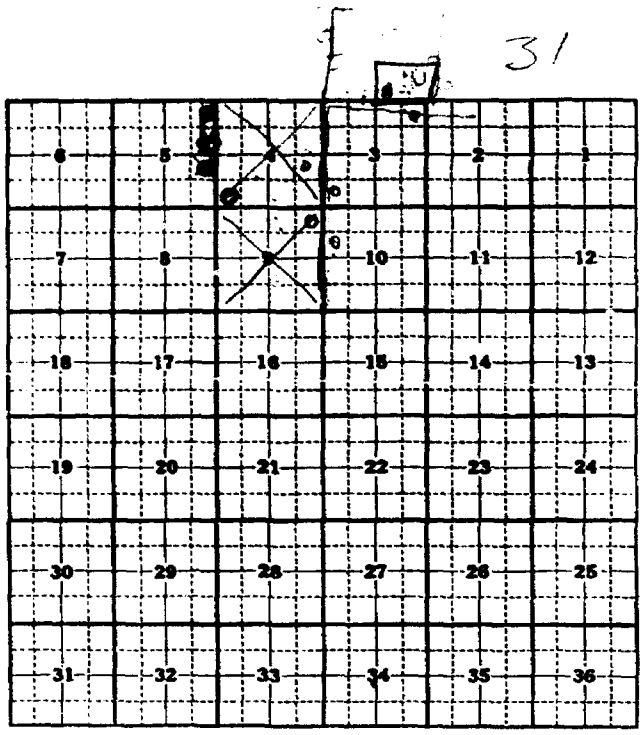
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OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Supplement to Docket No. 38-59

CASE 1808: Application of John H. Trigg to include additional acreage in his water flood project in the Caprock-Queen Pool. Applicant in the above-styled cause, seeks an order including the SE/4 of Section 34, Township 13 South, Range 31 East, in the John H. Trigg water flood project in the Caprock-Queen Pool, Lea and Chaves Counties, New Mexico.

pj/

DOCKET: EXAMINER HEARING NOVEMBER 10, 1959

Oil Conservation Commission - 9 a. m., Mabry Hall, State Capitol, Santa Fe, N. M.

The following cases will be heard before Elvis A. Utz, Examiner, or A. L. Porter, Jr., Secretary.

CASE 1803: Application of Boller & Nichols and Leonard Nichols for a water flood project. Applicants, in the above-styled cause, seek an order authorizing the institution of a water flood project in the Roberts Pool in Lea County, New Mexico, by the injection of water into the Grayburg formation through 11 wells located in Sections 2, 3, 10 and 11, Township 17 South, Range 32 East. Applicants further seek the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1804: Application of Cabot Carbon Company for an oil-oil dual completion and for permission to commingle the production from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Howard Fleet Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 13 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from an undesignated Pennsylvanian oil pool and the production of oil from the King-Devonian Pool through parallel strings of 1½-inch tubing. Applicant further seeks permission to commingle the Devonian and Pennsylvanian production from said Howard Fleet Well No. 1.

CASE 1805: Application of Chaco Oil Company for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a peripheral water flood project in the Red Mountain Oil Pool in McKinley County, New Mexico, by the injection of water into the Menefee zone of the Mesaverde formation through 11 wells to be located on unorthodox locations in Township 20 North, Range 9 West. Applicant further seeks capacity allowables for producing wells in the project.

CASE 1806: Application of Franklin, Aston & Fair, Inc., for a water flood project. Applicant, in the above-styled cause, seeks an order authorizing it to institute a water flood project in the Grayburg-Jackson Pool in Eddy County, New Mexico, by the injection of water into the Grayburg formation through 6 wells located in Sections 25 and 26, Township 17 South, Range 30 East. Applicant further seeks the establishment of an administrative procedure whereby capacity allowables may be assigned to wells in said project without notice and hearing.

CASE 1807: Application of Humble Oil & Refining Company for an exception to Rule 16 of Order No. R-586. Applicant, in the above-styled cause, seeks the reclassification of its State V-11 Well, located 2080 feet from the South and West lines of Section 10, Township 21 South, Range 37 East, Lea County, New Mexico, as a Tubb gas well in exception to the gravity classification as set forth in Order No. R-586.

pj/

Tabulation of Tests not an exhibit information only Case 1808

JOHN H. TRIGG COMPANY
P. O. BOX 5629
ROSWELL, NEW MEXICO

CITIES SERVICE GOVERNMENT "B" LEASE
DAILY PRODUCTION TESTS

WELL NO.	DATE	PROD	DATE	PROD.	DATE	PROD.	DATE	PROD.
GOV. "B" #12	Jan	11.4	Mar.	23.0	June	46.0	Sept.	55.0
Gov "B" #13	Jan	19.7	Mar	14.0	June	20.0	Sept.	30.0
Gov. "B" #16	Jan	10.6	Mar.	11.8	June	24.5	Sept.	42.0
Gov. "B" #18	Jan	5.0	Mar.	14.3	June	14.0	Sept.	14.0
Gov. "B" #20	Jan	17.25	Mar.	21.7	June	15.0	Sept.	14.0
Gov. "B" #22	Jan	34.0	Mar.	34.0	June	30.0	Sept.	30.0

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. 1808
Order No. R-1536

APPLICATION OF JOHN H. TRIGG
TO INCLUDE AN ADDITIONAL
160 ACRES IN HIS WATER FLOOD
PROJECT IN THE CAPROCK-QUEEN
POOL, LEA AND CHAVES COUNTIES,
NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 10, 1959, 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 24th day of November, 1959, 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, John H. Trigg, is the operator of a water flood project in the Caprock-Queen Pool consisting of the following-described acreage, which project was authorized by Order No. R-1456 on August 1, 1959:

TOWNSHIP 14 SOUTH, RANGE 31 EAST
Section 4: All
Section 9: All
Section 5: E/2 NE/4, NE/4 SE/4

(3) That the applicant proposes that the SE/4 of Section 34, Township 13 South, Range 31 East, be incorporated into the above-described project.

(4) That the SE/4 of said Section 34 is not contiguous to the project area authorized by Order No. R-1456 and should not be included in the applicant's existing water flood project.

(5) That the applicant should be permitted to institute a water flood project in the Caprock-Queen Pool on said SE/4 of Section 34 by the injection of water into the Queen formation through the Federal "V" Well No. 1, located in the SE/4 SE/4 of said Section 34 and through the Federal "V" Well No. 3, located in the NW/4 SE/4 of said Section 34.

(6) That the SE/4 of said Section 34 is offset on three sides by a water flood project operated by Cities Service Oil Company, which project was authorized by Order No. R-1128 entered February 12, 1958.

(7) That the above-mentioned Cities Service Oil Company water flood project was authorized prior to the revisions of Rule 701 of the Commission Rules and Regulations and, therefore, it is not subject to the project allowable provisions set forth in said Rule 701.

(8) That accordingly, the applicant's correlative rights cannot be adequately protected unless the Federal "V" Well No. 2, located in the SW/4 SE/4 of Section 34, and the Federal "V" Well No. 4, located in the NE/4 SE/4 of Section 34, are granted an allowable equal to their capacity to produce.

IT IS THEREFORE ORDERED:

(1) That the applicant be and the same is hereby authorized to institute a water flood project in the Caprock-Queen Pool, Lea and Chaves Counties, New Mexico, by the injection of water into the Queen formation through the following-described injection wells:

Federal "V" Well No. 1, SE/4 SE/4 of Section 34
Federal "V" Well No. 3, NW/4 SE/4 of Section 34

Township 13 South, Range 31 East, NMPM, Chaves County, New Mexico.

PROVIDED HOWEVER, That such conversion shall not take place prior to the time the offsetting injection wells are authorized for the Cities Service Oil Company's water flood project in the Brickey Queen Sand Unit area.

(2) That the Federal "V" Well No. 2, located in the SW/4 SE/4 of said Section 34 and the Federal "V" Well No. 4, located in the NE/4 SE/4 of said Section 34, be and the same are hereby granted an allowable equal to their capacity to produce.

(3) That monthly progress reports on the subject water flood project shall be submitted to the Commission in accordance with Rule 704 and Rule 1119 of the Commission Rules and Regulations.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

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

vem/

...vem
Nov. 17

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. 1808

Order No. R-1536

11/19

11-20-59

APPLICATION OF JOHN H. TRIGG TO INCLUDE AN ADDITIONAL 160 ACRES IN HIS WATER FLOOD PROJECT IN THE CAPROCK-QUEEN POOL, LEA AND CHAVES COUNTIES, NEW MEXICO

11/25

11/20

ORDER OF THE COMMISSION

BY THE COMMISSION:

~~This cause came on for hearing at _____ o'clock a.m. on _____, 1959, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."~~

~~NOW, on this _____ day of _____, 1959, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,~~

This cause came on for hearing at 9 o'clock a.m. on November 10, 1959, 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 _____ day of November, 1959, 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, John H. Trigg, is the operator of a water flood project in the Caprock-Queen Pool consisting of the following-described acreage, which project was authorized by Order No. R-1456 on August 1, 1959:

TOWNSHIP 14 SOUTH, RANGE 31 EAST
Section 4: All
Section 9: All
Section 5: E/2 NE/4, NE/4 SE/4

(3) That the applicant proposes that the SE/4 of Section 34, Township 13 South, Range 31 East, be incorporated into the above-described project.

(4) That the SE/4 of said Section 34 is not contiguous to the project area authorized by Order No. R-1456 and should not be included in the applicant's existing water flood project.

(5) That the applicant should be permitted to institute a water flood project in the Caprock-Queen Pool on said SE/4 of Section 34 by the injection of water into the Queen formation through the Federal "V" Well No. 1, located in the SE/4 SE/4 of said Section 34 and through the Federal "V" Well No. 3, located in the NW/4 SE/4 of said Section 34.

(6) That the SE/4 of said Section 34 is offset on three sides by a water flood project operated by Cities Service Oil Company, which project was authorized by Order No. R-1128 entered February 12, 1958.

(7) That the above-mentioned Cities Service Oil Company water flood project was authorized prior to the revisions of Rule 701 of the Commission Rules and Regulations and, therefore, it is not subject to the project allowable provisions set forth in said Rule 701.

(8) That the said SE/4 of Section 34 is a legitimate buffer tract to a capacity water flood.

(9) That accordingly, the applicant's correlative rights cannot be adequately protected unless the Federal "V" Well No. 2, located in the SW/4 SE/4 of Section 34, and the Federal "V" Well No. 4, located in the NE/4 SE/4 of Section 34, are granted an allowable equal to their capacity to produce.

IT IS THEREFORE ORDERED:

(1) That the applicant be and the same is hereby authorized to institute a water flood project in the Caprock-Queen Pool, Lea and Chaves Counties, New Mexico, by the injection of water into the Queen formation through the following-described injection wells:

Federal "V" Well No. 1, SE/4 SE/4 of Section 34

Federal "V" Well No. 3, NW/4 SE/4 of Section 34

Township 13 South, Range 31 East, NMPM, Chaves County, New Mexico.

(2) That the Federal "V" Well No. 2, located in the SW/4 ~~NE/4~~ SE/4 of said Section 34 and the Federal "V" Well No. 4, located in the NE/4 SE/4 of said Section 34, be and the same are hereby granted an allowable equal to their capacity to produce.

(3) That monthly progress reports on the subject water flood project shall be submitted to the Commission in accordance with Rule 704 and Rule 1119 of the Commission Rules and Regulations.

DONE at SFNM--------

PROVIDED HOWEVER, that such conversion shall not take place prior to the time the offsetting injection wells are authorized for the Cities Service Oil Company's waterflood project in the Brickey Queen Sand Unit area.

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 10, 1959

EXAMINER HEARING

IN THE MATTER OF:

Application of John H. Trigg to include additional acreage in his water flood project in the Caprock-Queen Pool. Applicant in the above-styled cause, seeks an order including the SE/4 of Section 34, Township 13 South, Range 31 East, in the John H. Trigg water flood project in the Caprock-Queen Pool, Lea and Chaves Counties, New Mexico. Case 1808

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: The next case will be 1808.

MR. FLINT: Application of John H. Trigg to include additional acreage in his water flood project in the Caprock-Queen Pool.

MR. CAMPBELL: Mr. Examiner, I'm Jack M. Campbell, Campbell and Russell, Roswell, New Mexico, appearing on behalf of the Applicant. I have one witness.

(Witness sworn.)

GENE A. SNOW

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

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DIRECT EXAMINATION

BY MR. CAMPBELL:

Q Will you state your name, please?

A Gene A. Snow.

Q Where do you live, Mr. Snow?

A Maljamar, New Mexico.

Q By whom are you employed, what capacity?

A John H. Trigg, as Production Superintendent.

Q Have you testified previously before this Commission or its Examiners?

A Yes, sir, I have.

Q Did you testify before an Examiner in Case No. 1714 which was the original application of John H. Trigg for a water flood project?

A Yes, sir, I did.

Q At the time that that request was made, Mr. Snow, did you request of the Commission that it include in the project area of that particular water flood project the Southeast Quarter of Section 34, Township 13 South, Range 31 East?

A Yes, sir, I did.

Q Did you advise the Examiner at that time that a line agreement was being entered into between Cities Service Oil Company and John H. Trigg in connection with the placing of two of the wells in that quarter section on injection?

A Yes, sir, I believe so.

Q And that Cities Service and that John H. Trigg was to place certain wells in his Section 4 on injection as a Cities Service project approached that area from the east?

A Yes, sir.

Q Was that Southeast Quarter of Section 34 excluded from the area approved by the Commission in this water flood?

A Yes, it was.

Q I refer you to what has been identified as Applicant's Exhibit No. 1 in this case and ask you to state what that is.

A That is a portion of the Caprock-Queen Field showing the Trigg water flood outlined in yellow, the Cities Service water flood outlined in blue, and a portion of the Great Western proposed project outlined in red.

Q The Southeast Quarter of Section 34 which you seek to include in the John H. Trigg water flood project area is adjacent to the southern portion of the Great Western water flood, is it?

A Yes, it is.

Q And it is surrounded on three sides by the Cities Service water flood, is it not?

A That's right.

Q Do you have any information concerning the present status of the Cities Service project insofar as the wells in Section 3 are concerned?

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PHONE CH 3-6691

A Yes, sir, they are 16, 12 and 13, has received considerable increase from their pilot flood, also their wells 18, 20 and 22 have discontinued to decline as you would expect primary production to do.

Q Are other wells on injection in Section 3?

A Yes, sir. Their No. 10, 14, 5 and 6 and they propose to put 21 and 17 on.

Q Do you say there has been some reaction to water flood in their Well No. 12?

A Yes, sir, considerable.

Q Does that normally lead to placing an offset well on injection in order to back up the increased production?

A Yes, it does.

Q Would you anticipate that some of the wells in the northern tier of Section 3 will be placed on injection within a short period of time?

A Yes, sir, I would say their 20 and possibly their No. 1-C would be placed on injection.

Q Now, what wells in Section 34 of the John H. Trigg Federal Lease there in the Southeast Quarter would be placed on injection under your line agreement?

A No. 1 and 3.

MR. CAMPBELL: Mr. Examiner, that's all I have at this time. I don't know the reason, the particular reason why

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Section 34 of the Southeast Quarter was excluded in the original order. I presume because it wasn't contiguous. I don't know any particular reason why that is the case, but certainly it is apparent now that that tract is surrounded by the Cities Service project and a line agreement was referred to in the original hearing and it was apparent that this particular quarter section was in fact a part of the Trigg operations and that he had worked out a line agreement with Cities Service to place two wells in his area on injection, and also they're going to place two wells in his quarter section on injection.

I don't know exactly under this new order what the procedure is. It seems to me that one of several things possibly could be requested. Inasmuch as it was pointed out in the original hearing that this tract was owned by Trigg, was not a part of the Cities Service project, was requested to be included in the Trigg project, it would seem to me that it very reasonably could be added to the project at this time.

If that cannot be done, it seems to me that under the circumstances it is a reasonable extension of the existing area which is permitted, as I understand it, under the rule that has just been issued in connection with the statewide water flood rules.

MR. UTZ: As a buffer zone you mean?

MR. CAMPBELL: The third alternative would be the buffer zone. It would seem to me that in view of what has

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transpired before in connection with this particular quarter section that it would be perfectly proper simply to enter an order to the effect that at the time of the original order, since the Cities Service project had not proceeded to the extent it has now, that this was excluded at that time, but that since it is now moving and is adjacent to the tract that it should now be included as a part of the project area and come under the same order. I can't see anything wrong with that.

We would like to request in some manner that the Commission now do what we asked them to do the first time, and that is to include the quarter section as a part of this John H. Trigg project.

MR. NUTTER: What would you actually request, an order amending the original order to include that acreage?

MR. CAMPBELL: Yes. I can see no reason why it can't be done. If there is some reason why it can't, I see no reason why under the evidence, the line agreement that has been entered into and the prior record in this case, that this is not a reasonable extension of the existing project area which would bring it under the present statewide rule. The third alternative would be a buffer zone inasmuch as Cities Service is operating under the old rules. We don't care particularly which one it is, but we do feel under all the circumstances it ought now to be included in the John H. Trigg project area.

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MR. UTZ: Does that conclude your direct?

MR. CAMPBELL: Yes, sir. I would like to offer the Exhibit No. 1 in evidence.

MR. UTZ: Without objection it will be entered.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Snow, have you received any response from any wells in this quarter section in question?

A Our production has increased in the last three months, whether it can be attributed to the Cities Service pilot flood for certain I can't say, but I think that's what it is because we haven't made no perimeter work, remedial work on the wells.

Q How much has increased?

A On the average, 2 barrels per well per day.

Q Now, the closest injection well to this acreage is where now?

A No. 10.

Q No. 1, 2, 3 and 4 are not injection wells, any of them are injection wells?

A You mean in the Cities Service?

Q Yes, sir, on the Government C.

A No, sir. The Government C No. 1 would be a proposed injection well, but at this time, no.

Q What are your immediate plans as to putting injection

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wells in this quarter section?

A We have no immediate plans, but as Cities Service sees fit to back up their wells in order to protect correlative rights, we would have to commence injecting in ours also.

MR. UTZ: Any other questions of the witness?

MR. NUTTER: Yes, sir.

MR. UTZ: Mr. Nutter.

BY MR. NUTTER:

Q Mr. Snow, I believe you said that Cities Service has had a response in their No. 18, 20 and 22 to the extent that it had arrested the decline of the primary production?

A Yes, sir.

Q And your wells which are on beyond that have had an increase due to the water flood?

A Well, now, we're up some now, I suppose it's that. I don't know what else I could attribute it to.

Q That would be a bit unusual when your wells have had an increase in production due to the water flood and their wells have not had an increase but merely arrested the decline, wouldn't it?

A Well, now, let's take their Government B No. 18, in January their production test was 5 barrels per day. The September test was 14 barrels per day.

Q That's more than an arrest in the decline then?

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A Yes.

Q It's increased too then, hasn't it?

A The Government B No. 20 January test was 17-1/4 barrels per day and their September test was 14 barrels per day. Now, under normal circumstances why the decline would be, would probably be greater than that.

Q How about the 22?

A In their January test was 34 barrels per day. Their September test was 30 barrels per day.

Q How about the tests on your wells there in the Southeast of 34, Mr. Snow?

A If you would like, I'll just read them for you from March through October.

Q Okay.

A March, 22.2.

Q That's all four of them?

A This's average per well per day. April, 20.5; May, 20.4; June, 18.2; July, 18.3; August, 20.3; September, 20.3; October, 20.2.

Q Have they all performed more or less the same or has there been a --

A Well, about the same. I can give you individual tests for September for our gas-oil ratio test. The No. 1 produced 21 barrels per day, the No. 2, 29, the No. 3, 11, the No. 4, 25.

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There's been no jump in production in any certain well, they're just all about the same.

Q Do you have an earlier test on an individual basis?

A Not with me.

Q Has Cities Service actually put their No. 17 and 21 wells on injection, do you know?

A Monday they had completed logging and they had put their tubing that they planned to inject water through back in the oil and they're laying line right now.

Q Have you started injection in your No. 5 and 7 wells yet?

A No, sir, we have the line laid, we have the wells cleaned out and logged and the plastic lined tubing installed in the well and we are just waiting on Cities Service.

Q Now, what will be the location of the injection plant for injection of water in the Southeast of 34?

A To save expense, Cities Service proposes to furnish us water for 1 and 3; we in turn will furnish them water for the Kerr-McGee Government A No. 1, and the Cities Service No. C No. 7. We'll supply them a like amount.

Q Have you had any discussions with Cities Service as to the expected time that No. 13, 16 or 20 will be put on injection?

A No, sir, I have not, but going by their, by the stimulation that they have had, it would be in the very near future.

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Their No. 13 has increased from 19 barrels per day to 30 barrels per day.

Q How's their 112 done, do you know?

A No. 12?

Q Yes.

A 11.4 in January to 55 in September.

Q And No. 16?

A 10.6 in January to 42 in September.

Q So those wells have had a rather substantial response, haven't they?

A Yes, sir, they have.

MR. NUTTER: I believe that's all, thank you.

BY MR. FLINT:

Q Mr. Snow, is there any injection or response to injection in that portion of the Great Western flood in Section 34?

A No, sir. I don't believe that there has been.

Q Just on the basis of your experience and general knowledge, are you familiar with any water floods in the State of New Mexico that are comprised of non-continuous acreage or any extensions of floods which include non-continuous acreage?

A I'm not familiar with any.

MR. FLINT: That's all.

MR. UTZ: Are there other questions? If not, the witness may be excused.

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(Witness excused.)

MR. UTZ: Any other statements in this case? If not the case will be taken under advisement and the hearing is adjourned.

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 19th day of November, 1959.

Ada Dearnley
Notary Public-Court Reporter

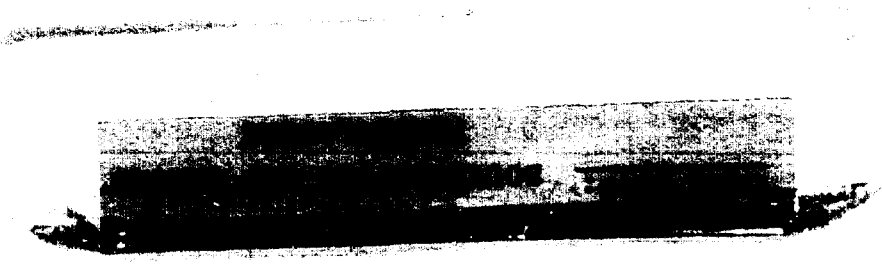
My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1888, heard by me on November 19, 1959.

, Examiner
New Mexico Oil Conservation Commission

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PHONE CH 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 18, 1959
REGULAR HEARING

IN THE MATTER OF:

Southeastern New Mexico nomenclature case calling for an order creating and extending existing pools in Lea, Eddy, and Chaves Counties, New Mexico: Case 1809

(a) Create a new pool, classified as an oil pool for Abo production, designated as the Baish-Abo Pool, and described as:

TOWNSHIP 17 SOUTH, RANGE 32 EAST, NMPM
Section 21: SE/4

(b) Crease a new pool, classified as an oil pool for Silurian production, designated as the Fowler-Upper Silurian Pool, and described as:

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM
Section 22: E/2

(c) Create a new pool, classified as an oil pool for Tubb production, designated as the Monument-Tubb Pool, and described as:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM
Section 16: SE/4

(d) Create a new pool classified as an oil pool for Wolfcamp production, designated as the Canyon-Wolfcamp Pool, and described as:

TOWNSHIP 19 SOUTH, RANGE 24 EAST, NMPM
Section 36: NW/4

(e) Extend the East Crossroads-Devonian Pool to include therein:

TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM
Section 19: E/2 SW/4



(f) Extend the Culwin-Queen Pool to include therein:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM
Section 31: SW/4

(g) Extend the Dayton-Abo Pool to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM
Section 25: W/2
Section 26: S/2
Section 36: NW/4

(h) Extend the High Lonesome Pool to include therein:

TOWNSHIP 16 SOUTH, RANGE 29 EAST, NMPM
Section 12: SE/4

(i) Extend the Little Lucky Lake-Devonian Pool to include therein:

TOWNSHIP 15 SOUTH, RANGE 30 EAST, NMPM
Section 29: SW/4

(j) Extend the Red Lake-Pennsylvanian Gas Pool to include therein:

TOWNSHIP 18 SOUTH, RANGE 27 EAST, NMPM
Section 8: SE/4
Section 17: NE/4

(k) Extend the Robinson Pool to include therein:

TOWNSHIP 16 SOUTH, RANGE 32 EAST, NMPM
Section 30: SE/4
Section 31: SW/4

BEFORE:

Mr. A. L. Porter, Jr.
Mr. Murray Morgan
Governor John Burroughs

TRANSCRIPT OF HEARING

MR. PORTER: We will take up next the nomenclature

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case, Southeast New Mexico, No. 1809.

MR. PAYNE: Case 1809: Southeastern New Mexico nomenclature case calling for an order creating and extending existing pools in Lea, Eddy, and Chaves Counties, New Mexico.

ERIC ENGHBRECHT

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

DIRECT EXAMINATION

BY MR. PAYNE:

Q Will the witness please state his name and position?

A Eric Enghbrecht,District Engineer of the Hobbs District.

Q Have you made a study concerning the necessity or desirability of creating and extending pools in Lea, Eddy, and Chaves Counties, New Mexico?

A I have.

Q What are your recommendations concerning the creation of a new oil pool for Abo production?

A I recommend a new pool be created called Baish-Abo on the basis of one completed oil well. The discovery well is the Continental Oil Company M. E. Baish "A" No. 27 in Unit I of Section 21, Township 17 South, Range 32 East, completed in the Abo on September 2, 1959. The top of the perforations is at 3977.

Q What do you propose as the horizontal limits?

A It would be the Southeast Quarter of Section 21-17-32.

Q What do you propose as the vertical limits?

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ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

A The Abo formation.

Q What are your recommendations concerning the creation of a new oil pool for Silurian production?

A I recommend a new pool be created called the Fowler-Upper Silurian Formation, and there's two wells completed within this pool. The discovery well is the Pan American Petroleum Corporation South Mattix Unit No. 3 in Unit B of Section 22, Township 24 South, Range 37 East. It's completed in the Silurian Formation on February 11, 1959. The top of the perforations is at 7180. The pool's vertical limits should be the Silurian formation; the horizontal shall be the East Half of Section 22, Township 24, Range 37 East.

Q What are your recommendations concerning the creation of a new oil pool for Tubb production?

A I recommend a new oil pool be created called Monument-Tubb, and a discovery well is by Amerada Petroleum Corporation, their State "Q" No. 1 in Unit J of Section 16, Township 20 South, Range 37 East. It is completed in the Tubb on June 9, 1959. The top of the perforations is at 6455. I recommend that the vertical limits shall be the Tubb Formation; the horizontal limits shall be the Southeast Quarter of Section 16 of Township 20 South, Range 37 East.

Q What are your recommendations concerning the creation of a new oil pool for Wolfcamp production?

A I recommend the creation of a new oil pool called the

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Canyon-Wolfcamp in Eddy County. There is one well capable of producing which is called the discovery well. It was drilled by Gordon M. Cone, Gorman State No. 1 in Unit C of Section 36, Township 19 South, Range 24 East. It is completed in the Wolfcamp Formation on July 14, 1959. The top of the perforations is at 5741. I recommend that the vertical limits shall be the Wolfcamp Formation; the horizontal limits shall be the Northwest Quarter of Section 36, Township 19 South, Range 24 East.

Q What are your recommendations concerning the extension of the East Crossroads-Devonian Pool?

A I recommend that the East Crossroads-Devonian Pool shall be extended as outlined in green, which is the North Half of the Southeast Quarter of Section 19 of Township 9 South, Range 37 East, because of one well capable of producing from the vertical limits of this pool.

Q This green outline that you are discussing, is that shown on your exhibit?

A Yes, sir, it is shown on an exhibit. The red is the present pool boundary on this exhibit.

Q What are your recommendations concerning the extension of the Culwin-Queen Pool?

A I recommend that the Culwin-Queen Pool be extended to include the Southwest Quarter of Section 31 because of one well capable of producing within the vertical limits.

Q All this acreage is in Township 18 South, Range 31 East?

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ALBUQUERQUE, NEW MEXICO
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A Yes.

Q What are your recommendations concerning the extension of the Dayton-Abo Pool?

A I recommend that the Dayton-Abo Pool shall be extended as outlined in green, which includes the West Half of Section 25, South Half of Section 26, the Northwest Quarter of Section 36. There are two wells capable of producing within the vertical limits of the Dayton-Abo Pool.

Q All this acreage is in Township 18 South, Range 26 East?

A Yes.

Q What is your recommendation concerning the High Lonesome Pool?

A I recommend that the High Lonesome Pool be extended as outlined in green, which includes the Southeast Quarter of Section 12 of Township 16 South, Range 29 East. There is one well capable of producing within the vertical limits of the High Lonesome Pool.

Q What are your recommendations concerning the extension of the Little Lucky Lake-Devonian Pool?

A I recommend that the Little Lucky Lake-Devonian Pool be extended as outlined in green, which shall include the Southwest Quarter of Section 29, Township 15 South, Range 30 East. There is one well capable of producing within the vertical limits of the Little Lucky Lake-Devonian Pool.

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Q What are your recommendations concerning the extension of the Red Lake-Pennsylvanian Gas Pool?

A I recommend that the Red Lake-Pennsylvanian Gas Pool be extended as outlined in green, which shall include the Southeast Quarter of Section 8, the Northeast Quarter of Section 17, all within Township 18 South, Range 27 East. There is one well capable of producing within the vertical limits of the Pennsylvanian Gas.

Q What are your recommendations concerning the extension of the Robinson Pool?

A I make a recommendation that the Robinson Pool be extended as outlined in green, because four wells capable of producing within the vertical limits of the Robinson Pool. The horizontal limits to be extended are the Southwest Quarter of Section 30 and the South --

Q Southwest of 31?

A Yes, the Southwest of 31 and the Southeast of 30, Township 16 South, Range 32 East.

Q Have you prepared an exhibit substantiating your recommendation?

A Excuse me, we have one more, Addition (k), Robinson, which is on another range; the extension of the Robinson, which is in Section 11 of the Northeast Quarter of Township 17 South, Range 31 East.

Q On the basis of how many wells capable of producing?

A In Range 31, on the basis of one well capable of

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PHONE CH 3-6691

producing, and in Range 32 East of the wells capable of producing.

Q Have you prepared an exhibit substantiating your recommendations?

A Yes, I have and they are designated alphabetically from A through K, and K has two sheets.

MR. PAYNE: I move for the introduction of Exhibits A through K.

MR. PORTER: Without objections the exhibits will be admitted.

Does this Robinson Pool lie along the Eddy-Lea County line where part of the wells are located in one County and part in the other?

A Yes, sir. The Township 16 South, Range 32 East are in Lea County.

MR. PORTER: In which direction is this development taking place now? It's an old pool.

A Extending the limits from the northwest and the southeast direction of the old pool.

MR. PORTER: Southeast?

A Yes, sir.

MR. PORTER: Southeast?

A Part of it is in the southern flank of the pool and part of it is in the northern flank of the pool.

MR. PORTER: Mr. Nutter.

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Enghbricht, with reference to paragraph (c), you've recommended the creation of a Fowler-Upper Silurian Pool, and yet you called for the vertical limits to be the Silurian Formation. Do you intend for the entire Silurian formation to be vertical limits of the pool?

A Excuse me, was that in paragraph (c)?

Q (b), I beg your pardon.

A The Upper Silurian, the Fowler-Upper Silurian.

Q What would be the vertical limits?

A The Upper Silurian.

Q Or the upper portion of the Silurian?

A That is the way it is designated. Maybe we should check into that.

Q Can you tell what is different between the upper and the lower?

A Do you want to hold this open until we get it established more correctly? In that connection it is not --

MR. PORTER: I think we had better hold the case open. Let the record show that this paragraph (b) of Case 1809 will be dismissed and if it's the recommendation of the Hobbs staff, it will be readvertised as part of another nomenclature case.

Is that all we have in this case?

MR. PAYNE: Yes.

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

MR. PORTER: The witness will be excused.

(Witness excused.)

MR. PORTER: If nothing further, we'll take this case 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.

DATED this 4th day of December, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley
NOTARY PUBLIC

My commission expires:

June 19, 1963.

DEARNLEY-MEIER REPORTING SERVICE, Inc.
ALBUQUERQUE, NEW MEXICO
PHONE CH 3-6691

NOMENCLATURE ADVERTISEMENT FOR NOVEMBER 1959

Case No. 1809

In the matter of the application of the Oil Conservation Commission of New Mexico upon its own motion for an order for the creation and extension of existing pools in Chaves, Eddy, and Lea Counties, New Mexico, and giving notice to all persons and parties interested in the subject matter thereof to appear and show cause why such creations and extensions should not be made.

(a) Create a new oil pool in Lea County, New Mexico, classified as an oil pool for Abo production, designated as the Baish-Abo Pool, and described as:

TOWNSHIP 17 SOUTH, RANGE 32 EAST, NMPM
Section 21: SE/4

and such other, et cetera.

(b) Created a new pool in Lea County, New Mexico, classified as an oil pool for Silurian production, designated as the Fowler-Upper Silurian Pool, and described as:

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM
Section 22: E/2

and such other, et cetera.

(c) Create a new pool in Lea County, New Mexico, classified as an oil pool for Tubb production, designated as the Monument-Tubb Pool, and described as:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM
Section 16: SE/4

and such other, et cetera.

(d) Create a new pool in Eddy County, New Mexico, classified as an oil pool for Wolfcamp production, designated as the Canyon-Wolfcamp Pool, and described as:

TOWNSHIP 19 SOUTH, RANGE 24 EAST, NMPM
Section 36: NW/4

and such other, et cetera.

(e) Extend the East Crossroads-Devonian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM
Section 19: N/2 SE/4

and such other, et cetera.

(f) Extend the Culwin-Queen Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM
Section 31: SW/4

and such other, et cetera.

(g) Extend the Dayton-Abo Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM
Section 25: W/2
Section 26: S/2
Section 36: NW/4

and such other, et cetera.

(h) Extend the High Lonesome Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 29 EAST, NMPM
Section 12: SE/4

and such other, et cetera.

(i) Extend the Little Lucky Lake-Devonian Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 15 SOUTH, RANGE 30 EAST, NMPM
Section 29: SW/4

and such other, et cetera.

(j) Extend the Red Lake-Pennsylvanian Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 27 EAST, NMPM
Section 8: SE/4
Section 17: NE/4

and such other, et cetera.

(k) Extend the Robinson Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 32 EAST, NMPM
Section 30: SE/4
Section 31: SW/4

No. 39-59

DOCKET: REGULAR HEARING NOVEMBER 18, 1959

Oil Conservation Commission 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

Allowable: (1) Consideration of the oil allowable for December, 1959.

(2) Consideration of the allowable production of gas for December, 1959, for six prorated pools in Lea County, New Mexico and for the allowable production of gas for seven prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for December, 1959; also presentation of purchasers' nominations for the six-month period beginning January 1, 1960, for the six prorated pools in Lea County, New Mexico.

CASE 1728: (Hearing de Novo)
Application of Hanson, Waters, and Williamson for a hearing de novo before the Oil Conservation Commission in Case No. 1728, Order No. R-1473, which was an application for a pilot water flood project in the Coyote-Queen Pool, Chaves County, New Mexico, and for capacity allowables for 12 wells in said project, and for the establishment of an administrative procedure for expanding said project and for granting capacity allowables to wells in said project.

NEW CASES

CASE 1757: Application of J. C. Williamson for an order establishing 80-acre proration units in an undesignated Devonian pool in Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order establishing 80-acre proration units in an undesignated Devonian pool in Chaves County, New Mexico. The discovery well is located 660 feet from the North and East lines of Section 1, Township 12 South, Range 28 East.

CASE 1809: Southeastern New Mexico nomenclature case calling for an order creating and extending existing pools in Lea, Eddy, and Chaves Counties, New Mexico:

(a) Create a new pool, classified as an oil pool for Abo production, designated as the Baish-Abo Pool, and described as:

TOWNSHIP 17 SOUTH, RANGE 32 EAST, NMPM
Section 21: SE/4

(b) Create a new pool, classified as an oil pool for Silurian production, designated as the Fowler-Upper Silurian Pool, and described as:

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM	
Section 22:	E/2

(c) Create a new pool, classified as an oil pool for Tubb production, designated as the Monument-Tubb Pool, and described as:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM	
Section 16:	SE/4

(d) Create a new pool classified as an oil pool for Wolfcamp production, designated as the Canyon-Wolfcamp Pool, and described as:

TOWNSHIP 19 SOUTH, RANGE 24 EAST, NMPM	
Section 36:	NW/4

(e) Extend the East Crossroads-Devonian Pool to include therein:

TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM	
Section 19:	N/2 SE/4

(f) Extend the Culwin-Queen Pool to include therein:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM	
Section 31:	SW/4

(g) Extend the Dayton-Abo Pool to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM	
Section 25:	W/2
Section 26:	S/2
Section 36:	NW/4

(h) Extend the High Lonesome Pool to include therein:

TOWNSHIP 16 SOUTH, RANGE 29 EAST, NMPM	
Section 12:	SE/4

(i) Extend the Little Lucky Lake-Devonian Pool to include therein:

TOWNSHIP 15 SOUTH, RANGE 30 EAST, NMPM	
Section 29:	SW/4

(j) Extend the Red Lake-Pennsylvanian Gas Pool to include therein:

TOWNSHIP 18 SOUTH, RANGE 27 EAST, NMPM	
Section 8:	SE/4
Section 17:	NE/4

(k) Extend the Robinson Pool to include therein:

TOWNSHIP 16 SOUTH, RANGE 32 EAST, NMPM	
Section 30:	SE/4
Section 31:	SW/4

CASE 1810: Northwestern New Mexico nomenclature case calling for an order creating and extending existing pools in Rio Arriba and San Juan Counties, New Mexico:

(a) Create a new gas pool for Pictured Cliffs production, designated as the Pine Lake-Pictured Cliffs Pool and described as:

TOWNSHIP 26 NORTH, RANGE 2 WEST, NMPM	
Section 7:	S/2 (partial)
Section 8:	SW/4
Section 18:	All (partial)
Section 19:	All (partial)
Section 20:	W/2

TOWNSHIP 26 NORTH, RANGE 3 WEST, NMPM	
Section 1:	All
Section 2:	All
Section 3:	E/2
Section 10:	E/2
Section 11:	All
Section 12:	All
Section 13:	All
Section 14:	E/2
Section 23:	NE/4
Section 24:	All

TOWNSHIP 27 NORTH, RANGE 3 WEST, NMPM	
Section 11:	All (partial)
Section 14:	All
Section 15:	All
Section 16:	All
Section 17:	All
Section 18:	All
Section 22:	All
Section 23:	All
Section 24:	S/2
Section 25:	All
Section 26:	All
Section 27:	All
Section 34:	E/2
Section 35:	All
Section 36:	W/2

(b) Extend the Blanco-Pictured Cliffs Pool to include therein:

TOWNSHIP 29 NORTH, RANGE 9 WEST, NMPM	
Section 1:	W/2
Section 2:	All
Section 3:	All
Section 4:	NE/4

TOWNSHIP 30 NORTH, RANGE 9 WEST, NMPM	
Section 27:	SE/4
Section 33:	E/2
Section 34:	All
Section 35:	All
Section 36:	S/2

(c) Extend the Gavilan-Pictured Cliffs Pool to include therein:

TOWNSHIP 25 NORTH, RANGE 2 WEST, NMPM	
Section 9:	NE/4

(d) Extend the Tapacito-Pictured Cliffs Pool to include therein:

TOWNSHIP 27 NORTH, RANGE 5 WEST, NMPM	
Section 29:	NE/4

(e) Extend the Blanco-Mesaverde Pool to include therein:

TOWNSHIP 27 NORTH, RANGE 9 WEST, NMPM	
Section 1:	E/2
Section 12:	E/2

(f) Extend the Bisti-Lower Gallup Oil Pool to include therein:

TOWNSHIP 25 NORTH, RANGE 11 WEST, NMPM	
Section 15:	S/2 NW/4
Section 16:	S/2 NE/4

(g) Extend the Horseshoe-Gallup Oil Pool to include therein:

TOWNSHIP 31 NORTH, RANGE 16 WEST, NMPM	
Section 34:	SW/4 NE/4 & NW/4 SE/4

TOWNSHIP 31 NORTH, RANGE 17 WEST, NMPM	
Section 13:	NW/4 SW/4

(h) Extend the Verde-Gallup Oil Pool to include therein:

TOWNSHIP 31 NORTH, RANGE 14 WEST, NMPM	
Section 21:	SE/4 NW/4 & SW/4 NE/4

(i) Extend the South Blanco-Dakota Pool to include therein:

TOWNSHIP 26 NORTH, RANGE 5 WEST, NMPM	
Section 5:	All
Section 6:	All
Section 7:	All
Section 8:	W/2

TOWNSHIP 26 NORTH, RANGE 6 WEST, NMPM	
Section 1:	All
Section 2:	All
Section 3:	All
Section 4:	E/2 & NW/4
Section 7:	All
Section 8:	W/2 & SE/4
Section 9:	NE/4
Section 10:	N/2 & SE/4
Section 11:	All
Section 12:	All
Section 14:	N/2

TOWNSHIP 26 NORTH, RANGE 7 WEST, NMPM	
Section 1:	SE/4
Section 12:	E/2
Section 13:	N/2

TOWNSHIP 27 NORTH, RANGE 6 WEST, NMPM	
Section 32:	E/2
Section 33:	All
Section 34:	All

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 1809
Order No. R-1832

THE APPLICATION OF THE OIL
CONSERVATION COMMISSION UPON
ITS OWN MOTION FOR AN ORDER
CREATING AND EXTENDING CERTAIN
POOLS IN CHAVES, EDDY, AND
LEA COUNTIES, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 18, 1959, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW on this_____day of November 1959, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, 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 there is need for the creation of a new pool in Lea County, New Mexico, for the production of oil from the Abo formation, said pool to bear the designation Baish-Abo Pool. Said Baish-Abo Pool was discovered by Continental Oil Company, M. E. Baish "A" Well No. 27, located in the SE/4 of Section 21, Township 17 South, Range 32 East, NMPM. It was completed September 2, 1959. The top of perforations is at 8977 feet.

3) That there is need for the creation of a new pool in Lea County, New Mexico, for the production of oil from the Silurian formation, said pool to bear the designation Fowler-Upper Silurian Pool. Said Fowler-Upper Silurian Pool was discovered by Pan American Petroleum Corporation, South Mattix Unit Well No. 3, located in the NE/4 of Section 22, Township 24 South, Range 37 East, NMPM. It was completed February 11, 1959. The top of perforations isat 7180 feet.

3 4) That there is need for the creation of a new pool in Lea County, New Mexico, for the production of oil from the Tubb formation, said pool to bear the designation Monument-Tubb Pool. Said Monument-Tubb Pool was discovered by Amerada Petroleum Corporation, State "Q" Well No. 1, located in the SE/4 of Section 16, Township 20 South, Range 37 East, NMPM. It was completed June 9, 1959. The top of perforations is at 6455 feet.

4 5) That there is need for the creation of a new pool in Eddy County, New Mexico, for the production of oil from the Wolfcamp formation, said pool to bear the designation Canyon-Wolfcamp Pool. SaidCanyon-Wolfcamp Pool was discovered by Gordon K. Cone, Gorman State Well No. 1, located in the NW/4 of Section 36, Township 19 South, Range 24 East, NMPM. It was completed July 15, 1959. The top of perforations is at 5741 feet.

5 e) That there is need for certain extensions to the Little Lucky Lake-Devonian Pool in Chaves County, New Mexico; to the Culwin-Queen Pool, the Dayton-Abo Pool, the High Lonesome Pool, the Red Lake-Pennsylvanian Gas Pool, the Robinson Pool, all in Eddy County, New Mexico; and to the East Crossroads-Devonian Pool and the Robinson Pool, both in Lee County, New Mexico.

IT IS THEREFORE ORDERED:

a) That a new pool in Lee County, New Mexico, classified as an oil pool for Abo production, be and the same is hereby created and designated as the Balsh-Abo Pool, consisting of the following described area:

TOWNSHIP 17 SOUTH, RANGE 32 EAST, NMPM
Section 21: SE/4

Dismissed b) That a new pool in Lee County, New Mexico, classified as an oil pool for Silurian production, be and the same is hereby created and designated as the Fowler-Upper Silurian Pool, consisting of the following described area:

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM
Section 22: E/2

b c) That a new pool in Lee County, New Mexico, classified as an oil pool for Tubb production, be and the same is hereby created and designated as the Monument-Tubb Pool, consisting of the following described area:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM
Section 16: SE/4

c d) That a new pool in Eddy County, New Mexico, classified as an oil pool for Wolfcamp production, ~~be and the same~~ is hereby created and designated as the Canyon-Wolfcamp Pool, consisting of the following described area:

TOWNSHIP 19 SOUTH, RANGE 24 EAST, NMPM
Section 36: NW/4

d e) That the East Crossroads-Devonian Pool in Lee County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM
Section 19: N/2 SE/4

e f) That the Culwin-Queen Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM
Section 31: SW/4

f g) That the Dayton-Abo Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM
Section 25: W/2
Section 26: S/2
Section 36: NW/4

g h) That the High Lonesome Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 16 SOUTH, RANGE 29 EAST, NMPM
Section 12: SE/4

h (f) That the Little Lucky Lake-Devonian Pool in Chaves County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 15 SOUTH, RANGE 30 EAST, NMPM
Section 29: W/4

i (g) That the Red Lake-Pennsylvanian Gas Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 18 SOUTH, RANGE 27 EAST, NMPM
Section 8: NE/4
Section 17: NE/4

j (h) That the Robinson Pool in Lea and Eddy Counties, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 16 SOUTH, RANGE 32 EAST, NMPM
Section 30: NE/4
Section 31: NW/4

TOWNSHIP 17 SOUTH, RANGE 31 EAST, NMPM
Section 11: NE/4

IT IS FURTHER ORDERED:

That the effective date of this order and all creations and extensions included herein shall be December 1, 1959.

Done at Santa Fe, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

A. L. PORTER, JR., Member and Secretary

S E A L

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 1809
Order No. R-1532

THE APPLICATION OF THE OIL
CONSERVATION COMMISSION UPON
ITS OWN MOTION FOR AN ORDER
CREATING AND EXTENDING CERTAIN
POOLS IN CHAVES, EDDY, AND LEA
COUNTIES, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 18, 1959, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 23rd day of November, 1959, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, 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 there is need for the creation of a new pool in Lea County, New Mexico, for the production of oil from the Abo formation, said pool to bear the designation Baish-Abo Pool. Said Baish-Abo Pool was discovered by Continental Oil Company, M. E. Baish "A" Well No. 27, located in the SE/4 of Section 21, Township 17 South, Range 32 East, NMPM. It was completed September 2, 1959. The top of perforations is at 8977 feet.

(3) That the proposed creation of a new pool in Section 22, Township 24 South, Range 37 East, Lea County, New Mexico, for the production of oil from the Silurian formation be dismissed pending further study.

(4) That there is need for the creation of a new pool in Lea County, New Mexico, for the production of oil from the Tubb formation, said pool to bear the designation Monument-Tubb Pool. Said Monument-Tubb Pool was discovered by Amerada Petroleum Corporation, State "Q" Well No. 1, located in the SE/4 of Section 16, Township 20 South, Range 37 East, NMPM. It was completed June 9, 1959. The top of perforations is at 6465 feet.

(5) That there is need for the creation of a new pool in Eddy County, New Mexico, for the production of oil from the Wolfcamp formation, said pool to bear the designation Canyon-Wolfcamp Pool. Said Canyon-Wolfcamp Pool was discovered by Gordon M. Cone, Gorman State Well No. 1, located in the NW/4 of Section 36, Township 19 South, Range 24 East, NMPM. It was completed July 15, 1959. The top of perforations is at 5741 feet.

(6) That there is need for certain extensions to the Little Lucky Lake-Devonian Pool in Chaves County, New Mexico; to the Culwin-Queen Pool, the Dayton-Abo Pool, the High Lonesome Pool, the Red Lake-Pennsylvania Gas Pool, the Robinson Pool, all in Eddy County, New Mexico; and to the East Crossroads-Devonian Pool and the Robinson Pool, both in Lea County, New Mexico.

IT IS THEREFORE ORDERED:

(a) That a new pool in Lea County, New Mexico, classified as an oil pool for Abo production, be and the same is hereby created and designated as the Baish-Abo Pool, consisting of the following-described area:

TOWNSHIP 17 SOUTH, RANGE 32 EAST, NMPM
Section 21: SE/4

(b) That the proposed creation of a new pool in Lea County, New Mexico, classified as an oil pool for Silurian production, consisting of the following-described area:

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM
Section 22: E/2

be and the same is hereby dismissed.

(c) That a new pool in Lea County, New Mexico, classified as an oil pool for Tubb production, be and the same is hereby created and designated as the Monument-Tubb Pool, consisting of the following-described area:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM
Section 16: SE/4

(d) That a new pool in Eddy County, New Mexico, classified as an oil pool for Wolfcamp production, be and the same is hereby created and designated as the Canyon-Wolfcamp Pool, consisting of the following-described area:

TOWNSHIP 19 SOUTH, RANGE 24 EAST, NMPM
Section 36: NW/4

(e) That the East Crossroads-Devonian Pool in Lea County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM
Section 19: N/2 SE/4

(f) That the Culwin-Queen Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM
Section 31: SW/4

(g) That the Dayton-Abo Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM
Section 25: W/2
Section 26: S/2
Section 36: NW/4

(h) That the High Lonesome Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 16 SOUTH, RANGE 29 EAST, NMPM
Section 12: SE/4

(i) That the Little Lucky Lake-Devonian Pool in Chaves County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 15 SOUTH, RANGE 30 EAST, NMPM
Section 29: SW/4

(j) That the Red Lake-Pennsylvanian Gas Pool in Eddy County, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 18 SOUTH, RANGE 27 EAST, NMPM
Section 8: SE/4
Section 17: NE/4

(k) That the Robinson Pool in Lea and Eddy Counties, New Mexico, as heretofore classified, defined, and described, be and the same is hereby extended to include therein:

TOWNSHIP 16 SOUTH, RANGE 32 EAST, NMPM
Section 30: SE/4
Section 31: SW/4

TOWNSHIP 17 SOUTH, RANGE 31 EAST, NMPM
Section 11: NE/4

IT IS FURTHER ORDERED:

That the effective date of this order and all creations and extensions included herein shall be December 1, 1959.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

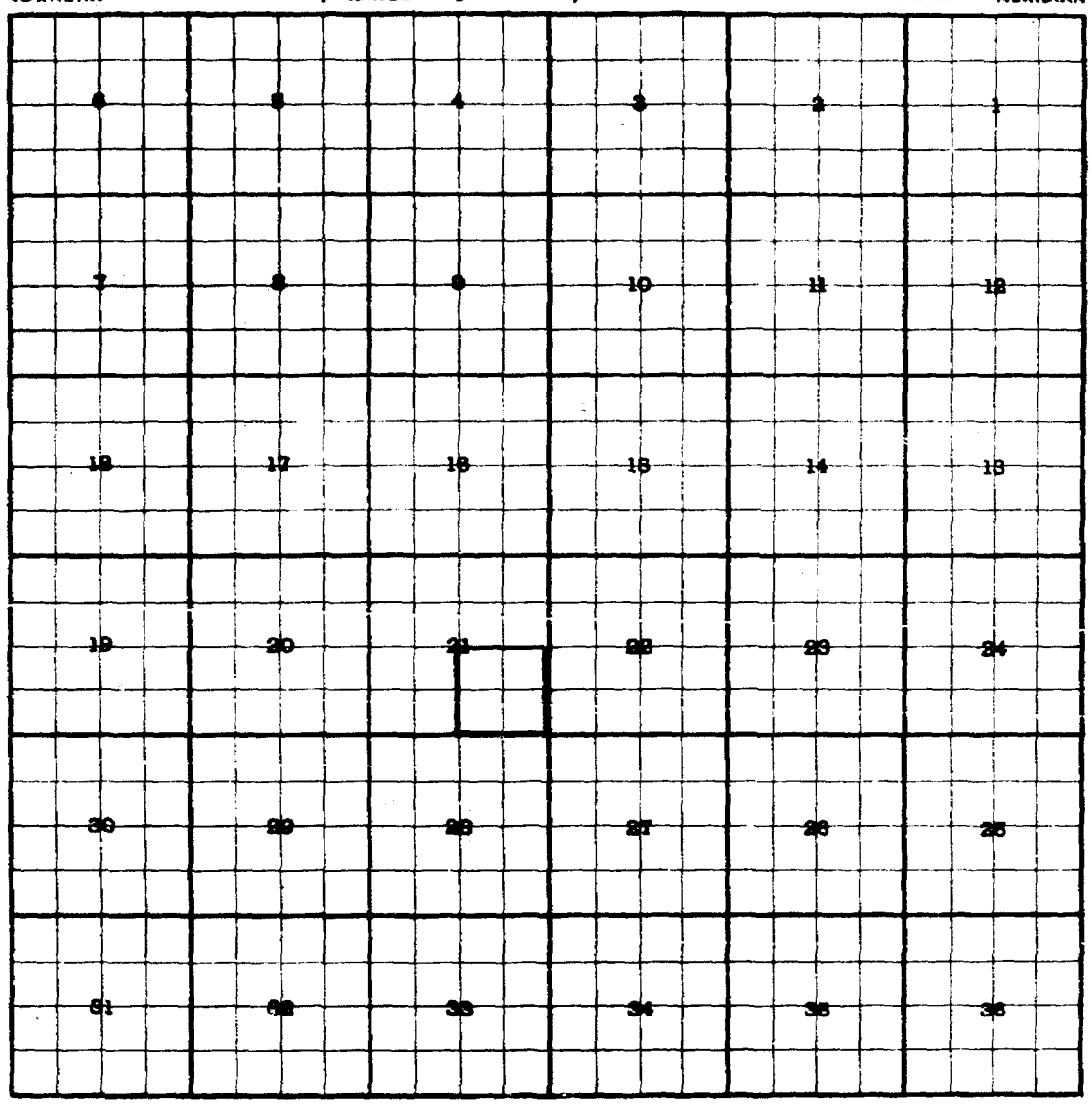
A. L. PORTER, Jr., Member & Secretary

vem/

CASE 1809: (a) CREATION OF AN OIL POOL.

County LEA Pool BAISH-ABO

TOWNSHIP 17 South, RANGE 32 East, NEW MEXICO PRINCIPAL MERIDIAN



PURPOSE: One (1) completed oil well capable of producing.

DISCOVERY WELL: Continental Oil Company - M. E. Baish "A" No. 27 in Unit I of Section 21-T17S-R32E. Completed in Abo on September 2, 1959. Top of perforations is at 8977'.

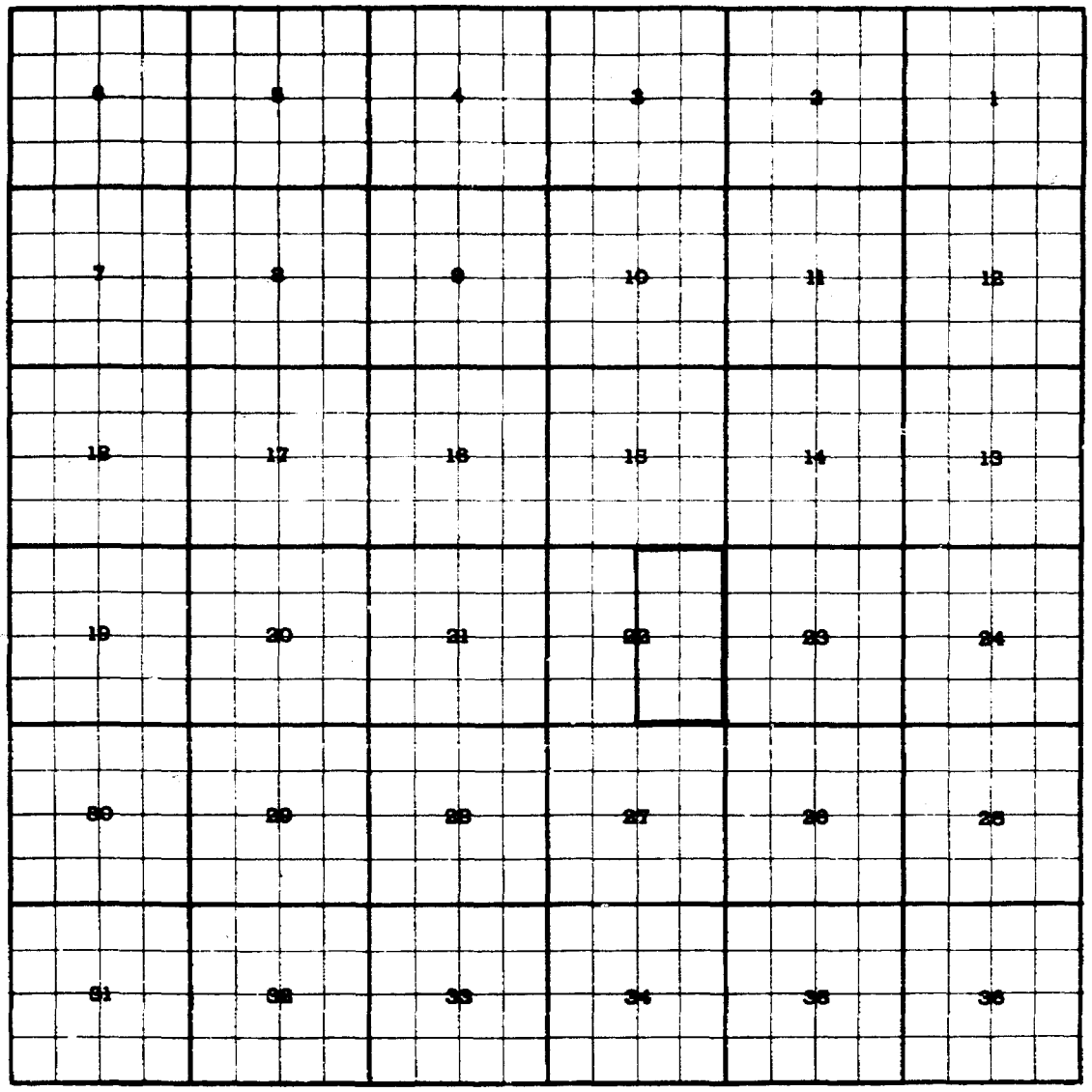
Proposed pool boundary colored in red. SECTION 21: SE/4

BEFORE THE OIL CONSERVATION COMMISSION STATE, NEW MEXICO EXHIBIT No. 1 CASE 1809

CASE 1809: (b) CREATION OF AN OIL POOL.

County LEA Pool FOWLER-UPPER SILURIAN

TOWNSHIP 24 South, RANGE 37 East, NEW MEXICO PRINCIPAL MERIDIAN



PURPOSE: Two (2) completed oil wells capable of producing.

DISCOVERY WELL: Pan American Petroleum Corp. - South Mattix Unit No. 3 in Unit B of Section 22 T24S R37E. Completed in Silurian February 11, 1959. Top of perforations is at 7180'.

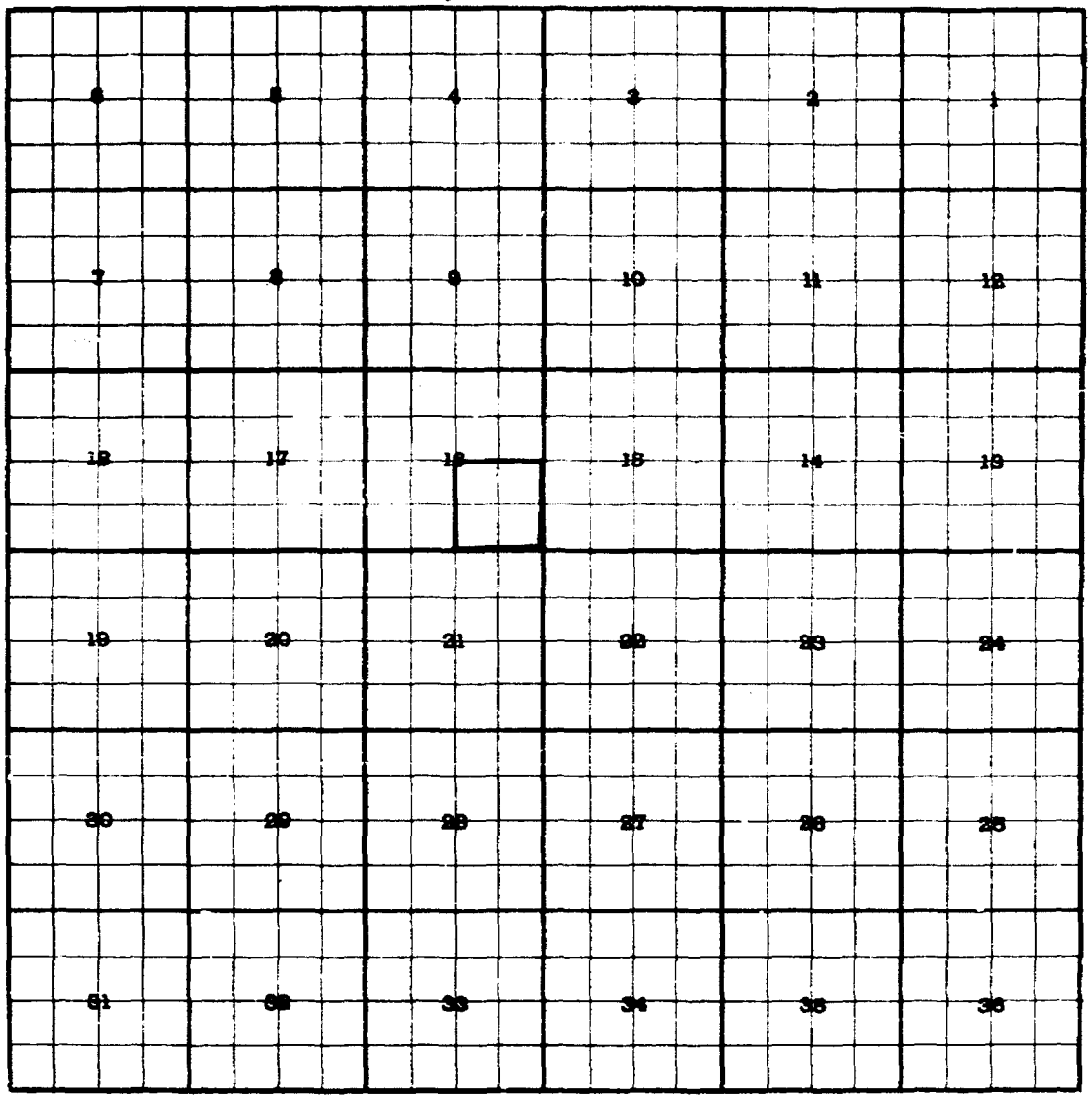
and, Pan American Petroleum Corp. - South Mattix Unit No. 13 in Unit I of Section 22-T24S-R37E. Completed in Silurian August 5, 1959. Top of perforations is at 7296'.

Proposed pool boundary colored in red. SECTION 22: E/2

CASE 1809: (c) CREATION OF AN OIL POOL.

County LEA Pool MONUMENT-TUBB

TOWNSHIP 20 South, RANGE 37 East, NEW MEXICO PRINCIPAL MERIDIAN



PURPOSE: One (1) completed oil well capable of producing.

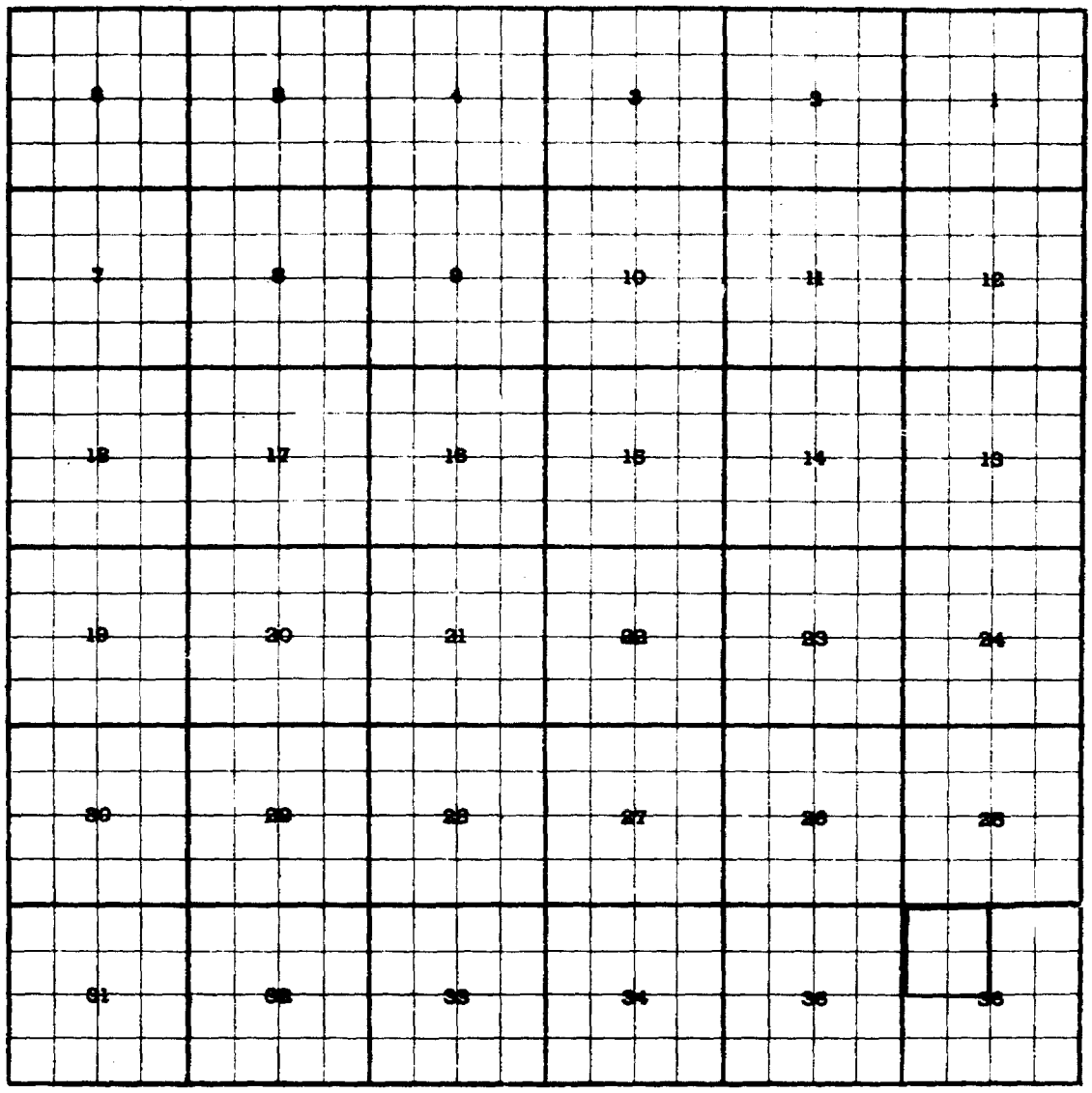
DISCOVERY WELL: Amerada Petroleum Corp. - State "Q" No. 1 in Unit J of Section 16-T20S-R37E. Completed in Tubb June 9, 1959. Top of perforations is at 6455'.

Proposed pool boundary colored in red. SECTION 16: SE/4

CASE 1809: (d) CREATION OF AN OIL POOL.

County EDDY Pool CANYON-WOLFCAMP

TOWNSHIP 19 South, RANGE 24 East, NEW MEXICO PRINCIPAL MERIDIAN



PURPOSE: One (1) completed oil well capable of producing.

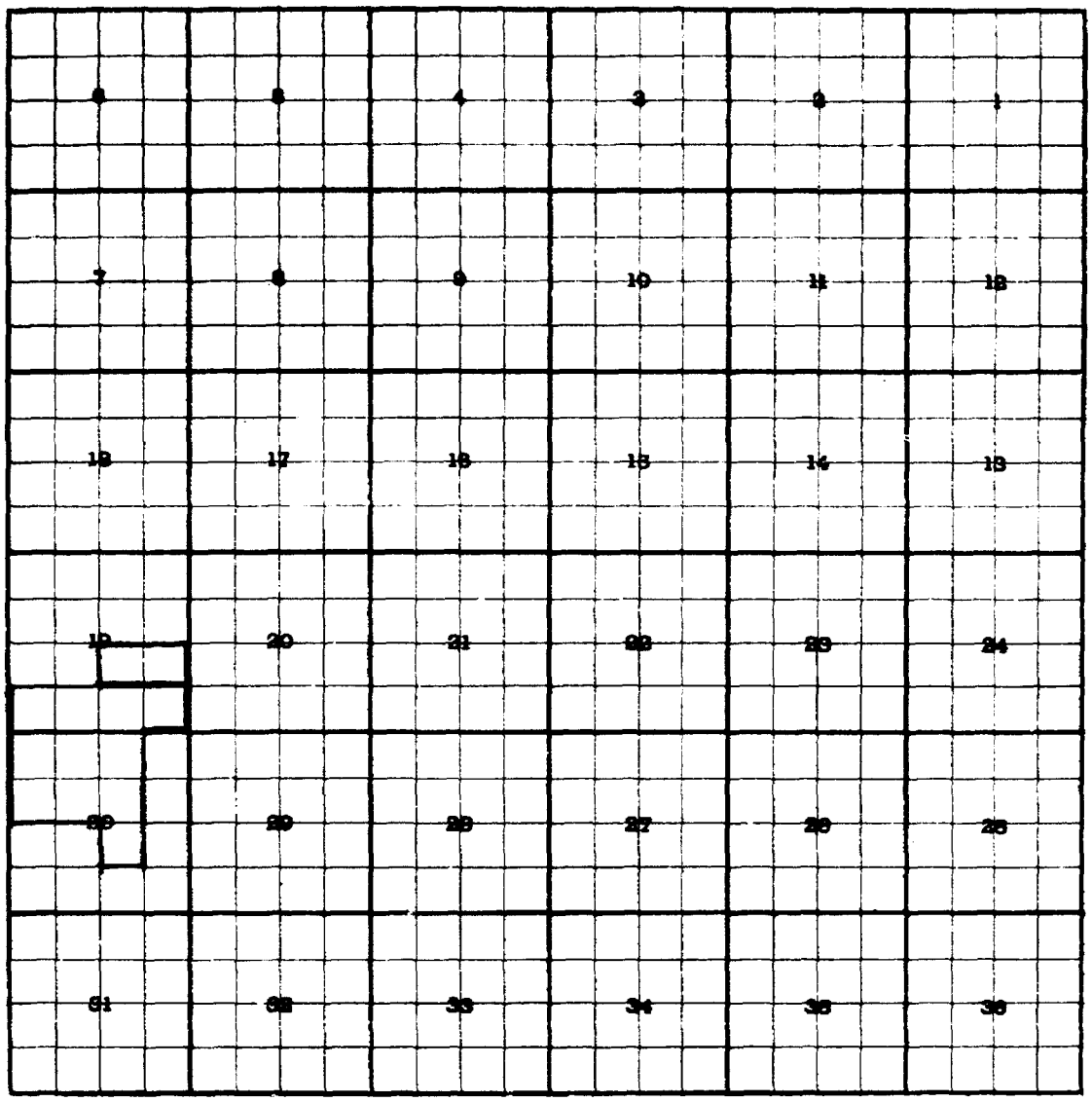
DISCOVERY WELL: Gordon M. Cone - Gorman State No. 1 in Unit C of Section 36-T19S-R24E. Completed in Wolfcamp on July 15, 1959. Top of perforations is at 5741'.

Proposed pool boundary colored in red. SECTION 36: NW/4

CASE 1809: (e) EXTENSION OF AN EXISTING OIL POOL.

County LEA Pool EAST CROSSROADS-DEVONIAN

TOWNSHIP 9 South, RANGE 37 East, NEW MEXICO PRINCIPAL MERIDIAN



PURPOSE: One (1) completed oil well capable of producing.

J. C. Barnes Oil Company - Warren Davis Federal No. 1 in Unit J of Section 19-T9S-R37E. Completed in Devonian on July 4, 1959. Top of perforations is at 12,242'.

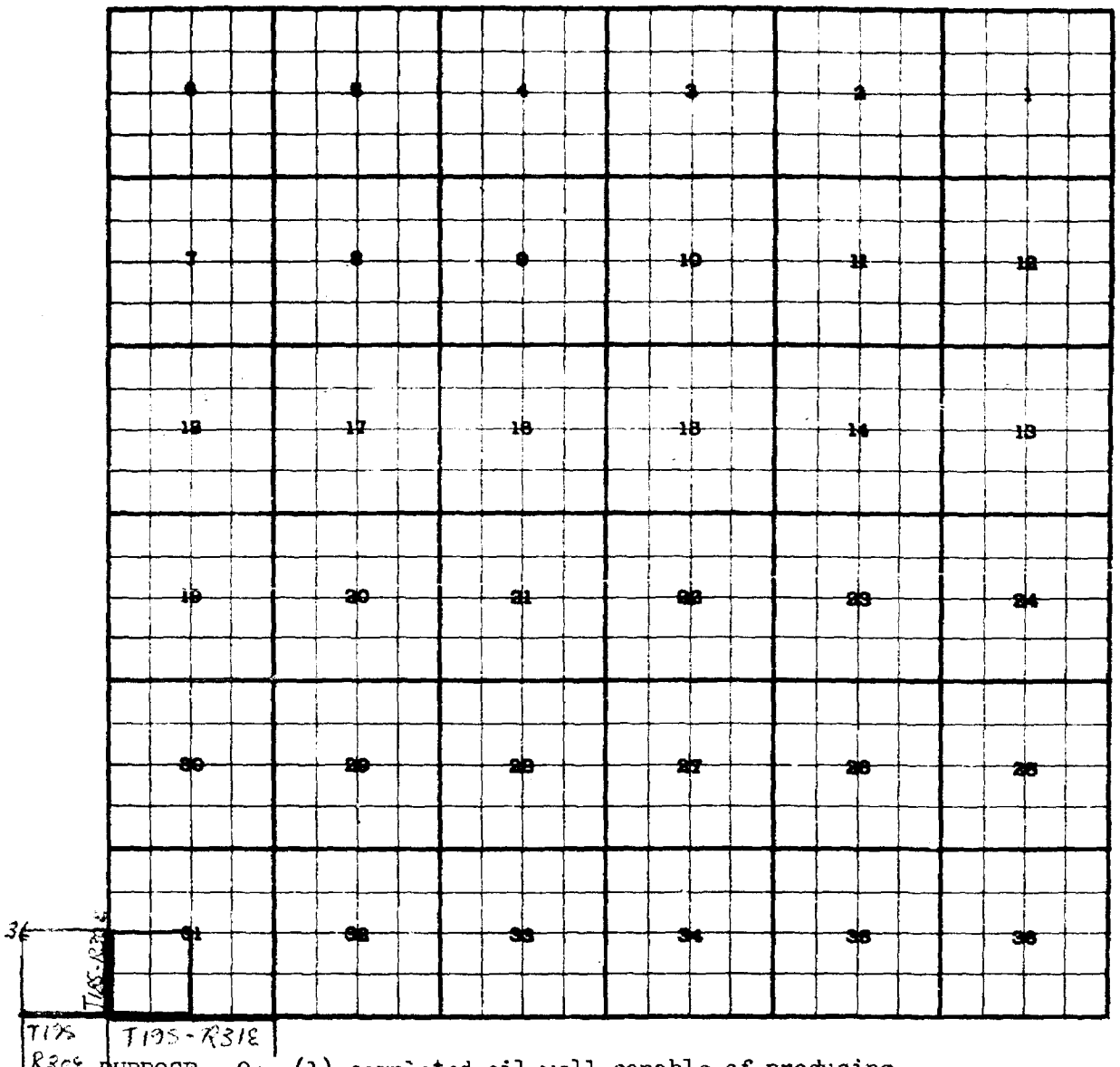
Pool boundary colored in red.

Proposed extension colored in green. SECTION 19: N/2 SE/4

CASE 1809: (f) EXTENSION OF AN EXISTING OIL POOL.

County EDDY Pool CULWIN-QUEEN

TOWNSHIP 18 South, RANGE 31 East, NEW MEXICO PRINCIPAL MERIDIAN



PURPOSE: One (1) completed oil well capable of producing.

John H. Trigg - Federal "TR" No. 1-31 in Unit M of Section 31-T18S-R31E. Completed in Queen on September 5, 1959. Top of perforations is at 3092'.

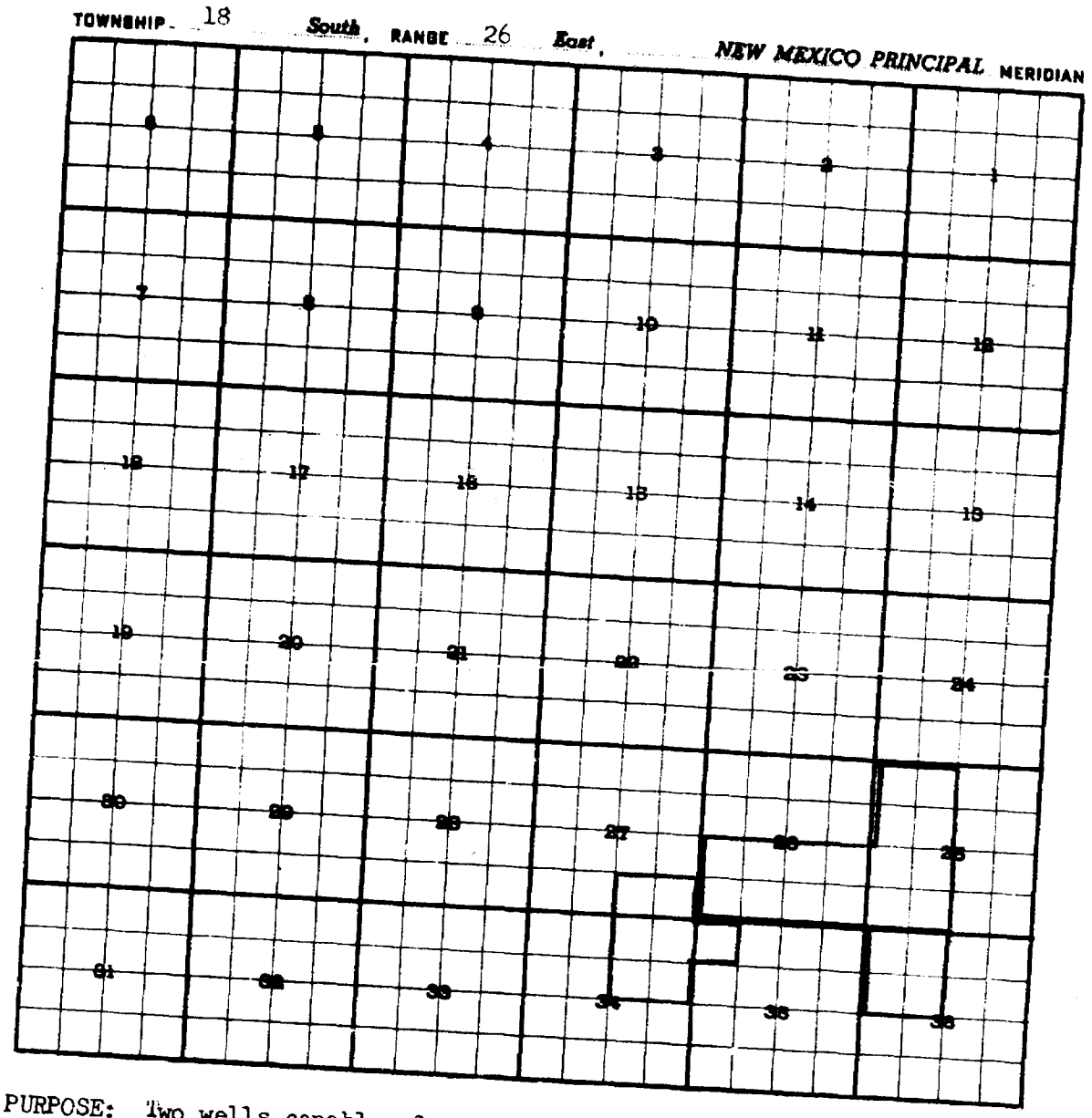
Pool boundary colored in red.

Proposed extension colored in green. SECTION 31: SW/4

This proposed extension is contiguous to Sec. 36-T18S-R30E
Sec. 1-T19S-R30E
Sec. 6-T19S-R31E

CASE 1809: (c) EXTENSION OF AN EXISTING OIL POOL.

County EDDY Pool DAYTON-ABO



PURPOSE: Two wells capable of producing.

E. P. Campbell - B & B Federal No. 1 in Unit C of Section 36-T18S-R26E.
Completed in Abo June 8, 1959. Top of perforations 5840'.

E. P. Campbell - Nix & Curtis No. 1 in Unit E of Section 25-T18S-R26E.
Completed in Abo June 8, 1959. Top of perforations 5408'.

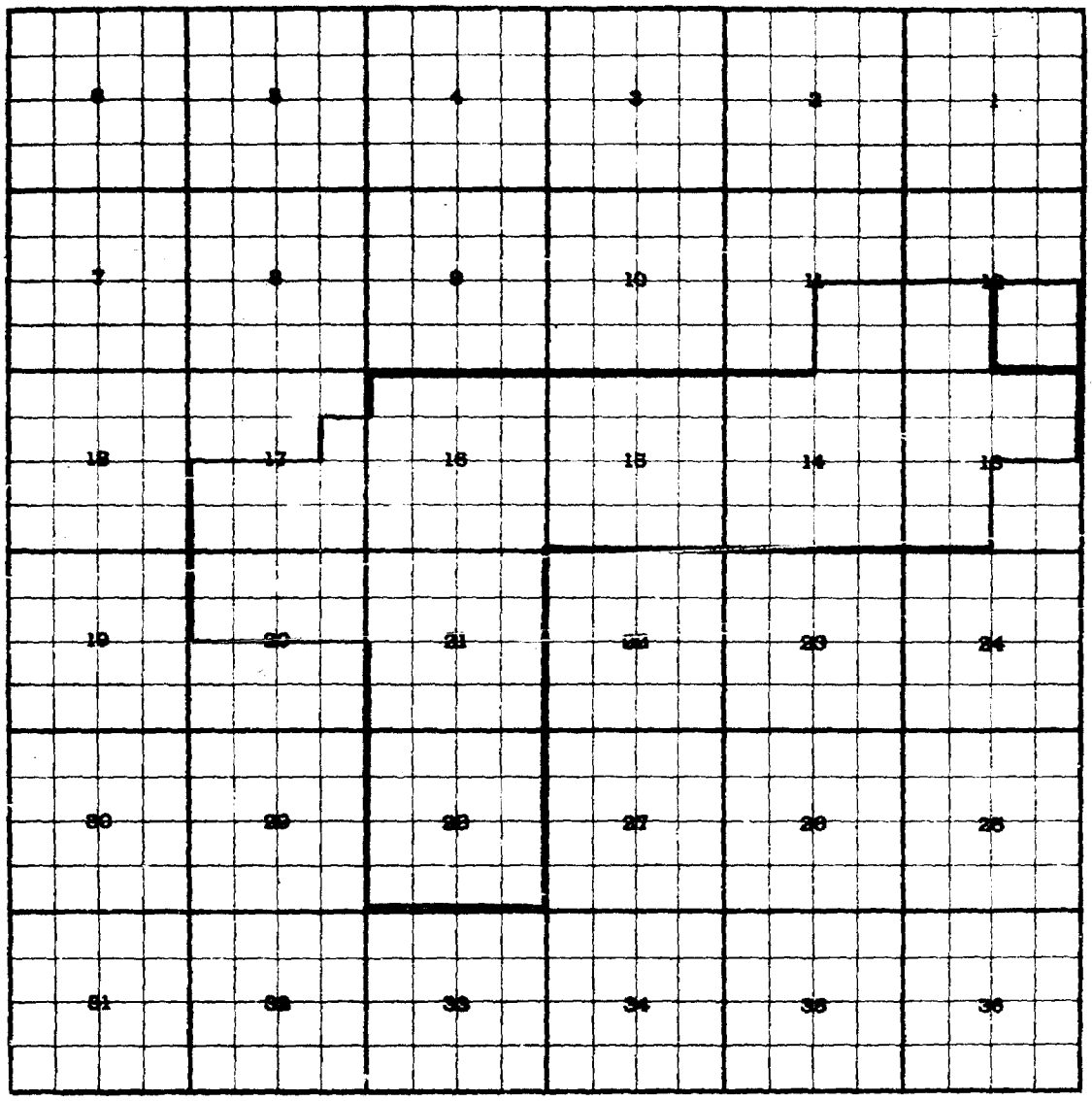
Pool boundary colored in red.

Proposed extension colored in green - SECTION 25: W/2
SECTION 26: S/2
SECTION 36: NW/4

CASE 1809: (h) EXTENSION OF AN EXISTING OIL POOL.

County EDDY Pool HIGH LONESOME

TOWNSHIP 16 South, RANGE 29 East, NEW MEXICO PRINCIPAL MERIDIAN



PURPOSE: One (1) oil well capable of producing.

General American Oil Co. of Texas - Brewer No. 19 in Unit O of Section 12-T16S-R29E. Completed in Queen on September 13, 1959. Top of perforations is at 2077'.

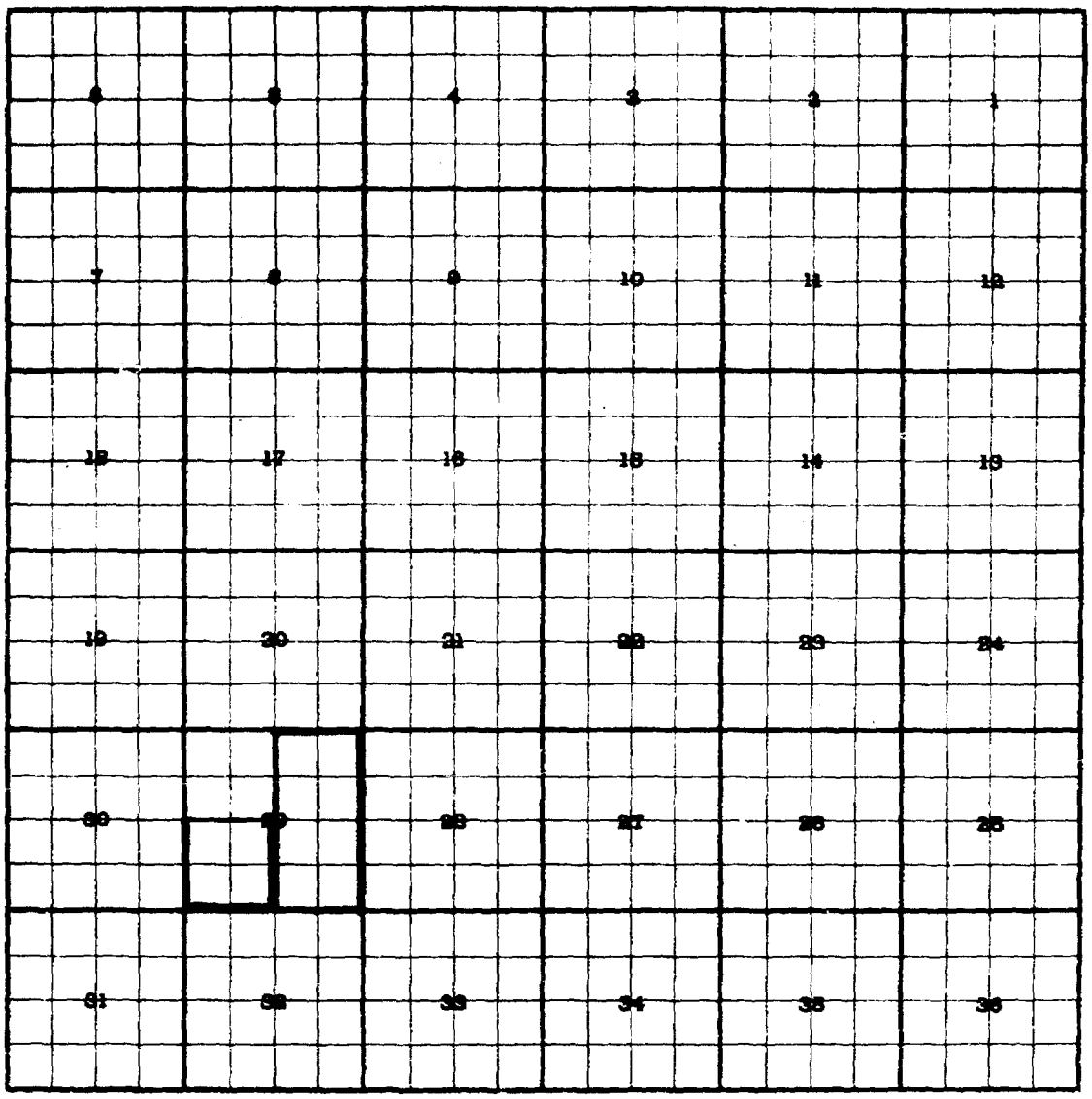
Pool boundary colored in red.

Proposed extension colored in green - SECTION 12: SE/4

CASE 1809: (i) EXTENSION OF AN EXISTING OIL POOL.

County CHAVES Pool LITTLE LUCKY LAKE-DEVONIAN

TOWNSHIP 15 South, RANGE 30 East, NEW MEXICO PRINCIPAL MERIDIAN



PURPOSE: One (1) completed oil well capable of producing.

Texaco, Inc. - Peery Federal No. 3 in Unit K of Section 29-T15S-R30E.
Completed in Devonian September 12, 1959.
Top of perforations is at 11,056'.

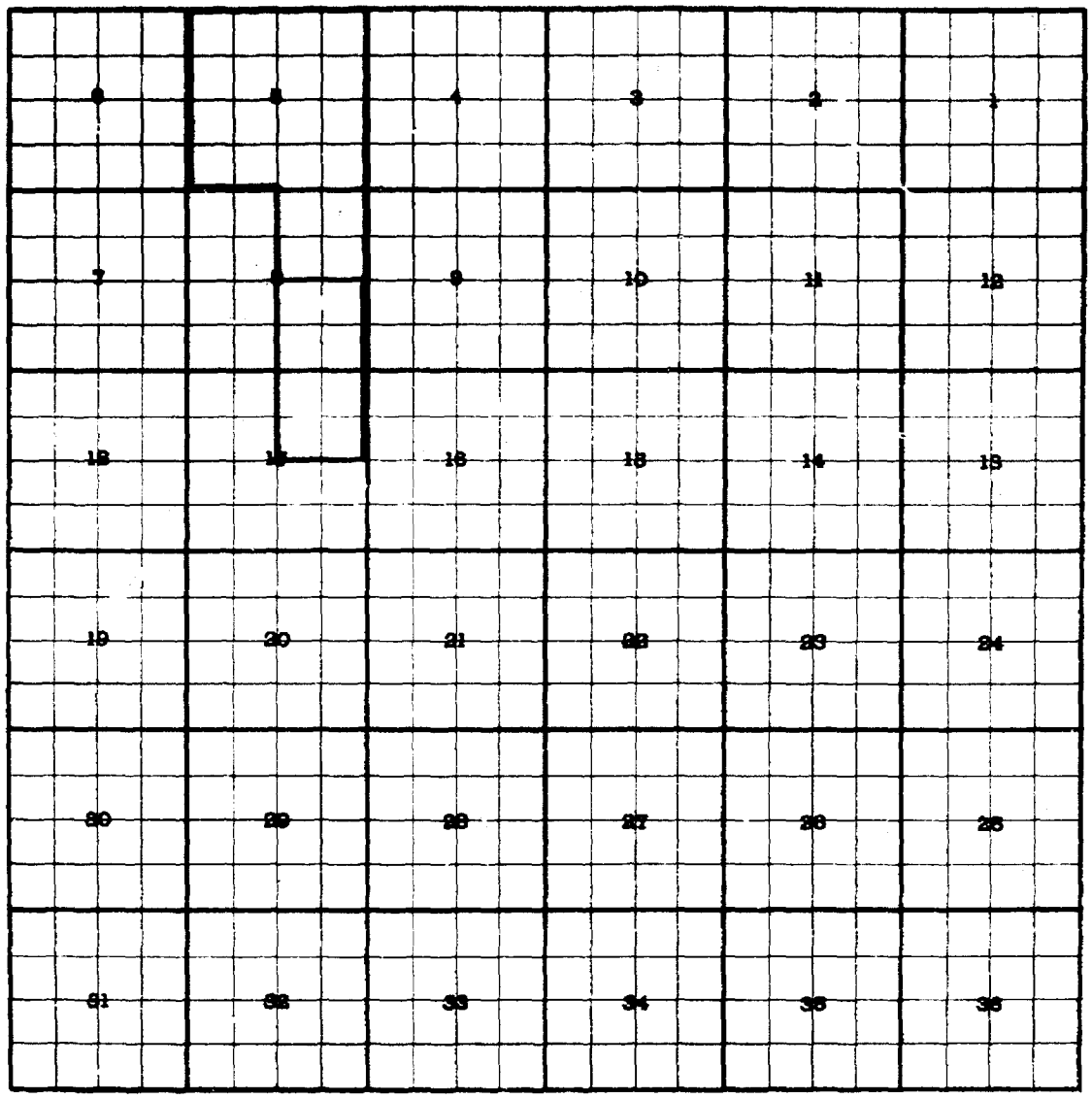
Pool boundary colored in red.

Proposed extension colored in green - SECTION 29: SW/4

CASE 1809: (j) EXTENSION OF AN EXISTING GAS POOL.

County EDDY Pool RED LAKE-PENNSYLVANIAN GAS

TOWNSHIP 18 South, RANGE 27 East, NEW MEXICO PRINCIPAL MERIDIAN



PURPOSE: One (1) completed gas well capable of producing.

Humble Oil & Refining Company - Chalk Bluff Draw "C" No. 1 in Unit G of Section 17-T18S-R27E. Completed in Pennsylvanian July 23, 1959. Top of perforations is at 9446'.

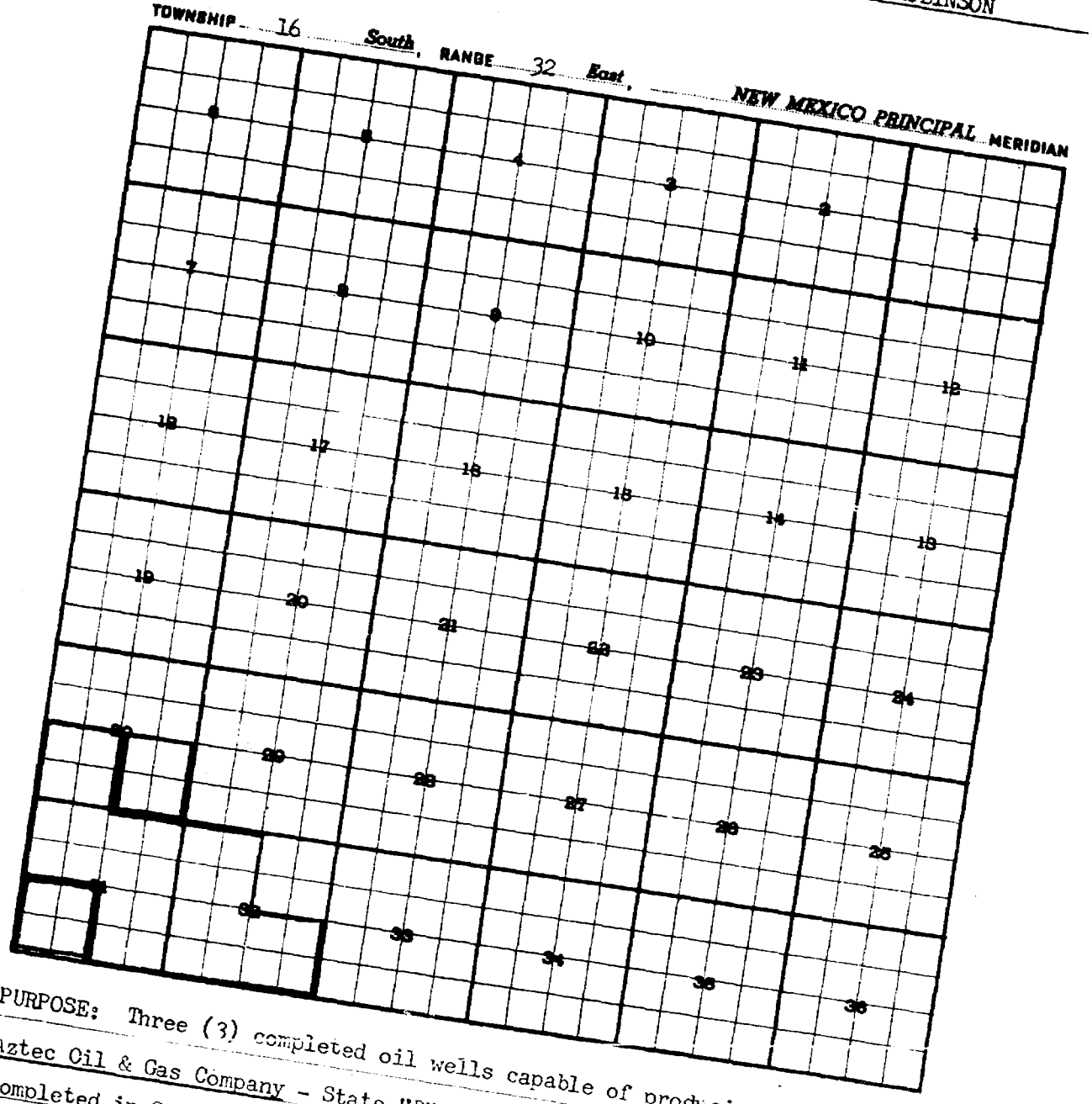
Pool boundary colored in red.

Proposed extension colored in green - SECTION 8: SE/4
SECTION 17: NE/4

CASE 1809: EXTENSION OF AN EXISTING OIL POOL.
(Additional Extension on Next Page)

County LEA Pool ROBINSON

TOWNSHIP 16 South, RANGE 32 East, NEW MEXICO PRINCIPAL MERIDIAN



PURPOSE: Three (3) completed oil wells capable of producing.

Aztec Oil & Gas Company - State "R" No. 1A in Unit O of Sec. 30-T16S-R32E.
Completed in Grayburg September 10, 1959. Top of perforations - 3824'.

Aztec Oil & Gas Company - State "R" No. 1 in Unit M of Sec. 31-T16S-R32E.
Completed in Grayburg-San Andres September 28, 1959. Top of perfs. 3802'.

Aztec Oil & Gas Company - State "R" No. 3 in Unit N of Sec. 31-T16S-R32E.
Completed in Grayburg-San Andres October 29, 1959. Top of perfs. 3806'.

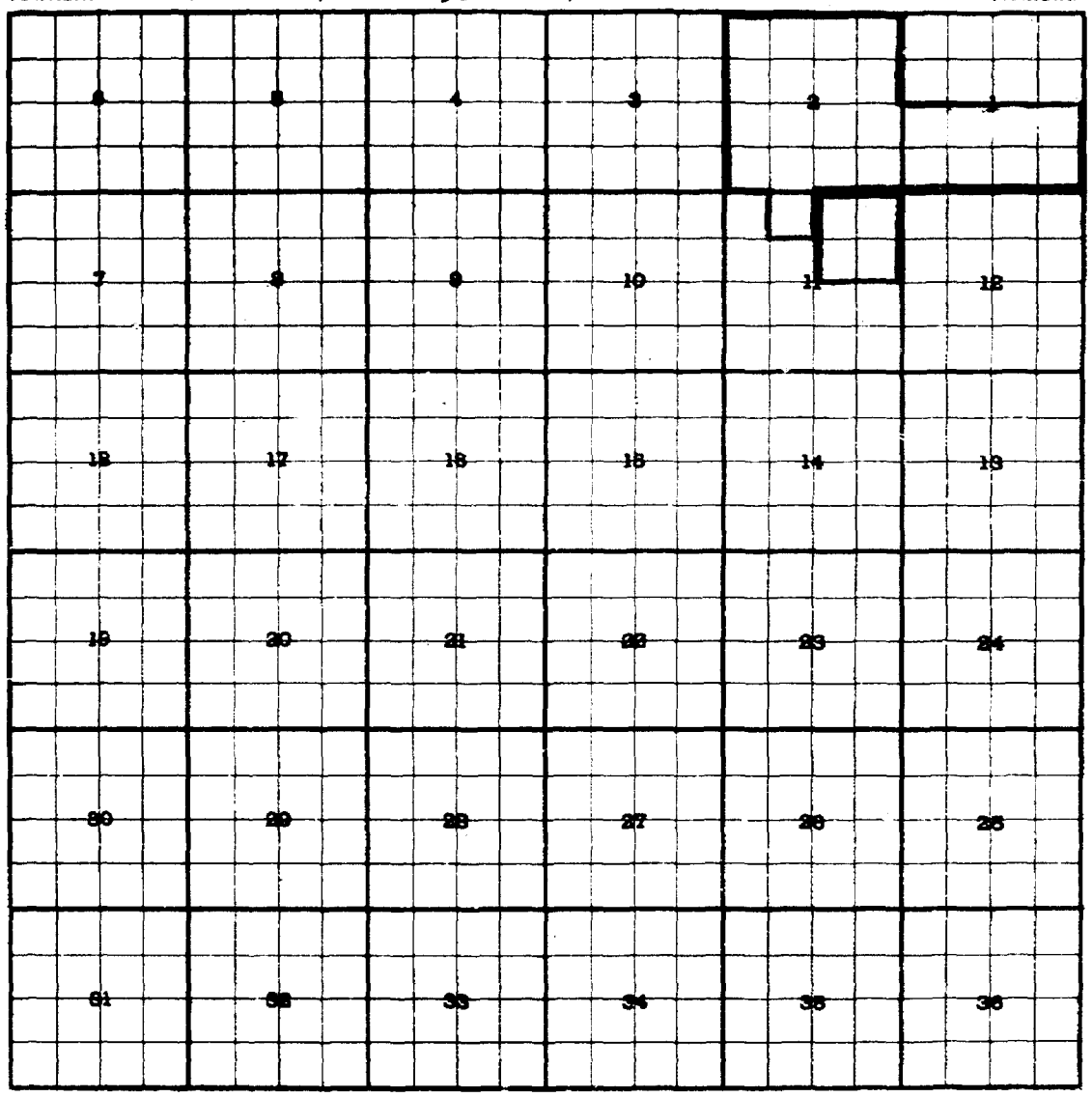
Pool boundary colored in red.

Proposed extensions colored in green - SECTION 30: SE/4
SECTION 31: SW/4

CASE 1809: ADDITION (k) EXTENSION OF AN EXISTING OIL POOL.

County EDDY Pool ROBINSON

TOWNSHIP 17 South, RANGE 31 East, NEW MEXICO PRINCIPAL MERIDIAN



PURPOSE: One (1) completed oil well capable of producing.

Skelly Oil Company - Lea "C" No. 2 in Unit B of Section 11-T17S-R31E.
Completed in Grayburg October 25, 1959.
Top of perforations is at 3463'.

Pool boundary colored in red.

Proposed extension colored in green - SECTION 11: NE/4