

Case No.

1730

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. 1730
Order No. R-1053-D

APPLICATION OF AMBASSADOR OIL
CORPORATION FOR CAPACITY
ALLOWABLES FOR FIVE WELLS IN
ITS WATER FLOOD PROJECT IN THE
CAPROCK-QUEEN POOL, LEA AND
CHAVES COUNTIES, NEW MEXICO,
AND FOR ESTABLISHMENT OF AN
ADMINISTRATIVE PROCEDURE FOR
GRANTING CAPACITY ALLOWABLES
TO WELLS IN SAID PROJECT

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 o'clock a.m. on July 31, 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 1st day of August, 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, Ambassador Oil Corporation, was authorized by Order No. R-1053, and subsequent amendments thereto, to institute and operate a water flood project on its North Caprock Queen Unit No. 2, in the Caprock-Queen Pool, Lea and Chaves Counties, New Mexico.

(3) That the applicant seeks capacity allowables for the following-described wells in said project:

-2-

Case No. 1730

Order No. R-1053-D

TOWNSHIP 13 SOUTH, RANGE 31 EAST, NMPM,
CHAVES COUNTY, NEW MEXICO

Well No. 1-2, NE/4 NE/4 of Section 1
Well No. 3-2, NE/4 NW/4 of Section 1
Well No. 27-2, NE/4 SE/4 of Section 11
Well No. 24-1, SW/4 SW/4 of Section 12

TOWNSHIP 13 SOUTH, RANGE 32 EAST, NMPM,
LEA COUNTY, NEW MEXICO

Well No. 19-3, SW/4 SW/4 of Section 7

(4) That capacity allowables for the above-described wells should be granted in view of the possibility that waste will occur if the production from said wells is restricted.

(5) That, as requested by the applicant, an administrative procedure should be established whereby capacity allowables may be granted to wells in said 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 Caprock-Queen Pool.

IT IS THEREFORE ORDERED:

(1) That the following-described wells on applicant's North Caprock Queen Unit No. 2, in the Caprock-Queen Pool, Lea County and Chaves County, New Mexico, be and the same are hereby granted allowables equal to their capacity to produce, effective at 7:00 o'clock a.m., Mountain Standard Time, July 31, 1959.

TOWNSHIP 13 SOUTH, RANGE 31 EAST, NMPM,
CHAVES COUNTY, NEW MEXICO

Well No. 1-2, NE/4 NE/4 of Section 1
Well No. 3-2, NE/4 NW/4 of Section 1
Well No. 27-2, NE/4 SE/4 of Section 11
Well No. 24-1, SW/4 SW/4 of Section 12

TOWNSHIP 13 SOUTH, RANGE 32 EAST, NMPM,
LEA COUNTY, NEW MEXICO

Well No. 19-3, SW/4 SW/4 of Section 7

(2) That the Proration Manager of the Commission be and the same is hereby authorized to assign an allowable equal to the well's capacity to produce, for any well in the above-mentioned project. In order to obtain such capacity allowables, the operator shall file Form C-116 showing the producing capacity of the wells for which such request is made.

-3-

Case No. 1730

Order No. R-1053-D

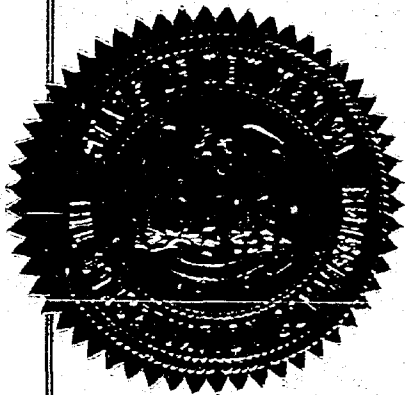
DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

John Burroughs
JOHN BURROUGHS, Chairman

M. E. Morgan
MURRAY E. MORGAN, Member

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



vem/

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

August 1, 1959

Mr. James Jennings
Box 805
Roswell, New Mexico

Dear Mr. Jennings:

On behalf of your client, Ambassador Oil Corporation,
we enclose two copies of Order No. R-1053-D in Case
No. 1730, issued by the Oil Conservation Commission
on August 1, 1959.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

lr/

Enclosures

*Copy of order also
sent to J. J. Westerman*

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF AMBASSADOR OIL CORPORATION FOR
AN EMERGENCY ORDER GRANTING A
CAPACITY ALLOWABLE FOR ONE WELL
IN THE CAPROCK-QUEEN POOL, LEA AND
CHAVES COUNTIES, NEW MEXICO

EMERGENCY ORDER NO. E-20

NOW, on this 16th day of July, 1959, the Oil Conservation Commission of New Mexico, a quorum being present, having considered the application of Ambassador Oil Corporation for an Emergency Order and being fully advised in the premises,

FINDS:

(1) That the applicant, Ambassador Oil Corporation, was authorized by Order No. R-1053, and amendments thereto, to institute a water flood project on its North Caprock-Queen Unit No. 2, Caprock-Queen Pool, Lea and Chaves Counties, New Mexico.

(2) That the applicant is the operator of the following described well which is located in the aforementioned water flood project area:

Well No. 3-2, NE/4 NW/4 of Section 1,
Township 13 South, Range 31 East, NMPM,
Chaves County, New Mexico.

(3) That said water flood project has caused an increase in the producing capacity of the above-described Well No. 3-2 to the extent that it is now capable of producing in excess of the normal unit allowable for the Caprock-Queen Pool.

(4) That there is a possibility that waste will occur if production from the above-described Well No. 3-2 is restricted.

(5) That an emergency exists which requires the promulgation of an order without notice and hearing to eliminate the possibility of waste occurring as a result of restricting the production from said Well No. 3-2.

(6) That a hearing should be held on July 31, 1959, to determine whether waste will actually result if production from said Well No. 3-2 is restricted.

(7) That in the event the applicant fails to prove that waste will result if production from said Well No. 3-2 is restricted, then any oil produced from said well in excess of the

-2-

Emergency Order No. E-20

normal unit allowable for the Caprock-Queen Pool should be charged against the future allowable for said well.

IT IS THEREFORE ORDERED:

(1) That the following described well be and the same is hereby granted an allowable equal to its capacity to produce, effective at 7:00 o'clock a.m., Mountain Standard Time, July 16, 1959:

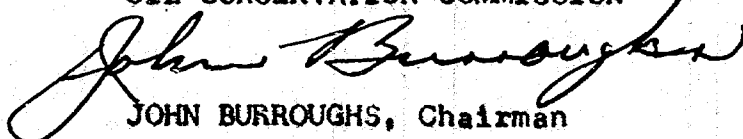
Well No. 3-2, NE/4 NW/4 of Section 1,
Township 13 South, Range 31 East, NMPM,
Chaves County, New Mexico.

(2) That a hearing shall be held in Santa Fe, New Mexico, at 9:00 o'clock a.m. on July 31, 1959, to permit the applicant to appear and show cause why the above-described well should be granted a capacity allowable.

(3) That in the event the applicant fails to prove that waste will result if production from the above-described Well No. 3-2 is restricted, then oil produced from said well in excess of the normal unit allowable for the Caprock-Queen Pool shall be charged against the future allowable for said well.

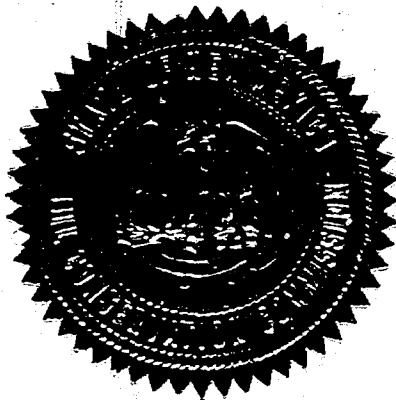
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


JOHN BURROUGHS, Chairman


MURRAY E. MORGAN, Member


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



vem/

DOMESTIC SERVICE	
Check the class of service desired; otherwise this message will be sent as a fast telegram	
TELEGRAM	<input checked="" type="checkbox"/>
DAY LETTER	<input type="checkbox"/>
NIGHT LETTER	<input type="checkbox"/>

WESTERN UNION TELEGRAM

1206 (4-55)

W. P. MARSHALL, PRESIDENT

INTERNATIONAL SERVICE	
Check the class of service desired; otherwise the message will be sent at the full rate	
FULL RATE	<input type="checkbox"/>
LETTER TELEGRAM	<input type="checkbox"/>
SHORE-SHIP	<input type="checkbox"/>

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

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

JULY 16, 1959

JAMES T. JENNINGS
J. P. WHITE BUILDING
ROSWELL, NEW MEXICO

EMERGENCY ORDER ISSUED EFFECTIVE 7 O'CLOCK A.M. ON JULY 16, 1959
AS PER YOUR REQUEST.

A. L. PORTER, Jr.
OIL CONSERVATION COMMISSION

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

SYMBOLS

DL=Day Letter
NL=Night Letter
IT=International Letter Telegram

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

LA203 SSM254

PLAIN OFFICE 000

L RWA 097 PD=ROSWELL NMEX 1959 JUL 29 PM 4:05 1959 JUL 29 PM 3 51

NEW MEXICO OIL CONSERVATION COMMISSION=

STATE CAPITOL BLDG ATTN A L PORTER JR

SANTA FE NMEX=

GULF OIL CORPORATION CONCURS WITH AMBASSADOR OIL CORPORATION IN THEIR APPLICATION FOR CAPACITY ALLOWABLES FOR FIVE WELLS IN THE AREA OF THE WATERFLOOD PROJECT FOR THE NORTH CAPROCK QUEEN UNIT NO 2 SCHEDULED FOR EXAMINER HEARING ON JULY 31 1959, IN CASE 1730 AND URGES APPROVAL BY THE COMMISSION=

W A SHELLSHEAR.

Case 1730

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

DOMESTIC SERVICE	
Check the class of service desired; otherwise this message will be sent as a fast telegram	
TELEGRAM	<input checked="" type="checkbox"/>
DAY LETTER	<input type="checkbox"/>
NIGHT LETTER	<input type="checkbox"/>

WESTERN UNION TELEGRAM

INTERNATIONAL SERVICE	
Check the class of service desired; otherwise the message will be sent at the full rate	
FULL RATE	<input type="checkbox"/>
LETTER TELEGRAM	<input type="checkbox"/>
SHORE-SHIP	<input type="checkbox"/>

NO. BUS. CL. OF SVC.	PD. OR COLL.	CASH NO.	W. P. MARSHALL, PRESIDENT	1206 (4-35)
	COLLECT		CHARGE TO THE ACCOUNT OF	
Send the following message, subject to the terms on back hereof, which are hereby agreed to				TIME FILED

CARL A. WESTERMAN
 AMBASSADOR OIL CORPORATION
 3109 WINTHROP AVENUE
 FORT WORTH 7, TEXAS

EMERGENCY ORDER ISSUED EFFECTIVE 7 O'CLOCK A.M. ON JULY 16, 1959,
 AS PER YOUR REQUEST.

A. L. PORTER, Jr.
 OIL CONSERVATION COMMISSION

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 7-31-59

CASE NO. 1730

HEARING DATE 7-31-59

My recommendations for an order in the above numbered case(s) are as follows:

1. Grant Ambassador application for 5 capacity allowable wells.

Ambassador - N. Cap unit # 1-2, NE NE 1 - 135-31 E. Chas. Co.
 " " " " # 3-2 NE NW 1 - 135-31 E. " "
 " " " " # 24-1 SWSW 12 - 135-31 E. " "
 " " " " # 19-3 SWSW 7 - 135-32 E. Lea Co.
 " " " " # 27-2 NESE 11 - 135-31 E. Chas. Co.

2. Grant Administrative procedure for granting capacity allowables as in other previous orders.

Elvis A. Mc

Staff Member

No. 27-59

DOCKET: EXAMINER HEARING JULY 31, 1959

Oil Conservation Commission Offices - Room 109, State Capitol, Santa Fe, N. M.

The following case will be heard before Daniel S. Nutter or Elvis A. Utz, Examiners, or A. L. Porter, Jr., Secretary.

CASE 1730: Application of Ambassador Oil Corporation for capacity allowables for five wells in the area of its water flood project in the North Caprock Queen Unit No. 2, Caprock-Queen Pool, Lea and Chaves Counties, New Mexico, and for the establishment of an administrative procedure whereby capacity allowables for wells in said project may be granted without notice and hearing.

pj/

JAMES T. JENNINGS

ATTORNEY AT LAW

J. P. WHITE BUILDING

ROSWELL, NEW MEXICO

MAIN 2-8432

July 14, 1959

RECEIVED OFFICE CCC
1959 JUL 15 AM 8:43

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

Dear Mr. Porter:

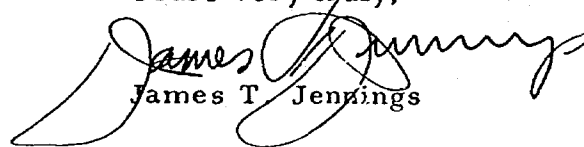
Enclosed herewith you will find the application of Ambassador Oil Corporation for a capacity allowable for 5 wells in the Caprock-Queen Unit No. Two. You will note that Ambassador is requesting an emergency order for its No. 3-2 well located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 1, T. 13 S., R. 31 E. In a recent test this well tested 138 barrels per day.

We have not requested an emergency order covering the remaining wells described in the application as at this time they are not producing in excess of the top unit allowable for the pool, but it is possible that wells 1-2 and 27-2 will soon be capable of producing in excess of the top unit allowable and it might be that we will have to request an emergency order at a later date. In any event, we would like to get the matter set down at the earliest possible date so that production will not be curtailed.

We have also requested that the Commission establish an administrative procedure whereby capacity allowables may be granted for the remaining wells in the unit and we will not have to have an additional hearing every time a well becomes capable of producing in excess of the unit allowable.

When the emergency order is granted, I would appreciate it if you would send collect telegrams advising of your action to me and to Mr. Carl A. Westerman, Petroleum Engineer, Ambassador Oil Corporation, 3109 Winthrop Avenue, Fort Worth 7, Texas. If there are any questions or if you have any suggestions concerning the enclosed application, please call me at Roswell MAin 2-8432, collect.

Yours very truly,


James T. Jennings

JTJ:cs
Enc.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

RECEIVED M 8 43

IN THE MATTER OF THE APPLICATION OF
AMBASSADOR OIL CORPORATION FOR AN
ORDER AUTHORIZING CAPACITY PRODUCTION
FROM FIVE ADDITIONAL WELLS IN THE NORTH
CAPROCK QUEEN UNIT NO. TWO, WATER FLOOD
PROJECT IN THE CAPROCK-QUEEN POOL IN
CHAVES AND LEA COUNTIES, NEW MEXICO;
FOR AN EMERGENCY ORDER AUTHORIZING
PRODUCTION OF ONE OF SAID WELLS AT
CAPACITY, AND FOR THE ESTABLISHMENT
OF AN ADMINISTRATIVE PROCEDURE FOR
GRANTING CAPACITY ALLOWABLES TO THE
REMAINING WELLS WITHIN THE UNIT.

No. 1730

APPLICATION

Comes now the applicant, Ambassador Oil Corporation, by its
attorney and states:

1. That the applicant is the unit operator under the North Caprock
Queen Unit Agreement No. Two, which Unit Agreement was approved by the
Commission on June 18, 1958 by Order R-1194.

2. That the Commission has heretofore approved the water flood
project and by order R-1053-A dated May 5, 1958 the Commission assigned a
capacity allowable to twelve wells within the project area and by order R-1053-C
dated March 11, 1959, the Commission granted a capacity allowable to three
additional wells.

3. That the water flood project and the additional injection wells
added to the project recently caused an increase in the producing capacity of
the five wells hereinafter described and said wells are now, or will soon be,
capable of producing in excess of the top unit allowable for the Caprock-Queen
Pool. The wells in question and the location of the same are:

- ✓ No. 1-2 located in NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 1, Township 13 South, Range 31 East.
- ✓ No. 3-2 located in NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 1, Township 13 South, Range 31 East.
- ✓ No. 24-1 located in SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 12, Township 13 South, Range 31 East.
- ✓ 19-3 No. 26-3 located in SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 11, Township 13 South, Range 31 East.
- ✓ No. 27-2 located in NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 11, Township 13 South, Range 31 East.

That the above wells, prior to the commencement of the project, were producing from 1 to 2 barrels of oil per day and that the wells have recently responded to the water injection and, as reflected by Form C-116 attached hereto and marked "Exhibit A", recent tests of the wells show that they are capable of increased production.

4. That well No. 3-2 located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 1, Township 13 South, Range 31 East, upon being tested on July 6, 1959, tested a producing capacity of 138 barrels per day.

5. That waste will occur if production from the above-described wells is restricted, as production cannot be curtailed without causing reduction in the ultimate recovery of oil.

6. That an administrative procedure should be established whereby approval of capacity allowables for the remaining wells in said project may be granted by the Secretary-Director administratively without notice and hearing.

WHEREFORE, the applicant prays for the following relief:

1. That an immediate emergency order be issued permitting the applicant to produce its No. 3-2 well located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 1, Township 13 South, Range 31 East at capacity.

2. That the Commission set this matter down for a regular hearing at a date prior to the expiration of the emergency order and that notice of such hearing be published as required by law and after the hearing the Commission issue its regular order permitting the applicant to produce the following described wells in its project at capacity.

No. 1-2 located in NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 1, Township 13 South, Range 31 East.

No. 3-2 located in NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 1, Township 13 South, Range 31 East.

No. 24-1 located in SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 12, Township 13 South, Range 31 East.

19-3 No. ~~26-3~~ located in ~~SW $\frac{1}{4}$ NE $\frac{1}{4}$~~ Section ~~11~~, Township 13 South, Range ~~32~~ East. *See Co.*

No. 27-2 located in NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 11, Township 13 South, Range 31 East.

3. That the Commission establish an administrative procedure whereby capacity allowables for the remaining wells in the project may be granted by the Secretary-Director administratively without notice and hearing.

DONE this 14th day of July, 1959.

Respectfully submitted,

AMBASSADOR OIL CORPORATION

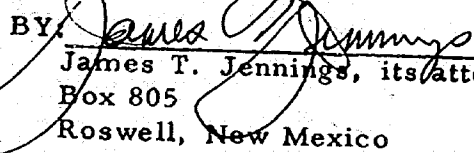
BY: 
James T. Jennings, its attorney
Box 805
Roswell, New Mexico

EXHIBIT A

Form C- 116
Revised (12/1/55)

NEW MEXICO OIL CONSERVATION COMMISSION

MAIN OFFICE OCC

GAS-OIL RATIO REPORT

1959 JUL 15 AM 8:43

OPERATOR AMBASSADOR OIL CORPORATION POOL CAPROCK QUEEN
ADDRESS P.O. Box 9338, FORT WORTH, TEXAS MONTH OF JUNE - JULY, 19 59
SCHEDULED TEST _____ COMPLETION TEST _____ SPECIAL TEST _____ (Check One)
(See Instructions on Reverse Side)

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
NORTH CAPROCK QUEEN SAND UNIT #2	1-2	6-30	P	--	24	35	0	22	TSTM	NIL
	3-2	7-6	"		24	35	0	138	"	"
	24-1	6-30	"		24	10	0	12	"	"
	26-3	6-30	"		24	5	0	8	"	"
	27-2	6-30	"		24	20	0	20	"	"

Note: Average production of these wells before commencement of flooding operations was 1-2 barrels per day.

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 degrees F. Specific gravity base will be 0.60.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

(I certify that the information given is true and complete to the best of my knowledge.)

Date JULY 9, 1959

AMBASSADOR OIL CORPORATION

By Carl A. Westerman
CARL A. WESTERMAN
PETROLEUM ENGINEER

Title

No. 27-59

DOCKET: EXAMINER HEARING JULY 31, 1959

Oil Conservation Commission Offices - Room 109, State Capitol, Santa Fe, N. M.

The following case will be heard before Daniel S. Nutter or Elvis A. Utz, Examiners, or A. L. Porter, Jr., Secretary.

CASE 1730: Application of Ambassador Oil Corporation for capacity allowables for five wells in the area of its water flood project in the North Caprock Queen Unit No. 2, Caprock-Queen Pool, Lea and Chaves Counties, New Mexico, and for the establishment of an administrative procedure whereby capacity allowables for wells in said project may be granted without notice and hearing.

pj/

No. 27-59

DOCKET: EXAMINER HEARING JULY 31, 1959

Oil Conservation Commission Offices - Room 109, State Capitol, Santa Fe, N. M.

The following case will be heard before Daniel S. Nutter or Elvis A. Utz, Examiners, or A. L. Porter, Jr., Secretary.

CASE 1730:

Application of Ambassador Oil Corporation for capacity allowables for five wells in the area of its water flood project in the North Caprock Queen Unit No. 2, Caprock-Queen Pool, Lea and Chaves Counties, New Mexico, and for the establishment of an administrative procedure whereby capacity allowables for wells in said project may be granted without notice and hearing.

pj/

Case 1730

Form C- 116
Revised (12/1/55)

NEW MEXICO OIL CONSERVATION COMMISSION

BEFORE EXAMINER LITZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 1730

GAS-OIL RATIO REPORT

OPERATOR Ambassador Oil Corporation POOL Caprock Queen
ADDRESS Box 9338, Ft. Worth, Texas MONTH OF Jan-Feb, 1959
SCHEDULED TEST..... COMPLETION TEST..... SPECIAL TEST X..... (Check One)
(See Instructions on Reverse Side)

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
North Caprock Queen Sand Unit # 2	1-2	Feb 59	Pumping	---	24		0	2.0	TSTM	Nil
	3-2	"	"	---	"		0	1.7	"	"
	19-3	Jan 59	"	---	"		0	9.0	"	"
	24-1	"	"	---	"		0	1.0	"	"
	26-3	"	"	---	"		0	1.7	"	"
	27-2	"	"	---	"		0	6.3	"	"

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 degrees F. Specific gravity base will be 0.60.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

(I certify that the information given is true and complete to the best of my knowledge.)

Date 7-28-59

AMBASSADOR OIL CORPORATION

By Carl A. Westerman
Company
Carl A. Westerman
Petroleum Engineer.
Title

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
~~GRF~~ EXHIBIT NO. 2
1730

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 1720

OPERATOR Ambassador Oil Corporation POOL Caprock Queen
ADDRESS Box 9338, Ft. Worth, Texas MONTH OF July, 1959
SCHEDULED TEST..... COMPLETION TEST..... SPECIAL TEST X (Check One)
(See Instructions on Reverse Side)

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
North Caprock Queen Sand Unit # 2	1-2	7-26	Pumping	---	24	35	0	36	TSTM	Nil
	3-2	7-24	"	---	"	35	0	140	"	"
	24-1	7-26	"	---	"	10	0	32	"	"
	27-2	7-26	"	---	"	20	0	21	"	"

Note--- Production from these wells before the initiation of waterflooding averaged 1 - 2 barrels per day

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 degrees F. Specific gravity base will be 0.60.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

(I certify that the information given is true and complete to the best of my knowledge.)

Date July 28, 1959

AMBASSADOR OIL CORPORATION
By Carl A. Westerman
Carl A. Westerman
Petroleum Engineer
Title

NEW MEXICO OIL CONSERVATION COMMISSION BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

EXHIBIT NO. 4

CASE NO. 1730

OPERATOR Ambassador Oil Corporation POOL Caprock Queen

ADDRESS Box 9338, Ft. Worth, Texas MONTH OF July 1959

SCHEDULED TEST COMPLETION TEST SPECIAL TEST X (Check One)

(See Instructions on Reverse Side)

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
North Caprock Queen Sand Unit # 2	19-3	7-26	Pumping	--	24	35	0	200	TSTM	Nil

Note----- Production from this well before the initiation of waterflooding averaged 1 - 2 barrels per day.

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 degrees F. Specific gravity base will be 0.60.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

(I certify that the information given is true and complete to the best of my knowledge.)

Date July 28, 1959

AMBASSADOR OIL CORPORATION

By *Carl A. Westernman*
Carl A. Westernman
Petroleum Engineer

AMBASSADOR OIL CORPORATION
MONTHLY FLOOD PERFORMANCE REPORT
JUNE, 1959

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
ago. EXHIBIT NO. 5
CASE NO. 1730

FLOOD No. 27 FLOOD NAME NORTH CAPROCK QUEEN UNIT

LEASE: ALL

EFFECTIVE DATE OF FLOOD: 1 NOVEMBER, 1957

WATER INJECTION (BARRELS)					PRODUCTION			
WELL No.	MONTHLY	DAILY AVERAGE	MAX. PRESS.	CUMULATIVE	WELL No.	MONTHLY OIL	MONTHLY WATER	CUMULATIVE OIL WATER
2-1	18,120	604	960	73,941	1-1	P.P.A.		
4-1	4,889	163	1,000	32,755	1-2	318	0	422 0
6-1	13,887	463	980	117,169	3-2	436	0	662 0
8-1	6,889	230	420	314,669	5-1	5,517	0	18,781 0
10-2	1,440	48	1,000	14,173	7-3	9,221	5,411	75,612 27,566
11-1	20,165	672	600	395,902	9-1	2,291	0	24,534 0
12-2	16,448	548	100	363,285	10-1	6,246	11,026	70,664 52,325
13-1	19,066	636	840	162,758	12-1	2,654	12,424	105,126 89,117
14-2	19,780	659	700	366,222	14-1	5,516	13,903	90,121 31,621
15-2	15,431	514	1,000	352,159	15-1	2,347	5,517	47,619 25,528
16-1	10,756	359	1,000	189,139	16-2	1,053	13,069	28,326 56,700
18-1	19,278	643	VAC.	156,638	17-1	16,466	1,899	86,609 1,899
10-2	19,755	659	680	76,212	18-2	6,786	0	13,746 0
20-1	17,050	568	880	156,207	19-1	19,484	0	49,048 0
21-1	16,955	565	900	56,905	19-3	142	0	3,177 0
23-1	20,055	699	VAC.	64,019	22-1	4,094	0	6,078 0
24-2	7,433	248	900	60,014	23-2	8,215	0	36,742 0
25-2	2,786	93	1,000	22,442	24-1	82	0	853 0
26-4	3,976	133	1,000	30,059	25-1	2,203	2,667	16,015 10,531
28-1	20,208	674	500	159,657	26-3	38	0	965 0
					27-1	114	0	2,880 0
					27-2	309	0	489 0
					27-3	S. 1.		
					27-4	79	0	315 0
					27-5	37	0	1,019 0
					27-6	78	0	2,257 0
					27-2	60	0	2,592 0
					29-1	T. A.		

TOT. 274,367 3,164,325 92,850 64,027 674,661 281,901

AMBASSADOR OIL CORPORATION
PROJECT NO. 27 CAPROCK
WELL TESTS
JUNE, 1959

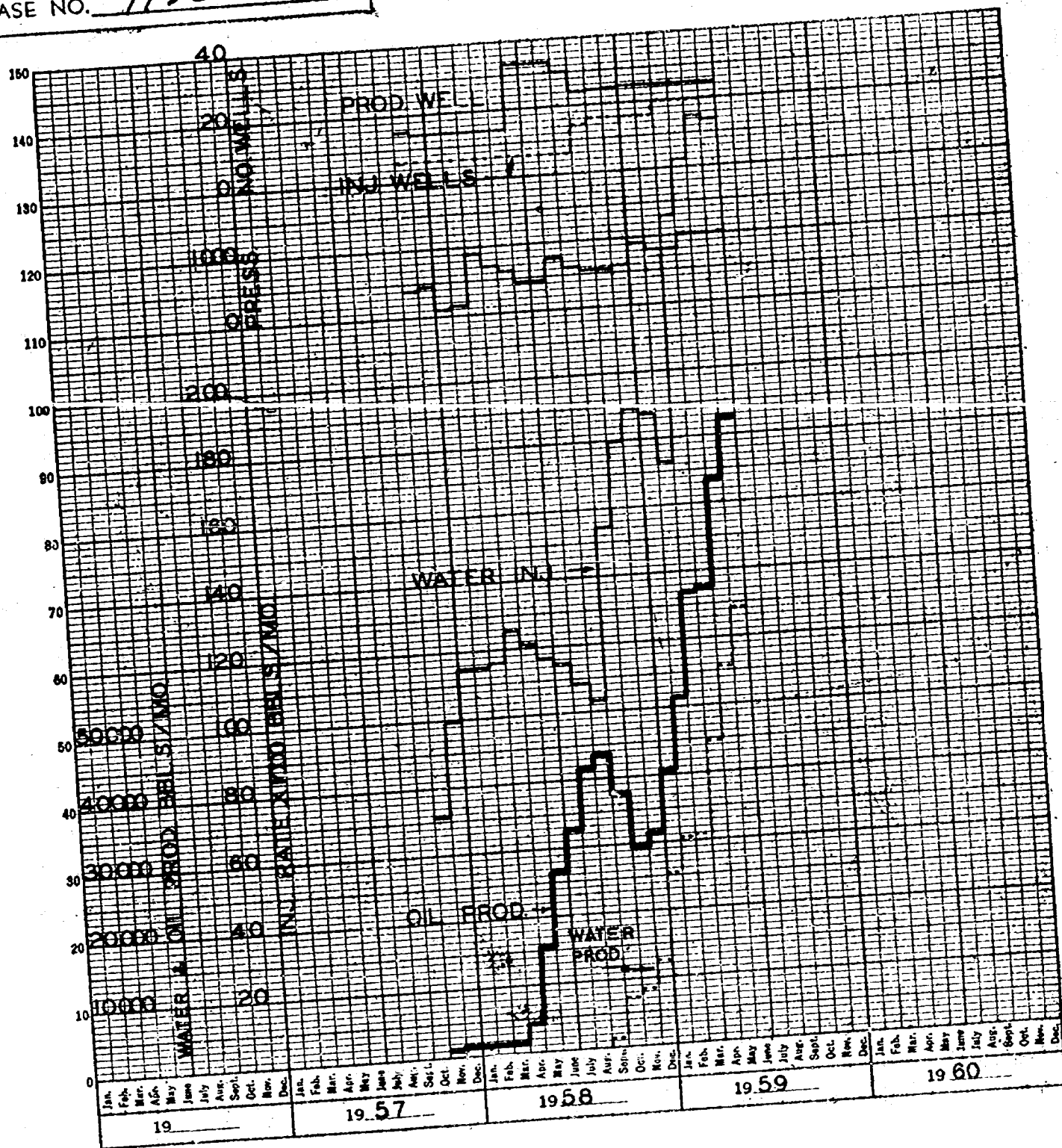
WELL	PUMP DIA.	DATE	PERIOD	SPM	STROKE	OIL BBLS.	WATER BBLS.
1-2	1 1/2	4	24 HRS.	12	64	2	0
"	"	8	"	"	"	3	0
"	"	14	"	"	"	12	0
"	"	20	"	"	"	21	0
"	"	30	"	"	"	22	0
3-2	1 1/4	5	24	12	32	13	0
"	"	12	"	"	"	33	0
"	"	21	"	"	"	36	0
"	1 1/2	28	"	16	"	58	0
5-1	"	3	24	17	36	164	0
"	"	9	"	"	"	163	0
5-1	"	15	"	"	"	167	0
5-1	2 1/4	23	"	16	64	296	0
5-1	"	29	"	"	"	297	0
7-3	"	2	24	17	"	289	170
"	"	10	"	"	"	296	150
"	"	17	"	"	"	298	147
"	"	22	"	"	"	295	168
"	"	25	"	19	"	332	196
"	"	28	"	"	"	402	243
9-1	1 1/2	6	24	14	44	77	0
"	"	13	"	"	"	"	0
10-1	2 1/4	5	24	19	64	230	352
"	"	13	"	"	"	211	355
"	"	18	"	"	"	197	372
"	"	24	"	"	"	180	370
"	"	28	"	"	"	198	428
12-1	2 1/4	11	"	17	64	85	408
"	"	18	"	"	"	91	415
"	"	24	"	"	"	96	420
14-1	"	29	"	19	64	162	531

AMBASSADOR OIL CORPORATION
PROJECT NO. 27 CAPROCK
WELL TESTS
JUNE, 1959

WELL	PUMP DIA.	DATE	PERIOD	SPM	STROKE	OIL BBLs.	WATER BBLs.
15-1	2 1/4	9	24 HRS.	16	64	82	192
"	"	12	"	"	"	82	184
"	"	17	"	"	"	82	195
"	"	23	"	"	"	78	184
16-	"	10	24	17	64	27	485
"	"	15	"	"	"	35	464
"	"	21	"	"	"	57	430
"	"	26	"	"	"	26	476
17-1	2 1/4	18	24	19	64	491	122
"	"	28	"	"	"	395	225
18-2	1 1/2	8	24	16	34	115	0
"	"	16	"	"	"	112	0
"	2 1/4	26	"	17	64	504	0
19-1	"	30	24	19	64	730	0
19-3	1 1/4	13	"	14	34	3	0
"	"	26	"	"	"	7	0
"	"	29	"	"	"	9	0
22-1	1 1/4	17	"	14	36	126	0
"	"	27	"	16	64	343	0
23-2	2 1/4	2	"	16	64	238	0
"	"	6	"	"	"	235	0
"	"	14	"	"	"	239	0
"	"	29	"	17	"	340	0
25-1	1 1/2	4	"	19	44	65	90
"	"	8	"	"	"	78	91
"	"	11	"	"	"	77	88
"	"	22	"	"	"	73	92
"	"	27	"	"	"	79	91

BEFORE EXAMINER UTZ
 OIL CONSERVATION COMMISSION
 EXHIBIT NO. 6
 CASE NO. 1730

FLOOD N° 27 CAPROCK
 CHAVES & LEA CO. NEW MEXICO



RATE CURVE

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1730

TRANSCRIPT OF HEARING

JULY 31, 1959

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

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BEFORE THE
CIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
JULY 31, 1959

IN THE MATTER OF:

CASE 1730 Application of Ambassador Oil Corporation
for capacity allowables for five wells in
the area of its water flood project in the
North Caprock Queen Unit No. 2, Caprock-
Queen Pool, Lea and Chaves Counties, New
Mexico, and for the establishment of an ad-
ministrative procedure whereby capacity al-
lowables for wells in said project may be
granted without notice and hearing.

BEFORE:

Elvis A. Utz, Examiner.

T R A N S C R I P T O F P R O C E E D I N G S

MR. UTZ: The hearing will come to order, please. The
first case on the docket will be 1730.

MR. PAYNE: Case 1730. Application of Ambassador Oil
Corporation for capacity allowables for five wells in the area of
its water flood project in the North Caprock Queen Unit No. 2, Cap-
rock-Queen Pool, Lea and Chaves Counties, New Mexico, and for the
establishment of an administrative procedure whereby capacity al-
lowables for wells in said project may be granted without notice
and hearing.

MR. UTZ: Appearances in this case, please.

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

MR. JENNINGS: I am James T. Jennings of Roswell, appearing on behalf of Ambassador Oil Corporation, Fort Worth.

MR. UTZ: Any other appearances? If not, you may proceed.

MR. JENNINGS: Mr. Examiner, before proceeding with the hearing and offering any testimony, Ambassador would like to amend its application to include Well No. 19-3, which is located in the SW/4 SW/4 of Section 7, Township 13 South, Range 32 East, Lea County, and to delete therefrom Well No. 26-3, which is located in the SW NE of Section 11, Township 13, South Range 31 East.

MR. UTZ: The location of the 19-3 was SW SW 7, 13, 32?

MR. JENNINGS: Yes, sir.

MR. UTZ: Is there objection to counsel's motion?

MR. PAYNE: Is 19-3 in Lea County?

MR. JENNINGS: Yes, sir. I think it is, everything in 32 is Lea County.

MR. UTZ: If there is no objection, the application will be amended as requested. You may continue.

MR. JENNINGS: Ambassador in this hearing would like to adopt the evidence introduced in Cases Nos. 1195 and 1433, and requests the Commission to incorporate the record in these Cases into the record in this case. We would also like to adopt the evidence which we introduced in Case No. 1294 at a hearing held on March 11, 1959, when a capacity allowable was requested and granted in connection with Wells Nos. 18-2, 22-1 and 19-1; and re-

quest the Commission incorporate the record in this Case in the present Case.

Mr. UTZ: Without objection, the record of Cases 1195, 1433 and 1294 will be incorporated into the record of this Case.

MR. JENNINGS: Before proceeding with any testimony, I would just like to state that we feel that any additional testimony to the effect that capacity production is necessary in connection with water flood production would be time-consuming, superfluous, as we have had all the testimony before the Commission in all these other cases.

I would like to call Mr. Don Layton. Will you stand and be sworn, please?

(Witness sworn)

DON LAYTON,

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

DIRECT EXAMINATION

BY MR. JENNINGS:

Q State your name and occupation?

A I am Don Layton from Lovington, New Mexico, and I am project supervisor for Ambassador Oil in the Caprock-Queen and Langley-Mattix Field, Lea and Chaves Counties, New Mexico.

Q Does that include the Caprock-Queen Unit No. 2?

A Yes, sir, it does.

Q Do you have charge of that for Ambassador?

A Yes, sir.

Q How long have you engaged in that capacity, Mr. Layton?

A For nearly two years; since the middle of August of 1957.

Q And at all times since that date you have been in charge of operations there?

A Yes, sir.

Q Before coming to Caprock in 1957, what did you do and where were you employed?

A I was employed by Ambassador Oil Corporation for approximately three years prior to that time, in Franklin and Miami Counties in eastern Kansas as a project supervisor on two water flood projects there.

Q And prior to that, what water flood engineering experience had you had?

A I was associated with my father, an independent oil operator, in eastern Kansas in water flood operations for approximately seven years prior to that.

Q Then, in all, you have had some eleven years of experience as a water flood engineer --

A Yes, sir.

Q -- project manager?

A Yes, sir.

Q Are you familiar with the wells in the Caprock-Queen Unit No. 2 --

A Yes, sir.

Q -- and the production therefore?

A Yes, sir.

Q You haven't testified before the Commission prior --

A No, I have not.

(Thereupon, Ambassador's Exhibit No. 1 was marked for identification.)

Q Mr. Layton, I hand you here what has been marked as Exhibit 1, and ask you to identify that, please?

A This is a map of the Ambassador operated North Caprock Queen Unit No. 2.

Q Certain wells therein are circled in red. What do they reflect?

A The wells circled in red are those wells which are capable of producing oil and have been granted capacity allowables.

Q I believe there are fourteen of such wells?

A Yes, sir.

Q And then there are five wells circled in green. Which are those wells?

A Those are the wells which have more recently responded and are approaching or are at present capable of producing top unit allowable or above.

Q How has the response been in these wells, when did they start responding?

A All of these wells started responding in the middle to

the latter part of June, or in July -- early in July.

Q Have you made any additional injection wells recently?

A No, sir, not recently. We have applied for administrative approval, however, on three additional injection wells.

Q Where are those wells?

A It would be Well No. 29-1, located in the SE of the SW/4 of 36, Township 12 South, Range 31 East. Well No 27-3, located in the SE SE/4 of Section 11, 13, 31. Well No. 27-1, located in the NW/4 of the SE/4 of 11, 13, 31.

MR. UTZ: What was that second well, Mr. Layton?

A 27-3.

MR. UTZ: 27-3. And the third one?

A 27-1.

Q (By Mr. Jennings) Two of these wells are in the east or the south part of the Unit and the other in the north part of the Unit, is that correct?

A Yes, sir.

Q Has administrative approval been granted, to your knowledge?

A To my knowledge, it has not.

Q What is the reaction of Well No. 3-2?

A Well No. 3-2 has increased from production of approximately 2 to 4 barrels daily to rates of near 200 barrels daily.

Q What is that well producing at this time?

A Our belief is that our most recent test was 156 barrels

of oil, and 30 barrels of water.

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Q Do you have an emergency allowable -- an emergency order has been granted granting capacity allowable in connection with that well?

A Yes, sir, it has.

Q Mr. Layton, do you feel that waste will result if production from that well is curtailed?

A Yes, sir.

Q That emergency order expires when?

A It is my knowledge it expires today.

(Thereupon, Ambassador's Exhibit No. 2 was marked for identification.)

Q I hand you here what has been marked as Exhibit 2, and ask you to identify that?

A This is a Conservation Commission Form C-116, indicating the approximate producing rates on the wells in question as of January and February of this year, prior to water flood response.

Q Generally, what does that indicate, the production of those wells?

A Generally, 1 to 2 barrels per well. Two wells, you will note, are 6 and 9 barrels respectively.

(Thereupon, Ambassador's Exhibit No. 3 was marked for identification.)

Q I hand you what has been marked Exhibit 3, and ask you to identify that.

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A This is the same Commission Form indicating the most recent well test on four of the wells in question as of July 26th, 1959.

Q What does that show with reference to those wells, Mr. Layton?

A It shows that 1-2 is at present producing top unit allowable; 3-2 producing 140 barrels of oil, no water; 24-1 producing 32 barrels of oil and no water; 27-2 producing 21 barrels of oil with no water.

Q Do you feel that these wells -- the wells other than that well No. 3-2 will soon be capable of producing in excess of the capacity allowable?

A Yes, sir.

Q What day were those tests, Mr. Layton, on that?

A July 26th, with the exception of No. 3-2, which was July 24th.

Q No. 3-2 is the well which has the emergency order?

A Yes, sir.

(Thereupon, Ambassador's Exhibit No. 4 was marked for identification.)

Q Now, I've handed you Exhibit No. 4, and ask you to identify that and state what it is.

A This is Conservation Commission Form No. C-116, which indicates the July 26th test on Well No. 19-3.

Q And does that test indicate that that well is capable

of producing in excess of the ordinary unit allowable?

A Yes, sir, it does.

Q Mr. Layton, do you feel that if production from these wells -- these five wells, including the 3-2 Well, upon which an emergency order has been granted, is restricted, that waste will result?

A Yes, sir.

Q Do you think that restriction in any way of any of these wells will result in a lesser recovery of oil and waste?

A Yes, sir, I do.

(Thereupon, Ambassador's Exhibit No. 5 was marked for identification.)

Q I hand you what has been marked Exhibit 5, and ask you to identify that.

Q This is our regular monthly -- part of our regular monthly progress report, which we call our "Monthly Flood Performance Report." It reflects the monthly, total and daily averages of water injected, indicates the average well head pressures, and the total cumulative injection into each well. In the case of the producing wells, it indicates the monthly oil and water production, and the cumulative water flood oil and water production.

Q And that's -- go ahead.

A This has no bearing on previous oil recovery by primary method.

Q This reflects recovery under the present water flood

project?

A Yes, sir.

Q And that reflects the monthly production for the month of July -- June, 92,850 barrels?

A Yes, sir, that is correct.

Q Attached to that, is there a list of the tests on the various wells.--

A Yes, sir, there is.

Q -- which have reflected some increase in production?

A Yes, sir.

Q That doesn't include all the wells on the project, does it?

A No, it does not. This generally includes only the responding wells or the more pertinent wells. We keep records, of course, on each individual well, but the least pertinent wells are generally not incorporated into the monthly report.

(Thereupon, Ambassador's Exhibit No. 6 was marked for identification.)

Q I hand you Exhibit 6, and ask you to state what that is.

A This is a part of our monthly progress report, also reflecting rate curves on oil production, water production, water injection, pressure, and the number of injection and producing wells within the given months indicated.

Q What does that indicate, Mr. Layton, generally, --

A Beg pardon?

Q -- concerning the production? Does it indicate production is rising?

A Yes, sir, production is rising steadily.

Q Have you reached the capacity, the peak of your production?

A Very nearly. I believe that our peak production will occur during July or August, this month or next.

Q Mr. Layton, again referring to Exhibit 1, which is the plat, how many remaining producing wells are there in this Unit?

A Other than these in question?

Q Other than those in which we now have an application for a capacity allowable?

A There are four remaining wells.

Q That is the Well No. 26-3, --

A Yes, sir.

Q -- No. 27-4, --

A Yes, sir.

Q -- 27-5, --

A Yes, sir.

Q -- and 27-7?

A Yes, sir.

Q Are those wells located in the SE SW part of the Unit?

A Yes, sir.

Q In your opinion, when do you think that these wells

are likely to respond to the water flood injection?

A Well No. 36-3 for which we will have no concrete production increase there, has shown a definite gas increase this month, and has shown flares of increased production, but nothing substantial yet. This is a general pattern followed by oil-producing wells in or surrounding the water flood area. In the case of 26-3, it would be, in my opinion, that we will experience response there within the next fifteen to thirty days.

Q When do you expect to experience some response in connection with the remaining three wells?

A 27-4, we can probably expect response within sixty to ninety days following the time injection is initiated into 27-1 and 27-3. In the case of 27-7, it will be in the proximity of thirty days longer than 27-4 due to the fact that it will only have a one-way advantage from the injection. Response on 27-4 will be necessary before we can convert No. 27-6 to effect the two-way drive, or the Comet Well that is being initiated on 27-7.

Q When do you expect a response on the final well, which is 27-5, SW SW Section 11?

A There again, if it follows the general pattern of other wells in the Unit, it will be my opinion that sixty to ninety days after injection on the initiation of injection into 27-6.

Q And you feel that these wells will respond at different intervals --

A Yes, sir.

Q -- and not at the same time?

A No, sir, I don't believe so.

Q In connection with these additional wells, do you feel that if production from these wells is restricted that the ultimate recovery of oil and waste will occur?

A Yes, sir.

MR. JENNINGS: I believe that's all.

MR. PORTER: Any questions of the witness?

MR. IRBY: Could I make a statement at this time, Mr. Examiner?

MR. PAYNE: Wait until the witness is excused, Mr. Irby.

MR. IRBY: I thought you might want to question this witness after my statement.

MR. UTZ: If so, we can always reopen questioning.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Layton, did you say that your project, as a whole probably will hit its peak about August?

A That would be my estimation.

Q Does it decline rapidly?

A The decline is fairly rapid to a point. If you'll note, from approximately 40,000 barrels, 30,000 to 40,000 barrels per month, the decline there has been quite rapid. Generally, you can expect a decline very nearly at the same rate, perhaps not quite

as extreme, down to near the same point, possibly a little higher. At that point, the general pattern is that your curve will flatten out and taper more gradually from that point.

Q Do you have any idea when you propose to convert the 27-6?

A No, sir. 27-6 is mechanically ready at any time, of course.

Q You are waiting on the response from 27-4?

A Yes, sir, that will be necessary to convert that well.

Q Is there a water flood project immediately to the south of Ambassador's project?

A Yes, sir.

Q Who has that?

A Great Western Drilling Company.

Q And you've been working with them in an effort to maintain the same pattern?

A Yes, sir.

Q What about to the west there, is your average at about the limits of the pool?

A Yes, sir, it is.

Q And to the east is the Graridge Unit?

A Yes, sir.

MR. PAYNE: That's all. Thank you.

MR. UTZ: Are there other questions?

QUESTIONS BY MR. UTZ:

Q Mr. Layton, I note on Exhibit 3 that you have potentialized your three wells for 340 barrels a day, and on your cumulative summary on Exhibit 5 you have only accumulated 662 barrels.

Has the response on this well be very recent?

A Not so recent, but fairly rapid. The majority of the increase was in the latter part of June and early in July.

Q How rapidly do these wells respond?

A Generally, quite rapidly. This is, of course, dependent on the injection pattern immediately surrounding that well.

Response on a producing well where it is affected by only one injection well is very often quite slow. However, if it is bordered by two injection--two or more injection wells, we usually experience a rapid increase.

Q Your injection Well 2-1 has only injected around 74,000 barrels. Would you say that is the cause of your response on your 3-2?

A Yes, sir.

Q And I believe you said --

A Injection also from 4-1 would have considerable effect on it, 3-2.

Q Well, that injection well was further away and has injected only about half the amount of water. Do you think that has any effect on it?

A Yes, sir. I don't recall the exact figure, but Well No. 4-1 had fairly low primary cumulative, which consequently would

require considerably less cumulative injection to effect fill-up in that particular area. Further, Well No. 3-2 was one of the -- in fact, is the newest well in the Unit at the time of unitization and also had a low cumulative, which, as I say, would consequently require less injection fill-up in that particular area for the same response.

Q You've not converted the 29-1 yet, I believe?

A No, sir.

Q Do you have an application in for administrative approval of injection into that one?

A Yes, sir.

MR. PAYNE: That was authorized on July 23rd, Mr. Examiner.

Q And you are asking for capacity allowables on your 1-2, the 24-1 and your 27-2 for the reason that you believe that they have shown response in recent days?

A Yes, sir.

MR. UTZ: Are there any other questions of the witness? If not, you may make your statement, Mr. Irby.

MR. IRBY: Mr. Examiner, I note that over in the Caprock Unit Graridge operated number -- it doesn't give the number -- North Caprock Queen Unit No. 1, that there are several wells there that are encircled by the purple pencil, indicating an injection well or proposed injection well, and I'm not sure that that has anything to do with this case, but it being adjacent to this operation, it naturally aroused my curiosity, and second, and

most important, is that there has been nothing put into the record to my knowledge, concerning the casing and cementing construction that exists in the proposed three injection wells, 28-1, 27-3 and 27-1. Nor has there been anything put into the record concerning the chemical quality of water that is being injected. The State Engineer is very much concerned with the protection of the fresh water that exists in the area, and would be opposed to injection through any wells which might permit contamination of those fresh waters.

MR. UTZ: Mr. Payne, did the Applicant supply the casing information?

MR. PAYNE: You will have to ask Mr. Stamets about that, Mr. Examiner.

MR. UTZ: Perhaps the witness can answer that for us.

MR. LAYTON: Mr. Examiner, I can't say whether or not casing information was supplied with the application. However, I can -- if you like -- I can give you detailed description of the general procedure followed in preparing wells in this Unit for injection.

MR. UTZ: All right, sir, why don't you do that?

A (By Mr. Layton) The original wells -- well, to begin with, all of the injection wells used were originally producing wells. All of these, of course, have completion records filed with the Commission, which would indicate casing set at a point usually ten to thirty feet above the pay zone, and cemented in-place at

that point. Now the practice has been, in converting a producing well into injection in this Unit, to go in and set a cement or Cal seal plug or otherwise protect the pay zone and then to set a liner or a section of casing smaller than the original production casing inside the well at that point immediately above the pay zone, and cement it in-place at that point with enough casing being used to extend up into the original well casing, cemented from top to bottom.

Q (By Mr. Utz) Is the liner set to the bottom of the hole?

A No, sir, to the top of the pay zone, top of the Queen sand.

Q Where did you say the original casing was set?

A In varied -- in some cases, the casing was set at the top of the Queen sand. However, in most cases, it was not, it was set twenty to thirty feet above the Queen sand, and in a producing well this posed no problem. However, in a water injection well, there are certain formations exposed, which, with the advent of water into the well will cave or sluff in, otherwise fill up the well. They've also been considered as possible thief zones to injected water under pressure. Of course, a well with appreciable pressure, the prevalence of the thief zone would not be probable. However, as I mentioned before, the sluffing or caving action in the exposed formation pose a problem immediately. All of the injection wells in this Unit have been so completed. And the case on the present application, 29-1, was so equipped with a liner and

cemented in-place two days ago. And 27-3 is already recompleted, and 27-1 is in the process.

QUESTIONS BY MR. PAYNE:

Q To the best of your knowledge, Mr. Layton, since you've been operating this project, have you had any problem of casing leaks above the top of the producing horizon?

A In two instances we did have, yes, sir; not actually casing leaks, but faulty liner completions.

Q Were you able to detect this?

A Yes, sir.

Q How was that accomplished?

A We ran what is referred to as an isoflow survey. This is a radioactive log of your injected fluids to determine the exact point or zones which water is entering the formation or leaving the well bore.

Q That is your common practice, to run such a test?

A Yes, sir.

MR. PAYNE: That's all. Thank you.

QUESTIONS BY MR. UTZ:

Q Then, where the original casing is set immediately above the top of the Queen, you don't do any further work on the well?

A No, sir, not if it is set at a point close enough to the pay zone. We have a stringer of anhydrite immediately above the Queen sand which is a tight nonporous formation, if the casing

is set into or to the top of this particular zone, and there is essentially no danger of thieving or loss of injected water.

Q Are you injecting through tubing or through the casing?

A Generally through the casing. We have tubing in two wells, I believe.

Q How old is the casing in some of these wells?

A This field was originally drilled in, I believe in 1946, the majority of the wells were drilled. So it would be approximately thirteen years old. There were two or three cases where there was evidence that used casing had been run at the time of well completion, and indicated that it was not in satisfactory condition for use in an injection well, and in these instances we have recompleted with a full string of new casing set inside the old casing in lieu of the conversion set of liners which we do set in most of these.

Q What is your injection pressure?

A Approximately 1,050 pounds maximum at the present time. That varies from well to well, as you will note on Exhibit 5.

Q And what is the depth of the Queen, on the average?

A Approximately 3,025 feet.

Q So you have around 2500, 2600 pounds at the bottom of the casing shoe, do you not?

A Yes, sir.

Q Would there be any testing that would be advis-

able for converting an injection well?

A The casing generally is tested at the time of recompletion. After the liner is cemented, of course, the liner and casing section remain plugged at the bottom while the cement sets up and before drying up with the pressure up on the casing usually 500 to 1,000 pounds surface pressure; very similar to manner of completion of new casing strings on new wells.

Q And that tests casing from the lower shoe?

A Yes, sir.

Q Do you perform these tests on wells which you do not set your lower liner?

A In the casing of producing wells, no, sir, we do not.

Q Do you think such a test might be advisable?

A I don't feel that it would be, no, sir.

Q You feel that you can detect any water that might get through the casing soon enough, before it did irreparable damage to fresh water?

A Yes, sir. Along that line with fresh water, of course, we are doubly protected against the fresh water zones inasmuch as the surface casing is set below the fresh water in addition to the producing casing, and the surface casing, of course, is cemented from top to bottom.

MR. PAYNE: So actually you are injecting through what you might call tubing. It is casing, but --

A Yes, sir, in a sense, but with respect to the fresh

water zones we are injecting through tubing, we are doubly cased.

MR. UTZ: Any other questions of the witness?

MR. IRBY: May I question the witness?

MR. UTZ: Certainly.

QUESTIONS BY MR. IRBY:

Q I'm a little reluctant to question the witness, and I'm a little reluctant to oppose a water flood that has proceeded to this point because I realize the probability of waste of petroleum products due to fouling up of the flood, but I don't recall having seen this witness here before, and in one of these cases, and I think he may be unfamiliar with the State Engineer and our position, that we must oppose the injection of any water that might possibly contaminate the fresh water zones, and I'm not talking about the Ogallala alone, I am talking about the possibility of fresh water in the Santa Rosa formation also. And the instances where the surface casing goes through the Santa Rosa formation is very rare and I seriously doubt that these do, and I would like to ask the witness at what depths his surface casing is set in each of these three wells.

A Without checking our completion records, I couldn't answer that absolutely correct. However, generally, the pattern of this Field has been to set surface casing between 300 to 400 feet, which would not be through the Santa Rosa water. However, it is our opinion that the Santa Rosa water is not productive in that particular area. We have a number of radioactive logs in that area,

and I don't recall any evidence that the Santa Rosa might be productive in that particular area. It may be.

Q Well, the fact of the matter is, that there are places where the Santa Rosa formation contains no water, there are other places where it does contain water due to the undulation of the formation. Pressure can drive contaminants through the formation to the areas where the fresh water does exist. It isn't in large quantities as it is in the Ogallala formation. It is the contention of the State Engineer that in all injection wells -- all proposed injection wells, information should be submitted to the State Engineer prior to the Examiner Hearing on these matters, giving the detailed casing and cementing construction of the proposed well.

MR. JENNINGS: Mr. Irby, I hate to interrupt you, but I would like to make this observation to the Examiner in the form of an objection to this line of a statement at this time by the State Engineer. I think the procedure has been set up at an original hearing, and the State Engineer at that time had an opportunity to protest, as I understand, and the original order provided for administrative procedure whereby additional injection wells could be permitted, and I think that we have generally followed this out. Now, we want to give the State Engineer any information that he might desire or to cooperate with him in any manner, but in making a statement such as this, I don't think that it should be considered as testimony by the Examiner. It is merely

a statement, and I don't think it is proper at this time, but I just want to interpose my objection. You may proceed.

MR. UTZ: Do you recall what the procedure was in regard to the State Engineer?

MR. PAYNE: I don't in the Ambassador.

MR. UTZ: In some cases I was under the impression that they were to be advised of the casing of these wells, either through us or through the operators.

MR. PAYNE: Is this in a declared water basin?

MR. IRBY: Yes, sir.

MR. UTZ: You have not received any information regarding the casing program on the three injection wells?

MR. IRBY: No, sir, the only information we received was the docket announcing the hearing.

MR. PAYNE: Off the record.

(Discussion off the record.)

MR. UTZ: Back on the record.

MR. JENNINGS: I believe this takes care of my objection.

MR. UTZ: Do you want to withdraw the objection?

MR. JENNINGS: If Mr. Irby is satisfied, why I will withdraw my objection to his statement.

MR. UTZ: All right, let the record so show. Mr. Irby, you have a statement?

MR. IRBY: Yes, sir, in view of the off the record discussion with the water flood supervisor of Ambassador Corporation,

the objections of the State Engineer to the conversion of Wells 27-1, 27-3, and 29-1 to water injection wells is withdrawn.

MR. UTZ: Are there any other statements to be made?

MR. JENNINGS: May I ask Mr. Irby a question? Mr. Irby, if the additional injection Wells 27-4, 27-7, and 27-5 which are, let's see, 27-6, that's the only one, if it is completed in the same manner in which Mr. Layton has explained to you that these last three wells have been completed and tested, will that be satisfactory to the State Engineer?

MR. IRBY: It will.

MR. JENNINGS: That's all.

MR. UTZ: Any other statements to be made?

MR. JENNINGS: No further statements. I would just like to call the Examiner's attention to the fact that the emergency order expired this morning at 7:00 a.m. and we would like, if possible, to have the new order, if granted, effective this morning at 7:00 a.m.

MR. UTZ: All right, sir. Any other questions of the witness? If not, the witness may be excused.

(Witness excused)

MR. UTZ: The case will be taken under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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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 5th day of August 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. 1230, heard by me on July 25, 1959.
[Signature] Examiner
New Mexico Oil Conservation Commission

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