allowables.

Case No.

1778

Application, Transcript,
Small Exhibits, Etc.

El Paso Natural Gas Company

El Paso, Texas

H. F. STEEN
VICE PRESIDENT AND
MANAGER OF PIPE LINE OPERATIONS

October 6, 1959

New Mexico Oil Conservation Commission
107 Mabry Hall, Capitol Building
Santa Fe, New Mexico

Gentlemen:

In re: Cases 1778 and 1779

In Case 1778 Olsen Oils, Inc., asked for an exception to the overproduction shut-in provisions of Order R-520 for four wells located in Lea County, New Mexico. In Case 1779 Jal Oil Company makes similar application for seven wells located in Lea County, New Mexico. Other operators have filed similar applications which have been heard by the Commission.

As purchaser from a large majority of the wells mentioned in the various applications this Company urges the Commission to approve exceptions which will prevent the wells from being abandoned. The Company believes that many gas wells in southeastern New Mexico which have been produced for a number of years will continue to produce substantial quantities of gas if these wells can be operated without extensive shut-ins. Since the operators were operating in accordance with the Commission's rules at the time the overproduction was accumulated, it is hoped the Commission will not penalize the operators by shutting in wells which may result in abandonment and loss of the recoverable gas which might be produced under the most efficient operating conditions. While the quantities of gas are small in comparison to the entire pool, the quantities are substantial to the operators and the cumulative effect of abandoning a number of wells would be substantial with respect to the entire pool.

The Company is sure that the Commission will give every reasonable consideration to the operators affected.

Yours very truly,

H. F. Steen

H. F. STEEN

HFS:BRH:lbh

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. 1778
Order No. R-1518

APPLICATION OF OLSEN OILS, INC.
FOR AN ORDER PERMITTING FOUR
OVERPRODUCED GAS WELLS IN THE
JALMAT GAS POOL, LEA COUNTY,
NEW MEXICO TO COMPENSATE FOR
SUCH OVERPRODUCTION 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 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 14th 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 original application in Case 1778 was for the consideration of four wells, but that applicant requested at the hearing that two of the four wells be dismissed from further consideration.

(3) That the following-described gas wells in the Jalmat Gas Pool, Lea County, New Mexico, are more than six times overproduced and are therefore subject to complete shut-in under the provisions of Orders Nos. R-520 and R-967:

A. R. Cooper Well No. 1, SW/4 NW/4 of Section 23, Township 23 South, Range 36 East, NMPM

Winningham Well No. 3, NE/4 SE/4 of Section 30, Township 25 South, Range 37 East, NMPM.

(4) That due to extreme liquid problems, the applicant seeks an order permitting the overproduction to be made up at a lesser rate than complete shut-in in order to preclude permanent injury to the subject wells.

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

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

(7) That an administrative procedure should be established whereby the Secretary-Director of the Commission may authorize the operator to compensate for overproduction 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.

(8) That the Secretary-Director should be authorized to order that tests be made to determine whether the subject wells may be produced at a lesser rate than that prescribed by this order without permanent injury to the well and/or producing formation and, if the test results so indicate, the Secretary-Director should be authorized to order the production rate curtailed below that herein prescribed.

(9) That any tests made to determine the minimum safe flow rate should be witnessed by a representative of the Commission.

IT IS THEREFORE ORDERED:

(1) That the operator be and the same is hereby authorized to compensate for the overproduction of the following-described gas wells in the Jalmat Gas Pool, Lea County, New Mexico, by producing each of them at a monthly rate equal to seventy-five percent of the well's current monthly allowable or at a monthly rate equal to seventy-five percent of the well's average monthly allowable for the preceding six-month proration period, whichever is greater:

S. R. Cooper Well No. 1, SE/4 NE/4 of Section 23, Township 24 South, Range 36 East, N.M.P.M.

Cunningham Well No. 3, NE/4 SE/4 of Section 30, Township 25 South, Range 37 East, N.M.P.M.

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 overproduction as set forth in this order would result in permanent damage to the well and/or producing formation.

PROVIDED FURTHER, That the Secretary-Director be and the same is hereby authorized to order that tests be made to determine whether the subject wells may be produced at a lesser rate than that prescribed by this order without permanent injury to the well and/or producing formation, and, if the test results so indicate, the Secretary-Director is hereby authorized to order the production rate curtailed below that rate herein prescribed.

PROVIDED FURTHER, That any tests made to determine the minimum safe flow rate shall be witnessed by a representative of the Commission.

(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

ler/

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

October 30, 1959

Mr. W. D. Girand
Box 1445
Hobbs, New Mexico

Dear Mr. Girand

On behalf of your clients, Olsen Oils, Inc. and Jal Oil Company, we enclose two copies of Order No. R-1518 in Case 1778 and two copies of Order R-1519 in Case 1779 issued by the Oil Conservation Commission on October 30, 1959.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Enclosures: (4)

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F. PYATT

TELEPHONE
EXPRESS 3-3118
POST OFFICE BOX 1449

September 16, 1959.

Oil Conservation Commission,
State Capitol,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter,

RE: JAL OIL COMPANY WATKINS NO. 2,
NE/4 NE/4 SECTION 35, TOWNSHIP
24 SOUTH, RANGE 36 EAST, JALMAT POOL.

Gentlemen:

I am enclosing original and two copies of Application of Jal Oil Company for a relief from shut in action on the part of the Commission covering the above captioned well. This Application seeks exception to the proration Order covering gas production in the Jalmat Pool.

Please advise the case number assigned to this Application, and if possible, applicant would like to have this case set for the October 7th examiner hearing since the cases heretofore filed by this operator have been postponed to the October 7th hearing date.

Very truly yours,

GIRAND & STOUT,

BY: W. D. Girand

G/dk
Encl.
cc: Oil Conservation Commission,
Hobbs, New Mexico.
Attention: Mr. Randall Montgomery.

Jal Oil Company,
Box 1744,
Midland, Texas.

BEFORE THE OIL CONSERVATION COMMISSION,

STATE OF NEW MEXICO.

APPLICATION OF JAL OIL COMPANY FOR AN EXCEPTION TO RULE 10, ORDER NO. R-967 FOR THE ASSIGNMENT OF MINIMUM ALLOWABLE TO ITS WATKINS NO. 2, LOCATED IN THE NE/4 NE/4 SECTION 35, TOWNSHIP 24 SOUTH, RANGE 36 EAST, JALMAT GAS POOL, AND FOR RELIEF FROM A THREATENED SHUT IN.

CASE NO._____

COMES NOW the Jal Oil Company, a New Mexico corporation, with principal office in Jal, Lea County, New Mexico, and files this its Application for an exception to Rule 10, Order No. R-967 and for the Commission to assign a minimum allowable to its Watkins No. 2 and for cause would show:

1. Applicant is the owner and operator of the gas well known as the Watkins No. 2 located in the NE/4 NE/4 Section 35, Township 24 South, Range 36 East, in the Jalmat Gas Pool.

2. That the Watkins No. 2 has previously been designated as a marginal gas well and has been operated under said classification.

3. Applicant would show that the Watkins No. 2 is a flowing well. However, whenever the well is shut in, after

accumulates in such quantities as to kill the well. The operator is required to swab off the water before production can be obtained. It is applicant's opinion that prolonged shut in periods will result in a killing of the well and making it incapable of producing gas. It is anticipated that with the present encroachment of the water, that the applicant will be required to resort to mechanical methods in order to continue the production of gas from this well. Each and every time the well is shut in the operator runs the risk of losing the well to the encroaching water.

4. Applicant would show that after the classification of said well as a marginal well the El Paso Natural Gas Company reduced their line pressures considerably in the lines to which said well was connected and by reason thereof, the well was capable of producing into the El Paso line gas in excess of the fixed allowable. However, this condition was not the only condition existing which caused the over-production. During recent months the allowables assigned to marginal wells within the Jalmat Gas Pool were so reduced that the production of gas by the methods employed by the applicant could not keep from over-producing.

5. Applicant states that in its opinion enormous gas reserves are located under the acreage assigned to the Watkins No. 2 well and that if applicant is required to shut in said well for any period of time, the encroachment of the water will destroy the well and require the applicant to prematurely abandon.

6. Applicant states that unless it is allowed to continually produce gas from said well, that the encroaching water will kill said well. That in this connection applicant in the past has been able to swab the well back to life after periods of shut down. However, applicant feels that this is very hazardous and should be avoided, if possible, to prevent a waste of the gas attributable to this well and in order to protect the correlative rights of the operator.

7. Applicant would further show the Commission that on January 29, 1958, the Commission entered its Order No. 1092 A in Case No. 1327. That said Order has been under attack of the Courts in the State of New Mexico by many operators within the affected gas pool. That on July 1, 1958, the Jalmat Gas Pool proration formula was changed and the Commission, on its own motion, found it necessary to delay for approximately one year before attempting to reclassify the gas wells under the new proration formula. That, thereafter, in the month of June, 1959, the Commission reclassified approximately

118 gas wells, including applicant's and advised applicant that said Watkins No. 2 was no longer a marginal gas well and had over-produced more than six times its allowable. Thereafter, by Memo No. 13-59, the Commission notified all operators that unless Applications were filed seeking relief from this Commission, all of the 118 gas wells would be shut in as of September 1, 1959. That Order No. R-967 provides under Rule 6-C as follows:

> "The Commission may assign minimum allowables in order to prevent the premature abandonment of wells."

The Order further provides, under Rule 10:

> "The Commission may allow over-production 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."

8. The Commission, on numerous occasions, has seen fit in the handling of production of oil to disregard fixed allowables where production was made by secondary recovery methods.

WHEREFORE, applicant prays:

(1) That the Commission enter an Order allowing applicant to produce the Watkins No. 2 in sufficient amount to avoid the encroachment of water and the killing of the well.

(2) That the Commission fix a minimum allowable for the Watkins No. 2 gas well located in the Jalmat Gas Pool as provided by Rule 6 of Order No. 967.

(3) And, in the alternative that the Commission enter its Order authorizing applicant to make up its allowable over such extended period of time as will allow applicant to continue the production of gas constantly from said well.

GIRAND & STOUT,

BY _____
(ATTORNEYS FOR APPLICANT)
POST OFFICE BOX 1445,
HOBBS, NEW MEXICO.

G/dk

BEFORE THE OIL CONSERVATION COMMISSION,

STATE OF NEW MEXICO.

APPLICATION OF JAL OIL COMPANY FOR AN EXCEPTION TO RULE 10 OF ORDER NO. R-967 AND FOR THE ASSIGNMENT OF MINIMUM ALLOWABLE TO ITS EVA OWENS NO. 1 GAS WELL LOCATED IN THE SW/4 OF SECTION 21, TOWNSHIP 25 SOUTH, RANGE 37 EAST, JALMAT GAS POOL, AND FOR RELIEF FROM A THREATENED SHUT IN.	)	CASE NO._____

COMES NOW the Jal Oil Company, a New Mexico corporation, with principal office in Jal, Lea County, New Mexico, and files this its Application for an exception to Rule 10, Order No. R-967 and for the Commission to assign a minimum allowable to its Eva Owens No. 1 and for cause would show:

1. Applicant is the owner and operator of the gas well known as the Eva Owens No. 1 located in the SW/4 of Section 21, Township 25 South, Range 37 East, in the Jalmat Gas Pool.

2. That the Eva Owens No. 1 has previously been designated as a marginal gas well and has been operated under said classification.

3. That in connection with the production of gas from said well, the operator is required to produce large

quantities of water and production is obtained by the use of a free floating piston and without this method of production being used, the well would be incapable of producing gas due to the encroachment of the water. That with the continued build up of water, it is anticipated that the operator will have to install a pump jack in the immediate future in order to lift the continuous increasing flow of water and produce gas from said well.

4. Applicant would show that after the classification of said well as a marginal well the El Paso Natural Gas Company reduced their line pressures considerably in the lines to which said well was connected and by reason thereof, the well was capable of producing into the El Paso line gas in excess of the fixed allowable. However, this condition was not the only condition existing which caused the over-production. During recent months the allowables assigned to marginal wells within the Jalmat Gas Pool were so reduced that the production of gas by the methods employed by the applicant could not keep from over-producing.

5. Applicant states that in its opinion enormous gas reserves are located under the acreage assigned to the

Eva Owens No. 1 well and that if applicant is required to shut in said well for any period of time, the encroachment of the water will destroy the well and require the applicant to prematurely abandon.

6. Applicant would further show the Commission that on January 29, 1958, the Commission entered its Order No. 1092 A in Case No. 1327. That said Order has been under attack of the Courts in the State of New Mexico by many operators within the affected gas pools. That on July 1, 1958, the Jalmat Gas Pool proration formula was changed and the Commission, on its own motion, found it necessary to delay for approximately one year before attempting to reclassify the gas wells under the new proration formula. That, thereafter, in the month of June, 1959, the Commission reclassified approximately 118 gas wells, including applicant's and advised applicant that said Eva Owens No. 1 was no longer a marginal gas well and had over-produced more than six times its allowable. Thereafter, by Memo No. 13-59, the Commission notified all operators that unless Applications were filed seeking relief from this

Commission, all of the 116 wells would be shut in as of September 1, 1959. That Order No. R-907 provides under Rule 6-C as follows:

> "The Commission may assign minimum allowables in order to prevent the premature abandonment of wells."

The Order further provides, under Rule 13:

> "The Commission may allow over-production 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."

7. Applicant states that in order for applicant to protect its gas reserves, the encroaching water must be produced from its well to prevent the killing of the same. The exact amount of water that will be required to be produced in order to stabilize a flow of gas from said well cannot be definitely ascertained at this time. However, applicant believes and states to the Commission that if the Commission will allow a 120 day producing period, applicant will report to this Commission the minimum amount of water required to be produced in order to prevent the killing of the well and yet allow its continued production.

Applicant will advise the Commission as soon as possible, the total flow of gas that will be produced under such production method.

8. The Commission being charged with the conservation of oil and gas and the protection of correlative rights adopted the rules and regulations above quoted to insure relief to an operator situated as the applicant. In light of its declared policy, the Commission should enter an Order covering applicant's Eva Owens No. 1 well authorizing applicant to continue to produce the same for a period of 120 days and then report to this Commission the data necessary for this Commission to enter an Order establishing a minimum allowable for this well. However, if applicant is wrong and its interpretation of the meaning and intent of the Commission in its quoted Rule 6, then applicant believes that the Commission should allow applicant to make up its over-production over an extended period whereby applicant could continue to produce its well employing the methods presently being employed.

9. The Commission, on numerous occasions, has seen fit in the handling of production of oil to disregard

fixed allowables where production was made by secondary recovery methods. Applicant believes and so states to the Commission that the methods employed by it in the producing of gas from its well, Eva Owens No. 1, is a secondary recovery method and designed to obtain the ultimate production of gas underlying the acreage assigned to said well.

WHEREFORE, applicant prays:

(1) That the Commission enter an Order allowing applicant to produce its well employing the methods presently used for a period of 120 days requiring applicant to keep a record of its production of both gas and water and to establish within said period insofar as it is capable of doing so, the minimum amount of water required to be produced in order to produce gas.

(2) And, the Commission further provide that the control of production on applicant's well be under the direct supervision of the Hobbs Office granting unto the Director of the Hobbs Office the right to notify the producer the determined amount of water to be produced or allowed to be produced based on production reports should it be

determined that the water is encroaching at a greater rate than is established through the 120 day testing period.

(3) That the Commission fix a minimum allowable for the Eva Owens No. 1 gas well located in the Jalmat Gas Pool as provided by Rule 6 of Order R-967.

(4) And, in the alternative, that the Commission enter its Order authorizing applicant to make up its allowable over such extended period of time as will allow applicant to continue the production of gas through the methods presently employed to such an extent as to maintain said well as a gas well.

GIRAND & STOUT,

BY _____
(ATTORNEYS FOR APPLICANT)
POST OFFICE BOX 1445,
HOBBS, NEW MEXICO.

G/ak

BEFORE THE OIL CONSERVATION COMMISSION,

STATE OF NEW MEXICO.

APPLICATION OF JAL OIL COMPANY FOR AN EXCEPTION TO RULE 10 OF ORDER NO. R-907 AND FOR THE ASSIGNMENT OF MINIMUM ALLOWABLE TO ITS DYER #3 GAS WELL LOCATED IN THE SE¼NE¼ OF SECTION 31, TOWNSHIP 25 SOUTH, RANGE 37 EAST, JALMAT GAS POOL, AND FOR RELIEF FROM A THREATENED SHUT IN.	)	CASE NO._____

COMES NOW the Jal Oil Company, a New Mexico corporation, with principal office in Jal, Lea County, New Mexico, and files this its Application for an exception to Rule 10, Order No. R-907 and for the Commission to assign a minimum allowable to its Dyer #3 and for cause would show:

1. Applicant is the owner and operator of the gas well known as the Dyer #3 located in the SE¼NE¼ of Section 31, Township 25 South, Range 37 East, in the Jalmat Gas Pool.

2. That the Dyer #3 has previously been designated as a marginal gas well and has been operated under said classification.

3. That in connection with the production of gas from said well, the operator is required to produce large

quantities of water and production is obtained by the use of a free floating piston and without this method of production being used, the well would be incapable of producing gas due to the encroachment of the water. That with the continued build up of water, it is anticipated that the operator will have to install a pump jack in the immediate future in order to lift the continuous increasing flow of water and produce gas from said well.

4. Applicant would show that after the classification of said well as a marginal well the El Paso Natural Gas Company reduced their line pressures considerably in the lines to which said well was connected and by reason thereof, the well was capable of producing into the El Paso line gas in excess of the fixed allowable. However, this condition was not the only condition existing which caused the over-production. During recent months the allowables assigned to marginal wells within the Jalmat Gas Pool were so reduced that the production of gas by the methods employed by the applicant could not keep from over-producing.

5. Applicant states that in its opinion enormous gas reserves are located under the acreage assigned to the

6. Applicant would further show the Commission that on January 29, 1958, the Commission entered its Order No. 1092 A in Case No. 1327. That said Order has been under attack of the Courts in the State of New Mexico by many operators within the affected gas pools. That on July 1, 1958, the Jalmat Gas Pool proration formula was changed and the Commission, on its own motion, found it necessary to delay for approximately one year before attempting to reclassify the gas wells under the new proration formula. That, thereafter, in the month of June, 1959, the Commission reclassified approximately 118 gas wells, including applicant's and advised applicant that said Dyer #3 was no longer a marginal gas well and had over-produced more than six times its allowable. Thereafter, by Memo No. 13-59, the Commission notified all operators that unless Applications were filed seeking relief from this Commission, all of the 118 wells would be shut in as of September 1, 1959. That Order No. R-967 provides under Rule 6-C as follows:

"The Commission may assign minimum allowables in order to prevent the premature abandonment of wells".

The Order further provides, under Rule 10:

"The Commission may allow over-production 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."

7. Applicant states that in order for applicant to protect its gas reserves, the encroaching water must be produced from its well to prevent the killing of the same. The exact amount of water that will be required to be produced in order to stablize a flow of gas from said well cannot be definitely ascertained at this time. However, applicant believes and states to the Commission that if the Commission will allow a 120 day producing period, applicant will report to this Commission the minimum amount of water required to be produced in order to prevent the killing of the well and yet allow its continued production. Applicant will advise the Commission as soon as possible, the total flow of gas that will be produced under such production method.

8. The Commission being charged with the conservation of oil and gas and the protection of correlative rights adopted the rules and regulations above quoted to insure relief to an operator situated as the applicant. In light of its declared policy, the Commission should enter an Order covering applicant's Dyer #3 well authorizing applicant to continue to produce the same for a period of 120 days and then report to this Commission the data necessary for this Commission to enter an Order establishing a minimum allowable for this well. However, if applicant is wrong in its interpretation of the meaning and intent of the Commission in its quoted Rule 6, then applicant believes that the Commission should allow applicant to make up its over-production over an extended period whereby applicant could continue to produce its well employing the methods presently being employed.

9. The Commission, on numerous occasions, has seen fit in the handling of production of oil to disregard fixed allowables where production was made by secondary recovery methods. Applicant believes and so states

to the Commission that the methods employed by it in the producing of gas from its well, Dyer #3, is a secondary recovery method and designed to obtain the ultimate production of gas underlying the acreage assigned to said well.

WHEREFORE, applicant prays:

(1) That the Commission enter an Order allowing applicant to produce its well employing the methods presently used for a period of 120 days requiring applicant to keep a record of its production of both gas and water and to establish within said period insofar as it is capable of doing so, the minimum amount of water required to be produced in order to produce gas.

(2) And, the Commission furtner provide that the control of production on applicant's well be under the direct supervision of the Hobbs Office granting unto the Director of the Hobbs Office the right to notify the producer the determined amount of water to be produced or allowed to be produced based on production reports should it be determined that the water is encroaching at a greater

than is established through the 120 day testing period.

(3) That the Commission fix a minimum allowable for the Dyer #3 gas well located in the Jalmat Gas Pool as provided by Rule 6 of Order R-967.

(4) And, in the alternative, that the Commission enter its Order authorizing applicant to make up its allowable over such extended period of time as will allow applicant to continue the production of gas through the methods presently employed to such an extent as to maintain said well as a gas well.

GIRAND & STOUT,

BY _____
(ATTORNEYS FOR APPLICANT)

G/bc

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F. PYATT

TELEPHONE:
EXPRESS 3-8116
POST OFFICE BOX 1445

Case 1179

August 27, 1959.

Oil Conservation Commission,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

IN RE: JAL OIL COMPANY - JENKINS #2 GAS WELL, NE¼SW¼ OF SECTION 29, TOWNSHIP 25 SOUTH, RANGE 37 EAST.

Gentlemen:

Enclosed you will find original and two copies of Application of Jal Oil Company for relief from shut-in action on the part of the Commission covering the above captioned well.

Please advise the case number assigned to this Application and the Hearing date on same.

Very truly yours,

GIRAND & STOUT,

BY: W. D. Girand

G/bc
Encls.
cc: Oil Conservation Commission, Hobbs, New Mexico.
(Attention: Mr. Randall Montgomery)
Jal Oil Company, P. O. Box 1744, Midland, Texas.

BEFORE THE OIL CONSERVATION COMMISSION,

STATE OF NEW MEXICO.

APPLICATION OF JAL OIL COMPANY FOR AN EXCEPTION TO RULE 10 OF ORDER NO. R-967 AND FOR THE ASSIGNMENT OF MINIMUM ALLOWABLE TO ITS JENKINS #2 GAS WELL LOCATED IN THE NE¼SW¼ OF SECTION 29, TOWNSHIP 25 SOUTH, RANGE 37 EAST, JALMAT GAS POOL, AND FOR RELIEF FROM A THREATENED SHUT IN.	)	CASE NO._____

COMES NOW the Jal Oil Company, a New Mexico corporation, with principal office in Jal, Lea County, New Mexico, and files this its Application for an exception to Rule 10, Order No. R-967 and for the Commission to assign a minimum allowable to its Jenkins #2 and for cause would show:

1. Applicant is the owner and operator of the gas well known as the Jenkins #2 located in the NE¼SW¼ of Section 29, Township 25 South, Range 37 East, in the Jalmat Gas Pool.

2. That the Jenkins #2 has previously been designated as a marginal gas well and has been operated under said classification.

3. That in connection with the production of gas from said well, the operator is required to produce large

quantities of water and production is obtained by the use of a pump jack and without this method of production being used, the well would be incapable of producing gas due to the encroachment of the water.

4. Applicant would show that after the classification of said well as a marginal well, the El Paso Natural Gas Company reduced their line pressures considerably in the lines to which said well was connected and by reason thereof, the well was capable of producing into the El Paso Line gas in excess of the fixed allowable. However, this condition was not the only condition existing which caused the over-production. During recent months the allowables assigned to marginal wells within the Jalmat Gas Pool were so reduced that the production of gas by the methods employed by the applicant could not keep from over-producing.

5. Applicant states that in its opinion enormous gas reserves are located under the acreage assigned to the Jenkins #2 gas well and that if applicant is required to shut in said well for any period of time, the encroachment of the water will destroy the well and require the applicant to prematurely abandon.

6. Applicant would further show the Commission that on January 29, 1958, the Commission entered its Order No. 1092 A in Case No. 1327. That said Order has been under attack of the Courts in the State of New Mexico by many operators within the affected gas pools. That on July 1, 1958, the Jalmat Gas Pool proration formula was changed and the Commission, on its own motion, found it necessary to delay for approximately one year before attempting to reclassify the gas wells under the new proration formula. That, thereafter, in the month of June, 1959, the Commission reclassified approximately 118 gas wells, including applicant's and advised applicant that said Jenkins #2 was no longer a marginal gas well and had over-produced more than six times its allowable. Thereafter, by Memo No. 13-59, the Commission notified all operators that unless Applications were filed seeking relief from this Commission, all of the 118 wells would be shut in as of September 1, 1959. That Order No. R-967 provides under Rule 6-C as follows:

"The Commission may assign minimum allowables in order to prevent the premature abandonment of wells."

The Order further provides, under Rule 10:

"The Commission may allow over-production 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."

7. Applicant states that in order for applicant to protect its gas reserves, the encroaching water must be produced from its well to prevent the killing of the same. The exact amount of water that will be required to be produced in order to stablize a flow of gas from said well cannot be definitely ascertained at this time. However, applicant believes and states to the Commission that if the Commission will allow a 120 day producing period, applicant will report to this Commission the minimum amount of water required to be produced in order to prevent the killing of the well and yet allow its continued production. Applicant will advise the Commission as soon as possible, the total flow of gas that will be produced under such production method.

8. The Commission being charged with the conservation of oil and gas the the protection of correlative rights adopted the rules and regulations above quoted to insure relief to an operator situated as the applicant. In light of its declared policy, the Commission should enter an Order covering applicant's Jenkins #2 well authorizing applicant to continue to produce the same for a period of 120 days and then report to this Commission the data necessary for this Commission to enter an Order establishing a minimum allowable for this well. However, if applicant is wrong in its interpretation of the meaning and intent of the Commission in its quoted Rule 6, then applicant believes that the Commission should allow applicant to make up its over-production over an extended period whereby applicant could continue to produce its well employing the methods presently being employed.

9. The Commission, on numerous occasions, has seen fit in the handling of production of oil to disregard fixed allowables where production was made by secondary recovery methods. Applicant believes and so states

to the Commission that the methods employed by it in the producing of gas from its well, Jenkins #2, is a secondary recovery method and designed to obtain the ultimate production of gas underlying the acreage assigned to said well.

WHEREFORE, applicant prays:

(1) That the Commission enter an Order allowing applicant to produce its well employing the methods presently used for a period of 120 days requiring applicant to keep a record of its production of both gas and water and to establish within said period insofar as it is capable of doing so, the minimum amount of water required to be produced in order to produce gas.

(2) And, the Commission further provide that the control of production on applicant's well be under the direct supervision of the Hobbs Office granting unto the Director of the Hobbs Office the right to notify the producer the determined amount of water to be produced or allowed to be produced based on production reports should it be determined that the water is encroaching at a greater

rate than is established through the 120 day testing period.

(3) That the Commission fix a minimum allowable for the Jenkins #2 Gas Well located in the Jalmat Gas Pool as provided by Rule 6 of Order R-967.

(4) And, in the alternative, that the Commission enter its Order authorizing applicant to make up its allowable over such extended period of time as will allow applicant to continue the production of gas through the methods presently employed to such an extent as to maintain said well as a gas well.

GIRAND & STOUT,

BY _____
(ATTORNEYS FOR APPLICANT)

G/bc

CASE 1765: Application of The Ohio Oil Company for a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing the disposal of produced salt water into the Lower San Andres formation through its State B-4286 "A" Well No. 2, located in Unit F, Section 2, Township 17 South, Range 36 East, Lea County, New Mexico. The proposed injection interval is from 5725 feet to 5968 feet.

CASE 1766: Application of Northwest Production Corporation for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its "S" Well No. 16-2, located in the SW/4 SW/4 of Section 2, Township 24 North, Range 4 West, Rio Arriba County, New Mexico, in such a manner as to produce oil from an undesignated Gallup oil pool and to produce oil from an undesignated Dakota oil pool through parallel strings of tubing.

CASE 1767: Application of El Paso Natural Gas Products Company for permission to produce more than 16 wells in a common tank battery. Applicant, in the above-styled cause, seeks an order authorizing the production of a maximum of 35 wells in the Horseshoe-Gallup Oil Pool into a common tank battery. Said wells are located on applicant's Horseshoe Ute Lease comprising portions of Sections 27, 28, 33 and 34, Township 31 North, Range 16 West, San Juan County, New Mexico.

CASE 1768: Application of T. F. Hodge for the rededication of acreage assigned to three oil wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order rededicating the acreage assigned to three oil wells on his Mary E. Wills Lease, Section 33, Township 26 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico. Applicant proposes to dedicate 40 acres to each of the three wells, said 40-acre units not to comprise a quarter-quarter section or legal subdivision.

CASE 1769: Application of Pan American Petroleum Corporation for approval of a unit agreement. Applicant, in the above-styled cause, seeks an order approving its Northeast Hogback Unit Agreement, comprising 10,572 acres, more or less, in Township 30 North, Range 16 West, San Juan County, New Mexico.

CASE 1770: Application of Pan American Petroleum Corporation for approval of a lease automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the automatic custody transfer of oil produced from its Lois Wengerd Lease in Sections 23 and 24, Township 12 South, Range 37 East, Gladiola-Devonian Pool, Lea County, New Mexico.

CASE 1771: Application of Pan American Petroleum Corporation for approval of a lease automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing the automatic custody transfer of oil produced from its USA Malco Refinery "F" Lease, Section 1, Township 18 South, Range 27 East, Empire-Abo Pool, Eddy County, New Mexico.

CASE 1772: Application of Pan American Petroleum Corporation for approval of an automatic custody transfer system for four state leases in the Empire-Abo Pool, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order amending Order No. R-1292 to provide for automatic custody transfer of oil commingled thereunder.

DOCKET: EXAMINER HEARING SEPTEMBER 20, 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-Director.

CONTINUED CASE

CASE 1739: Application of Shell Oil Company for approval of a unit agreemnt. Applicant, in the above-styled cause, seeks an order approving its Hensnaw Deep Unit Agreement comprising 4824 acres, more or less, of Federal and State lands in Township 16 South, Ranges 30 and 31 East, Eddy County, New Mexico.

NEW CASES

CASE 1760: Application of The Atlantic Refining Company 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 Horseshoe-Gallup oil wells on its Navajo "B" Lease comprising certain acreage in Township 31 North, Range 16 West, San Juan County, New Mexico.

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 1762: Application of Newmont Oil Company for an unorthodox water injection well location. Applicant, in the above-styled cause, seeks an order authorizing it to reopen and utilize for water injection a well located on an unorthodox location at a point 1620 feet from the North line and 1020 feet from the West line of Section 32, Township 16 South, Range 31 East, Square Lake Pool, Eddy County, New Mexico.

CASE 1763: Application of Southwestern Hydrocarbon Company for an order abolishing the Sawyer-San Andres and South Sawyer-San Andres Oil Pools in Lea County, New Mexico, and creating the Sawyer-San Andres Gas Pool; or in the alternative for an order extending the horizontal limits of the South Sawyer-San Andres Oil Pool to include the NE/4 of Section 6, the N/2 of Section 5 and the NW/4 of Section 4, Township 10 South, Range 38 East, Lea County, New Mexico, and removing all gas-oil ratio limitations for wells in said pool; or in the alternative for an order combining the Sawyer-San Andres and the South Sawyer-San Andres Oil Pools, as well as the intervening acreage, and removing all gas-oil ratio limitations for such pool.

CASE 1764: Application of Standard Oil Company of Texas for an unorthodox gas well location. Applicant, in the above-styled cause, seeks an order authorizing an unorthodox gas well location in the Atoka-Pennsylvanian Gas Pool, at a point 1850 feet from the South line and 1650 feet from the East line of Section 14, Township 18 South, Range 26 East, Eddy County, New Mexico.

CASE 1773: Application of Pan American Petroleum Corporation for approval of two automatic custody transfer systems for seven federal leases in the Empire-Abo Pool, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order amending Order No. R-1399 to provide for automatic custody transfer of oil produced into the two commingled tank batteries authorized therein.

CASE 1774: Application of Continental Oil Company for a non-standard gas unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas unit in an undesignated Tubb gas pool consisting of the E/2 NW/4 and the W/2 NE/4 of Section 15, Township 20 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Britt B-15 No. 10 Well, located in the SW/4 NE/4 of said Section 15.

CASE 1775: Application of Continental Oil Company for a non-standard gas unit. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas unit in an undesignated Tubb gas pool consisting of the E/2 SE/4 of Section 15 and the W/2 SW/4 of Section 14, all in Township 20 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's SEMU Well No. 70, located in the NW/4 SW/4 of said Section 15.

CASE 1776: Application of Continental Oil Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for nine 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:
Ascarate D-24 Well No. 1, Unit J, Section 24, T-25-S, R-36-E, Danciger A-8 Well No. 2, Unit P, Section 8, T-23-S, R-36-E, Jack A-20 Well No. 4, Unit G, Section 20, T-24-S, R-37-E, Jack A-29 Well No. 3, Unit H, Section 29, T-24-S, R-37-E, Meyer A-29 Well No. 1, Unit O, Section 29, T-22-S, R-36-E, Meyer B-28 Well No. 1, Unit E, Section 28, T-22-S, R-36-E, State A-32 Well No. 4, Unit F, Section 32, T-22-S, R-36-E, Stevens A-34 Well No. 1, Unit E, Section 34, T-23-S, R-36-E, Wells B-1 Well No. 1, Unit A, Section 1, T-25-S, R-36-E, all in Lea County, New Mexico.

CASE 1777: Application of El Paso Natural Gas Company for an exception to the overproduction shut-in provisions of Order R-520, as amended by Order R-967, for two wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing its E. J. Wells Lease Well No. 13, Unit L, Section 5, and its Wells B-4 Lease Well No. 1, Unit D, Section 4, both in Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to compensate for their overproduced status without being completely shut-in in order to prevent possible waste.

CASE 1778: Application of Olsen Oils, Inc., for an exception to the overproduction 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:
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 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:
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. 2, NE/4 SW/4 of Section 29,
Ropollo Well No. 1, SW/4 NW/4 of Section 28,
all in Township 25 South, Range 37 East, Lea County, New Mexico.

CASE 1780: Application of Husky 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 its Montecito Woolworth Well No. 2, Unit M, Section 33, Township 24 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 1781: Application of Texaco, Inc. for permission to continue producing an over-produced Jalmat gas well at a lesser rate. Applicant, in the above-styled cause, seeks an order authorizing it to produce its C. C. Fristoe (b) NCT-4 Well No. 2, Unit M, Section 31, Township 24 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, at a maximum rate of 2500 MCF per month for lease use until over production has been compensated for.

jg/

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F. PYATT

TELEPHONE
EXPRESS 3-8118
POST OFFICE BOX 1445

August 27, 1959.

Oil Conservation Commission,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

IN RE: JAL OIL COMPANY - LEGAL #2 GAS WELL LOCATED IN THE NE¼SE¼ OF SECTION 21, TOWNSHIP 35 SOUTH, RANGE 37 EAST.

Gentlemen:

We are enclosing herewith original and two copies of Application of Jal Oil Company for relief from shut-in action on the part of the Commission covering the above captioned well.

Please advise the case number assigned to this Application and the Hearing date on same.

Very truly yours,

GIRAND & STOUT,

BY: W. D. Girand

G/bc
Encls.
cc: Oil Conservation Commission, Hobbs, New Mexico.
(Attention: Mr. Randall Montgomery)
Jal Oil Company, P. O. Box 1744, Midland, Texas.

BEFORE THE OIL CONSERVATION COMMISSION,

STATE OF NEW MEXICO.

APPLICATION OF JAL OIL COMPANY FOR AN EXCEPTION TO RULE 10 OF ORDER NO. R-967 AND FOR THE ASSIGNMENT OF MINIMUM ALLOWABLE TO ITS LEGAL #2 GAS WELL LOCATED IN THE NE¼SE¼ OF SECTION 21, TOWNSHIP 35 SOUTH, RANGE 37 EAST, JALMAT GAS POOL AND FOR RELIEF FROM A THREATENED SHUT IN.	)	CASE NO.____

COMES NOW the Jal Oil Company, a New Mexico corporation, with principal office in Jal, Lea County, New Mexico, and files this its Application for an exception to Rule 10, Order No. R-967 and for the Commission to assign a minimum allowable to its Legal #2 and for cause would show:

1. Applicant is the owner and operator of the gas well known as the Legal #2 located in the NE¼SE¼ of Section 21, Township 25 South, Range 37 East, in the Jalmat Gas Pool.

2. That the Legal #2 has previously been designated as a marginal gas well and has been operated under said classification.

3. That in connection with the production of gas from said well, the operator is required to produce large

quantities of water and production is obtained by the use of a free floating piston and without this method of production being used, the well would be incapable of producing gas due to the encroachment of the water. That with the continued build up of water, it is anticipated that the operator will have to install a pump jack in the immediate future in order to life the continuous increasing flow of water and produce gas from said well.

4. Applicant would show that after the classification of said well as a marginal well the El Paso Natural Gas Company reduced their line pressures considerably in the lines to which said well was connected and by reason thereof, the well was capable of producing into the El Paso line gas in excess of the fixed allowable. However, this condition was not the only condition existing which caused the over-production. During recent months the allowables assigned to marginal wells within the Jalmat Gas Pool were so reduced that the production of gas by the methods employed by the applicant could not keep from over-producing.

5. Applicant states that in its opinion enormous gas reserves are located under the acreage assigned to the

Legal #2 well and that if applicant is required to shut in said well for any period of time, the encroachment of the water will destroy the well and require the applicant to prematurely abandon.

6. Applicant would further show the Commission that on January 29, 1958, the Commission entered its Order No. 1092 A in Case No. 1327. That said Order has been under attack of the Courts in the State of New Mexico by many operators within the affected gas pools. That on July 1, 1958, the Jalmat Gas Pool proration formula was changed and the Commission, on its own motion, found it necessary to delay for approximately one year before attempting to reclassify the gas wells under the new proration formula. That, thereafter, in the month of June, 1959, the Commission reclassified approximately 118 gas wells, including applicant's and advised application that said Legal #2 was no longer a marginal gas well and had over-produced more than six times its allowable. Thereafter, by Memo No. 13-59, the Commission notified all operators that unless Applications were filed seeking relief from this

Commission, all of the 118 wells would be shut in as of September 1, 1959. That Order No. R-967 provides under Rule 6-C as follows:

> "The Commission may assign minimum allowables in order to prevent the premature abandonment of wells."

The Order further provides, under Rule 10:

> "The Commission may allow over-production 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."

7. Applicant states that in order for applicant to protect its gas reserves, the encroaching water must be produced from its well to prevent the killing of the same. The exact amount of water that will be required to be produced in order to stablize a flow of gas from said well cannot be definitely ascertained at this time. However, applicant believes and states to the Commission that if the Commission will allow a 120 day producing period, applicant will report to this Commission the minimum amount of water required to be produced in order to prevent the killing of the well and yet allow its continued production.

Applicant will advise the Commission as soon as possible, the total flow of gas that will be produced under such production method.

8. The Commission being charged with the conservation of oil and gas and the protection of correlative rights adopted the rules and regulations above quoted to insure relief to an operator situated as the applicant. In light of its declared policy, the Commission should enter an Order covering applicant's Legal #2 well authorizing applicant to continue to produce the same for a period of 120 days and then report to this Commission the data necessary for this Commission to enter an Order establishing a minimum allowable for this well. However, if applicant is wrong in its interpretation of the meaning and intent of the Commission in its quoted Rule 6, then applicant believes that the Commission should allow applicant to make up its over-production over an extended period whereby applicant could continue to produce its well employing the methods presently being employed.

9. The Commission, on numerous occasions, has seen fit in the handling of production of oil to disregard

fixed allowables where production was made by secondary recovery methods. Applicant believes and so states to the Commission that the methods employed by it in the producing of gas from its well, Legal #2, is a secondary recovery method and designed to obtain the ultimate production of gas underlying the acreage assigned to said well.

WHEREFORE, applicant prays:

(1) That the Commission enter an Order allowing applicant to produce its well employing the methods presently used for a period of 120 days requiring applicant to keep a record of its production of both gas and water and to establish within said period insofar as it is capable of doing so, the minimum amount of water required to be produced in order to produce gas.

(2) And, the Commission further provide that the control of production on applicant's well be under the direct supervision of the Hobbs Office granting unto the Director of the Hobbs Office the right to notify the producer the determined amount of water to be produced or allowed to be produced based on production reports should it be

determined that the water is encroaching at a greater rate than is established through the 120 day testing period.

(3) That the Commission fix a minimum allowable for the Legal #2 gas well located in the Jalmat Gas Pool as provided by Rule 6 of Order R-967.

(4) And, in the alternative, that the Commission enter its Order authorizing applicant to make up its allowable over such extended period of time as will allow applicant to continue the production of gas through the methods presently employed to such an extent as to maintain said well as a gas well.

GIRAND & STOUT

BY _____

(ATTORNEYS FOR APPLICANT)
POST OFFICE BOX 1445,
HOBBS, NEW MEXICO.

G/DC

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F. PYATT

TELEPHONE:
EXPRESS 3-3116

POST OFFICE BOX 1445

September 16, 1959.

Oil Conservation Commission,
State Capitol,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

RE: JAL OIL COMPANY, EVA OWENS NO. 1,
SW/4 SECTION 21, TOWNSHIP 25 SOUTH,
RANGE 37 EAST, JALMAT POOL.

Gentlemen:

I am enclosing original and two copies of Application of Jal Oil Company for a relief from shut in action on the part of the Commission covering the above captioned well. This Application seeks exception to the proration Order covering gas production in the Jalmat Pool.

Please advise the case number assigned to this Application, and if possible, applicant would like to have this case set for the October 7th examiner hearing since the cases heretofore filed by this operator have been postponed to the October 7th hearing date.

Very truly yours,

GIRAND & STOUT,

BY: W. D. Girand

G/dk
Encl.
cc: Oil Conservation Commission,
Hobbs, New Mexico.
Attention: Mr. Randall Montgomery.

Jal Oil Company,
Box 1744,
Midland, Texas.

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F. PYATT

TELEPHONE:
EXPRESS 3-8116
POST OFFICE BOX 1445

September 16, 1959.

Case 1779

Oil Conservation Commission,
State Capitol Building,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

RE: JAL OIL COMPANY APPLICATIONS
COVERING LEGAL NO. 2, JENKINS
NO. 2, APOLLO NO. 1, AND DYER NO. 3.

Gentlemen:

The above cases have been set for examiner hearing on September 30, 1959. The applicant respectfully requests that these Applications be re-set for the examiner hearing set for October 7, 1959. In connection with this request the writer advises that a prior commitment requires the writer be in Amarillo, Texas, on October 1st and that the case set for October 1st involves many parties other than the applicant's attorney and numerous witnesses have been notified and their plans made for attendance at that time. It will be impossible to obtain a continuance of the Amarillo case without a delay of several months, resulting in considerable expense.

The writer is filing three additional cases on behalf of the Jal Oil Company which should be considered along with the existing cases pending.

Please consider this letter a request for a continuance of the above cases until October 7, 1959.

Very truly yours,

GIRAND & STOUT,

BY:

G/dk
cc: Oil Conservation Commission,
Hobbs, New Mexico. (Attention: Mr. Randall Montgomery)

Jal Oil Company,
Box 1744,
Hobbs, New Mexico.

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F PYATT

TELEPHONE
EXPRESS 3-9116
POST OFFICE BOX 1445

September 16, 1959.

Case 1779

Oil Conservation Commission,
State Capitol,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

RE: JAL OIL COMPANY JENKINS NO. 1,
SW/4 SECTION 29, TOWNSHIP 25
SOUTH, RANGE 37 EAST, JALMAT POOL.

Gentlemen:

I am enclosing original and two copies of Application of Jal Oil Company for a relief from shut in action on the part of the Commission covering the above captioned well. This Application seeks exception to the proration Order covering gas production in the Jalmat Pool.

Please advise the case number assigned to this Application, and if possible, applicant would like to have this case set for the October 7th examiner hearing since the cases neretofore filed by this operator have been postponed to the October 7th hearing date.

Very truly yours,

GIRAND & STOUT,

BY: W. D. Girand

G/dk
Encl.
cc: Oil Conservation Commission,
Hobbs, New Mexico.
Attention: Mr. Randall Montgomery.

Jal Oil Company,
Box 1744,
Midland, Texas.

BEFORE THE OIL CONSERVATION COMMISSION,

STATE OF NEW MEXICO.

APPLICATION OF JAL OIL COMPANY FOR AN EXCEPTION TO RULE 10 OF ORDER NO. R-967 FOR THE ASSIGNMENT OF MINIMUM ALLOWABLE TO ITS JENKINS NO. 1 GAS WELL LOCATED IN THE SW/4 OF SECTION 29, TOWNSHIP 25 SOUTH, RANGE 37 EAST, JALMAT GAS POOL, AND FOR RELIEF FROM A THREATENED SHUT IN.	)	CASE NO._____

COMES NOW the Jal Oil Company, a New Mexico corporation, with principal office in Jal, Lea County, New Mexico, and files this its Application for an exception to Rule 10, Order No. R-967 and for the Commission to assign a minimum allowable to its Jenkins No. 1 and for cause would show:

1. Applicant is the owner and operator of the gas well known as the Jenkins No. 1 located in the SW/4 of Section 29, Township 25 South, Range 37 East, in the Jalmat Gas Pool.

2. That the Jenkins No. 1 has previously been designated as a marginal gas well and has been operated under said classification.

3. That in connection with the production of gas from said well, the operator is required to produce large

quantities of water and production is obtained by the use of a free floating piston and without this method of production being used, the well would be incapable of producing gas due to the encroachment of the water. That with the continued build up of water, it is anticipated that the operator will have to install a pump jack in the immediate future in order to lift the continuous increasing flow of water and produce gas from said well.

4. Applicant would show that after the classification of said well as a marginal well the El Paso Natural Gas Company reduced their line pressures considerably in the lines to which said well was connected and by reason thereof, the well was capable of producing into the El Paso line gas in excess of the fixed allowable. However, this condition was not the only condition existing which caused the over-production. During recent months the allowables assigned to marginal wells within the Jalmat Gas Pool were so reduced that the production of gas by the methods employed by the applicant could not keep from over-producing.

5. Applicant states that in its opinion enormous gas reserves are located under the acreage assigned to the

Jenkins No. 1 well and that if applicant is required to shut in said well for any period of time, the encroachment of the water will destroy the well and require the applicant to prematurely abandon.

6. Applicant would further show the Commission that on January 29, 1958, the Commission entered its Order No. 1092 A in Case No. 1327. That said Order has been under attack of the Courts in the State of New Mexico by many operators within the affected gas pools. That on July 1, 1958, the Jalmat Gas Pool proration formula was changed and the Commission, on its own motion, found it necessary to delay for approximately one year before attempting to reclassify the gas wells under the new proration formula. That, thereafter, in the month of June, 1959, the Commission reclassified approximately 118 gas wells, including applicant's and advised applicant that said Jenkins No. 1 was no longer a marginal gas well and had over-produced more than six times its allowable. Thereafter, by Memo No. 13-59, the Commission notified all operators that unless Applications were filed seeking relief from this

Commission, all of the 118 wells would be shut in as of September 1, 1959. That Order No. R-967 provides under Rule 6-C as follows:

> "The Commission may assign minimum allowables in order to prevent the premature abandonment of wells."

The Order Further provides, under Rule 10:

> "The Commission may allow over-production 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."

7. Applicant states that in order for applicant to protect its gas reserves, the encroaching water must be produced from its well to prevent the killing of the same. The exact amount of water that will be required to be produced in order to stabilize a flow of gas from said well cannot be definitely ascertained at this time. However, applicant believes and states to the Commission that if the Commission will allow a 120 day producing period, applicant will report to this Commission the minimum amount of water required to be produced in order to prevent the killing of the well and yet allow its continued production.

Applicant will advise the Commission as soon as possible, the total flow of gas that will be produced under such production method.

8. The Commission being charged with the conservation of oil and gas and the protection of correlative rights adopted the rules and regulations above quoted to insure relief to an operator situated as the applicant. In light of its declared policy, the Commission should enter an Order covering applicant's Jenkins No. 1 well authorizing applicant to continue to produce the same for a period of 120 days and then report to this Commission the data necessary for this Commission to enter an Order establishing a minimum allowable for this well. However, if applicant is wrong in its interpretation of the meaning and intent of the Commission in its quoted Rule 6, then applicant believes that the Commission should allow applicant to make up its over-production over an extended period whereby applicant could continue to produce its well employing the methods presently being employed.

9. The Commission, on numerous occasions, has seen fit in the handling of production of oil to disregard

fixed allowables where production was made by secondary recovery methods. Applicant believes and so states to the Commission that the methods employed by it in the producing of gas from its well, Jenkins No. 1, is a secondary recovery method and designed to obtain the ultimate production of gas underlying the acreage assigned to said well.

WHEREFORE, applicant prays:

(1) That the Commission enter an Order allowing applicant to produce its well employing the methods presently used for a period of 120 days requiring applicant to keep a record of its production of both gas and water and to establish within said period insofar as it is capable of doing so, the minimum amount of water required to be produced in order to produce gas.

(2) And, the Commission further provide that the control of production on applicant's well be under the direct supervision of the Hobbs Office granting unto the Director of the Hobbs Office the right to notify the producer the determined amount of water to be produced or allowed to be produced based on production reports should it be

determined that the water is encroaching at a greater rate than is established through the 120 day testing period.

(3) That the Commission fix a minimum allowable for the Jenkins No. 1 gas well located in the Jalmat Gas Pool as provided by Rule 6 of Order R-967.

(4) And, in the alternative, that the Commission enter its Order authorizing applicant to make up its allowable over such extended period of time as will allow applicant to continue the production of gas through the methods presently employed to such an extent as to maintain said well as a gas well.

GIRAND & STOUT,

BY _____
(ATTORNEYS FOR APPLICANT)
POST OFFICE BOX 1445,
HOBBS, NEW MEXICO.

G/dk

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F. PYATT

TELEPHONE:
EXPRESS 3-0116
POST OFFICE BOX 1445

AUG 1 1:13

Case 1279

August 27, 1959.

Oil Conservation Commission,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

IN RE: JAL OIL COMPANY - ROPOLLO #1 GAS WELL
LOCATED IN THE SW¼NW¼ OF SECTION 28,
TOWNSHIP 25 SOUTH, RANGE 37 EAST,
JALMAT POOL.

Gentlemen:

We are enclosing herewith original and two copies of Application of Jal Oil Company for relief from shut-in action on the part of the Commission covering the above captioned well.

Please advise the case number assigned to this Application and the Hearing date on same.

Very truly yours,

GIRAND & STOUT,

BY: W. D. Girand

G/bc
Encls.
cc: Oil Conservation Commission, Hobbs, New Mexico.
(Attention: Mr. Randall Montgomery)
Jal Oil Company, P. O. Box 1744, Midland, Texas.

BEFORE THE OIL CONSERVATION COMMISSION,

STATE OF NEW MEXICO.

APPLICATION OF JAL OIL COMPANY FOR AN EXCEPTION TO RULE 10 OF ORDER NO. R-967 AND FOR THE ASSIGNMENT OF MINIMUM ALLOWABLE TO ITS ROPOLLO #1 GAS WELL LOCATED IN THE SW¼NW¼ OF SECTION 28, TOWNSHIP 25 SOUTH, RANGE 37 EAST, JALMAT GAS POOL, AND FOR RELIEF FROM A THREATENED SHUT IN.	)	CASE NO._____

COMES NOW the Jal Oil Company, a New Mexico corporation, with principal office in Jal, Lea County, New Mexico, and files this its Application for an exception to Rule 10, Order No. R-967 and for the Commission to assign a minimum allowable to its Ropollo #1 and for cause would show:

1. Applicant is the owner and operator of the gas well known as the Ropollo #1 located in the SW¼NW¼ of Section 28, Township 25 South, Range 37 East, in the Jalmat Gas Pool.

2. That the Ropollo #1 has previously been designated as a marginal gas well and has been operated under said classification.

3. That in connection with the production of gas from said well, the operator is required to produce large

quantities of water and production is obtained by the use of a pump jack and without this method of production being used, the well would be incapable of producing gas due to the encroachment of the water.

4. Applicant would show that after the classification of said well as a marginal well, the El Paso Natural Gas Company reduced their line pressures considerably in the lines to which said well was connected and by reason thereof, the well was capable of producing into the El Paso line gas in excess of the fixed allowable. However, this condition was not the only condition existing which caused the over-production. During recent months the allowables assigned to marginal wells within the Jalmat Gas Pool were so reduced that the production of gas by the methods employed by the applicant could not keep from over-producing.

5. Applicant states that in its opinion enormous gas reserves are located under the acreage assigned to the Rogollo #1 gas well and that if applicant is required to shut in said well for any period of time, the encroachment of the water will destroy the well and require the applicant to prematurely abandon.

6. Applicant would further show the Commission that on January 29, 1958, the Commission entered its Order No. 1092 A in Case No. 1327. That said Order has been under attack of the Courts in the State of New Mexico by many operators within the affected gas pools. That on July 1, 1958, the Jalmat Gas Pool proration formula was changed and the Commission, on its own motion, found it necessary to delay for approximately one year before attempting to reclassify the gas wells under the new proration formula. That, thereafter, in the month of June, 1959, the Commission reclassified approximately 118 gas wells, including applicant's and advised applicant that said Ropollo #1 was no longer a marginal gas well and had over-produced more than six times its allowable. Thereafter, by Memo No. 13-59, the Commission notified all operators that unless Applications were filed seeking relief from this Commission, all of the 118 wells would be shut in as of September 1, 1959. That Order No. R-967 provides under Rule 6-C as follows:

"The Commission may assign minimum allowables in order to prevent the premature abandonment of wells."

The Order further provides, under Rule 10:

"The Commission may allow over-production 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."

7. Applicant states that in order for applicant to protect its gas reserves, the encroaching water must be produced from its well to prevent the killing of the same. The exact amount of water that will be required to be produced in order to stablize a flow of gas from said well cannot be definitely ascertained at this time. However, applicant believes and states to the Commission that if the Commission will allow a 120 day producing period, applicant will report to this Commission the minimum amount of water required to be produced in order to prevent the killing of the well and yet allow its continued production. Applicant will advise the Commission as soon as possible, the total flow of gas that will be produced under such production method.

8. The Commission being charged with the conservation of oil and gas and the protection of correlative rights adopted the rules and regulations above quoted to insure relief to an operator situated as the applicant. In light of its declared policy, the Commission should enter an Order covering applicant's Ropollo #1 well authorizing applicant to continue to produce the same for a period of 120 days and then report to this Commission the data necessary for this Commission to enter an Order establishing a minimum allowable for this well. However, if applicant is wrong in its interpretation of the meaning and intent of the Commission in its quoted Rule 6, then applicant believes that the Commission should allow applicant to make up its over-production over an extended period whereby applicant could continue to produce its well employing the methods presently being employed.

9. The Commission, on numerous occasions, has seen fit in the handling of production of oil to disregard fixed allowables where production was made by secondary recovery methods. Applicant believes and so states

to the Commission that the methods employed by it in the producing of gas from its well, Ropollo #1, is a secondary recovery method and designed to obtain the ultimate production of gas underlying the acreage assigned to said well.

WHEREFORE, applicant prays:

(1) That the Commission enter an Order allowing applicant to produce its well employing the methods presently used for a period of 120 days requiring applicant to keep a record of its production of both gas and water and to establish within said period insofar as it is capable of doing so, the minimum amount of water required to be produced in order to produce gas.

(2) And, the Commission further provide that the control of production on applicant's well be under the direct supervision of the Hobbs Office granting unto the Director of the Hobbs Office the right to notify the producer the determined amount of water to be produced or allowed to be produced based on production reports should it be determined that the water is encroaching at a greater rate

than is established through the 120 day testing period.

(3) That the Commission fix a minimum allowable for the Ropollo #1 gas well located in the Jalmat Gas Pool as provided by Rule 6 of Order R-967.

(4) And, in the alternative, that the Commission enter its Order authorizing applicant to make up its allowable over such extended period of time as will allow applicant to continue the production of gas through the methods presently employed to such an extent as to maintain said well as a gas well.

GIRAND & STOUT,

BY _____
(ATTORNEYS FOR APPLICANT)

C/bc

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASES 1778, 1779

TRANSCRIPT OF HEARING

SEPTEMBER 30, 1959

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
SEPTEMBER [illegible], 1960

IN THE MATTER OF:

CASE 1778 Application of Olsen Oils, Inc., for an exception to the overproduction 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:
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. E. 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 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:
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. 2, NE/4 SW/4 of Section 29,
Ropollo Well No. 1, SW/4 NW/4 of Section 28,
all in Township 25 South, Range 37 East, Lea County, New Mexico.

BEFORE:

Daniel S. Nutter, Examiner.

TRANSCRIPT OF PROCEEDINGS

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

MR. NUTTER: The hearing will come to order, please. The next cases on the docket will be cases Nos. 1778 and 1779.

MR. PAYNE: Mr. Examiner, Bob Girand, attorney for -- do you want me to go ahead and read it? Bob Girand, attorney for Olsen Oil Company and Jal Oil Company, has requested that these cases be continued until October the 7th. We knew this sometime in advance, and they have been advertised within more than ten days prior to the October 7th hearing.

MR. NUTTER: Cases Nos. 1778 and 1779 will be heard by the Examiner at the Examiner Hearing on October 7th, 1959.

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 14th day of October, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

NOTARY PUB

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. 1778-1779 heard by me on 9-30, 1959.

Examiner
New Mexico Oil Conservation Commission

GIRAND & STOUT
LAWYERS
704 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F. PYATT

TELEPHONE:
EXPRESS 3-2118
POST OFFICE BOX 1445

September 10, 1959.

Oil Conservation Commission,
State Capitol Building,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

Re: OLSEN OIL COMPANY, WINNINGHAM NO. 3,
[redacted] S. R. COOPER NO. 1,
AND [redacted]

Gentlemen:

The above cases have been set for examiner hearing on September 30, 1959. The applicant respectfully requests that these Applications be re-set for the examiner hearing set for October 7, 1959. In connection with this request the writer advises that a prior commitment requires the writer be in Amarillo, Texas, on October 1st and that the case set for October 1st involves many parties other than the applicant's attorney and numerous witnesses have been notified and their plans made for attendance at that time. It will be impossible to obtain a continuance of the Amarillo case without a delay of several months, resulting in considerable expense.

Please consider this letter a request for a continuance of the above cases until October 7, 1959.

Very truly yours,

GIRAND & STOUT,

BY: [signature]

G/dr

cc: Oil Conservation Commission,
Hobbs, New Mexico.
Attention: Mr. Randall Montgomery.

Olsen Oils, Inc.,
2898 Liberty Bank Building,,
Oklahoma City, Oklahoma.

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F. PYATT

TELEPHONE:
EXPRESS 3-9116
POST OFFICE BOX 1444

August 27, 1959.

Oil Conservation Commission,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

IN RE: OLSEN OILS, INC. - COOPER B #2 GAS WELL, NE¼NW¼ OF SECTION 14, TOWNSHIP 24 SOUTH, RANGE 36 EAST, JALMAT GAS POOL.

Gentlemen:

Enclosed you will find original and two copies of Application of Olsen Oils, Inc. for relief from shut-in action on the part of the Commission covering the above captioned well.

Please advise the case number assigned to this Application and the Hearing date on same.

Very truly yours,

GIRAND & STOUT,

BY:

G/bc
Encls.
cc: Oil Conservation Commission, Hobbs, New Mexico.
(Attention: Mr. Randall Montgomery)
Olsen Oils, Inc., 2808 Liberty Bank Building,
Oklahoma City, Oklahoma.

BEFORE THE OIL CONSERVATION COMMISSION,

STATE OF NEW MEXICO.

APPLICATION OF OLSEN OILS, INC. FOR AN EXCEPTION TO RULE 10 OF ORDER NO. R-967 AND FOR THE ASSIGNMENT OF MINIMUM ALLOWABLE TO ITS COOPER B #2 GAS WELL LOCATED IN THE NE¼NW¼ OF SECTION 14, TOWNSHIP 24 SOUTH, RANGE 36 EAST, JALMAT GAS POOL AND FOR RELIEF FROM A THREATENED SHUT IN.	)	CASE NO._____

COMES NOW the Olsen Oils, Inc., a New Mexico corporation, with principal office in Jal, Lea County, New Mexico, and files this its Application for an exception to Rule 10, Order No. R-967 and for the Commission to assign a minimum allowable to its Cooper B #2 and for cause would show:

1. Applicant is the owner and operator of the gas well known as the Cooper B #2 located in the NE¼NW¼ of Section 14, Townsnip 24 South, Range 36 East, in the Jalmat Gas Pool.

2. That the Cooper B #2 has previously been designated as a marginal gas well and has been operated under said classification.

3. That in connection with the production of gas from said well, the operator is required to produce large

quantities of water and production is obtained by the use of a free floating piston and without this method of production being used, the well would be incapable of producing gas due to the encroachment of the water. That with the continued build up of water, it is anticipated that the operator will have to install a pump jack in the immediate future in order to lift the continuous increasing flow of water and produce gas from said well.

4. Applicant would show that after the classification of said well as a marginal well the El Paso Natural Gas Company reduced their line pressures considerably in the lines to which said well was connected and by reason thereof, the well was capable of producing into the El Paso line gas in excess of the fixed allowable. However, this condition was not the only condition existing which caused the over-production. During recent months the allowables assigned to marginal wells within the Jalmat Gas Pool were so reduced that the production of gas by the methods employed by the applicant could not keep from over-producing.

5. Applicant states that in its opinion enormous gas reserves are located under the acreage assigned to the

Cooper B #2 well and that if applicant is required to shut in said well for any period of time, the encroachment of the water will destroy the well and require the applicant to prematurely abandon.

5. Applicant would further show the Commission that on January 29, 1958, the Commission entered its Order No. 1092 A in Case No. 1327. That said Order has been under attack of the Courts in the State of New Mexico by many operators within the affected gas pools. That on July 1, 1958, the Jalmat Gas Pool proration formula was changed and the Commission, on its own motion, found it necessary to delay for approximately one year before attempting to reclassify the gas wells under the new proration formula. That, thereafter, in the month of June, 1959, the Commission reclassified approximately 118 gas wells, including applicant's and advised applicant that said Cooper B #2 was no longer a marginal gas well and had over-produced more than six times its allowable. Thereafter, by Memo No. 13-59, the Commission notified all operators that unless applications were filed seeking relief from this Commission,

all of the 118 wells would be shut in as of September 1, 1959. That Order No. R-967 provides under Rule 6-C as follows:

> "The Commission may assign minimum allowables in order to prevent the premature abandonment of wells."

The Order further provides, under Rule 10:

> "The Commission may allow over-production 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."

7. Applicant states that in order for applicant to protect its gas reserves, the encroaching water must be produced from its well to prevent the killing of the same. The exact amount of water that will be required to be produced in order to stablize a flow of gas from said well cannot be definitely ascertained at this time. However, applicant believes and states to the Commission that if the Commission will allow a 120 day producing period, applicant will report to this Commission the minimum amount of water required to be produced in order to prevent the killing of the well and yet allow its continued production.

Applicant will advise the Commission as soon as possible, the total flow of gas that will be produced under such production method.

8. The Commission being charged with the conservation of oil and gas and the protection of correlative rights adopted the rules and regulations above quoted to insure relief to an operator situated as the applicant. In light of its declared policy, the Commission should enter an Order covering applicant's Cooper B #2 well authorizing applicant to continue to produce the same for a period of 120 days and then report to this Commission the data necessary for this Commission to enter an Order establishing a minimum allowable for this well. However, if applicant is wrong in its interpretation of the meaning and intent of the Commission in its quoted Rule 6, then applicant believes that the Commission should allow applicant to make up its over-production over an extended period whereby applicant could continue to produce its well employing the methods presently being employed.

9. The Commission, on numerous occasions, has seen fit in the handling of production of oil to disregard

fixed allowables where production was made by secondary recovery methods. Applicant believes and so states to the Commission that the methods employed by it in the producing of gas from its well, Cooper B#2, is a secondary recovery method and designed to obtain the ultimate production of gas underlying the acreage assigned to said well.

WHEREFORE, applicant prays:

(1) That the Commission enter an Order allowing applicant to produce its well employing the methods presently used for a period of 120 days requiring applicant to keep a record of its production of both gas and water and to establish within said period insofar as it is capable of doing so, the minimum amount of water required to be produced in order to produce gas.

(2) And, the Commission further provide that the control of production on applicant's well be under the direct supervision of the Hobbs Office granting unto the Director of the Hobbs Office the right to notify the producer the determined amount of water to be produced or allowed to be produced based on production reports should it be

determined that the water is encroaching at a greater rate than is established through the 120 day testing period.

(3) That the Commission fix a minimum allowable for the Cooper B #2 gas well located in the Jalmat Gas Pool as provided by Rule 6 of Order R-967.

(4) And, in the alternative, that the Commission enter its Order authorizing applicant to make up its allowable over such extended period of time as will allow applicant to continue the production of gas through the methods presently employed to such an extent as to maintain said well as a gas well.

GIRAND & STOUT,

BY _____
(ATTORNEYS FOR APPLICANT)
POST OFFICE BOX 1445,
HOBBS, NEW MEXICO.

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F. PYATT

TELEPHONE:
EXPRESS 3-3116
POST OFFICE BOX 1447

August 27, 1959.

Oil Conservation Commission,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

IN RE: OLSEN OILS, INC. - MYERS B #1 GAS WELL LOCATED IN THE SE¼NW¼ OF SECTION 13, TOWNSHIP 24 SOUTH, RANGE 36 EAST.

Gentlemen:

Enclosed you will find original and two copies of Application of Olsen Oils, Inc. for relief from shut-in action on the part of the Commission covering the above captioned well.

Please advise the case number assigned to this Application and the Hearing date on same.

Very truly yours,

GIRAND & STOUT,

BY: W. D. Girand

G/bc
Encls.
cc: Oil Conservation Commission, Hobbs, New Mexico.
(Attention: Mr. Randall Montgomery)
Olsen Oils, Inc., 2808 Liberty Bank Building, Oklahoma City, Oklahoma.

BEFORE THE OIL CONSERVATION COMMISSION,

STATE OF NEW MEXICO.

APPLICATION OF OLSEN OILS, INC. FOR AN EXCEPTION TO RULE 10 OF ORDER NO. R-967 AND FOR THE ASSIGNMENT OF MINIMUM ALLOWABLE TO ITS MYERS B #1 GAS WELL LOCATED IN THE SE¼NW¼ OF SECTION 13, TOWNSHIP 24 SOUTH, RANGE 36 EAST, JALMAT GAS POOL AND FOR RELIEF FROM A THREATENED SHUT IN.	)	CASE NO._____

COMES NOW the Olsen Oils, Inc., a New Mexico corporation, with principal office in Jal, Lea County, New Mexico, and files this its Application for an exception to Rule 10, Order No. R-967 and for the Commission to assign a minimum allowable to its Myers B #1 and for cause would show:

1. Applicant is the owner and operator of the gas well known as the Myers B #1 located in the SE¼NW¼ of Section 13, Townsnip 24 South, Range 36 East, in the Jalmat Gas Pool.

2. That the Myers B #1 has previously been designated as a marginal gas well and has been operated under said classification.

3. That in connection with the production of gas from said well, the operator is required to produce large

quantities of water and production is obtained by the use of a free floating piston and without this method of production being used, the well would be incapable of producing gas due to the encroachment of the water. That with the continued build up of water, it is anticipated that the operator will have to install a pump jack in the immediate future in order to lift the continuous increasing flow of water and produce gas from said well.

4. Applicant would show that after the classification of said well as a marginal well the El Paso Natural Gas Company reduced their line pressures considerably in the lines to which said well was connected and by reason thereof, the well was capable of producing into the El Paso line gas in excess of the fixed allowable. However, this condition was not the only condition existing which caused the over-production. During recent months the allowables assigned to marginal wells within the Jalmat Gas Pool was so reduced the production of gas by the methods employed by the applicant could not keep from over-producing.

5. Applicant states that in its opinion enormous gas reserves are located under the acreage assigned to the

Myers B #1 well and that if applicant is required to shut in said well for any period of time, the encroachment of the water will destroy the well and require applicant to prematurely abandon.

6. Applicant would further show the Commission that on January 29, 1958, the Commission entered its Order No. 1092-A in Case No. 1327. That said Order has been under attack in the Courts in the State of New Mexico by many operators within the affected gas pools. That on July 1, 1958, the Jalmat Gas Pool proration formula was changed and the Commission, on its own motion, found it necessary to delay for approximately one year before attempting to reclassify the gas wells under the new proration formula. That, thereafter, in the month of June, 1959, the Commission reclassified approximately 118 gas wells, including applicant's and advised applicant that said Myers B #1 was no longer a marginal gas well and had over-produced more than six times its allowable. Thereafter, by Memo No. 13-59, the Commission notified all operators that unless Applications were filed seeking relief from this Commission,

all of the 118 wells would be shut in as of September 1, 1959. That Order No. R-907 provides under Rule 6-C as follows:

> The Commission may assign minimum allowables in order to prevent the premature abandonment of wells.

The Order further provides, under Rule 10:

> The Commission may allow over-production 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.

7. Applicant states that in order for applicant to protect its gas reserves, the encroaching water must be produced from its well to prevent the killing of the same. The exact amount of water that will be required to be produced in order to stablize a flow of gas from said well cannot be definitely ascertained at this time. However, applicant believes and states to the Commission that if the Commission will allow a 120 day producing period, applicant will report to this Commission the minimum amount of water required to be produced in order to prevent the killing of the well and yet allow its continued production.

Applicant will advise the Commission as soon as possible the total flow of gas that will be produced under such production method.

8. The Commission being charged with the conservation of oil and gas and the protection of correlative rights adopted the rules and regulations above quoted to insure relief to an operator situated as the applicant. In light of its declared policy, the Commission should enter an Order covering applicant's Myers B #1 well authorizing applicant to continue to produce the same for a period of 120 days and then report to this Commission the data necessary for this Commission to enter an Order establishing a minimum allowable for this well. However, if applicant is wrong in its interpretation of the meaning and intent of the Commission in its quoted Rule 6, then applicant believes that the Commission should allow applicant to make up its over-production over an extended period whereby applicant could continue to produce its well employing the methods presently being employed.

9. The Commission, on numerous occasions, has seen fit in the handling of production of oil to disregard

fixed allowables where production was made by secondary recovery methods. Applicant believes and so states to the Commission that the methods employed by it in the producing of gas from its well Myers B #1 is a secondary recovery method and designed to obtain the ultimate production of gas underlying the acreage assigned to said well.

WHEREFORE, applicant prays:

(1) That the Commission enter an Order allowing applicant to produce its well employing the methods presently used for a period of 120 days requiring applicant to keep a record of its production of both gas and water and to establish within said period insofar as it is capable of doing so, the minimum amount of water required to be produced in order to produce gas.

(2) And, the Commission further provide that the control of production on applicant's well be under the direct supervision of the Hobbs Office granting unto the Director of the Hobbs Office the right to notify the producers of the determined amount of water to be produced or allowed to be produced based on production reports should it be

determined that the water is encroaching at a greater rate than is established through the 120 day testing period.

(3) That the Commission fix a minimum allowable for the Myers B #1 gas well located in the Jalmat Gas Pool as provided by Rule 6 of Order R-967.

(4) And, in the alternative, that the Commission enter its Order authorizing applicant to make up its allowable over such extended period of time as will allow applicant to continue the production of gas through the methods presently employed to such an extent as to maintain said well as a gas well.

GIRAND & STOUT,

BY _____
(ATTORNEYS FOR APPLICANT)
POST OFFICE BOX 1445,
HOBBS, NEW MEXICO.

G/bc

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F. PYATT

TELEPHONE:
EXPRESS 3-9118
POST OFFICE BOX 1445

August 27, 1959.

Oil Conservation Commission,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

IN RE: OLSEN OILS, INC. S. R. COOPER #1
GAS WELL SE¼NE¼ OF SECTION 23,
TOWNSHIP 24 SOUTH, RANGE 36 EAST.

Gentlemen:

Enclosed you will find original and two copies of Application of Olsen Oils, Inc. for relief from shut-in action on the part of the Commission covering the above captioned well.

Please advise the case number assigned to this Application and the Hearing date on same.

Very truly yours,

GIRAND & STOUT,

BY: W. D. Girand

G/bc
Encls.
cc: Oil Conservation Commission, Hobbs, New Mexico.
(Attention: Mr. Randall Montgomery)
Olsen Oils, Inc., 2808 Liberty Bank Bldg., Oklahoma City, Oklahoma.

BEFORE THE OIL CONSERVATION COMMISSION,

STATE OF NEW MEXICO.

APPLICATION OF OLSEN OILS, INC. FOR AN EXCEPTION TO RULE 10 OF ORDER NO. R-967 AND FOR THE ASSIGNMENT OF MINIMUM ALLOWABLE TO ITS S. R. COOPER #1 GAS WELL LOCATED IN THE SE¼NE¼ OF SECTION 23, TOWNSHIP 24 SOUTH, RANGE 36 EAST, JALMAT GAS POOL AND FOR RELIEF FROM A THREATENED SHUT IN.	)	NO._____

COMES NOW the Olsen Oils, Inc., a New Mexico corporation, with principal office in Jal, Lea County, New Mexico, and files this its Application for an exception to Rule 10, Order No. R-967 and for the Commission to assign a minimum allowable to its S. R. Cooper #1 and for cause would show:

1. Applicant is the owner and operator of the gas well known as the S. R. Cooper #1 located in the SE¼NE¼ of Section 23, Townsnip 24 South, Range 36 East, in the Jalmat Gas Pool.

2. That the S. R. Cooper #1 has previously been designated as a marginal gas well and has been operated under said classification.

3. That in connection with the production of gas from said well, the operator is required to produce large

quantities of water and production is obtained by the use of a free floating piston and without this method of production being used, the well would be incapable of producing gas due to the encroachment of the water. That with the continued build up of water, it is anticipated that the operator will have to install a pump jack in the immediate future in order to lift the continuous increasing flow of water and produce gas from said well.

4. Applicant would show that after the classification of said well as a marginal well the El Paso Natural Gas Company reduced their line pressures considerably in the lines to which said well was connected and by reason thereof, the well was capable of producing into the El Paso line gas in excess of the fixed allowable. However, this condition was not the only condition existing which caused the over-production. During recent months the allowables assigned to marginal wells within the Jalmat Gas Pool were so reduced that the production of gas by the methods employed by the applicant could not keep from over-producing.

5. Applicant states that in its opinion enormous gas reserves are located under the acreage assigned to the

S. R. Cooper #1 well and that if applicant is required to shut in said well for any period of time, the encroachment of the water will destroy the well and require the applicant to prematurely abandon.

6. Applicant would further show the Commission that on January 29, 1958, the Commission entered its Order No. 1092 A in Case No. 1327. That said Order has been under attack of the Courts in the State of New Mexico by many operators within the affected gas pools. That on July 1, 1958, the Jalmat Gas Pool proration formula was changed and the Commission, on its own motion, found it necessary to delay for approximately one year before attempting to reclassify the gas wells under the new proration formula. That, thereafter, in the month of June, 1959, the Commission reclassified approximately 118 gas wells, including applicant's and advised applicant that said S. R. Cooper #1 was no longer a marginal gas well and had over-produced more than six times its allowable. Thereafter, by Memo No. 13-59, the Commission notified all operators that unless Applications were filed seeking relief from this

Commission, all of the 118 wells would be shut in as of September 1, 1959. That Order No. R-967 provides under Rule 6-C as follows:

> "The Commission may assign minimum allowables in order to prevent the premature abandonment of wells."

The Order further provides, under Rule 10:

> "The Commission may allow over-production 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."

7. Applicant states that in order for applicant to protect its gas reserves, the encroaching water must be produced from its well to prevent the killing of the same. The exact amount of water that will be required to be produced in order to stablize a flow of gas from said well cannot be definitely ascertained at this time. However, applicant believes and states to the Commission that if the Commission will allow a 120 day producing period, applicant will report to this Commission the minimum amount of water required to be produced in order to prevent the killing of the well and yet allow its continued production.

Applicant will advise the Commission as soon as possible, the total flow of gas that will be produced under such production method.

8. The Commission being charged with the conservation of oil and gas and the protection of correlative rights adopted the rules and regulations above quoted to insure relief to an operator situated as the applicant. In light of its declared policy, the Commission should enter an Order covering applicant's S. R. Cooper #1 well authorizing applicant to continue to produce the same for a period of 120 days and then report to this Commission the data necessary for this Commission to enter an Order establishing a minimum allowable for this well. However, if applicant is wrong in its interpretation of the meaning and intent of the Commission in its quoted Rule 6, then applicant believes that the Commission should allow applicant to make up its over-production over an extended period whereby applicant could continue to produce its well employing the methods presently being employed.

9. The Commission, on numerous occasions, has seen fit in the handling of production of oil to disregard

fixed allowables where production was made by secondary recovery methods. Applicant believes and so states to the Commission that the methods employed by it in the producing of gas from its well, S. R. Cooper #1, is a secondary recovery method and designed to obtain the ultimate production of gas underlying the acreage assigned to said well.

WHEREFORE, applicant prays:

(1) That the Commission enter an Order allowing applicant to produce its well employing the methods presently used for a period of 120 days requiring applicant to keep a record of its production of both gas and water and to establish within said period insofar as it is capable of doing so, the minimum amount of water required to be produced in order to produce gas.

(2) And, the Commission further provide that the control of production on applicant's well be under the direct supervision of the Hobbs Office granting unto the Director of the Hobbs Office the right to notify the producer the determined amount of water to be produced or allowed to be produced based on production reports should it be

determined that the water is encroaching at a greater rate than is established through the 120 day testing period.

(3) That the Commission fix a minimum allowable for the S. R. Cooper # 1 gas well located in the Jalmat Gas Pool as provided by Rule 6 of Order R-957.

(4) And, in the alternative, that the Commission enter its Order authorizing applicant to make up its allowable over such extended period of time as will allow applicant to continue the production of gas through the methods presently employed to such an extent as to maintain said well as a gas well.

GIRAND & STOUT

BY _____
(ATTORNEYS FOR APPLICANT)
POST OFFICE BOX 1445,
HOBBS, NEW MEXICO.

G/bc

Table 2

Date	Time	Time	Hours	Prod. Period	Flow Temp.
4-15-58	AM	AM		109.2	70
	PM	PM			

Static Pressure Pf							Rate of Flow
109.2							

SHUT-IN DATA

Shut-in Date	Shut-in Time	Press. Taken Date	Press. Taken Time	Duration Hours	Sealed-in Pressure (Pt) psig		Flow DATA M.R. Working Pressure (Pw) and (Pt) psia Tubing	Casing
4-15-58	AM	4-16-58	AM	24	129.2			
		4-17-58	AM	48	118.3			
	12 Noon	4-18-58	PM	72	109.2			

FRICTION CALCULATIONS(If necessary)

SUMMARY

P_t = psia

Q = MCF/Da.

P_w = psia

P_c = psia

D = MCF/Da.

DELIVERABILITY CALCULATIONS

P_w = P_c = $P_w^2 + P_c^2$ =

$2 - \frac{P_w}{P_c}$ = $1 + \frac{P_w}{P_c}$ = $\left[2 - \frac{P_w}{P_c}\right]\left[1 + \frac{P_w}{P_c}\right]$ =

.30 + H =

El Paso Natural Gas Company

El Paso, Texas

December 4, 1956

ADDRESS REPLY TO:
P. O. BOX 1956
JAL, NEW MEXICO

R. Olsen
2[illegible] Liberty Bank Bldg.
Oklahoma City 2, Oklahoma

Gentlemen:

The Byer (LEASE) 3 H (NO. UNIT) 31-25-37 (S - T - R)

Jalmat (POOL) is off for the following reason:

☐ Separator out of order.

☒ Logged off.

☐ Insufficient pressure to produce into the line.

☐ Shut in at the wellhead.

☐ Producing a great amount of fluid.

☐ Froze off in the well.

☐ At your request.

Remarks:

This will confirm my telephone conversation with your Jal Office on this date.

When this situation is corrected and the well is ready to be produced, please contact this office.

If additional information is required, please contact this office.

Yours truly,

EL PASO NATURAL GAS COMPANY

Dispatching Department

cc: R. Olsen
[illegible]
Jal, New Mexico

cc: [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
File

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

R. Olsen (Personal) — Dyer — 3

H — 31 — 25 — 37 — Lea

Jalmat — Single — 7-(12-19) 1957

X — .685 — 13.2

.767 — 2-8-57

No.	FLOW DATA Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in							237-208-149		308-316-320		24-48-72
1.	4 x 1.250			106	32.49	78	132				24
2.											

No.	Coefficient Flg. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD 15.025 psia
1.	9.643	62.18		.9831	.9359	1.011	558
2.							

$$Q_t = Q \left[\frac{P_c^2 - P_t^2}{P_c^2 - P_w^2}\right]^n$$

P_c^2 = 111.0

P_w^2 = 12.8

P_t^2 = 21.1

$\left[\frac{P_c^2 - P_t^2}{P_c^2 - P_w^2}\right]$ = $\frac{98.2}{89.9}$ = 1.092

n = Slope of Wellhead Deliverability Curve ($P_c^2 - P_t^2$ vs. Q)

Q = Actual Flow @ end of Flow Period at Wellhead Pressure P_w

P_c = Maximum Shut-in Pressure observed in 72 hour period, PSIA

P_w = Flowing Wellhead Pressure (tubing if flowing thru tubing and vice versa psia

P_t = Deliverability Pressure (Usually used for Minimum Contract Requirements)

Q_t = Wellhead Deliverability at Deliverability Pressure (P_t), MCFPD

Log Ratio .038223 x (n) .767 = .029317 Antilog = 1.070

558 x 1.070 = 597

Unit Size 1.00

Jack T. Littlefield

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Jal Oil Company — Dyer — 3

H — 31 — 25 — 37 — Lea

Jalmat — Single — Sept. 3-12, 1958

X — 686

.767 — 3-14-58

No.	FLOW DATA Line Size	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in						288				
1.	4"	x 1.250	90	20.25	72	104				24
2.										

No.	Coefficient FLO (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	45.71		.9887	.9352	Mil	408
2.							

$\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$

P_c^2 90.7

P_w^2 12.8

P_w 13.7

$\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$ 77.9 / 77.0 = 1.012

.0051805 — .767 — .0039734 — 1.009

408 — 1.009 — 412

Unit Size: 1.00

Meter Station No.: 60-832-01

J. B. Murray

This well was not shut-in due to logging off. The Jenkins No. 1 shut-in pressure was used for this test - which is the nearest offset.

Form 15-392.0-55)

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Company Jal Oil Company Dyer 3

Unit H Sec. 31 Twp. 25 Rge. 37 County Lea

Pool Jalmat Type Comp. Single Date 3-(7-14) 1958

Producing Thru: Casing Tubing I Gravity .680 Meter Run (MR)

Orifice from Meter Run .767 Date of Last Clean Out 7-19-57

No.	FLOW DATA Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					224-194-135		264-277-283		24-48-72
1.	4 x 1.250	93	21.16	47	108				24
2.									

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	47.36		1.0127	0.9393		435
2.							

$Q_t = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^{n_t}$

$P_c^2 = 87.7$

$P_d^2 = 12.8$

$P_t^2 = 14.7$

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right] = \frac{74.9}{73.0} = 1.026 = B$

Log B = .011147 x (n_t) .767 = .008549 ..020 = B^{n_t}

Q = 435 x $(B)^{n_t}$ 1.020 = 444

Unit Sizes: 1.00

Meter Station No. 60-832

I hereby swear or affirm that the information given above is true and correct.

Name Jack T. Littlefield

Position

Witnessed by B. G. Boaz

Company El Paso Natural Gas Company

EL PASO NATURAL GAS COMPANY

Form C-122 (1958)

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Company Jal Oil Company Lease Dyer Well No. 3

Unit H Sec. 31 Twp. 25 Rge. 37 County Lea

Pool Jalmat Type Well Single Type Test 3-6/3-13/1959

Producing Thru: Casing Tubing X Elevation .691 Gas Gravity .656

Tg from Previous Test .767 Date of Previous Test 9/12/58

No.	FLOW DATA Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in							196*				72
1.	4 x 1.250			117	9.00	75	124				
2.											

Data obtained from deliverability test dated 3/6-3/13/1959

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD 15.025 psia
1.	9.643	34.28		.9859	.9318	1.012	307
2.							

$$Q_t = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^n$$

P_c^2 = 43.8 *

P_d^2 = 12.8

P_t^2 = 18.8

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]$ = $\frac{31.0}{25.0}$ = 1.240 = ^{n}

n = Slope of back pressure deliverability curve ($P_c^2 - P_d^2$ vs. Q)

Q = Actual flow rate at Flow Period at Meridian pressure P_t

P_c = Maximum static pressure observed in 48 hour period, PSIA

P_t = Flowing Meridian pressure (actual flowing pressure), psia

P_d = Calculated Back Pressure for Deliverability Test (Contract Requirement)

Q_t = Wellhead Deliverability at Deliverability Pressure (P_d) of 100 psig

F_b = 0.093422 x $\sqrt{h_w P_w}$ = .767 = 0.071655 x F_{pv} = 1.179 = F_{pv}^2

Q = 307 x F_{pv} = 1.179 = 362

Unit Size 1.00
Meter Station No. 60-832

I hereby swear and affirm that the information given herein is true and correct.

Name David H. Dyer

Position

EL PASO NATURAL GAS COMPANY

* Well could not be shut-in. Shut-in pressure taken from R. Olsen- Winningham No. 3

Jalmat		X	Yates		Lea			3-6/3-13-59		
Jal Oil Company			Dyer						3	
H	31	25	37		El Paso Natural Gas Company					
6 5/8	19.5		2792							
2⅜	6.5		2960							
	2945	2977	2960		.691		2045			1.2
			X		Single					
90										

Date		Date							
3-9-59		3-10-59	24	Flg.	4	1.250	130.2	9.00	75
	1:45	1:45							

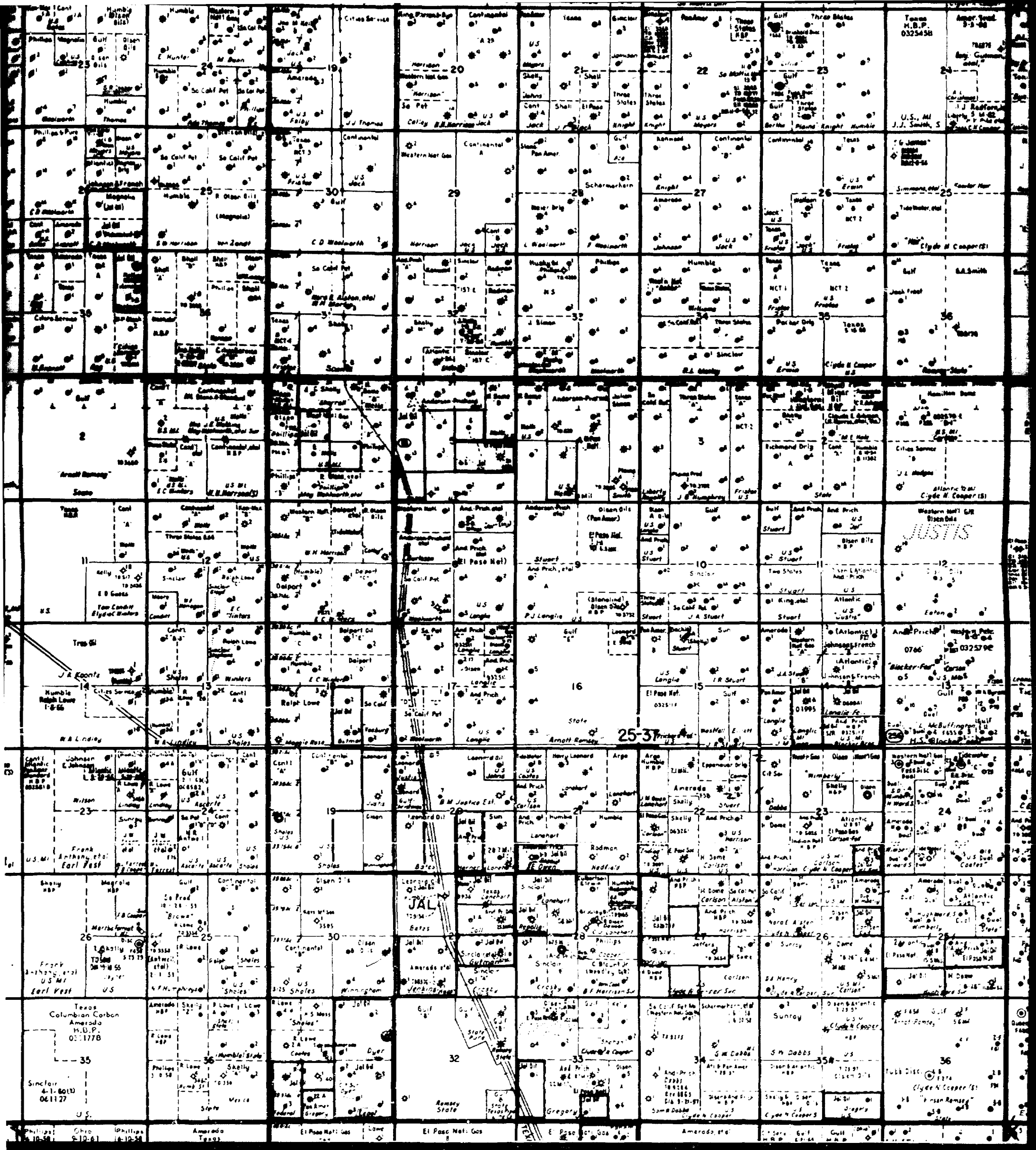
130.2	9.00	34.23	9.643	.9318	.9859	1.012	307.0

			*	* 137.2

$P_w^2 = (137.2)^2 + (5.866 \times 307.0) = 19.2$

				* 209.2 psia
				307.0 Mcf/Da.
				138.6 psia
P_t	138.6	209.2	.6625	167.4 psia
				218.8 psia
	.3375	1.663	.5613	
	.6414	9.80713-10	.763	9.85284-10
	El Paso Natural Gas Company			2.48714
	P. O. Box 1384, Jal, New Mexico			
		Gas Tester		12.33998-10
	El Paso Natural Gas Company			218.8

*P_c was taken from R. Olsen Winningham No. 3 well could not be shut-in due to water logging off well bore.


Humble
Phillips
Magnolia
Gulf
Olsen Bills
Continental
Texas
Shell
Sinclair
Three States
Amerada
Sun
Jal Bil
Atlantic
Sohio
Ohio
Phillips
Amerada
Texas
El Paso Nat. Gas
Texas Columbian Carbon
Amerada
H.B.P.
03211778
Sinclair
4-1-80(3)
061127
U.S.
Frank Anthony, et al
U.S. Mil
Earl Fest
Arnott Ramsey
State
Ramsey State
Gregory
Stuart
Schermerhorn
Carlson
Wimberly
JUSTIS
JAL
Texas Gil
Humble Ralph Lowe 1-8-66
Ralph Lowe
Johnson & French
Johnson E. Johnson
Wilson
Sunray
Tidewater
Cooper
Hamilton Dome
Richmond Drlg
Western Nat'l Gas
Olsen Oils
Anderson-Prichard
Pan Amer
Mobil
Conoco
Cities Service
Texas Pacific
Texas Pac. Coal & Oil
Texas Gulf Sulphur
Texas Eastern
Texas Gas Transmission
Texas Gas Exploration
Texas Gas Development
Texas Gas Producing
Texas Gas Gathering
Texas Gas Pipeline
Texas Gas Corporation
Texas Gas Company
Texas Gas Utilities
Texas Gas Service
Texas Gas Supply
Texas Gas Trading
Texas Gas Marketing
Texas Gas Resources
Texas Gas Energy
Texas Gas Power
Texas Gas Light
Texas Gas Heat
Texas Gas Fuel
Texas Gas Oil
Texas Gas Coal
Texas Gas Mineral
Texas Gas Land
Texas Gas Lease
Texas Gas Well
Texas Gas Field
Texas Gas Area
Texas Gas Region
Texas Gas District
Texas Gas Division
Texas Gas Section
Texas Gas Block
Texas Gas Tract
Texas Gas Parcel
Texas Gas Unit
Texas Gas Pool
Texas Gas Reservoir
Texas Gas Formation
Texas Gas Zone
Texas Gas Interval
Texas Gas Horizon
Texas Gas Bed
Texas Gas Sand
Texas Gas Shale
Texas Gas Limestone
Texas Gas Dolomite
Texas Gas Conglomerate
Texas Gas Breccia
Texas Gas Chert
Texas Gas Flint
Texas Gas Quartz
Texas Gas Feldspar
Texas Gas Mica
Texas Gas Clay
Texas Gas Silt
Texas Gas Loam
Texas Gas Soil
Texas Gas Topsoil
Texas Gas Subsoil
Texas Gas Bedrock
Texas Gas Basement
Texas Gas Crystalline
Texas Gas Igneous
Texas Gas Metamorphic
Texas Gas Sedimentary
Texas Gas Fossil
Texas Gas Organic
Texas Gas Inorganic
Texas Gas Mineral
Texas Gas Rock
Texas Gas Stone
Texas Gas Gravel
Texas Gas Sand
Texas Gas Silt
Texas Gas Clay
Texas Gas Loam
Texas Gas Soil
Texas Gas Topsoil
Texas Gas Subsoil
Texas Gas Bedrock
Texas Gas Basement
Texas Gas Crystalline
Texas Gas Igneous
Texas Gas Metamorphic
Texas Gas Sedimentary
Texas Gas Fossil
Texas Gas Organic
Texas Gas Inorganic

El Paso Natural Gas Company

[illegible]

[illegible]

[illegible]

[illegible]
[illegible]
[illegible]

Gentlemen:

The Eva Owens LEASE 1-M NO. UNIT 21-25-37 S - T - R

Jalmat POOL is off for the following reason:

☐ Separator out of order.

☒ Logged off.

☐ Insufficient pressure to produce into the line.

☐ Shut in at the wellhead.

☐ Producing great amount of fluid.

☐ Froze off in the well.

☐ At your request.

When this situation is corrected and the well is ready to be produced, please contact this office.

If additional information is required, please contact this office.

Yours truly,

EL PASO NATURAL GAS COMPANY

Form C-30 (4-55)

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

R. Olsen, Personal	Eva Owen		1
M 21 25 S	37 E	Lea	
Jalmat	Type Well Single	Date of Test	1-13-56
	x .670		
.932		10-4-52	

No.	FLOW DATA Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					7.4		360/270/212				24/48/72
1.	4 x		1.250	257	54.76	71	291				24
2.											

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	121.59		.9896	.9463	1.028	1,129
2.							

P_c 139.3

P_w 12.8

$P_c - P_w$ 92.5

$\frac{P_c^2 - P_w^2}{P_c^2 - P_w^2}$ $\frac{126.5}{46.8}$ 2.702

.431685 .932 .402330 2.525

1.129 2.525 2,851

P_c = Calculated Deliverability Pressure ($P_c^2 = P_t^2 + P_w^2$ psia)

P_t = Calculated End of Flow Period at Wellhead Pressure P_t

P_w = Maximum Wellhead Pressure observed in a 24-hour period, PSIA

P_t = Calculated Wellhead Pressure obtained at Existing Flow Rate and Also Verified

P_d = Deliverability Pressure (14.4 psia + Delivery Line Requirements)

Q = Calculated Deliverability at Deliverability Pressure (P_d) MCF/Day

Earl G. Smith

EPNG

C. M. Cole
Gas Engineer

Date	Time	Date
	AM	AM
	PM	PM

Initial Shut-in Pressure	Flow Period	Final Shut-in Pressure	Choke Size
P_i psig	P_w psig	P_f psig	d_c in.

SHUT-IN DATA

Shut-in Date	Shut-in Time	Pressure Gauge	Duration Hours	Volume Recovered (Bbls.)	Flow Period (Prover) (Choke)	Pressure psia Gauge
	AM		AM			
	PM		PM			

FRICTION CALCULATIONS (If necessary)

DETERMINATION OF CALCULATED

P_i psia

P_w psia

P_f psia

CORRECTED COPY

Jalmat — Yates — Lea

X

* Jal Oil Company — Owens — 3-6/3-13/59

M — 21 — 25 — 37 — 1

5 ⅝ — 15.5 — 2582 — El Paso Natural Gas Company

2 ⅜ — 6.5 — 2772 — 2769 — 2772

2769 — 2772 — 2769 — .662

X — Single

40

Date	Time	Date	Time	Hours	Prover	Orifice	Meter Press.	Diff.	Flow Temp.
3-9-59	9:15	3-10-59	9:15	24	Flg.	4	1.000	108.2	57.76	66

Static Pressure Pf	Pf	Diff. Flowing Temp. tf	Gravity Gg	Compressibility Fpv	Rate of Flow Q, Mcfd @ 15.025 psia
108.2	57.76	79.05	6.135	.9520	.9943	459.1

Date	Time	Date	Hours	Pressure (Tubing) psia	Pressure (Casing) psia
3-10	9:15	3-11-59	24	416.2		
		3-12-59 9:15	48	429.2	126.2	290.2
		3-13-59	72	434.2		

P W Measured

P_w 290.2 — 434.2 — .6683

.3317 — 1.668 — .5533

.6506 — 9.81331-10 — .771

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

P_c 434.2 psia

Q 459.1 Mcf/da.

P_w 290.2 psia

P_t 347.4 psia

329.6

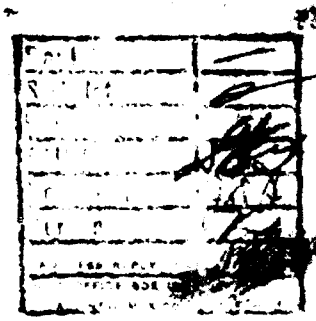
9.85606-10

2.66191

12.51797-10

329.6

* Tubing did not have any pressure on shut-in



El Paso Natural Gas Company

El Paso, Texas

March 5, 1959

23-5

Jal Oil Company
P. O. Box 1744
Midland, Texas

Gentlemen:

During the month of January, 1959, we were unable to produce the following wells under contract to El Paso Natural Gas Company.

WELL NAME	DATE	DAYS	REASON
Jack No. 1	1/ 8	1	Freeze in El Paso line
Hodges No. 2	1/ 8	1	Freeze in El Paso line
Gutman B No. 1	1/12	1	El Paso heater repairs
Gutman D No. 1	1/21	1	Freeze in El Paso line
Eva Owens No. 1	1/ 1-31	31	Shut in-state regulations (Overproduced)
Jenkins No. 2	1/ 1-16	16	Loaded off with fluid

Yours very truly,

EL PASO NATURAL GAS COMPANY

J. W. Baulch, Jr.
Gas Production Engineer

JWB,Jr:bjc
cc: Jal Oil Company - Jal, N. M.
E. A. Pearce
P. N. Woodruff
Central File
File

COPY

EL PASO NATURAL GAS COMPANY

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool: Jalmat Formation: Yates County: Lea

New Well: X Workover: Special: Date: 8-22-58

Company: Jal Oil Company, Inc. Lease: Watkins Well No.: 2

Unit: H Sec.: 35 Twp.: 24 Rge.: 36

Csg.: 5 1/2 Wt.: 15.5 I.D.: 2982 Set at: Perf.:

Tbg.: 2 Wt.: I.D.: 2869 Set at: Perf.:

Gas Pay: From 2942 To 2954 G.L. or G.C. Dual: Bar. Press.: 13.2

Producing Thru: Casing Tubing X Type Well: Single
Single-Bradenhead-G. G. or G. O. Dual

Date of Completion: 8-22-58 Packer: None

No.	Flow Data: Prover Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	Tubing Data: Press. psig	Temp. °F	Casing Data: Press. psig	Temp. °F	Duration of Flow Hr.
S.							1018		72
1.	4 x 2.000	285	4.41	81	660		838		24
2.	4 x 2.000	312	11.56	88	507		683		24
3.	4 x 2.000	323	3.6	76	440		583		24
4.									
5.									

No.	Coefficient (24-Hour) Fig.	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFD @ 15.025 psia
1.	25.58	36.25		.9804	.9608	1.025	895
2.	25.58	61.30		.9741	.9608	1.027	1507
3.	25.58	65.99		.9850	.9608	1.029	1644
4.							
5.							

Gas Liquid Hydrocarbon Ratio * Mcf/bbl. Specific Gravity Separator Gas

Specific Gravity of Liquid Hydrocarbons deg. Specific Gravity Flowing Fluid

P_c Measured (1-Pt) P_c^2 1031.2 P_c^2 1063.4

No.	P_w (Calc.)	P_t	P_w^2	$P_c^2 - P_w^2$	$P_c^2 / (P_c^2 - P_w^2)$
1.	673.2	453.2	616.2	724.5	338.9
2.	520.2	270.6	792.8	491.7	571.7
3.	453.2	205.4	858.0	355.5	707.9
4.					
5.					

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 30
CASE NO. 1228-1229

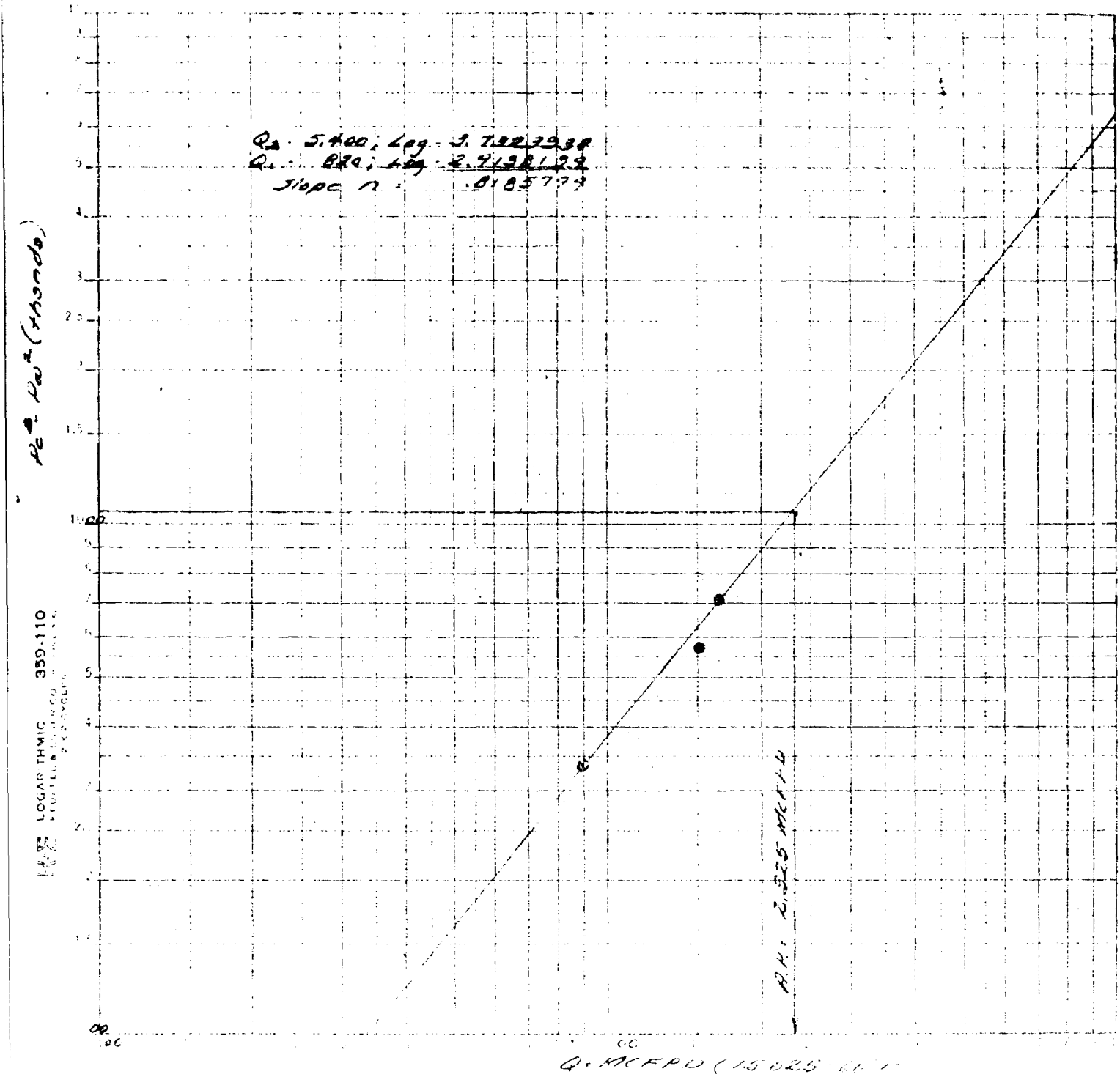
* Well was flowing load oil and water

Calculated by: H.H. Kerby

Absolute Potential: 2,000 n: .819 Checked by: H.H. Kerby

Potential: 2,325 n: .819

JAL OIL CO., INC
WATKINS #2
UNIT N, 35-24-36; LEA CO., N.M.
A E2 SA



Form [illegible]

Pool Jalmat | Yates | Lea
Initial X | November 10-14, 1958
Company Jal Oil Company | Watkins | 2
Unit H Sec. 35 | 24 | 36 | El Paso Natural Gas Company
Casing 5 1/2 wt. 15.5# | 2982
Tubing 2 wt. 4.7# | 2869
Gas Pay: From 2942 | 2954 | 2869 | .660 Assumed | 1894 | [illegible] 13.2
Producing thru: Casing | X | Single
Series [illegible]

Started										
Date	Time	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Orifice size	Static press.	Differential	Flow temp.
11-10-58	8:00	11-11-58	8:00	24	Flg.	4"	1.500	256.2	43.56	85

Static Pressure Pf	Differential Pw	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Rate of Flow [illegible] Q, Mcf/da. @ 15.025 psia
256.2	43.56	105.64	13.99	.9535	.9768	1.022	1,406

Shut-in							Pressure	
Date	Time	[illegible]	[illegible]	Hours	[illegible]	[illegible]	[illegible]	Casing
11-11-58	8:00	11-12-58		24	723.2	728.2		
		11-13-58	8:00	48	712.2	745.2	376.2	584.2
		11-14-58		72	633.2	747.2		

Pw Measured.

				Pf = 747.2 psia
				Q = 1,406 Mcf/da.
				Pw = 584.2 psia
P_w 584.2	747.2	.7818		Pc = 597.8 psia
P_w				[illegible] 1,320 [illegible]
[illegible] .2182	1.7818	.3888		
.9259	9.966564-10	.819		9.972652-10
				3.147985
El Paso Natural Gas Company				
P. O. Box 1384 - Jal, New Mexico				13.120637
J. B. Murray				1320

Jalmat | Yates | Lea

Initial X | 2-20/2-27-59

Company Jal Oil Company | Watkins | 2

Unit H | 35 | 24 | 36 | El Paso Natural Gas Company

Casing 5½ | 15.5 | 2982

Tubing 2 | 4.7 | 2869

Gas Pay: From 2942 | 2954 | 2869 | 0.669

Producing Thru: X | Single

Series 40

Flow Data										
Prover	Line									
Size	Size									
2-23	8:00	2-24	8:00	24	Flg.	4"	1.000	305.2	51.84	67

Pressure Data								
Pf	Pt						Meter Pressure	psia
305.2	51.84	125.8	6.135	0.9470	0.9933	1.030	747.8	

Shut-In Data								
Date	Time	Date	Time	Hours	Pressure		Pressure	
					Prover	Casing	Meter	Casing
2-24		2-25	8:00	24	843.2	844.2		
		2-26		48	220.2	844.2	357.2	639.2
	4:35	2-27		72	*NIL	844.2		

Pw Measured 844.2 psia

747.8 psia

639.2 psia

P_w 639.2 | 844.2 | 0.7572 | 675.4 psia

650.8

	0.2428	1.7572	0.4266
	0.8439	9.926291 - 10	0.819
			9.939632 - 10

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

2.873736

12.813418 - 10

El Paso Natural Gas Company

650.8

* The TBG. pressure on this well did not have any pressure on 72 hour shut-in.

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D. GIRAND
LOWELL STOUT
ROBERT F. PYATT

TELEPHONE:
EXPRESS 3-3116
POST OFFICE BOX 1445

August 27, 1959.

Oil Conservation Commission,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

IN RE: JAL OIL COMPANY - DYER #3 GAS WELL, LOCATED IN THE SE¼NE¼ OF SECTION 31, TOWNSHIP 25 SOUTH, RANGE 37 EAST, JALMAT GAS POOL.

Gentlemen:

We are enclosing herewith original and two copies of Application of Jal Oil Company for relief from shut-in action on the part of the Commission covering the above captioned well.

Please advise the case number assigned to this Application and the Hearing date on same.

Very truly yours,

GIRAND & STOUT,

BY:

G/bc
Encls.
cc: Oil Conservation Commission, Hobbs, New Mexico.
(Attention: Mr. Randall Montgomery)
Jal Oil Company, P. O. Box 1744, Midland, Texas.

IN THE MATTER OF: (Case No. [illegible])

Application of [illegible], Inc., for an exception to the over-production sub-provisions of Order R-[illegible], as amended by Order R-[illegible], 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. [illegible]

Cooper B Well No. [illegible], NE/4 [illegible]/4 of Section 14, T-24-S, R-36-E.

Byers B Well No. 1, SE/4 [illegible] of Section 13, T-24-S, R-36-E,

J. A. 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.

Application of [illegible] for an exception to the over-production sub-provisions of Order R-[illegible], as amended by Order R-[illegible], for seven wells in the Jalmat Gas Pool. Applicant, in the above-styled cause, seeks an order allowing the following-described wells in the [illegible] to compensate for their overproduced status without being completely shut-in in order to prevent possible waste:

(See Transcript for Case [illegible])

I N D E X

I N D EXX

NUMBER	EXHIBIT	FOR IDENTIFICATION	OFFERED	ACCEPTED
App.#1	Map	5	7	7
" #2	Graph	7	9	9
" #3	Chart	14	26	26
" #4	Letter Copy	24	26	26
" #5	" "	24	26	26
" #6	" "	24	26	26
" #7	Letter	25	26	26
" #8	"	25	26	26
" #9	"	25	26	26
" #10	Contract Test	27	29	29
" #11	" "	27	29	29
" #12	" "	28	29	29
" #13	Deliverability Test	28	29	29
" #14	Letter	30	31	31
" #15	"	30	31	31
" #16	Contract Test	52	53	53
" #17	Letter	58	62	62
" #18	Contract Test	58	62	62
" #19	Contract Test	58	62	62
" #20	Contract Test	58	62	62
" #21	Contract Test	58	62	62
" #22	Deliverability Test	58	62	62
" #23	Contract Test	58	62	62
" #24	" "	78	88	88
" #25	" "	80	88	88
" #26	" "	84	88	88
" #27	" "	88	89	89
" #28	Diagrams	91	91	91
" #29	Contract Test	94	94	95
" #30	Graph & Deliverability Test	97		
" #31	Contract Test	103	104	104
" #32	" "	103	104	104
" #33	" "	103	104	104
" #34	" "	105	107	
" #35	Contract Test	113	113	113
" #36	Legal #2	118	118	118

Legal Well No. 2, NE/4 SE/4 of Section [illegible],
Dyer Well No. 3, SE/4 NE/4 of Section 11,
Jenkins Well No. 1, SW/4 SW/4 of Section [illegible],
Jenkins Well No. 1, NE/4 SW/4 of Section [illegible],
Owens Well No. 1, SW/4 SW/4 of Section [illegible],
Rebollo Well No. 1, SW/4 NW/4 of Section [illegible],

all in Township 25 South, Range 37 East,
and the

Watkins Well No. 2, SE/4 NE/4 of Section [illegible],
Township 24 South, Range 36 East, all in Lea
County, New Mexico.

BEFORE:

Mr. Elvis Utz
Mr. Oliver Payne

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: Case Number 1774.

MR. PAYNE: Case Number 1774. Application of Olsen Oils, Inc., for an exception to the over-production shut-in provisions of Order R-[illegible], as amended by Order R-[illegible], for four wells in the Jalmat Gas Pool.

MR. TIRRI: If the Case is for, please, it's time my name is [illegible] and has been for some time, A. Devis Tirri. I am appearing on behalf of the Applicant, Olsen Oils, Incorporated. At this [illegible] Well No. [illegible], Well Number [illegible], Section [illegible], Township [illegible] South, Range [illegible] East, [illegible] County, New Mexico.

[illegible] for the Gulf Oil Company, I [illegible] the Gulf Oil Company, the applicant in Case 1779, and at this time I move or would move that both of the applications, that the two cases be consolidated for the purpose of obtaining testimony, as the exhibits in the one case, in any of the cases, will make some reference to the other cases involved. The issue before the Commission is one as to the manner in which the two applicants will be allowed to produce these wells, and their trouble is uniform and related; it is a matter of water encroachment in the method of production.

MR. UTZ: For the purposes of testimony in this case, Case 1778 and 1779 will be consolidated.

MR. GIRAND: May the record show that Case 1778 was called.

MR. PAYNE: Yes, let the record so show.

MR. GIRAND: Now, in regard to Case 1779, in regard to the Notice on the Legal Well Number 4, there was an error which was not discovered early enough to notify the Commission and readvertise, and the Section is shown to be Section 21, when in truth and in fact the well is located in Section 31. And the Watkins Well Number 2 SE/4 NE/4 of Section 35, and it is shown in the advertisement as Section 25. [illegible] insignificant in light of all of the [illegible] in the application, because anyone [illegible] can readily locate Legal Well Number 4, [illegible]

[illegible] or correct [illegible].

MR. UTZ: Mr. [illegible], is [illegible] in regard to your Jenkins [illegible]?

MR. HIKAND: In regard to Jenkins Well Number 2, Mr. Examiner, I'm going to withdraw that application; I'm [illegible] to take one thing at a time. I want to get my description corrected first, and then as to the Jenkins Well Number 2, the NE/4 SW/4 of Section 29, we dismiss or withdraw that application.

MR. UTZ: Is there objection to the correction, and correction in applicant's section of Jenkins [illegible]?

(No response.)

MR. UTZ: The application will be so amended.

MR. HIKAND: Mr. Examiner, I have two witnesses; I would like to have them sworn at the same time.

(Witnesses sworn.)

MR. HIKAND: I would like to call Mr. Jost. Mr. Examiner, it will be necessary for these cases to be put on well by well, to a certain extent, until we get a rather far-reaching and over-all picture, and we will offer testimony at this time in regard to the Winningham Well Number 3.

MR. UTZ: All right, sir.

[illegible]

JOHN M. [illegible], [illegible] called by [illegible]

[illegible]

as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q Will you state your name, please, sir?

A John A. West.

Q Where do you live, Mr. West?

A Hobbs, New Mexico.

Q Mr. West, have you had occasion to testify before the Oil Conservation Commission in the past?

A I have.

Q In what capacity?

A As engineer.

Q And you have done that on several occasions?

A Two or three occasions, I believe.

Q Is the Commission satisfied with Mr. West's testifying in that capacity?

MR. UTZ: Yes, sir, satisfactory.

Q (By Mr. Girand) Mr. West, I've handed you there an exhibit identified as Exhibit Number 1, will you state what that exhibit represents?

A That's a map of part of the Southeast of Lea County, New Mexico; it has Township 21 South, Range 37 East in total, and part of the surrounding townships.

Q Do you [illegible] the application filed by the [illegible]

A Yes.

Q Now, you've identified two gentlemen as Olsen?

A Yes, sir, they are outlined in red.

Q Now, the wells belonging to, or being considered by the Olsen Oil, are identified in what manner?

A They are identified by the red circle.

Q I believe -- check your map there -- I believe they are underscored in red, are they not?

A Oh, yes, I see what you mean, they are underscored.

Q And the wells involved in the Jal Oil Company are circled in red?

A Right.

Q Now, the larger circled wells are the Olsen Oils wells, and the smaller circled wells are the Jal Oil Company wells, is that correct?

A That is correct.

Q Directing your attention to your Exhibit 1, will you locate the Winningham Well Number 3?

A Winningham Well Number 3 is located in the NE/4 of the SE/4 of Section 30, Township 25 South, Range 37 East.

Q Do you know of your own knowledge whether or not that is in the Jalmat Gas Pool?

A Yes, sir, it is.

Q Now, [illegible] as I have them identified, whether they are [illegible]

[illegible].

MR. UTZ: [illegible].

MR. [illegible]: At this time we would like to offer exhibit Number 1.

MR. UTZ: Without objection, it will be accepted.

Q (By Mr. Girand) Directing your attention to the exhibit containing two pages, marked Exhibit 1, will you state what that exhibit represents?

A Well, the graph represents the line pressure that was, that El Paso records show they maintained on the line that was taking the gas from the Winningham Number 1; and the other graph is the monthly production drawn in graph for the years the last part of 1958 and the first part of 1959. It is drawn graphically by the month, and then with the red pencil it has been put in the average pressure and average production for the two years, this information all being taken from records of the El Paso Natural Gas Company in Jal.

Q So I understand your testimony, the solid line is the production line, is that correct?

A That is correct.

Q And your broken line is the operating pressure of the line?

A That is correct.

Q Now, you have attempted to [illegible], more or less in the nature of a [illegible]; would you explain to the Examiner

[illegible] of it as low?

A Well, we never [illegible] the pressure but [illegible] was in low, we do not know what it was in 1958 on this particular well; and we have the means of lifting, which in this particular case was a pump jack, and the date that the pump jack was installed, and the estimated amount of water that it was producing in 1958, and the actual amount of water producing in 1959 by accurate gauge, and the amount that the well was over-produced as of July 1959.

Q Mr. West, did you have occasion to visit the well location?

A Yes, sir, I did.

Q Briefly state the mechanical setup, or how the well is being produced.

A Well, it's being produced now by regular rods and pump jack, and operated with an electric motor.

Q Now, the casing pressure and tubing pressures shown on the exhibit for October 1959 --

A That's right.

Q -- did you make those tests yourself?

A I did.

Q And the estimated water being produced to date, from what source is your [illegible] from?

A Well, it was estimated [illegible], the [illegible] Oil Conservation Commission [illegible] in the file.

Q [illegible] at that time you leased that property, was there jack rabbits on it at that time?

A No, it was off at that time.

Q And on what day did you receive the property?

A The day before yesterday; what's today?

Q October the 5th, Monday?

A October the 4th, right.

MR. GIRAND: We would like to offer Exhibit Number 2.

MR. UTZ: Without objection, it will be accepted.

MR. GIRAND: Will you stay here at this time, sir? I would like to call Mr. Watson.

*****

D E W E Y W A T S O N, a witness called by and on behalf of the Applicant, having been previously sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. GIRAND:

Q State your name, please, sir.

A Dewey Watson.

Q Where do you live, Mr. Watson?

A Jal, New Mexico.

Q By whom are you employed?

A Clean Fills, Incorporated.

Q How long have you been employed by Clean Fills?

A [illegible].

Q [illegible] by what company are you employed?

A Jal Oil Company.

Q Mr. Watson, have you testified before the Oil Conservation Commission in the past?

A Yes, sir, I have.

Q In what capacity?

A As engineer.

MR. GIRAND: Is the Commission satisfied with Mr. Watson's qualifications?

MR. UTZ: Yes, sir.

Q (By Mr. Girand) In what capacity are you employed by the Olsen Oils Company?

A Geologist and engineer.

Q Mr. Watson, I direct your attention to the Applicant's Exhibit Number 1, and ask you if you are familiar with the well designated as the Winningham Number 3, located in the SE of the SE -- NE of the SE of Section 30-25-37?

A Yes, sir, I am.

Q Just what has been your association with that well?

A Well, when I went to work for Olsen Oils Company originally in 1950, the well had been drilled and I have been associated with it all except about a year and a half since that time.

Q And during the last year, you've had absolute control

[illegible] operation of [illegible], is that correct?

A Yes, sir.

Q Now, has that well continuously produced at all times since you have been employed by the company?

A Yes, sir, except for brief periods whenever the well would die.

Q Now, did the well die in recent months?

A Yes, sir.

Q At the time the well died, how was it being operated?

A It was operating on a free piston installation.

Q And what caused it to die at that time?

A Well, the El Paso line pressure, and also it was shut in at the time for test.

Q And after the shut in period, were you able to bring the well back?

A No, sir, we could not.

Q Did you ever swab the unit on the well at that time?

A Yes, sir, we did; not continuously, but for about ten days.

Q And were unable to bring the well back with that method?

A It would not continue to flow; it flowed for a few hours and then died.

Q In your opinion, was your [illegible] the well, [illegible] caused the well to die?

A [illegible] production.

Q Now, if [illegible] Unit [illegible] production from this particular well?

A Yes, sir, they did.

Q What were the changes they made, and how were they arrived at?

A We decided to put on a conventional pump jack and pump the fluid up.

Q Digressing just a moment, the production of gas in this Jalmat pool where they have encroachment of water by the use of pump jacks, floating pistons, and such other mechanical devices, do you know who instigated that type of production procedure?

A Well, sir, the first piston was put on the Winningham Number 3 by myself in 1955.

Q And then in regard to the use of the pump jack for the removal of water?

A The pump jack was installed by Mr. Olsen in 1953 at the Repollo, originally.

Q Since you have been in business, out of school, has your practice and your trade been primarily conduced within the Southeastern portion of New Mexico?

A Yes, it has.

Q And you are familiar with the Jalmat Pool?

A Yes, I am.

Q Based upon your knowledge, and the Olsen Arnold well

the first well that was [illegible] to be produced in this manner?

A Yes, sir, it is in Southeast Lea.

Q Now, how long has the Winningham Number 3 been producing with a pump jack?

A The pump jack was installed the 23rd of September, 1959.

Q And has it been pumping continuously up until the 5th of October, 1959?

A Yes, sir.

Q Has the Winningham produced any gas during that period?

A Yes, sir, it has.

Q Do you know when the first gas production was obtained after the pump jack was installed?

A The first gas produced was about five days after we got the pump jack on; it didn't pump up, and we had trouble getting it to pump up, it was around the 1st of October.

Q It took approximately 5, 4 days in order to unload the hole where the gas could buck the water, is that correct?

A Yes, sir, it did.

Q Now, on October the 5th, did you cause the Winningham Number 3 well, the pump unit to be shut in?

A Yes, sir, I did.

Q And how long did it remain shut in at that time?

A We shut it in at [illegible] on the 5th, and it was shut in until 7:00 the next morning, the 6th.

Q Mr. Jetson, I'll ask you if you have calculated,

[illegible] Exhibit Number 4, would you state for the record what that exhibit represents?

A This is a photostatic copy of a chart taken from El Paso Natural Gas Company meter on the Mandrigan 3 Well.

Q On what date was it removed from the meter?

A It was removed at 7:20 A.M., 10-[illegible]-59.

Q And does this chart cover the entire producing cycle of the well since the pump jack was put in operation?

A There was approximately four hours production prior to this chart.

Q And I note that the exhibit shows a date of 10, 1st, and '59; was that the date after production had been obtained?

A Yes, sir, that's the day that they change the charts, the first of the month.

Q Now, in your own words, and based on your knowledge of the well, would you explain for the benefit of the Commission, what the chart shows?

A Well, starting on 10-1-59, I have calculated roughly, and that is subject to some correction, but it would be very close to the MCF produced, and it is 405.4 MCF. Now, that's visual reading of the chart, and the average producing rate.

Q Now, was that production, how was that [illegible] at first, I mean --

A [illegible]

Q -- how was your pump jack, your stroke, is that like

pressure?

A [illegible] El Paso's line was correct, and I believe it is either a quarter inch or three-eighths; now which one it was, I is not sure any way of knowing. And the line pressure at that point is [illegible], but it is around 70-pounds.

Q All right, proceed, sir.

A Now, on the second day at approximately 10:00 o'clock, reading this chart, we pinched the choke back; now just exactly how much it was pinched back, I pinched it back until we got a drop on El Paso's chart to see if it had any effect by pinching the well in at a lesser rate of production.

Q All right. Now, what does the chart show in regard to that?

A Well, it shows a steady rate of production on that particular choke, at a lesser rate than what it was when it was wide open.

Q Against what pressure?

A It is the same pressure, it was about 70 pounds.

Q Now, was the choke altered or changed or readjusted in any way from that time on until October the 5th when you shut in your gun?

A No, sir, it was not, it was left the same.

Q As a matter of fact, it is in that same position today, is that right?

[illegible], sir.

Q All right. So, I want to be sure we're talking about the fifth day shown on the chart, which I will be October the [illegible], 1961, at approximately 5:30 o'clock this morning, what occurred at that time?

A The pump jack was shut down.

Q Now, by the shutting down of the pump jack, what happened, as shown by the chart?

A Well, over a period of approximately 24 hours, the gas decreased steadily, as shown by the chart. I made some calculations on that chart, and it dropped from approximately 557.7 MCF down to 155.1 MCF in about, in approximately 24 hours. Now, there is one thing I would like for you to note. The decrease from the time it was shut in until along about 5:00 o'clock that evening there, and due to some cause or another, El Paso's line pressure has a slight increase, it is not very much, it is just one short division on there, which would be less than 5 pounds, and you can see the critical point there where the gas flow just leans right on down from 479.9 to 206.8 MCF. Now that holds true for all of these wells in the area under the similar circumstances as Jal Oil Company's and Olsen Oil's too. And the same effect is felt on the [illegible] stations [illegible], any slight increase of pressure will cause the well to come [illegible] so just the, and it's not [illegible] more than 10 pounds, [illegible] is still in use. However, if the pump jack [illegible], it

[illegible] pump jack continuously to keep [illegible] production, keep it on the [illegible].

Q In regard to this particular well, the Winningham Number 3, do you feel that the experience that you have had in regard to the production of this well, after the placing of the pump jack, and then the cutting off of the pump jack as you did here, and as shown by your Exhibit Number 3, that that would be the result that would occur to any new well that will be required to be shut in for any time?

A Yes, sir, I feel that that would be the case.

Q Well, based on the exhibit, you know that would happen in the Winningham?

A Yes, sir.

Q And once the well is shut in, your experience shows it requires five or six days continuous pumping in order to lift the water?

A Yes, sir, it does.

Q Basing your answer on your knowledge of the field, if the water is allowed to encroach and fill up in the well bore, what in your opinion might happen to the [illegible] particular zones?

A Well, there is the possibility [illegible] channel, and it is possible it could be lost completely.

Q Do you believe that if [illegible]

result in the protection of correlative rights?

A Not --

Q I'll ask that another way. Do you believe that the continuous operation of that pump jack in the production of this well in the manner as you originally started here in October of 1959, is a proper way to produce that well in order to protect correlative rights, and to prevent waste?

A Yes, sir, I do.

Q And do you feel it is necessary for the efficient operation of the well?

A Yes, sir.

Q Now, Mr. Watson, approximately what was the cost in round figures to the company in order to install pump jack facilities, and the other operations that were required in order to put the Wirningham Number 3 on a production basis after the shut in?

A Our AFE, which is authority for expenditure, was in Oklahoma City office for approval, was $[illegible], however, I'm sure it cost over that due to some mechanical difficulty.

Q Now, Mr. Watson, during the past six or seven years, you have been associated either with the Delhi Corporation or the Delhi Company, or R. G. [illegible], have you not?

A Yes, I, I have.

Q And you have been in charge of their [illegible] only the Delhi [illegible], the [illegible]

matter of this application to consolidate?

A Yes, sir, I have.

Q The methods and means to be employed in order to produce gas from these wells where they have the encroachment of water, have been a matter of study and continual trial and error on operational matters, has it not?

A Yes, sir, it has.

Q Do you feel that through this experience and your close observation of the area that it will be necessary for the Aztec Oils, Incorporated to continually produce the Basin Dakota, and that the well be excused from being shut in --

A Yes, sir.

Q -- in order to protect the reserves?

A Yes, sir, I definitely do. Along that line it seems we have developed a cycle on those wells as they were drilled; originally, they made very little water and there was a period of three or four years the fluid increased to where the well would have to be blown down or unloaded off. Now, after the free piston installation on the Dinwiddie Number 3 successfully was installed, it flowed four years and eight months in that manner, and now I feel and think that [illegible] in the area that we [illegible]

this application; and going ahead a little bit on one of Olsen -- one of the Jal Oil Company wells, the Repollo Number 1, the pump jack was installed on it in 1953, and at the present time, under the same operating conditions that it has operated under in those six years, there is no production out of it as of now. It may be that that's a little longer, or a little shorter, but I would say that's a pretty good indication of how long these wells will pump.

Now, our water problems in these other wells may not be quite as acute as they were in the Repollo originally, but I think that that will give us all an idea of what is going to happen in the future as far as all of these wells are concerned.

Q Well now, in regard to the Repollo well, since you made that comparison, the Repollo well stopped producing in January, I believe, and became logged up in January, is that correct?

A I believe it is.

Q Of this year?

A Yes, sir; started its downhill climb in December.

Q Now, since that time, have you essentially attempted to obtain production from that well?

A Yes, sir, it has been pumped in the same manner it was before; in fact, last week the pump was removed in order to check to see if it was still in good operation.

Q Other than that, it has been a continuous operation?

A Run continuously, yes, sir.

Q And after employing those methods, you have not been

able to produce any gas into the El Paso line?

A That is correct.

Q Now, is that a low pressure line?

A It is not considered a low pressure, it is a 70-pound line, which is the lowest pressure on their intermediate and high pressure gathering system.

Q It is an intermediate line --

A Yes, sir.

Q -- to which it is connected. Do you feel that the experience that you have had in regard to the Repollo well would be a pattern that could be anticipated reasonably for all these wells that have water encroachment?

A Yes, sir, I definitely do.

Q I'll ask you this: Has the Winningham Number 3 up to the present time responded in a like manner, or acted in a like manner, to the Repollo well during its course of decline?

A Yes, sir, it has. It has followed the same pattern. I would like to say the Winningham didn't have as much water to begin with as the Repollo did, but production has continuously dropped, and the pressure has dropped at the same time.

Q Well, the characteristics, the producing characteristics are compatible?

A Yes, sir.

Q And it is your opinion that it is only a matter of a short period of time until the well has exhausted itself --

A Yes,sir.

Q -- through the methods employed?

A Right, it is just a matter of time.

Q Now, is it also your opinion that in the event the Commission should see fit to shut this well in, that the reservoir gas attributable to the Winningham Number 3 would be lost to the operator?

A Yes, sir.

Q Does that by any stroke of the imagination imply that this reservoir would be available to any other operator in the area?

A I do not think it would, no, sir; I think it would be lost completely.

Q It would then constitute a waste of that reservoir, whatever it might be?

A Right.

Q Now, do you have any production records in regard to the Repollo Well during the period of time it was allowed to produce, as to the amount of gas after your pump jack was installed until January of this year?

A Well,when it first, when it first started the pump jack up, it was flowing at the rate of 800,000 cubic feet a day, and it has continuously gone downhill from that point.

Q Would you estimate that the production from that well has been in the neighborhood of one billion cubic feet?

A Yes,sir, since 1953, it has been in the neighborhood of one billion. There is one other point I would like to point out. This is a well, if you will look at Exhibit Number 1, it is in the Section 31, 25, 37.

Q 38, isn't it?

A No, sir, this is the Covington Federal Number 2 that I'm referring to, it is not on our application at all. This well, just to go back on a little history, R. Olsen purchased that well from Jerry Covington, I believe he got it from him.

MR. UTZ: Which well was this?

A NW of the SW/4 of Section 31. It has "Jal Oil" written right below it. That well was purchased by R. Olsen from Jerry Covington, and we went in and we worked it at considerable expense and had a pump jack installed on that well as he did the Repollo Number 1; and at the time that I'm speaking of, it was producing approximately half a million cubic feet of gas into the intermediate El Paso line, and due to State regulations for testing a well, El Paso went out and shut the well in for a period of less than 72 hours, they were taking a 72-hour shut-in pressure on it, they shut the pump jack down and were testing the well, and Mr. Olsen found out that they shut it in, contacted them, and started it up, and as of this day there has not been any comparable amount of gas produced in that well as to what it was before. We went in after I went to work for the Jal Oil Company, went back in and reworked the well, it cost about $16,000.00, and at the

present time the production is 3 to 8 barrels of oil per day, plus a very small amount of casing head gas, with no indication of the pressures that we originally had. Now that's, I mean, that is what can happen if they are shut in.

Q During that period of time, and in your capacity as an employee of Jal Oil Company and the Olsen Oils Company, Incorporated, Olsen Oils, Incorporated, do you recall occasions where exemptions have been given the company in regard to the Repollo Well, allowing it to produce for as much as one-year period at a time?

A Yes, sir, they are.

Q Without limitation?

A Right, there are.

Q I believe that would be recognized by the prior secretary, Mr. Macey, is that true?

A Yes, sir, that's correct.

Q Was there also an opinion expressed by one of the Commission engineers, Mr. Stanley?

A Yes, sir, it is.

Q At this time for the purpose of the record, we would like to introduce Exhibits 4, 5 and 6, being copies of letters written by the Oil Conservation Commission, or its agents and representatives, and the original copies of these letters should be in the Commission files; since all of these were not addressed to the applicant, we have no way of establishing or verifying the

particular exhibits, however, they were furnished to us out of the files of the El Paso Natural Gas Company.

MR. UTZ: Without objection, Exhibits 4, 5, and 6 will be accepted into the record.

MR. GIRAND: I might state to the Commission, the purpose of that evidence is to show the recognition of the problem of the producers on the part of the Commission back as early as 1955, when they were having trouble with the Repollo well.

Referring to Exhibit Number 7, which was July 27, 1957, this letter deals with two wells that are involved in the hearing here, the Ebo Owens Number 1, and the Jenkins Number 2. Ebo Owens was shut in by regulation, and the Jenkins was not producing because of the fact it was logged up, plugged; it goes, Mr. Examiner, to the overall condition existing down there among the wells that are producing water, or fluid.

Your April 22nd letter, being Exhibit Number 8, covers the Ebo Owens Number 1 and the Watkins Number 2, which are both involved in this hearing, as one of the consolidated cases.

The Exhibit Number 9 deals with a recognition of the condition of the Dyer Number 3, the Legal Number 2, the Jenkins Number 1, the Repollo Number 1, in the Jalmat Gas Pool, and in which the purchaser, the common purchaser to which these wells are connected, suggested some exemption be obtained from the Commission, some relief, to keep these wells from logging up because of the encroachment of fluid.

MR. UTZ: I note we have reference to Jenkins Number 2; again I would like to clarify that again. Do we have a Jenkins Number 2, or --

MR. GIRAND: No, sir, it is withdrawn, but we intend to use a chart on it, if the Examiner please, for the basis of comparison.

MR. UTZ: Is there a Jenkins Number 2 well in the Jalmat Pool?

MR. GIRAND: No, it is in the Langley-Mattix, but it is simply cited from the standpoint of water, and when it gets in on the gas, it has the same characteristics, that's what they tell me. We would like to offer at this time Exhibits 4 through 9.

MR. UTZ: Without objection, Exhibits 4 through 9 will be accepted.

MR. GIRAND: Did I offer Exhibit 3?

MR. PAYNE: I do not think so.

MR. GIRAND: I would like to include Exhibit 3 in our offer.

MR. UTZ: It will be accepted. Are you about through with the Winningham and the Legal, and are going to others?

MR. GIRAND: I'm going to the L. R. Cooper.

MR. UTZ: I would like to ask a few questions.

MR. GIRAND: I have no desire to encumber the record, but we have copies of the minimum contract test on the Winningham Number 3 for years '57, '58 and '59. Now, those are a matter of

record in the Commission docket, and if we can just refer to them by reference, tend to show the operation and the result of the text made. Off the record.

MR. UTZ: Off the record.

(Discussion off the record.)

Q (By Mr. Girand) Mr. Watson, I'll ask you whether or not the El Paso Natural Gas furnished you certain copies of their records down at the Jal office pertaining to the Winningham Number 3 well?

A Yes, sir, they did.

Q And they are actual records on that particular well that they maintained?

A Right.

Q I hand you here what has been identified as Applicant's Exhibit Number 10. Would you explain to the Commission what that exhibit represents?

A This is a minimum contract test taken by El Paso periodically on all wells that they are tied into for their contract pumps. They are used for their records to show them how the well is progressing, whether they are decreasing or what have you on their gas production; and it is taken very similar to the deliverability test required by the Commission, it is a similar test.

Q Now, I hand you here what has been marked as Applicant's Exhibit Number 11, and ask you if that is a similar report

for the year 1958? What was the Exhibit 10 report for, what year?

A 1957.

Q And Exhibit 11 is a report for the year 1958?

A Yes, sir, it is.

Q And the same answer would be given to the same questions if I interrogated you in regard to Exhibit 11?

A Yes, sir.

Q I hand you what has been identified as Applicant's Exhibit Number 12.

A This is --

Q Go ahead, what does that exhibit represent?

A This is a minimum contract test as of 1-16-59.

Q Now, if you were asked the same questions in regard to that exhibit, that you have been for exhibits 10 and 11, would your answers be the same?

A Yes, sir, they would.

Q Now, I hand you here what has been identified as Applicant's Exhibit Number 13, and ask you to state what that exhibit represents?

A Well, this is actually a deliverability test, required by the Commission. It was run in March of '58.

Q And that is a report that is actually filed with the Commission, or a copy of that report?

A Yes, sir. Now, this is El Paso's form, and it is on 122-C, I believe, is it not?

Q What year does that cover?

MR. UTZ: Yes, sir, this is, I would call it 122-C.

Q (By Mr. Girand) What year does that cover?

A That is 1959, March 1959.

Q Now, is the same information reflected on that report as is reflected on Exhibit 12?

A It is not identical, no, but similar. I do not know exactly what the difference is.

Q Well, based upon your experience in the field, is the information that appears on Exhibit Number 13, is it acquired from the information, and acquired and shown on Exhibit Number 12?

MR. UTZ: If counsel will permit, I believe I can clarify that.

MR. GIRAND: If the Examiner knows, I'm satisfied; I wouldn't know.

MR. UTZ: If Exhibit Number 12 is calculated deliverability on a 100-pound deliverability pressure, and 13 is 80 percent of shut-in pressure?

A Yes, sir.

MR. GIRAND: At this time we would like to offer Exhibits 10 through 13.

A There is one other thing on those tests that it will show; there is no doubt in this case that there is fluid intrusion at shut-in pressures most of the time from 24 to 72 hours decrease, rather than increase, on those tests.

Q (By Mr. Girand) Mr. Watson, I hand you here a copy of an exhibit identified as Applicant's Exhibit Number 14; will you advise the Commission what that exhibit represents?

A This is a letter from El Paso Natural Gas Company's Jal office to Olsen Oils in Jal, pertaining to the Winningham Number 3, and it states that:

> "Gentlemen: We are unable to produce your Winningham 3 within 30-25-37, in the Jalmat for the following reasons: 'logged off'. When this situation is corrected and the well is ready to be produced, please contact this office."

And then in remarks it says:

> "This will confirm Mr. Stanke's telephone conversation with your office May 15th, 1959. Mr. Stanke advised your office that the above well was found apparently logged off with fluid and would need to be unloaded before normal production could be resumed. Thank you for your cooperation."

Q Now, after that notification, did the company get that well back on production?

A May '59, yes, it was.

Q Then I hand you here what has been marked Applicant's Exhibit Number 15, identify what that exhibit represents.

A This is a letter almost identical to the other one, except that it is July 24th, 1959; the other one was in April, I believe, was it not?

Q May.

A May. And it's Winningham Number 3, and it is unable to be produced on account of being logged off.

Q Then during the interval between May the 20th, 1959, when you received this notice as shown by Exhibit 14, and the

notification you received on July 29th --

A 24th?

Q -- 29th, I believe -- 24th, which is shown on Exhibit 15, the Winningham Number 3 had logged off again, is that correct?

A Yes, sir, it had and the only explanation for it is excess line pressure, I mean, the pressure went up on their line.

Q The pressure went up on their line. Now, at that time you were producing the Winningham Number 3 with the floating piston operation, were you not?

A Yes, sir, it was.

Q And you have now determined that you cannot produce that well in that manner?

A We cannot.

MR. GIRAND: We would like to introduce Exhibits 14 and 15 to show the frequency of the interval in which the water was encroaching on that particular well.

MR. UTZ: Without objection, they will be received.

Q (By Mr. Girand) Now, basing your answer on your knowledge of the Jalmat Gas Pool, and in particular the location of the Winningham Number 3, can you state whether or not you have an opinion as to whether or not gas reserves still underlie the land allocated to the Winningham Number 3 Well?

A Yes, sir, I think there are some reserves under it.

Q And is it the company's thought in the matter that those reserves are of such an extent that it would be worthwhile

of going to the expense in an attempt to produce it?

A Yes, from the experience we have had on the Repollo Well, it is justified to go ahead with the extra expenditure.

Q Now, basing your answer on your experience and qualifications, do you believe that the Winningham Number 3 can be produced at a lesser rate than the rate inaugurated by you in September of 1959 when you installed the pump job?

A I do not think it can be brought down any better satisfactorily, no, sir.

Q Any curtailment of that production, in your opinion, would result in loss of reservoir?

A Yes, sir.

MR. GIRAND: I believe that's all we have to offer on the Winningham Number 3.

MR. UTZ: Mr. Watson, the rates you just spoke of, is that the rate shown on the Exhibit Number 3?

A Yes, sir.

MR. UTZ: Now which rate are you speaking of, the 608.9, or the 557.7?

A I was thinking of the 557.7 figure.

MR. UTZ: That would be roughly 1700 MCF a month?

A Yes, sir, it would.

MR. UTZ: That rate is substantially below your average allowable for the past year, is it not?

A You mean the average montly allowable?

MR. UTZ: Yes, sir.

A Yes, sir.

MR. UTZ: It is also well below the average rate for the average allowable for the past six months, is it not?

A I believe it is, yes, sir.

MR. UTZ: That rate is also substantially below the rate that you have produced the well over the last year, is it not?

A I would have to have the figures to answer that question as far as — I do not have them in front of me.

MR.UTZ: You do not have any of the allowable production figures available to you?

A Not right this minute, no, sir.

MR. UTZ: Are you familiar with them, if I stated you a figure that would be close, would you recognize it?

A I believe I could.

MR. UTZ: According to your calculation, Commission records the average allowable for the past year was 5896; therefore, your request will be substantially below that?

A 5896 represents what figure now?

MR. UTZ: The average allowable forthe past twelve months.

A Per month?

MR. UTZ: Yes, sir.

MR. GIRAND: If the Commission please, I have some figures here that have been presented by the home office on that,

which if the Commission will allow Mr. Watson to refer to --

A These were prepared in the Oklahoma City office, is that correct?

MR. GIRAND: If he may refer to the memorandum, it has the figures that the office determined.

MR. UTZ: Well, all I'm trying to establish is that your requested rate is substantially below your previous allowable, which would enable you to make up your over-production at a reasonable rate?

A That 557.7 MCF would be per day; do I understand your question, 5,896,000 MCF per month?

MR. UTZ: Yes, sir.

A That figure of 557.7 --

MR. UTZ: Is a daily figure.

A -- is a daily figure, yes, sir.

MR. UTZ: Monthly figure, using that daily figure, would be roughly 18,000 MCF per month, would it not?

A Right, would be 18,000, I believe; figuring it on a 30-day month, it would be about 16,000.

MR. GIRAND: Mr. Examiner, may I ask a question or two?

MR. UTZ: Yes, sir.

QUESTIONS BY MR. GIRAND:

Q In that connection, Mr. Watson, the well has to be produced based on the amount of water it is making, is that correct?

A I think that is very evident from this chart that we presented, Exhibit Number 3, and it dropped from a producing rate after the pump jack was set down, from 557.7 MCF per day, to approximately 155.1 MCF per day, and it still showed a decline; so I would think that from that information that if it is shut down, it is going to go clear to zero and not produce at all.

Q The productivity of the well is contingent upon the happening of the two things: One removing all of the water, and the water that the line pressure has to buck, is that correct?

A Yes, sir, that is correct.

Q So at this time, or at any given time, producing the well under the methods that you propose to produce it, can you arrive at any particular allowable that the well should be tied to?

A No, sir, I do not think so. I mean, the water has to be removed, we know that.

Q And the speed in which it is encroaching on the well, leaves it undetermined as to how much water you have to produce from day to day?

A That is right.

Q By the same token, you have no control over the line pressures, so the variation in the line pressure can have quite a marked affect on the amount of gas the well is capable of producing into the line?

A Yes, sir; even though this well, if it was put back in the 250-pound line, the gas production would be very little,

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A That is right.

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A Yes, sir; even though this well, if it was put back in the 250-pound line, the gas production would be very little,

would be considerably less than what it is at 70 to 100-pounds.

Q This application, Mr. Watons, is not an intent and attempt to ignore the allowable rules of the Commission, it is based entirely on a conservation matter to prevent waste and protect correlative rights, is that correct?

A Yes, sir, it is, in my opinion.

Q And as set forth in your application, and exemplified in your testimony, is the only method where those rights can be protected?

A Yes, sir, there is no way of making it flow primarily on its own gas. It has to be mechanically lifted, the water does.

MR. GIRAND: Mr. Examiner, I wanted to bring that out, in the light of your question. That's all I have at this time.

MR. UTZ: Mr. Watson, in regard to your Exhibit 3 again, at the time you spoke of the line pressure increasing approximately 5 pounds, you also had the pump jack shut down, did you not?

A Yes, sir.

MR. UTZ: Now, wouldn't it be reasonable to assume that your decrease in production was due more to the pump jack being shut down, than the 5 pound increase in line pressure?

A No, I don't think so.

MR. UTZ: Your well would be logging up, would it not?

A It is logging up, that is true, but I think the

suddenness of the decline is evident there, because after we shut down, it established a pretty normal curve; if you will draw a line through the median of that hashed line as it goes up and down there, you come up around 4.2 on the chart where it was, where the line pressure, and the corresponding place the line pressure went up and you had a drop down to approximately 2, and it almost went to zero when that line pressure went up, and that is true of all those wells on pistons. I wish I had some more charts to show that, because any time that line pressure varies even the slightest amount, all those wells have a tendency to do the same thing, and that's what I was trying to do in that thing.

MR. GIRAND: You are referring to Exhibit 3?

A He is.

MR. UTZ: Does this well produce any more water at a higher rate of flow than it does at some lesser rate of flow?

A That we have not determined, that is something we need to find out.

MR. UTZ: All that is necessary to keep this well, to produce gas, is to keep water out of the production formation, is it not?

A Yes, sir.

MR. UTZ: As long as you are pumping the water out of the producing formation, then how would the rate of flow be affected?

A Let me back up a little.

MR. UTZ: You are pumping at a rate here of 23 barrels

a day?

A Yes, sir.

Q If the rate of 23 barrels a day, keeps the formation clear of water, then why would you have to produce it at a higher rate in order to keep the formation clear of water, rather than a lower rate?

A As you clear the formation of water, you naturally get more gas; if you keep it clear, that's the history of all these wells. Now, let me refer you to this Exhibit Number 2, if I may. In 1958, the El Paso line pressure was higher than it was in 1959, they lowered the line pressure in January of '59 approximately there; if you will look at that production curve, you will see that that thing is dropping at the end of '58 at that higher line pressure, and immediately when the high pressure was lowered, the productivity came back up, and the only explanation I have for that is that the well was flowing, is capable of lifting that water on its own with the aid of the free piston, and keeps the well from being logged off; whereas at a higher pressure, it was not able to do so.

MR. UTZ: Yes, sir, but you were using a free piston, a free piston was being used under these conditions, as shown in this exhibit rather than a pump jack --

A Right.

MR. UTZ: -- and --

A Right, and at the end of '59 you can see a sharp drop

to where we got to 853 MCF during the month of August; I mean, the well is no longer capable of producing any more gas mechanically under the pistons, that's the reason we put the pump jack on it, and I feel that over a period of time, the same conditions are going to exist with the pump jack. We are flowing at a higher rate of flow now, in the progress of time the volume will decrease the same as it did on our piston, even though you keep the water off all the time.

MR. UTZ: Do you have any idea how much water the well was producing with the free piston during 1958?

A Well, I didn't personally make any test on it, but I would assume that it is neraly the same as the pump production. I mean, it would have been for the well to keep flowing. It is probably less than that, it would probably be a lesser figure.

MR. UTZ: Close to 20 barrels a day?

A Yes, sir, I think it would be.

MR. UTZ: The well was producing through tubing at that time?

A Yes, sir, it was.

MR. UTZ: Is it producing through tubing now?

A It is producing through both the tubing and the casing; we are turning the water into a high pressure separator and it is separated, and the gas, if any comes out through the tubing, goes into the sales line the same as the gas out of the casing.

MR. UTZ: You are pumping some gas out with the water?

A Yes, sir.

MR. UTZ: Both pumping and flowing, whatever it is?

A Yes, sir.

MR. UTZ: And the balance of the production is through the annulus?

A Through the annulus, that's right.

MR. UTZ: The rate you are requesting here, it will never be possible for the well to ever get into balance?

A Well, what about the increase in allowable due to the winter months as far as El Paso's end of it, the sales end?

MR. UTZ: That would about triple demand in order to equal what you are asking for?

A Yes, sir, we are asking, at the rate that they will keep producing.

MR. UTZ: Your maximum production from over the past year has been 17,048 MCF per day; did you have any water trouble during that production rate?

A Yes, sir.

MR. UTZ: And that was when you had the free piston and all?

A Right, the free pistons were installed shortly after it was completed.

MR. UTZ: And you don't feel you can reduce that rate with the pump jack installed?

A Well, I would be willing to try, but I don't think

it would last. If this follows the history of the free piston, in a matter of time this production here is going to be down even though you produce the water at all times the way we are now. Now, I don't think, in my opinion, this is not a sustained rate of production, it is going to drop, it is going to follow a decline curve as it did on the piston to nothing.

MR. UTZ: Any other questions of the witness?

MR. PAYNE: Yes, sir.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Watson, what is the rate that you propose for this well, as a minimum rate to keep from having these water problems?

A Well, as far as a minimum rate is concerned, at the present time we don't know exactly what it might be.

Q Are you asking for capacity production?

A If that is what it takes to keep the water off, yes.

Q And your application asks for relief for this well under Rule 10, I believe, of order R-967?

A Yes, sir.

Q Let me read the composition of that Rule:

"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."

Does that indicate to you that the intent here is that overproduction should be made up, but simply at a lesser rate than if the well were completely shut in?

A Well, we know what will happen if the well is completely shut in, we feel we do.

Q Now, all of these wells in this flank of the pool have water problems, do they not?

A Yes, sir.

Q So do you feel that when a pool starts making water, that the well should be exempt from proration?

A It is possible that would be the best solution for everybody. This to me is a very similar situation to a water flood project, it is a natural water flood, no question about that; but, I mean it is acknowledged in an oil pool, a water flood project, that if the water is allowed to be produced, if the oil is allowed to be produced at a capacity of the well, there would be more oil ultimately recovered than if that well is restricted by an allowable.

Q It is recognized by whom?

A Well, I think it is pretty standard throughout the industry that unrestricted allowables are given or transferred to the wells in a water flood project.

Q Have you read various technical articles by the Humble engineers?

A I can't tell you that I have, no.

Q Well, to pin it down then, unless market demand from the Jalmat Pool goes up considerably, and nominations go up accordingly, it would never be possible to bring this well back into balance?

A I can't say that it wouldn't be possible, because the production that we have at the present time is not going to continue at that rate even with the pump jack; it is just a matter of time, it may be 4, 5, 6, or 7 years before that thing is completely gone.

Q Before the well has to be abandoned?

A Yes, sir.

Q Well, now, referring to your Exhibit Number 5, which deals with a different well, deals with the Repollo, I notice a statement here by Mr. Stanley, he says:

"Furthermore, it will only be a matter of time whereby the Commission will cause the well to be plugged and abandoned."

Now, of course it is always a matter of time until the well is plugged and abandoned, but assuming you were producing this well at capacity, when do you think it will have to be plugged and abandoned?

A I think we are faced with the Repollo at the present time; it is 6 years.

Q Let's get back to the Winningham.

A I think that these other wells will follow along in the same general pattern. Like I say, it may be more or less years,

I don't think any of us can sit here and say. My guess is that it would be longer than six years, due to the lesser water in the Winningham; that area was severely drained in the beginning of the pool by some of the older wells originally drilled in the pool.

Q This well is making some 23 barrels of water per day?

A Yes, sir.

Q Was it making that back when you produced your maximum, was it making that much water in July of '58?

A To my knowledge, I don't know whether there was any accurate water test taken on it or not; I couldn't say how much water it did make.

Q Well, you feel then that your production rate has to be geared to the amount of water that the well is making?

A Very definitely do. I mean, what we have done and gone through, I don't see any other way to approach the subject and still get the reserves that are there.

Q What deliverability does this well have?

A It is 366 MCF, I believe, is the last deliverability test. Now, it is very difficult to obtain an accurate deliverability test on all the wells that are on piston.

Q You say this well does have tubing in it?

A Yes, sir, two and a half inch tubing.

Q Does it have a blow-down string?

A It's got a string of sucker rods. See, it is on pump at the present time.

Q Now, referring to Exhibit Number 6, which I believe your counsel introduced to establish the fact that relief has been granted to some of these wells in the past, due to water problems, I would like you to read the last paragraph:

"Both you and the transporter, El Paso Natural Gas Company, should attempt to produce the well in such a manner that the overproduction is made up as soon as possible."

Under your proposal, do you feel that overproduction will be made up as soon as possible, or is it just not possible?

A Well, if in our opinion we are not damaging the well, I think we'll be entirely willing to go along with anything that the Commission desires to reduce it, if it is possible.

Q But at this time you feel that the 17 or 1800 is the lowest rate, or 18,000?

A I think it is in that neighborhood, yes, sir.

MR. PAYNE: Thank you.

MR. GIRAND: If the Commission please, I would like to make a statement here. We are saying according to our Exhibit 3 that that would be the rate of recovery of gas, as shown on just the early test. This well has only been on pump since the last of September, what the decline or rate of decline will be, we don't know; we are not seeking any given fixed or set allowable, no, sir. We are calling the Commission's attention to a water encroaching situation, and asking this Commission to give us relief from it so as to allow us to protect our reservoir.

MR. PAYNE: Let me ask you this, Mr. Girand, while

you are not proposing any set figure, as I gather from the testimony of your witness, you would not be satisfied with an order that said, that provided that well would be allowed to make up its overproduction by producing say at 50 or 75 percent of the average monthly allowable for the preceding six months proration period?

MR. GIRAND: Mr. Payne, we don't know that we can protect our well and our reservoir, and produce a well in that manner. I believe if you'll recall the testimony of the witnesses in both the Continental case and in the El Paso case heard at the September 30th hearing, they both withdrew that part of their application, amended that part of their application, which dealt with a percentage of allowable, because we are dealing with an unknown. Now, there is another factor to be considered in these cases. These wells are overproduced because they have, previous to the May check, been produced as marginal wells. There had been no effort on the part of either the transporter or the operator to arrive at any conclusion of what the production practice should or should not be. Basically, I feel that making the test, and under your rules, that your rules can be unfairly exercised, because on any given day on any given proration month, if that happens to be the day a well is investigated, and if it happens to be a day in which the nominations are unusually low, a well could be overproduced more than six times, based on that particular day; when the following month it might be underproduced.

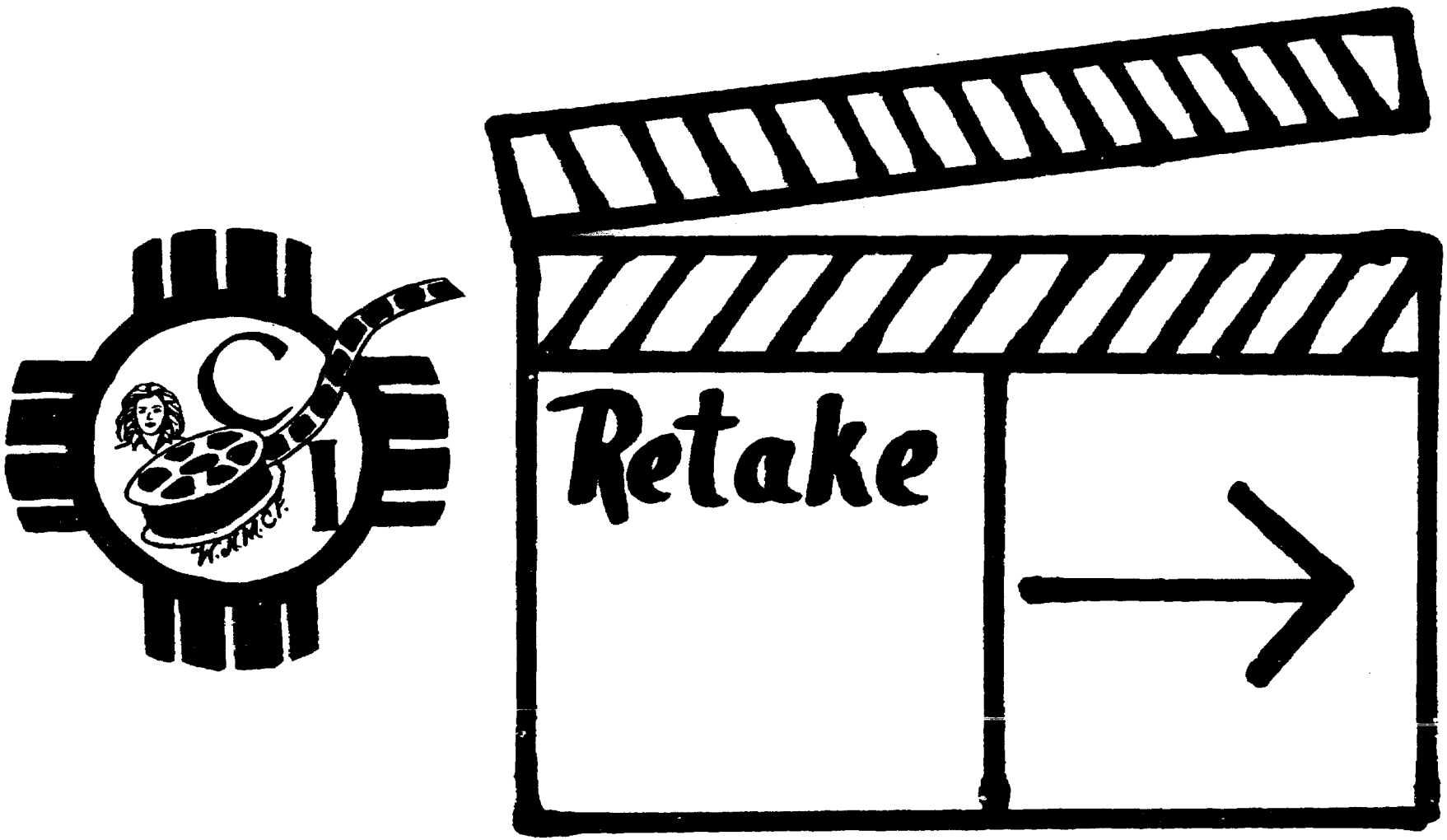
MR. PAYNE: We don't go by the day.

MR. GIRAND: I understand, but I'm referring to the rule that was adopted by the Commission.

MR. PAYNE: Well, it is based on a month.

MR. GIRAND: Yes, and we are willing to work along with the Commission in any way possible. We just say let's don't take an action here that will destroy our reservoir and our property. If the Commission wants to take another look at what we have done at a later period, that's fine, but right now, give us a chance to find out what we are doing; and we came forward with the best we could get in the period of time we had. We had one well here that we have been able to go from a piston type operation over to a pump jack, we have been able to furnish the Commission with a record of that well, not conclusive, it is too early to tell, but at least it shows that these applicants are coming before this Commission with clean hands, we are trying to do something. Right now, our opinion is we can't be shut in without loss of reservoir, and we have been messing with producing gas this way for more -- since 1953, and we feel that we are fairly qualified on this type of method of production.

Now, we have not gone through the elaborate detail of furnishing factual information as to what the ratio would be, what we can do, how much we can choke a well down, how much we can't, we are dealing with something that any inexperienced handling of could easily result in the loss of our reservoir. So we got to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have some relief in order to prevent waste and protect our property.

MR. PAYNE: Let's proceed to the next well.

MR. UTZ: I have a couple of more questions. Getting back to your Rapollo well, what was the history of water production on that well which you say is virtually in the stage of abandonment at this time? Did the water production increase as the gas production decreased?

MR. WATSON: After a period of time, yes. Now, when that well was originally drilled, it was drilled in April of 1950, and I came out here in September of '50, and prior to that time, I'm not familiar with what the actual completion, I mean, how much it made on the initial completion, but all the records and the initial deliverability test show that the well did make a considerable amount of water. Now, the water has increased, I mean, it did increase as the gas decreased until the pump jack was put on, and then in a manner similar to this Winningham, the gas rate increased to approximately a million and a half a day after they got it unloaded and pumped off, it was allowed to produce a million and a half to a million eight hundred thousand a day. During that period that I was talking about, on this exhibit, and since that time, it has not been able to produce at that rate with the pump jack operated continuously; the only time the well has ever been down, to my knowledge, is whenever there is something mechanically wrong. Once in a while we have to change the electric

motor, or the lighting would knock it out, and the pump had to be changed, so the water was increasing as the gas decreased, definitely.

MR. UTZ: Well, you had to increase the strokes per minute on your pump, increase the rate of withdrawal?

MR. WATSON: Yes, sir, when we originally put it on, we had a real small pump jack on it in 1953, and a small pump, inch and a half pump, I believe, and after so long a time, in 1955 we had to install a larger pump jack and put it on electricity to keep it on all the time, and a larger pump was installed, and I'm not sure of the date, but some time since 1955, a volume producing pump has been put on, capable of producing 650 to 800 barrels of water per day, and that's the way it has been producing since that time.

MR. UTZ: If your rate of water increases as the rate of gas production decreases, then it would seem that your water encroachment is not sensitive to gas production?

MR. GIRAND: Mr. Examiner, we have not had the exhibit on that yet, and if I may, I think the witness may be a little confused on your question. My understanding, while the well was a sitting well, the well was consistently producing water, is that correct?

MR. WATSON: Yes, sir, when the well was first put on, they pumped the water and the gas out through the tubing, and while we were doing that in the Winnibham, and at a later date it

got to where no gas was coming out of the tubing, and it was pumped right straight to the pit as it is now. The water that comes out of the tubing goes straight to the pit, though no separation; it comes out and into the pit, and the only gas production is produced through the casing, and at the same time the well did, up until it died here, it produced water and gas out of the casing.

So the gas, the pump jack was lifting the maximum amount of water that it could lift, and the water was being lifted by the gas out of the casing, and as long as that amount of water is lifted from the tubing it is all right, which is a tremendous amount of water.

MR. UTZ: The hearing will be recessed until 1:30.

AFTERNOON SESSION

1:30 P.M., WEDNESDAY, OCTOBER 7, 1959

MR. UTZ: Did you want to continue with Mr. Watson:

MR. GIRAND: I think that's all we have to offer in that particular case, the Winningham. Of course, we have offered some evidence in regard to the Repollo, but then we will cross reference it, expedite it as much as we can. I would like to have Mr. West back on the stand.

MR. UTZ: The hearing will come to order.

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q Your name is John West?

A Yes, sir.

Q You are the same John West who appeared in the morning session, testifying in regard to the Winningham Number 3 Well?

A Yes, sir.

Q Mr. West, I direct your attention to Exhibit 1 before you there, and ask you to identify the location of the S. R. Cooper Number 1?

A S. R. Cooper Number 1 is located in the SE/4 of the NE/4 of Section 23, Township 24 South, Range 36 East.

Q Now, Mr. West, did you have occasion to inspect the property known as S. R. Cooper Number 1?

A Yes, sir.

Q On what date did you make that inspection?

A October 5th, this year.

Q In connection with your inspection, did you also make certain checks and tests in regard to that particular well?

A That is right.

Q I hand you Exhibit Number 16, that has been identified as Exhibit Number 16, and ask you if that exhibit was prepared under your supervision?

A Yes, sir, it was.

Q Tell the Commission what the exhibit purports to show?

A This, as in our previous exhibit, shows the average production and the monthly production from the solid line graph, and the average line pressure each month that was on the El Paso lines; this information was taken from the El Paso records in their Jal office, and we have indicated here for you the type of lifting, which is a free piston, and we did not have any records as to what the casing pressure was in 1958 or tubing pressure, but October the 1st 125, tubing pressure 110, and the estimated production of 15 barrels in October 1958; but the water, we still have it lifted as estimated, 16 and a half was an actual field gauge on that, and overproduction as of August 1959 was 20,630 MCF.

Q You actually went upon the premises and inspected on August the 5th?

A Yes, sir.

Q I beg your pardon, October the 5th, 1959?

A Right.

Q Was the well producing at that time?

A Yes, sir, it was producing.

Q And the water that was required to be lifted per day was 16.5 barrels per day?

A That's right.

MR. GIRAND: We would like to offer Exhibit Number 16.

MR. UTZ: Without objection, it will be accepted.

MR. GIRAND: That's all the questions we have from Mr. West in regard to that well.

CROSS EXAMINTION

BY MR. PAYNE:

Q Mr. West, how did you measure the water?

A It was measured in the tank, actual gauge tank.

Q It flows into the tank, and then you run it out, is that it?

A That's right. Flowed in there and measured, and then released.

MR. UTZ: Any other questions of this witness?

(No response.)

MR. UTZ: If not, he may be excused.

MR. GIRAND: I would like to call Mr. Watson, please.

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q State your name, please.

A Dewey Watson.

Q Are you the same Dewey Watson who was on the stand here this morning in regard to the Winningham Number 1?

A Number 3, yes, sir.

Q Number 3. Mr. Watson, what if anything have you had to do with the production of S. R. Cooper Number 1?

A The well was reworked in 1955, under my supervision, and I have been associated with it over a year and a half since that time.

Q Now, in your association with the well, are you familiar with the producing practices that have been employed in order to produce the well?

A Yes, sir, I am.

Q What and when did the well go off natural flow, as a gas well?

A There was an intermitter installed on the well immediately after it was reworked in 1955, however, there was not a free piston installed until January of 1958.

Q And was the installation of the free piston under your supervision?

A Yes, sir.

Q And has it been produced, being produced at the present time by the use of the free piston?

A Yes, sir, it is.

Q Based on its past history of production and the influx of water, and the producing methods you are now employing,

what is your opinion as to whether or not the well would be maintained and the reserve exhausted, if the well is allowed to be shut in at any time for any appreciable length of time?

A Well, I think it would permanently damage the formation; whether it would completely kill the well or not, I don't know.

Q Now, in installing your free piston method, how does that free piston work? Is that set on a time basis for operation of dumping every so often by time, or by volume, or how do you work it?

A Well, it is in reverse of what we would normally use on an oil well installation; the well is allowed to flow, the intermitter opens up, and it is allowed to flow for a period of time, say as an example three hours, and it, during that time the well is flowing gas and water through the tubing, and the piston comes to the top and is held up there by the flowing pressure; and the intermitter closes in for, we try to give it about 30 minutes for that piston to go back to bottom, which the tubing has a setting nipple and a stop at the bottom of the tubing, and the piston goes back to bottom and travels through the water that has accumulated in the tubing as the well flows, and in 30 minutes it is opened back up and produces say for another three hours. Now, and that has to be adjusted as the water increases and the pressure goes down, you have to flow more often to keep the well on production.

Q Since the installation of that piston, has the company watched the well closely to protect against the well logging off by adjusting the interval and the operation of the free piston, or not?

A Yes, sir, we have.

Q And at the present time, do you feel that the interval that the piston is allowed to operate at the present time, is the one that would afford the maximum operation of your installation --

A Yes, sir.

Q -- obtaining the maximum of your gas reserves?

A Yes, sir, right now it is.

Q Do you anticipate that in time the wells will be required to be converted to artificial lift, such as a pump jack --

A Yes, sir.

Q -- in order to raise the gas?

A Yes, sir, I do.

Q Have you had occasion for this well to be shut in in the past?

A It has been shut in, yes, sir.

Q When the well has been shut in in the past, what was required of the operator in order to bring the well back on production?

A We've only had to swab this well one time; we've only swabbed it one time since the piston was installed.

Q When you swab the well, does that require your moving in a swabbing unit --

A Right.

Q -- go through that expense?

A Right; right.

Q How long would the swabbing unit have to stay on the location?

A In the neighborhood of four hours.

Q Now, do you have any way of determining within reasonable bounds, how long you would be able to continue this well with the mechanical method you are presently using, that's your free floating piston?

A Well, the only basis that we have is the experience that we have had with the other wells that have already gone on pump, just as the Winningham 3, and it flowed on the free piston for approximately, it was four years and eight months, and I assume that this well will follow the general pattern; it may be less or more.

Q Well, are there any other determinative factors involved such as the line pressures the well has to produce in, or the encroachment of water, are they to be considered?

A Yes, sir, they very definitely are. If at any time the line pressure goes up, you reduce your volume of gas and water both; and the more water that comes in, which is maybe slow but it is steady in this case here, well, it will have to be lifted.

Q Do you believe that the method you are now employing in the production of the S. R. Cooper Number 1, to be a method designed to protect the correlative rights and to prevent waste of the reservoir?

A Yes, sir, I do.

Q Do you feel that a shutdown of this well could result in a loss of the well or the loss of reserves?

A Yes, sir.

Q You previously testified in regard to the Winningham Number 3, and to some extent the Repollo Number 1, and if the same questions were asked you in regard to the S. R. Cooper Number 1, as were asked you in regard to the Winningham Number 1, insofar as their applicability to the method of production, would your answer be the same or similar?

A Yes, sir, they would.

MR. GIRAND: We will pass the witness. I would like to withoraw that.

Q (By Mr. Girand) Mr. Watson, I'm going to hand you here Exhibits Numbered 17 through 23, and ask you to identify those, if you will, please.

A Exhibit Number 17 is a letter from Gas Engineer, El Paso Natural Gas Company, Edward Maybe to Aaron Cummings, who was then employed by Olsen Oils Company. This is December the 9th, 1953, and it states there that:

"We were unable to run a minimum contract test on your Jenkins Number 1 and S. R. Cooper Number 1 on date scheduled,

November 9, 1953. The Jenkins 1 was logged off, and would not produce into our line; the S. R. Cooper Number 1 well had valve leaks.

"If remedial work is done on these wells, please notify our Dispatching Department when well is ready for production."

Well, I think this will have more to do, as far as the wells are concerned, to the Jenkins Number 1 than it would be to the S. R. Cooper Number 1. I would like to refer to that, or defer it until the Jenkins Number 1 comes up.

Q Well, we will refer back to it on the Jenkins Number 1.

A Exhibit Number 18 is a minimum contract test taken by El Paso on March 8, of '57, and I think you'll note there on the tubing data, when the 24 and 48 and 72 hour tests were taken, the 72-hour test was 2 pounds less; the shut-in pressure test was 2 pounds less than it was at the end of the 48-hours, which indicates fluid. I believe that's -- and it's -- I would like to note there it is a fairly low rate of flow even at that early date in '57.

And Exhibit Number 19 is a minimum contract test run on 7-19-57, and here again the shut-in pressure follows the same pattern. It built up the first 24 to 48, and then drops at the 72-hour shut-in test. And the open flow deliverability is a little bit higher than it was in the other well, it is 175 against 182 on the last test.

And Exhibit Number 20 is another test run on March 14th, 1958, and that was taken after the free piston installation in January. And I think the significant thing there that this shows is the fact that the tubing and casing pressures are higher on

the shut-in, which to me means that the fluids, due to the piston installation, have been removed from the well bore, giving it a better chance to flow. And the shut-in pressure on the 48-hours was lower, and then it came back up to its maximum on the 72-hour; and also the rate of flow is increased over the previous tests from approximately six months before.

Exhibit Number 21 is another minimum contract test, taken on 9-15-58, and here again it follows the same general pattern as the others except the flow rate drops from 205 MCF down, or the deliverability of a hundred pounds comes from 205.90 to 206.8 MCF.

And Exhibit Number 22 is a deliverability test taken in February of '59. This has been reported to the Commission on 122-C, and the casing head pressure here and the tubing pressure shut-in there is in the shut-in zone. This is just a rate of flow, and then your deliverability calculated from your 80 percent. I would like to call attention to the fact that there is only a deliverability of only 52.54 MCF at 80 percent, which is very low, and as I mentioned before, it is very difficult to take a real accurate test on a well of that type when it's on piston.

Exhibit Number 23 is a minimum contract test taken on February the 20th through the 27th of 1959, and the shut-in pressures here again go back to where it was before we installed the piston, the 24-hour build-up, the 48 is higher, and then it drops again on the 72-hour, which indicates to us that the water is catching up with the free piston installation to a certain

degree, and I think that is further evidenced by the low rate of flow which is 72 MCF, and the deliverability was 801 MCF, which there is a correction on it, should be 80.1 instead of 801.

Q That's on Exhibit 23?

A Yes, sir.

MR. GIRAND: With the Examiner's permission, we would like to make a correction on that exhibit.

MR. UTZ: Is that .8?

A 80.1. As you can see, that's getting to be a pretty low rate of flow, as far as commercial production is concerned. However, the well seems to be doing better than this would indicate as far as actual production is concerned. I believe that's the significance of those exhibits.

Q (By Mr. Girand) In your opinion, would the operator take on an undue risk and loss of the well if the operation of the well would change in any manner --

A I certainly think it would, yes, sir.

Q -- including the removal of artificial lifts?

A Would you state your question again?

Q I say, such as removal of the artificial lifts of one kind or another?

A Well, if we removed the artificial lifts, the well would be dead, I'm sure.

Q And if it were shut down for any period of time, in your opinion would the well be dead forever?

A It is very possible it would be.

Q Do you have anything to add to your testimony, Mr. Watson, in regard to the S. R. Cooper Number 1?

A Nothing except that I think it's -- I mean, we can consider that it will follow the same pattern that the Winningham Number 3 did, in requiring a pump jack at a later date.

MR. GIRAND: That's all the questions we have. We would like to introduce the Exhibits 17 through 23.

MR. UTZ: Without objection, they'll be accepted.

QUESTIONS BY MR. UTZ:

Q Mr. Watson, after your test of February 27th, '59, the minimum contract test, was it necessary to swab the well?

A No, sir, it was not.

Q I note on these tests that without exception your highest shut-in pressure is from 48 to 72 hours, is that correct?

A Well, on this last one, the highest shut-in pressure was 48 hours, and it dropped at the end of 72. Now, the one previous to that, the high shut-in pressure was 72 hours, and it dropped from 48 to the 24; and the one previous to that is the same situation. Now, this is right, this is about two months or sixty days after the installation of the free piston, and I think as I noted the pressures the surface pressure increased considerably over the pressures that were taken before; the next test back they come from 488 to 670 pounds. Now, that can only mean to me that the water has been relieved from the bore that had been

accumulated in the bore, and I think in '59 it shows it is going back to the same situation it was on the intermitter, showing that the water is overtaking the method of lifting.

Q You are producing this with free piston and intermitter?

A Yes, sir.

Q And your shut-in period on the intermitter is 30 minutes?

A I have not got the exact time, but I know it is right close to 30 minutes, it will not be more, it might be less.

Q With only a 30-minute shut-in on the well, the shut-in pressure would be substantially less than it would be for these 24, 48 and 72-hour shut-ins, wouldn't it?

A Yes, sir, it is.

Q And even with that amount of buildup, your free piston is operating satisfactorily, lifting the load of water?

A It is except for one exception, from the one time we had to fish it out and swab it, it was dead.

Q If you allowed the well to be shut-in a little longer and build up a little more pressure, wouldn't it still lift?

A I assume it would, I mean as far as knowing for sure, I wouldn't know until I tried it; I imagine that's something we would be willing to do.

MR. UTZ: Any other questions of the witness?

MR. PAYNE: Yes, sir.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Watson, I notice you don't have an intermitter chart on this well?

A No, sir, I do not.

Q Now, you testified that this well was reworked in 1955, what was done to it?

A We were producing out of open hole prior to that time in the Yates section. All those forms and everything are in the Commission files, and there was a 4-inch liner run and a portion of the Yates section perforated and fractured.

Q Now, you also testified that this well was shut in at least on one occasion, why was it shut in then?

A It was shut in to take the minimum contract test, and this is different periods that we have here; it was shut in on all those occasions.

Q Do you have any idea what the reserves are that are left under this tract that are dedicated to this well?

A Not exact figures, no.

Q Would a pressure production decline curve tend to show what reserves are there?

A I think it would be an indication, yes, that's all.

Q Now, since you have not run an intermitter chart on this, what do you feel this well has to produce to avoid premature abandonment, the average for the last twelve months?

A Well, under the existing circumstances, the way it is producing right now seems to be the only way it will keep the water off.

Q Now, by "right now", you mean to the, say the last month that you have the production history on?

A I mean we feel that under the present operating conditions, that we are operating it as best we can.

Q Well, how much did it produce the last month that you have records on?

A Well, let's see here.

MR. UTZ: You can have access to Commission's records here, if you care to.

A Well, we have them right here. I'm taking a minute to look at them. Well, according to this figure here, we have produced 4,301,000 MCF for the month of September.

Q (By Mr. Payne) 4,301,000?

A Yes, sir, I think that's a relatively new figure; yes, it is. It has not been entered. And the August production was 2,675,000.

Q All right, sir. Now, taking the 4,301,000, let's see, that would be a little over 4,000 MCF, right?

A I would like to make a correction. That is not production, that is allowable for August and September, rather than production.

Q You do not have the production figure?

A I do not have the production figure for that.

MR. PAYNE: Do you have the production figure?

MR.UTZ: Not for September.

MR. PAYNE: What's August?

MR. UTZ: The production figure we have for August is 5421.

MR. GIRAND: MCF?

MR. UTZ? Right.

A Yes, sir, that is correct.

Q (By Mr. Payne) Now, I believe you testified in answer to Mr. Girand's question, that your answers in regard to this well insofar as the same were applicable, would be the same as in regard to the previous well, the Winningham well?

A Yes, sir, it would.

Q Now, I believe you testified in regard to that well that you felt that a water drive field and a secondary recovery project should be governed generally speaking by the same rules and regulations, is that right?

A Well, I said insofar as the allowable was transferred and allowed to produce at capacity on those wells.

Q Well now, in an actual water drive field, that's not in the process of secondary recovery, do you know of any that are allowed to produce at capacity?

A No, sir, I don't. In Texas they are given an unrestricted allowable on numbered days to produce; I mean, that's

the way they handle it.

Q Yes, but it is not unrestricted insofar as the well's ability to produce?

A No, sir.

Q They produce 8 or 9 days?

A No, they produce 31 days, or whatever it is, as the field allowable.

Q The same as New Mexico?

A No, sir, they have shut down days, I mean, their allowable is governed by shut down days, and unrestricted allowable means that they are allowed to produce every day their field allowable, rather than 10 or 12 days.

Q Isn't that the way we prorate here?

A That's the proration here.

Q Do you actually feel that the same physical principles and engineering principles apply to a water drive field that apply to secondary recovery projects?

A No, they can't be exactly the same, but I maintain they are similar.

Q Your recommendations in regard to this well are that it be allowed to continue producing in the neighborhood of what it is producing right now?

A Well, the way we have it producing now is the maximum, or minimum rate that we feel that will keep the water off of the formation and prevent any damage to the well.

MR. PAYNE: Thank you.

MR. UTZ: In order to correct the record, I possibly ought to ask this question of the other witness. On your Exhibit Number 16, as well as your Exhibit Number 1 on the Winningham 3, there appears to be some discrepancy in the amount of overage. Exhibit Number 16 states August overproduction of 2630, when actually our records show that to be September 1st overproduction status.

MR. GIRAND: Well, I assume they took the figure at the end of the month. It was an end of the month figure.

MR. UTZ: But it had August production charged against it.

MR. GIRAND: That's right.

MR. UTZ: That's all I have. Any other questions?

REDIRECT EXAMINATION

BY MR. GIRAND:

Q I may be repeating. The productivity of the subject well, the S. R. Cooper Number 1, is dependent upon two things, the encroachment of water and the line pressure the well has to produce into?

A That's true.

Q And are both of those factors, the encroachment of water, and the line pressure, variable from time to time?

A Well, I think your line pressure is subject to more variation than the water encroachment, because the water encroach-

ment is continuous.

Q If allowed to come in uninhibited, in other words without lifting any of the water off, just let it be flowing in without any pressures on it whatever, would the water build up faster than it would volumewise as you are lifting it off from time to time? In other words, if your well is shut in, will your accumulation of water accumulate at a greater rate than it would while the well is being produced?

A Yes, sir, it accumulates around the bore hole, and just shuts itself off.

Q What I mean, does that accumulation, is it more advanced, is it faster when the well is shut in than when the well is being produced? In other words, in a 24-hour period you get so many barrels of water from the well bore; now, if the well were shut in that period of time, would you have more water accumulated than the amount of water you produce during the 24-hours?

A Yes, sir, I believe you would.

RECROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Watson, did you just testify that the productivity of this well is dependent upon the encroachment of water and the line pressure?

A Well, let me qualify the productivity, if I may. May I ask Mr. Girand, do you mean by productivity, the ultimate recovery on that well?

MR. GIRAND: That's right, its ability to produce.

A Yes, sir, and the line pressures too. I mean, in this way, with our contractor, El Paso, as you are familiar with, they will take the gas down to a certain pressure, and then compressors will be put on; these wells are running in the neighborhood of 70-pound pressure now, and El Paso can't go much below that. So as far as the ultimate production of the well, it does depend partly on the line pressures, and the water encroachment in the same time.

Q But that is not all it depends on is it? It also depends on the deliverability, doesn't it, the reserve, recoverable gas in place?

A Well, your reserves are no good if you log off with water.

Q But the recoverable gas in place is what you are attempting to get out of this well, isn't that right?

A Yes, sir, sure is; and if we shut that well in, not only this well but all of them in -- some of that recoverable gas we are not going to get due to being shut in.

Q How long do you think this well could be shut in without doing any material damages to the reservoir, or the well?

A Well, I wouldn't even hazard a guess, and I wouldn't go shut it in, because I probably would be run off if I did; those things are pretty critical, we just don't feel like they can be shut in for any length of time at all.

Q They are shut in sometimes for what, 72 hours, 48 hours?

A That's right, but it is not like being shut in for six months or a year.

Q When do you feel you will have to go to the pump jack method on this well?

A Well, I think the pump jack is down the road quite a ways, it would be a guess on my part to set a date on it.

Q Do you think the pump jack method of getting rid of the produced water is more efficient than the free piston?

A Very definitely; I mean, that's the last resort, we can't go any further than that pump jack. I mean, when you get to that, you are at the bottom of the barrel.

Q Would you explain to me just how this pump jack works?

A Well, it is a conventional pump jack, you run a sitting nipple on the end of your tubing, and run a pump, a tubing pump on the end of your sucker rod string, and hook it up just like an oil well installation, I mean, it is no different at all.

Q Well now, when you are using this pump jack and you are pumping the water by -- does this run by electricity or --

A Well, they can be run either way, there is no -- I mean no designation there.

Q You are using this to get rid of your water; I still don't understand what physical principle requires that the rate of production will have anything to do with the water en-

croachment, or the injuring of the well. I mean, your pump jack is getting rid of all the water, is it not?

A Well under the way we are producing it now, it is keeping the well bore clean, yes.

Q All right. Even if the well was making no gas, well, even if the well was shut in, the production part of the well was shut in, and you were pumping the water out, could you damage the reservoir then?

A Well, the only thing that would happen there is whenever, if you can pump the water fast enough to get it out of the tubing and leave your casing shut in, and still have pressure on your well, the well, the casing when it is shut in and if you keep that water out of there, it is going to flow through your tubing and wherever the water is going, that's where your gas is going; if you had it hooked onto a low pressure line, it will be there, and if you had it going to a pit, your gas would go to a pit. That's the reason why you can't shut this particular pump -- and as new as the pump jack installation is, if you shut your casing in, that would build up and the first thing you would know, you would be flowing part of your gas out of your tubing.

Q I see.

A And under our circumstances, we are tied in where that gas goes into the low pressure meter and the battery?

MR. UTZ? It would be a substantially lesser rate, wouldn't it?

A Yes, sir, it would be very much less.

MR. PAYNE: That's all, thank you.

MR. UTZ: Mr. Watson, do you think this water problem you have is the result of water drive in this area, or is it just the formation water problems? Is the water table moving up structure?

A Yes, sir, I believe it is. It is not a real active water drive, I know that, but especially in the south end of the thing,and on the west side where it is coming out of the basin, I feel it is an active water drive.

MR. UTZ: Any other questions?

MR. GIRAND: I have one or two questions.

REDIRECT EXAMINATION

BY MR. GIRAND:

Q If I understand you correctly, Mr. Watson, does the method you are employing in producing this S. R. Cooper Number 1, and as well as the Winningham, the method produces water and gas at the same time?

A Yes, sir.

Q And as you produce your water there, is some gas produced along with it?

A Yes, sir, there is.

Q And the mere unloading the hole of water, and keeping it clean of water, would not stop the flow of gas, there would be some gas flowing?

A Yes, sir.

Q And if it is, if they shut down the gas, why you'd have to shut down your pump and water, or flare the gas, or waste off the gas?

A Under these circumstances, yes, we would.

Q Now, in regard to when you had to put a pump jack on this particular well, that could be any period providing the well was required to be shut in for any considerable period, why it might hasten the time when you might have to put a pump jack on it?

A Yes, I'm sure it would, and if it is shut in for more than normal tests that have been conducted on this.

Q As a matter of fact, later on we are going to present evidence in regard to the well known as the Owens Number 1 --

A Yes, sir.

Q -- it is a well that has been shut in for some time?

A Yes.

Q I'm asking these preliminary questions just to give you a background for answering another question. When the Owens Number 1 was checked on October the 5th, 1959, was the well dead?

A Yes, sir, it was dead.

Q And how long had it been shut in?

A Approximately one year.

Q You don't know whether or not you are going to be able to bring the well back or not?

A No, sir, we wouldn't know until we go in there and try.

Q It is evident that you are going to have to swab the well at this time in order to try to bring it back?

A Yes, sir, we will.

Q Do you solicit attendance of a Commission agent at the time, to go back into the Eva Owens well to see what happens?

A I think it would be beneficial for all of us.

RECROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Watson, does the water production increase as your gas production rate increases? The more gas you produce, do you produce more water?

A Well, there has never been any specific tests run for that reason, so I mean I can't honestly say; and I wouldn't want to make a statement without being able to say it was, because we have not run any test, I mean, to substantiate that one way or the other.

Q I take it then that the water encroachment problem is the same no matter what the rate of production is?

A No, I don't think that is, I mean, I can't go with that being true.

Q Well, have you established to the contrary?

A Would you state your question again, please?

Q If you increase your gas production, does this increase the water production?

A Well, to answer that, I don't know, because as long

as those wells have been producing without being shut in, I mean, it is a maximum rate, so the only way we could do that would be pinch them back and go the other way and see.

Q It is a maximum rate, but you don't know if it -- if it is a minimum rate?

A Not for sure, but we feel it is.

Q Assuming that increased gas production causes increased water production, then you also have an additional wastage of gas that comes out with the water, don't you?

A Well, under the system that we are using now, that gas all goes down the line, there is no waste to it. See, it is pumped directly into a high pressure separator which separates, and the casing goes through that also, and it all goes into a high pressure separator, and then El Paso's line, and the water is dumped out the dump valve in a regular manner.

Q None of this gas goes in with the water --

A No --

Q -- any substantial amount?

A -- just very minor amount, yes, sir, so there is no waste as far as that operation is concerned at all.

MR. GIRAND: But you could not do that if you shut in your gas. or attempted to shut in your gas, and continued to produce your water?

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

MR. UTZ: But if you continue to pump your water, then

you could reduce the rate of gas production, couldn't you?

A By how, now?

MR. UTZ: Well, you just stated awhile ago that if you shut in the casing, it would build up and flow through the tubing as you were pumping the water?

A It is possible, yes.

MR. UTZ: At some reduced rate?

A Yes.

MR. UTZ: When you are producing through the tubing and through the casing, is there any gas produced through the casing?

A In this particular installation, I don't know; we have not had it long enough to find out. The Repollo, it produced solid water with just no gas at all out of the tubing, and water and gas out of the casing. Of course, that was in a more advanced stage. This is a relatively new installation, and I don't feel like there is any fluids coming out of the casing. I think we are getting it all out of the tubing.

MR. UTZ: Any questions of the witness? If not, we will continue to the next well.

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q You are the same John West who previously testified in this matter?

A Yes, sir.

Q Mr. West, have you had occasion to check the production of the well installation known as the Repollo Number 1 --

A Yes, sir.

Q -- located in the SW/4 NW/4, 28-25-37?

A Yes, sir.

Q I hand you here what has been marked Applicant's Exhibit Number 24, and ask you whether or not that exhibit was prepared under your supervision or not?

A Yes, sir, it was.

Q What does that exhibit purport to show?

A It is a graphic representation of the production of of the well in the last part of '58, and the first part of '59 in the solid line, and a broken line for the line pressure that El Paso Natural Gas line maintained that this well was producing into. And all these records are taken from El Paso Natural's files.

Q Did your check of that well include a study of the subsequent cost to operators one and two in order to install the pump jack --

A Yes, sir.

Q -- and attempt to produce the well?

A Yes, sir, this was their records, I mean, in fact the records of the Jal Oil Company shows money that they actually spent, which was roughly $8,000.00.

Q Did you have occasion on October the 5th, 1959, to physically inspect the subject well?

A I did.

Q And at that time, did you make checks in regard to casing and tubing pressure, as reflected by Exhibit Number 24?

A Right, they were very, very dead, pressure on both of them.

MR. GIRAND: I believe that's all.

QUESTIONS BY MR. UTZ:

Q That well, at the time you inspected it, that well was being pumped?

A That's right, it was pumped, and there was a, I suppose it was sulphur, it was a very blackish water coming out in pretty good quantities.

Q Did you determine the quantity of water?

A We didn't, this is an estimate, we did not, I mean, it was just going into a big pit and we didn't, did not take this into a tank and gauge it or anything; it was just an estimate volume of water. They had three big pits there that this water was running from one to the other.

Q Has this well been shut in?

A So far as I know it has not; it is not producing any gas, it's just, they are just continuing to pump it because as I understand the situation, they are trying to get the water off of it, and maybe release some gas that is trapped. Isn't that the general thinking on that continuous pumping there?

MR. WATSON: That's about all we can do, to pump it

continuously to see if that water will decrease enough to let some of the gas come on in.

MR. GIRAND: I intend to establish that with Mr. Watson.

MR. UTZ: I figured you might. That's all the questions I have. Any questions of the witness?

(No response.)

MR. GIRAND: At this time we offer Exhibit Number 24.

MR. UTZ: It will be admitted.

MR. GIRAND: Mr. Examiner, rather than give all these exhibits for numbering, may I give a portion of El Paso Natural Gas Company's file on the Repollo Number 1, dated from June 9th, 1950 through July 29th, 1959, and I'll give you the number?

MR. PAYNE: You are just asking relief on this particular well, Mr. Girand, in case you are able to get it back into production, is that right?

MR. GIRAND: Mr. Payne, you have guessed it. We are still pumping, we are hoping we do, and if we do, we don't want to lose it. That's the only purpose of this application, plus the fact that we think this a representative well, that the history of this well will in time become the history of any other well producing from there.

Our Exhibit Number 25 is 15 pages.

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q You are the same Mr. Watson who previously testified in this case?

A Yes, sir, I am.

Q You previously testified in regard to the Repollo Number 1, located in SW NW of Section 28, Township 25 South, Range 37 East, Jalmat Pool. In regard to your testimony covering the Winningham Number 3, which was the first well upon which evidence was offered, the remarks you made in regard to the Repollo Number 1 at that time, do they constitute your testimony in support of the application of the Repollo Number 1?

A Yes, sir, they do.

Q At the present time, is the Repollo Number 1 capable of producing any gas into the El Paso Natural Gas line?

A No, sir.

Q How long has it been in that condition?

A I'm not exactly sure of the date, but it has been in the neighborhood of a month, or maybe two months.

Q And how is the well equipped, Mr. Watson?

A It is equipped with a conventional pump jack, but the pump is a double displacement pump, which is capable of producing 750 barrels per day.

Q And has the pump jack been operated at its maximum efficiency?

A Yes, sir, it has.

Q Now, has the Repollo well ever been shut in on account

years?

A Not more than just a few hours at a time.

Q As a matter of fact, has it been a well that has been produced since 1955 under exception of one kind or another by the Commission relieving it from shut in periods?

A Yes, sir, it has been.

Q Now, prior to the installation of the pump jack on the Repollo Number 1, how was the Repollo Number 1 being produced, if you know?

A Well, the only way we could get it to flow any at all would be to go out there and swab it for, I think the last time it was swabbed about 24 hours steady, and it produced, as I recall, it has been quite a while, quite some time back, as I recall, it produced about three days and then completely died.

Q Now, were you with the Jal Oil Company, or R. L. Olsen at the time the Repollo Number 1 was placed on pump jack?

A Yes, sir.

Q Now, at that time, and the time you made the decision to install a pump, had they refused or failed to make that installation with the Repollo Number 1, as a dead well?

A Yes, sir.

Q By reason of the installation of that pump jack, has the Repollo Number 1 been able to produce gas?

A Yes, sir, it has, up until now.

Q Did you consider the gas, produced reservoir gas that

had been indicated under the well?

A Yes, sir.

Q If the well had been abandoned at that time, or if the pump jack had not been installed, then all the gas the Repollo Number 1 has produced since the pump jackwas installed has been saved for the public, for the State, for the people, is that right?

A Yes, it has.

Q And which otherwise would have been lost?

A Yes, sir.

Q Now, at the present time, you don't know whether or not you are going to be able to bring this well back to where it can produce?

A At the present time we don't know that it will ever produce again.

Q However, you are still continuing your pumping operation?

A That's right.

Q For the purpose of this application, if you obtain an order from this Commission, that should the Repollo start flowing any gas through this operation, that you be entitled to go ahead and produce that gas?--

A Yes, sir.

Q -- is that based on the fact that your continued pumping over the two or three months' period here, would make it entirely feasible to try to bring the well back if it was shut in

again?

A Would you go through that again?

Q I mean this: You have a history now, how much it would cost to bring this well back for two or three months, should you get gas back on the well or out of the well, would another shutdown result in the same expense and experience?

A Yes, sir, I'm sure it would.

MR. GIRAND: I believe that's all I have. One other thing.

Q (By Mr. Girand) Mr. Watson, I hand you here a photograph, which has been marked Applicant's Exhibit Number 26, and ask you can you identify that?

A Yes,sir, that's a picture of the pits that the water is going into from the Repollo Number 1.

Q About what is the depth of the pit, if you know?

A Those pits run anywhere from 6 to about 12 foot deep.

Q And during the producing period of the Repollo Number 1, even up to the present time, would you say that the water level on that pit has remained constant?

A Very nearly constant, yes, sir.

MR. GIRAND: We would like to offer this exhibit primarily for the purpose of showing the volume of water that is being produced.

Q (By Mr. Girand) Mr. Watson, do you have anything to add to your previous statement in regard to this well?

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

MR. GIRAND: That's all.

CROSS EXAMINATION (Continued)

BY MR. PAYNE:

Q Mr. Watson, you testified that if you had not put the pump jack on there and tried to get this well back on production, that all the gas would have been lost. Are you assuming that no other well in the immediate area would have produced it?

A I'm assuming that the greatest share of it would not have been produced by any other well. Now, I don't think it can be said that some of it might not have been.

Q How do you arrive at that conclusion, what do you think one well in there will efficiently drain?

A Well, I don't think it is very efficient when you have that amount of water; but one well will drain a considerable amount of acreage, just exactly how much, I don't think anybody can say.

Q This well only has 40 acres dedicated to it?

A No, sir, it has 160 acres.

Q You don't feel that that gas can be produced at the start out of the Number 2 well to the South, or the Number 1 well to the West, or the Number 1 to the East?

A Not nearly the amount that has come out of the well the way it was producing, no.

Q Was this the first well that Olsen drilled in this Jalmat Pool?

A I don't think it was the first well, no.

Q I just wondered if he had some sentimental attachment to this well.

A Well, I think he is pretty proud of the fact that he put that pump jack on there, and rightly so.

REDIRECT EXAMINATION

BY MR. GIRAND:

Q Mr. Watson, you are convinced that where water is encroaching, and the well is required to be shut in, that the gas underlying that immediate well, or the acreage assigned to it, to a great extent will be lost?

A Yes, sir, I certainly do.

Q And that drainage will not occur to any other wells or other location?

A No, sir.

Q And you are concerned with the fact that should that exist, that your gas might go to some other operator and not to you?

A Let me hear that again.

Q And -- well, if there was such a migration, it would be of no benefit to you if one of your offset operators, or competitors produced your gas, just because you weren't allowed to produce water?

A No, sir, it wouldn't.

MR. GIRAND: That's all.

MR. UTZ: Mr. Watson, this well has produced anywhere

from two to ten times its allowable anywhere in the past year. Do you think possibly the reason you lost that well was because of the rate of production causing a certain amount of coning?

A Well, it was either produce it that way, or not produce it.

MR. PAYNE: Is this well tubed?

A Pardon?

MR. PAYNE: Is it tubed?

A Yes, sir.

MR. UTZ: Is the production through tubing?

A Well, at the beginning it was, and since that time the water has become such great volume the production was through the casing.

MR. UTZ: I notice on El Paso's 1, back pressure test, they listed it as producing through the casing?

A Yes, sir, it is only for several years that it has produced water through the tubing.

MR. UTZ: Do you think that if this well would have been produced at a substantially lower rate, that it would still be producing?

A No, sir, I don't believe it would; the fact that the water is coming in on the bore hole, and if it is not kept clean it is going to do damage to the Yates section.

MR. UTZ: The overproduction on this well is around 123 million at the present time, is it not?

A Yes, sir, it is.

MR. UTZ: If you can't bring this well back, you will abandon it at a pretty, well, good allowable situation, would you not?

A It should be good for a month or two. I would rather not abandon it, if it is at all possible, but it does not look like there is anything more for us to do.

MR. UTZ: Is there any other questions of the witness? If there are no others, we will proceed to the next well.

MR. GIRAND: We would like to offer exhibits 25, 26 -- 24, 25, and 26.

MR. UTZ: Without objection, they will be received. Let's take a 10-minute recess.

(Recess.)

MR. UTZ: The hearing will come to order.

MR. GIRAND: At this time we would like to take up another well. Mr. West, will you take the stand, please?

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q Mr. West, you are the same Mr. West who has been testifying before in this proceeding?

A Yes, sir.

Q I hand you here an instrument which has been marked Exhibit Number 27, and ask you whether or not that exhibit was

prepared by you and under your direction?

A Yes, sir, it was.

Q Without going into what the exhibit shows, does that, is that exhibit comparable with the tests and records that you inspected in regard to the other wells you tested before?

A Yes, sir.

Q And contains the same information?

A Right.

MR. GIRAND: That's all. We offer Exhibit 27.

MR. UTZ: Without objection, it will be accepted.

MR. GIRAND: Mr. Watson, will you take the stand, please?

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q You are the same Mr. Dewey Watson that has previously testified in this matter?

A Yes, sir.

Q Mr. Watson, in addition to testimony you have previously given concerning the wells, the Winningham Number 3, the S. R. Cooper, the Repollo Number 1, do you have any additional remarks to make in regard to the Eva Owens Number 1, the subject well?

A Well, I think that as Mr. Utz stated a minute ago, the well is back in balance and it had been shut in for approximately a year, and I think it would be well for the Commission and

ourselves both, for the Commission to have a representative present when we attempt to put that well back on production, because I think it will show everybody concerned, I mean, what it does mean whenever a well like that is shut in.

Q Well now, as a representative of the operator in this application, you are willing to notify the Commission when you intend to start your work toward bringing the well back on production?

A Yes, sir, I think so.

Q And you are willing to furnish the Commission with any production data that is available until the well is brought in?

A Yes, sir.

Q And thereafter in regard to the water situation, as well as the ability of the well to produce gas?

A Yes, sir.

Q Now, prior to the time this well was shut in, what type of well was it?

A It was flowing under the same circumstances as the other wells, free piston.

Q When it was checked recently, the well was dead, is that correct?

A Yes, it was.

Q What do you anticipate you will have to do to bring this well back, if you can bring it back?

A The first step in the procedure would be to move a

swab unit on the well and attempt to remove the water and get it to flowing.

Q Do you have any idea how long that will take?

A There is no way to know.

Q And until you do bring the well back into production, you will have no way of comparing the production you are able to obtain after you do this work, as against the production it was capable of making prior to the shut in period?

A It will have to be produced for a while.

Q In your opinion, would the well to some extent be an example of what will happen, and can happen, if these wells are shut in, the wells that are being presently produced?

A Yes, sir, I think it will.

MR. GIRAND: If the Commission please, we have some remarks from the files of El Paso Natural Gas, which I have marked and numbered, marked Exhibit Number 28; these exhibits speak for themselves. They show information about the well, which shows that the well was making water from time to time even during producing periods. We would like to offer Exhibit 28.

MR. UTZ: Without objection, it will be admitted.

MR. GIRAND: Now, I would like to make a remark here, if I may. While the well is in balance, we would like to commence getting that well back on production as soon as possible; and I realize the Commission has no further control on it now that the well is in balance, we would like to solicit the Commission's

participation to some extent, or whatever extent they think advisable during these operations.

MR.UTZ: I'm sure the Commission will be quite interested in following this operation. I suggest that when you are ready to begin operations, that you contact the Hobbs office.

MR. GIRAND: Yes, sir. I suspect that will be in the next day or two, because we would like to get it back on if possible.

QUESTIONS BY MR. UTZ:

Q Mr. Watson, the well produced 1364 MCF the month of April, 1959, how did you produce that? Did you open it up?

A No, it was on a free piston installation.

Q Is it still on a free piston?

A Well, the piston was taken out of it after it was shut in, but the installation is still there.

Q You opened it up and it just went to producing in April?

A I'm not familiar -- I see what you mean, that's on this exhibit here, is it not?

Q Yes, sir.

A I don't know what that well was on, we might possibly be able to find out through the well record, but I personally don't have knowledge of that particular test. It is possible that was a deliverability test on the well, I'm not certain.

Q At any rate --

MR. GIRAND: I don't have any information unless --

let me see, the exhibit, the deliverability test was in May?

MR. UTZ: 5-16-58, that's probably what it was.

MR. GIRAND: '59, in March, that's probably when the production occurred.

A Is that deliverability?

MR. GIRAND: It is deliverability.

A That's the only time that I could think it would be turned on; and I believe there was permission obtained at the time, I'm sure there was, for that work to be done.

Q (By Mr. Utz) We are not questioning production, I want to know whether or not you had to swab the well at that time in order to make it produce?

A I don't have personal knowledge of that particular test to answer the question.

MR. GIRAND: When we get in there this time, we will know. Up to that time, the well was being produced as a marginal well, and had that classification.

Q (By Mr. Utz) That well has never been a marginal well.

MR. GIRAND: Withdraw my statement.

A No, sir, I don't believe it has ever been classified as a marginal well, due to the 80-acres on the well. I think regardless of classification, that by water being in that formation will show us what we are up against there, whether it is marginal oil or non-marginal.

MR. UTZ: Any other questions of the witness?

MR. GIRAND: The remarks you made in regard to the other wells, insofar as they apply to Eva Owens Number 1, is that your testimony for that particular well, the Eva Owens Number 1 Well?

A Yes, sir, it is.

MR. GIRAND: That's all.

MR. UTZ: Any other questions? We will proceed to the next well.

MR. GIRAND: We will call Mr. John West to the stand.

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q Your name is John West, and you are the same John West who has appeared in this case before?

A Yes, sir.

Q In regard to the well known as the Watkins Number 2, did you make similar checks as you did on the wells known as the Eva Owens Number 1, and the Winningham Number 3, and the S. R. Cooper Number 2?

A I did.

Q I hand you here what has been identified as applicant's Exhibit Number 29, and ask you whether or not that exhibit contains the information comparable to the information on the exhibit introduced by you, or identified by you?

A Yes, sir.

MR. GIRAND: We would like to offer Exhibit Number 29.

MR. UTZ: Without objection, it will be accepted.

MR. GIRAND: Mr. Watson, will you take the stand?

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q Now, Mr. Watson, are you familiar with the well known as the Watkins Number 2?

A Yes, sir.

Q Is that well presently in balance?

A I don't know; let me look here.

Q Did you answer the question?

A No, sir, it is not overproduced --

Q Then --

A -- it is in balance.

Q Will you state for the benefit of the record, the purpose of this application in regard to the Watkins Number 2?

A I would like to bring out, referring to Exhibit Number 29, the fact that when the well was drilled and completed in November of '58, the shut-in tubing pressure was 1025, or 10, and casing pressure was 1025. And the casing pressure on October 5th, 1959 is 525 pounds, and the tubing pressure was zero.

Q Now, based on the pressure readings, what conclusion do you arrive at as to what is happening to the well?

A The well is logging off with water.

Q Now, you have not attempted to commence reproduction of that well at this stage, have you?

A No, sir, not to date.

Q Do you know at this time just what will have to be done in order to bring that well back on production?

A Not exactly; we do know it will have to be swabbed to put it on production.

Q Now, in connection with the swabbing, do you know how much swabbing will have to be done?

A No, sir, it would only be an estimate.

Q Now, you previously testified that up until about a year, year and a half ago, you had been with the Jal Oil Company, is that correct?

A Yes, sir.

Q And during the time you were with the Jal Oil Company you were familiar with the Jal Oil Company wells that are involved in this hearing, were you not?

A Yes, sir.

Q And since the threatened shutdown order was entered, you have made some study of the Jal Oil Company wells involved in this hearing, is that correct?

A Yes, sir, I have.

MR. GIRAND: We would like to have these marked for identification; they deal with the records of El Paso Natural Gas Company, dealing with multiple point back pressure test and graph, and two deliverability tests, one in '58 and one in '59. Be our Exhibit Number 30, I believe.

(Thereupon the documents referred to above were marked Applicant's Exhibit No. 30, for identification.)

Q (By Mr. Girand) Now, Mr. Watson, your testimony in regard to soliciting the observation on the part of the Oil Conservation Commission of what transpires when you try to bring this well back, the Watkins Number 2 applies to it as well as to the Eva Owens Number 1, does it not?

A Yes, sir, I think it would.

Q Now, was the Watkins Number 2 ever determined to be a marginal well?

A No, sir.

Q However, you don't know what its classification will be after you re-enter the hole and try to produce it again?

A No, sir, we do not.

Q Do you anticipate that there will be any material permanent damage by reason of the shut-in?

A Yes, sir, I do.

Q After you have brought the well back on production, will you be in a position to determine to what extent the damage would be?

A Yes, sir, I think, with the Commission's approval, we could determine what if any damage had been done.

Q How do you propose to do that, by comparison of production records, amount of water involved --

A Yes, sir.

Q -- and the pressures on the tubing and the casing?

A Right.

MR. GIRAND: No further questions.

QUESTIONS BY MR. UTZ:

Q Mr. Watson, is this oil completely shut in at the present time?

A It is at the present time, yes, sir; and on the tubing it is dead.

Q How long has it been, do you know?

A I don't know the exact number of days, how long it has been shut in.

Q Well, during the time that, since the well went on the line, it has never been completely shut in, has it?

A Well, from the -- in April there was no production, and only 51 MCF in March, 244 MCF in May, and 63 MCF in June, and 112 MCF in July, and 1,866,000 in August.

Q Did you have any water problems in producing this well, or was it shut in part of August?

A Yes, sir, it was swabbed off during the month of August, and produced, I don't know how may days it did produce.

Q Did you shut the well in after you produced it?

A Yes, sir.

Q Why did you shut it in?

A Well, that I can't answer. The only thing I know is to keep it in balance, not to have it overproduced; and it was not

to my knowledge ordered shut down, no.

Q The well became in balance in July?

A That is correct.

Q And you had a 1940 MCF allowable in December which you could have produced if the well --

A Yes, sir. I don't know whether the well was produced in September or not, but it is very dead at the present time.

MR. GIRAND: May I ask some questions?

MR. UTZ: Yes, sir.

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q Mr. Watson, checking Exhibit Number 29, I believe it is, looking at the drop in the casing pressure from 1025 in 1958 to 525 pounds in 1959, October the 5th, and the water, increase in water production from 100 barrels per day to 300 barrels per day, in your opinion, after and if you are able to get this well on production, do you feel that it will be a non-marginal well, or a marginal well?

A I think it has a very good chance of being a marginal well before it is over with.

Q Is it your opinion that the well should be so classified as a non-marginal well?

A Yes, sir, I believe it should.

Q What is the pressure maintained by the El Paso line?

A I assume that -- let's see, the dotted line on

Exhibit Number 29 --

Q The average pressure I believe shows on Exhibit 29 to be 170 -- I beg your pardon, 188 pounds average, is that what they call a low pressure line, or intermediate?

A Well, that is on the intermediate line at the present time.

Q Now, a casing pressure of 125, assuming that you are able to bring the well back, will the pressure as reflected by the Exhibit 29 be sufficient to plug the intermediate line of El Paso?

A I seriously doubt that it will, due to the excess amount of water that will have to be produced.

MR. GIRAND: I believe that's all.

QUESTIONS BY MR. UTZ:

Q Have you requested this well be put on the low pressure system?

A No, sir, I don't think so; normally, not always but a majority of the time, El Paso is pretty good to us. They'll go ahead and tie it in without our request; in some cases they have requested it.

I would like to make a statement on this Exhibit Number 30, if I may. I think it's significant on the two deliverability tests that the rate of flow --

Q Are you --

MR. GIRAND: Will you refer to them by date, Mr. Watson?

A -- on November 10th to 14th of 1958, the deliverability

test, the deliverability is 1,320,000 MCF per day. On 2 -- would be in February of '59, another deliverability test was taken, and the deliverability is only 650.8 MCF. Now, that I think shows pretty clearly that the well is dropping pretty fast for one reason or another, and it is most likely the water increase is causing it; and I think the well head pressure indicates that on the tubing on 24, 48 and 72-hour shut in pressure test, because they go from 843 ondown to nothing on the February test; and they are dropping continually on the other one, from 723 to 633 on the November '58 test.

Q (By Mr. Utz) This is on the tubing?

A Yes.

Q The casing increased?

A Right. And as long as the well is tubed, and the production comes through the tubing, she's dead. I believe that's all I have on that.

MR. UTZ: Any other questions of the witness?

MR. GIRAND: Just one question.

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q Apparently I misunderstood the witness a moment ago. I intended to ask him this question: Mr. Watson, do you consider the subject well to be a well that should be classified as marginal or non-marginal well, in the light of the records that have been introduced in evidence?

A Well, from the drop in the deliverability, and production inability, I'd say it is due to be classified as a marginal well, if not right at the present in the very near future.

Q Then if you answered that question, or a similar question by saying "non-marginal", you misunderstood my question?

A Yes, sir.

MR. GIRAND: That's all I have. Do you have anything else to offer?

A No, sir.

MR. UTZ: On what do you base the answer to that question, what premise, the deliverability test, or the amount of production, or by comparison against the well's allowable?

A Well, I think the amount of production, and the deliverability test show that the well is falling off pretty rapidly.

MR. UTZ: This well produced more than normal allowable, so you think it would be a marginal well?

A Due to influx of water.

MR. UTZ: Do you interpret our Rule 520 to say that?

A Not exactly.

MR. UTZ: I don't either. Off the record.

(Discussion off the record.)

MR. GIRAND: Mr. West, will you take the stand, please?

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q I hand you an exhibit that has been marked Exhibit 31, and ask you if that exhibit was prepared under your supervision?

A Yes, sir.

Q And does that exhibit show the same information in regard to the Jenkins Number 1 as was reflected in the exhibit you prepared for the Winningham Number 3, and the other wells you previously testified to?

A Yes, sir, that is correct.

Q And the record was prepared from the records of El Paso Natural Gas Company in regard to the line pressures and the production of the well?

A Right.

Q I hand you here Exhibit Number 32, been marked Number 32, a similar exhibit to Exhibit 31, and it deals with the Legal Number 2; I'll ask you whether or not this exhibit was prepared under your supervision?

A Yes, sir, it was.

Q And the same information reflected on it as reflected on the Jenkins Number 1?

A Right.

Q I hand you here Exhibit Number 33, pertaining to the Dyer Number 3, and ask you whether or not this exhibit was prepared under your supervision?

A Yes, sir.

Q And the information shown thereon is comparable to the

information shown on Exhibit 31 and 32, dealing with the Jenkins No. 1, and the Legal Number 2 wells?--

A That's right.

Q -- only insofar as it pertains to the Dyer Number 3?

A That's correct.

MR. GIRAND: We would like to offer Exhibits 31, 32, and 33.

MR. UTZ: Without objection, they will be received.

MR. GIRAND: Mr. Watson, take the stand, please.

DIRECT EXAMINATION (Continued)

BY MR. GIRAND:

Q Mr. Watson, you are the same Mr. Watson who previously testified here in this matter?

A Yes, sir.

Q Now, in regard to the Jenkins Number 1, how is that well being produced?

A It is producing on a free piston installation.

Q Do you anticipate that you will have to go to a pump jack in the immediate future?

A Yes, sir.

Q Now, in regard to that particular well, if the same questions were asked you in regard to it as were asked you in regard to Watkins Number 2 and the other wells that you have previously given testimony to, would your answer be the same?

A Yes, sir.

Q The only variations being the variations between the two wells?

A Yes, sir.

Q Do you believe that this well is such a well as would have to be continuously produced using the methods now employed in order to protect the gas reserves underlying the well?

A Yes, sir, I do.

Q Do you think such an operation will result in the protection of correlative rights, and the prevention of waste?

A Yes, sir.

MR. GIRAND: I would like to get this marked for exhibit, 2-page exhibit.

(Thereupon the document referred to above was marked Applicant's Exhibit No. 34, for identification.)

Q (By Mr. Girand) In regard to the Jenkins Number 2, I beg your pardon, Number 1, are there any peculiarities with regard to producing that well contrary to the other wells that you have testified to?

A No, sir, it follows the same general pattern as the rest of them; it was shut in for a period of time, the piston went to the bottom, opened it up and flowed for a period of time.

Q That procedure, up to date, has been the most satisfactory manner known, the manner in which you could produce the well without putting it on a pump jack?

A Yes, sir.

Q Now, in answering this generally as to all the wells in question, where a piston had been used, in setting the frequency of that, the run of that piston, I understand it is time controlled, is that right?

A Yes, sir, it is.

Q Can that piston be set to unload itself at intervals that will maintain the well as a producing well, is that right?

A Yes, sir.

Q Those intervals just have an even flow, a period of time of setting and re-setting and adjusting the interval, is that correct?

A Yes, sir, that is correct. Usually when a well goes on an installation of this type, it is an experimental proposition when you first start out, but we have found that somewhere between 6 and 8 flows per day is the usual number required to keep the water off of the formation, keep the well on production. And as time progresses over a period of months, even years, the frequency of those piston trips are increased in order to handle the influx of water that is coming in.

Q Basically, the bottom of the water controls the frequency of the trip?

A Yes, sir.

Q Then you get to that point where it can't make enough trips to keep the hole cleaned up?

A That's right.

Q Then you are required to go to pump jack?

A That's right; that's exactly what happened to the Winningham Number 3.

MR. GIRAND: We would like to offer Exhibit 34, being the minimum contract test sheet, as well as the deliverability report. We call the Examiner's attention to the notation on the bottom of both. Under the Minimum Contract Test Report, the notation is: "Well cannot be shut in; shut in pressure taken from R. Olsen Winningham Number 3". And on the Deliverability, why virtually the same notation was -- P. C., what's that?

A Shut in pressure.

Q -- P. C. was taken from our R. Olsen Well Number 3. "Well cannot be shut in because of water logging at well bore". Do you have anything else to add, Mr. Watson, in regard to the Jenkins Number 1?

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

MR. GIRAND: We will pass the witness.

CROSS EXAMINATION (Continued)

BY MR. FLINT:

Q Mr. Watson, in response to a question by Mr. Payne regarding a well on the pump jack, you stated in producing water, a certain amount of gas of necessity is produced with it?

A Yes, sir.

Q Would that be true of the free piston installation as well?

A Yes, sir, it is more so; you produce more gas with the water in a free piston installation than you would on a pump jack.

Q In either of those -- I think this question has been asked, but I'm not certain of what your answer was, in either of those two types of installations, do you feel that it would be possible to produce the water, sufficient water to keep the well cleaned out, and still produce less gas than you would anticipate producing with it, if the request that you have made is granted?

A Well, under the present operating conditions, we are lifting what we think is the minimum amount of water to produce to keep the wells flowing.

Q And are you at the same time producing a minimum amount of gas that it is possible to produce with that amount of water?

A We feel that we are producing the amount of water necessary to keep that well flowing, which would be the minimum amount of gas.

Q In other words, the gas that is being produced now is as little gas as it is possible to produce with that amount of water?

A Until further tests prove different, why I think we are, yes.

Q You mean, is this a matter of physical possibility, or is this a question of your decision as to the desirability of

producing this amount of gas?

A Well, I think it is a physical proposition.

Q It is?

A I mean, we will be perfectly willing to cut the gas down if it were possible.

Q But producing, for example in this Jenkins well, producing an estimated 30 barrels per day, it would not be possible to restrict the gas that is produced with that to any extent?

A No, sir, we have not been able to. Now, the well will log off at the slightest increase in El Paso's pressure, even as much as 10 pounds will kill the well; and you are operating under such a close tolerance that there is no tolerance there, does not seem to be any margin for relief there at all.

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

QUESTIONS BY MR. UTZ:

Q Mr. Watson, I believe that you are asking, actually asking here to produce more gas than the non-marginal allowable, this is what this amounts to, isn't it?

A We are asking to be able, be permitted to produce the water necessary to keep the well on production.

Q So far we have ended up with the non-marginal allowable in every case?

A Yes, sir, in the past six months, I think that is true. However, I think if you would just roll back the clock a year and compare the allowable at that time with the allowable

that we've had in the past six months, it would probably be in balance; it would still be above, but it would be somewhat nearer, so I think we are a victim of the demand of gas during that period as much as anything else. I mean that definitely, in my mind, has something to do with our overproduced status.

Q Well, I think that is a very true statement, but I believe you stated that this would be necessary in order to prevent waste and protect correlative rights. How would overproducing these wells protect correlative rights?

A Well, the ultimate production of gas would be shortened, in our opinion, by shutting these wells in and doing permanent damage to the formation, and in that sense it would; I mean, I think we are protecting correlative rights.

Q Whose correlative rights?

A O$_{n}$rs and the offset operators.

Q Well, if you are producing more gas than he is allowed to produce, then how would it protect his correlative rights?

A It does not sound as it would; I will retract that statement.

MR. UTZ: Any other questions of the witness?

REDIRECT EXAMINATION

BY MR. GIRAND:

Q Mr. Watson, with water encroachment on your wells, if your wells are shut in, is it your opinion that that water will go on over to offset operators' property?

A To a certain degree, yes; it is at the present time.

Q And so if your well were shut in, and water allowed to accumulate to the extent that it isolated gas from your well bore, as well as the well bore of offset operators, it would then affect correlative rights in the area, would it not?

A Yes, sir, it would.

MR. FLINT: However, if that gas that is trapped were produced through the well that is not shut in, it would not have been your neighbor's gas anyway, so that it wouldn't really be an ultimate gas loss to him, would it?

A No, sir.

MR. FLINT: And your land, it is under your land?

A That's right.

MR. FLINT: Except that it would be gas that you would hope to produce, not gas which he is entitled to?

A Yes, sir.

Q (By Mr. Girand) But if you were denied the right to produce the gas that is underlying your own land, then the correlative rights would be denied?

A That's right.

Q And you are denied -- and you are entitled to as much protection as the offset operator?

A Yes.

MR. UTZ: And you agree that you are denied as much production as the offset --

MR. GIRAND: I said the same protection as the offset operators.

MR. UTZ: The same protection. Well, Mr. Watson, have you been allowed to produce as much gas as your offset operators in the past twelve months?

A In the past twelve months, yes, but not in the previous twelve months or eighteen months. As you will recall, those wells were classified from non-marginal to marginal either in '57 or '58, and at that time there were some three hundred million under-production cancelled; I believe I'm correct, some time in '57 or '58, some of them were reclassified in '57 and some in '58, and at that time all the underage was cancelled, and as far as we are concerned evidently its lost to us, and now during that period the offset operators definitely produced more gas than we did.

MR. UTZ: Well, the reason they did was bacause your well was not capable of producing the allowable for that particular period, isn't that right?

A That's correct, but that does not balance the fact that they didn't, they did produce more gas than we were allowed to, not that we were allowed to, but that we were unable to.

MR. UTZ: You feel that in view of the fact that your wells are severely overproduced that your correlative rights have been impaired at this time?

A No, sir, that is the problem.

MR. UTZ: That's all I have.

Q (By Mr. Girand) Do you feel that you have been impaired, if you are required to shut the wells in and possibly the loss of your reserves?

A Yes, sir, that's right.

MR. UTZ: The wells are overproduced at this time; at this time you are ahead of the game as far as correlative rights are concerned?

A As of the past twelve months, yes, sir.

MR. GIRAND: We would like to introduce Exhibit Number 35, containing five sheets, and being a part of the records of El Paso Natural Gas Company, which covers the subject well, Legal Number 2.

MR. UTZ: Exhibit Number 35?

MR. GIRAND: It is Exhibit Number 35, yes.

MR. UTZ: Without objection, it will be accepted.

Q (By Mr. Girand) Mr. Watson, in regard to your -- you are familiar with the application covering the Legal Number 2, are you not?

A Yes, sir.

Q You are acquainted with the method and type of production, and the production method used?

A Yes, sir.

Q Briefly state what those methods are in similarity to the other wells you have testified to.

A It is the same as the piston installation that we

have described in the S. R. Cooper, Eva Owens, Jenkins Number 1.

Q In other words, this well is making water --

A Yes, sir.

Q -- and is being mechanically produced at the present time?

A Yes, sir.

Q Is it your opinion that this well will suffer irreparable damage if it is required to be shut in over any extended period of time?

A Yes,sir, it is.

Q The well is being properly produced by a piston or by a pump?

A It's being properly produced by a piston.

Q Do you anticipate that in the future that you will have to install a pump jack in order to recover the gas underlying the property?

A Yes, sir, we do.

Q Do you feel that the methods employed by the Jal Oil Company in the production of gas on the subject wells at this hearing, as well as the Olsen Oils Company on the subject wells is in the best interest of conservation of natural resources --

A Yes, sir.

Q -- and to obtain the ultimate recovery from the mineral deposits underlying the acreage?

A Yes, sir.

MR. GIRAND: I have no further questions.

MR. UTZ: Any other questions of the witness? If not, you may proceed.

Q (By Mr. Girand) Mr. Watson, since figuring these applications, have you had occasion to check into the Dyer Number 3 Well of the Jal Oil Company?

A Yes, sir.

Q Were you familiar with that well and its operation during the time you were employed by Jal Oil Company?

A Yes, sir, I was.

Q Was that well, the Dyer Number 3, a comparable well to the other wells you have testified to?

A Yes,sir, very similar.

Q And if the same questions were asked you in regard to the Dyer Number 3 as have been asked you in regard to the other wells, would your answer be the same?

A Yes, sir, they would be.

Q That well makes water?

A Yes, sir.

Q And it is presently being produced in what manner?

A By a free piston.

Q And in your opinion, is that the only method other than a pump jack with which the well can be produced?

A Yes, sir, I believe it is.

Q And in producing that well, it is the production of

the water that controls the production of gas, and not the production of the gas that controls the water, is that correct?

A Yes, sir, it is.

Q As a matter of fact, in all of the subject wells, including the wells of the Olsen Oils Company, and the wells of the Jal Oil Company, the prime question involved in this hearing is, and the prime concern of the operator is the removal of the encroaching water, is that correct?

A Yes, sir, that is right.

Q And the only means you use, and those means that you have used, seem to be satisfactory and best practice for the preservation of the reservoir?

A That is the only means in which we have been able to keep the wells on production.

Q So you are not before this Commission asking for more gas or less gas, you are just asking for whatever gas is produced incidentally with the required amount of water you have to produce?

A Yes, sir, that is correct.

Q Now, I'll ask you, during your overproduced period here, and on some of the wells involved, I'll ask you whether or not at the time that production was being made, you had been re-classified from the non-marginal -- I mean from marginal to non-marginal well?

A Yes, sir.

Q You had been re-classified at that time, at the time

the overproduction occurred?

A During the period the overproduction occurred, it was classified as a non-marginal well.

Q It was classified at the time, is that true on all the applications?

A No, not all. The Eva Owens and Watkins 2 were never marginal wells.

Q But the overproduction occurred after they had been re-classified?

A I don't think the Eva Owens or the Watkins have been re-classified.

Q I'm talking about the other wells.

A The other wells, yes, sir.

Q It is my understanding that the notice from the Commission stated that due to the lack of information in 1958, that the wells have not been, had not been able to reclassify the wells at that time, is that correct, Mr. Examiner,on your May or June notices when you sent out the allowables?

MR. UTZ: On the memorandum?

MR. GIRAND: On the memorandum, yes.

MR. UTZ: Yes, sir, I believe that's correct.

MR. GIRAND: I'll ask you if this is a correct statement to go on the record, Mr. Utz. The well operators, as well as the purchasers were not notified of any re-classification of any subject well down there or that their allowable would be, during

that period in which the old production occurred?

MR. UTZ: Except by provisions of Order R-967.

MR. GIRAND: Except by the old order, but then as far as the actual taking of the tests and evaluating the allowable that would be assigned to these wells, those had not been completed, nor had the operators been notified of their assigned allowables under your order R-967?

MR. UTZ: No, they had not been notified of the actual amount of non-marginal allowable. However, the data is available at any time for an operator to calculate his non-marginal allowable, if he so desires.

MR. GIRAND: I'm not trying to argue, I'm just trying to find out. It was my understanding that the operators had not been notified of their re-classification.

MR. UTZ: No, they had not been notified of your re-classification until you received the supplement of it.

MR. GIRAND: That's right, and that was the one in which the Commission gave them until the first of September in which to file.

MR. UTZ: That is correct.

MR. GIRAND: So I would like to introduce Exhibit 36, which is the record of the El Paso Natural Gas in regard to Legal Number 2.

MR. UTZ: Without objection, it will be accepted.

MR. GIRAND: Mr. Utz, for the purpose of the record,

I would like to make just a brief statement. I know I have been up here too long, but the problem of these operators involved in the two cases in which we are appearing here, is a water problem.

Now, the producing of gas is controlled entirely by the alleviation of that water problem, and it is their opinion, as it was the opinion of other operators who had cases before us, that if the water is allowed to encroach, it will result in loss of reserves. We feel that the subject wells are entitled to some exception, which is authorized under Rule R-967, in order that the great waste which could occur might be alleviated.

Now, I don't think it is the object of this Commission, or of the operators, or of the operator to take any further gamble than has been taken, particularly the applicants here, where they have gone to every mechanical device in order to produce the gas. I think the Commission will agree with me that the overproduction was brought about, you are tied into a gas line, you don't have much to say when you take from them and when you don't. At the time that we were taking, you had a marginal classification which was not covered, and that is one of the pitfalls of the order. You go along in that position, and then one of these sunshiny days why you are six times overproduced and you cease to be a man; you are over here, a female, you change sex in midstream, and you didn't even know you had it done to you. That is where these applicants find themselves.

Now, we are willing to cooperate with the Commission in

every way possible to arrive at a just and honest way to produce these wells, but we think it would be much more wrong to require us to shut in wells and thereby lose our reserve, that that will not be conservation; that would be confiscation. We feel that -- I don't think it has been definitely established, I went through all those gas hearings, and everybody said that, some of them said one well would drain the entire Lea County in Southeastern New Mexico. I believe that was the position Phillips took in that matter, they only needed one gas well; others had different lines that they drew on the maps. How much one gas well will drain, until somebody gets down there and digs it out and sees, goes down there and sees and smells the gas and walks out the 40-acres, we don't even know whether it will take out 40-acres; none of us were here when it was put down, and we just got to guess, because their spacing program is such that we don't, we don't get that much inside, so I say that these applicants are willing to cooperate with the Commission in every way possible, but I don't think the Commission should require them to lose their reserves which they are entitled to.

Now, I appreciate allowables and the requirements for allowables, we all recognize that, where you got a producing ability in excess of your allowable, of your market demand, but then at the same time their old law has been to help the weak as against the strong; there has been no evidence here that by reason of your present method of production, that we were going to drain their

acreage that would have been here. One of these weak sister gas wells out there producing water and gas is not going to cause the gas to come back from offsetting operators into their reservoir. We are doing pretty good just trying to maintain a dry reservoir, and that's all we are trying to do, and we are helping them to the extent that if we didn't control the water, the water is bound to move somewhere in this gas zone, where a void has been created by production of either oil or gas, or both, and I submit it is a problem that is here not on just a few wells before this Commission today, but as the field goes down, it is going to be before this Commission from every corner where you have any encroachment of water.

MR. UTZ: Mr. Girand, you are not contending here, are you, that Order R-967 allows, by virtue of the fact that a well is classified as marginal, that you are allowed to produce that well more than a non-marginal well if it is capable of doing it?

MR. GIRAND: I think that is the purpose of the Commission, yes, sir. The Commission was designed to protect and conserve. Now, the Commission has latitude in how it will arrive at that conservation, but it has all got to be designed toward the ultimatum of conservation.

Well, from the record before this Commission on these cases, the fact that the wells will be damaged stands uncontradicted, and I think the Examiner is acquainted with the fact that if water comes in, it can kill your well and might lose it. Now, I say

under your R-967, your Rule 10 gives the Commission quite a bit of latitude there, "at any time a well is overproduced in an amount equal to six times current monthly allowable, it shall be shut in during that month and each succeeding month the well is overproduced," that's your shutdown provision. It goes on in the same Rule 10, "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."

Mr. Examiner, we have shown that this is not a spigot outfit, we don't have that gas and water mixed in certain proportions, one-third water and one-third gas. We have a certain volume of water, and by lifting that water, the gas pressure is able to produce so much. We operate in some of these wells, some of the testimony was that it varies and often will be, pressure would log up a well. We have trimmed the thing down, as I see it, to just about as near a marginal operation as you can have, and I think there is plenty of support in the Rule here that your -- and the evidence, that the production curve on these type of wells are going to be declining rapidly.

There can't be any relief on the part of anyone in the method that we are using, that we are going to overproduce our wells as compared to the extent of pulling gas out from other wells. If we had that kind of pressure behind us, we wouldn't be having this trouble; we are bound to be getting the dregs on it from under our

own wells.

Now, I believe the spirit of the Act is conservation, it has to be or you don't have any legal entity, you don't have any right to be here, because that's the power of the State to conserve it. And if you don't conserve, if the Commission allowed the ultimate recovery now, I don't think the Commission is confronted with any problem that requires it do run and hide its head; that we take the secondary recovery oil wells where they are using water flood, the Commission has entered several orders there where they can produce from certain wells all they could produce. I can see a great deal of similarity between the encroachment of water on gas, and secondary recovery on an oil field, and I don't believe it is comparable to a water drive oil field because we know that the water will push the oil in front of it, that is, that has been the history.

Now, if we were talking about tremendous volumes of gas being taken from the Jalmat Pool, as against the overall Jalmat Pool allowable, it would be one thing, but it occurs to me that we are overlooking the growl of the bear and listening to the rattle of the cricket in this case. We have seven wells that the operators can lose, and on one of them we think we have already lost. We've got two wells we are going to find out when we get in.

In my prayer, I asked for 120 days to see if we could bring out some further information, not just for our information, but for the information of the Commission. We realize the Commission

has not entered a shut in order on these wells except the Eva Owens well, which was shut down a year ago, and the Watkins Number 2, but those wells are now where they can be reopened. Why wouldn't it be reasonable for the Commission to see what happened to those two wells?

I think I've clearly established that in this method of production there is no way to separate the gas and the water; they both come out together. Of course, we go ahead and get back in balance by flaring that gas up in the air if the Commission turns its head to it, but then we can't do that under the regulations. I might state here that I think that I'm trying to enlarge on the scope of the Commission's authority, and have you prorate water, not the gas, because actually that is what we are asking you to do.

MR. WATSON: Could I make a statement here?

MR. UTZ: Sure.

MR. WATSON: Although we are the only ones here at the present time, there are several operators in and around the same area that are confronted with the same problems, and the whole South end of that field is in a very similar shape.

MR. UTZ: We've had other applications, as you know, but none who requested that they produce more than a non-marginal allowable. I have to differentiate this case from the other cases that refer to the matter.

MR. GIRAND: May I make this statement in connection with that? None of those cases are producing through any mechanical

device such as we are in the wells in question.

MR. WATSON: These wells passed the blowdown stage several years ago, where you go down and blow them down maybe for an hour or two, and blow out the water and go on to producing.

MR. GIRAND: Off the record.

(Discussion off the record.)

MR. GIRAND: I would like to go back on the record just a minute. I believe I'm correct in stating that the Commission received a letter from El Paso Natural Gas --

MR. FLINT: Yes.

MR. GIRAND: -- supporting both Application 17 -- both Case 1778 and 1779, is that correct?

MR. UTZ: 78 and 79?

MR. GIRAND: Yes, 1778 and 1779. Mr. Howell showed me the letter, and I direct your attention to their wording in regard to their belief that this was a matter of conservation. And like we said, we are not making any request for offset reserves, we better keep what we got and utilize them to the fullest extent.

MR. UTZ: The letter of El Paso's will be entered into the record. Is there anything further in this case?

MR. GIRAND: That's all the applicant has.

MR. UTZ: Any other statements to be made? If not, the case will be taken under advisement, the cases will be taken under advisement, and the hearing is adjourned.

(Whereupon the hearing was concluded at 4:45 P.M.)

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/or under my personal supervision, 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 20th day of October, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
NOTARY PU[illegible]

My Commission Expires:

October 5, 1960.

I do hereby certify the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1778, heard by me on Oct. 7, 1959.

Elvis A. Utz

Form 9-330-1-55.

EL PASO NATURAL GAS COMP[illegible]

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

OIL CONSERVATION COMMISSION
EXAMINER UTZ
CASE EXHIBIT NO. 3
CASE NO. 1778 1779

Company Jal Oil Company Lease Jenkins Well No. 1

Unit M Sec. 29 Twp. 25 Rge. 37 County Lea

Pool Jalmat Type Well Single Date Test 3-6/3-13/1959

Reservoir Temp. Casing [illegible] Tubing X Depth 673 Est. Prod. Test 1.2

Gg Meter Run .983 Date Last Shut-In 9/12/58

No.	FLOW DATA: Prover Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in							196*				
1.	4	x	1.250	100	23.00	60	113				24
2.											

Data obtained from deliverability test dated 3-6/3-13/1959

No.	Coefficient (24-Hour) $F_c Q$	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	51.07		1.000	.9442	1.011	470
2.							

$$Q = C \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^n$$

P_c^2 = 43.8 *

P_d^2 = 12.8

P_t^2 = 15.9

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]$ 31.0 / 27.9 = 1.111

Log S = 0.045714 x .983 = 0.044937 ... 1.109

Q = 470 ... 1.109 = 521

Unit Size 1.00
Meter Station No. 60-782

David H. Dyer

* Well could not be shut-in. Shut-in pressure taken from R. Olson - Winningham No. 3

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 35
CASE NO. 1778 1779

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

R. Olsen, Personal Legal 2

I 31 25 S 37 E Lea

Jalmat Single 11-4-55

X .680

1,000 10-7-53

No.	FLOW DATA Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	SHUT-IN DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in							423/365/297				24/48/72
1.	4	x	1.500	247	26.01	68	287				24
2.											

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD 15.025 psia
1.	13.99	82.24		.9924	.9393	1.027	1,101
2.							

$\frac{P_c^2}{P_c^2 - P_w^2}$

190.3

12.8

90.1

$\left(\frac{P_c^2 - P_w^2}{P_c^2}\right)^n$ 177.5/100.2 1.771

1.000

1,101 1.771 1,950

P_c = Shut-in Wellhead Deliverability Curve ($P_c^2 - P_w^2$ vs. Q)

P_c = Initial Flow & End of Flow Pressure Average Pressure P_c

P_c = Maximum Shut-in Pressure observed during ____ hour period, PSIA

P_w = Static Wellhead Pressure during Flowing Conditions and Vice Versa

P_d = Deliverability Pressure (Static Conditions) Multiplied by Constant Measurements

Q = Wellhead Deliverability at Deliverability Pressure (P_d) MCF/Day

1.771

Ed Mabe

ENG

C. W. Cole

C. W. Cole
Gas Engineer

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

R. Olsen (Perc) Legal 2

I 31 25 37 Lea

Jalmat Single 1-31/2-7 1958

X .680

.923 2-8-57

No.	FLOW DATA Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in											24
1.	4 x		1.250	115	34.81	54	153				24-48-72
2.											

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	66.75		1.0058	.9393	1.014	618
2.							

$Q_1 = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^n$

$P_c^2 =$

$P_d^2 =$

$P_t^2 =$

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right] = \quad = \quad = B$

n = Slope of Wellhead Deliverability Curve ($P_c^2 - P_t^2$ vs. Q)

Q = Actual Flow Rate of Flow Period at Wellhead Pressure P_t

P_c = Maximum Shut-in Pressure observed in a 48 hour period, PSIA

P_t = Flowing Wellhead Pressure (tubing if flowing thru tubing and casing if flowing thru casing), psia

P_d = Deliverability Pressure (14.4 psia for Minimum Contract Requirements)

Q_1 = Wellhead Deliverability at Deliverability Pressure (P_d) MCFPD

Compressor was on during test.

Meter Station No. 60-795
Unit Size: 1.00

J. B. Murray

El Paso Natural Gas Company

Jack T. Littlefield

NOTE: Well cannot be shut-in logs off quickly.

MINIMUM CONTRACT TEST

To Determine Deliverability at 100 PSIG

Jal Oil Company — Legal — 2

I — 31 — 25 — 37 — Lea

Jalmat — Single — August 8-15, 1958

X — .688

.923 — 1-31/2-7, 1958

No.	FLOW DATA: Prover Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in							171		Logged off after 24 hrs.		24
1.	4	x	1.250	85	28.09	78	88				24
2.											

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	52.46		.9831	.9339	1.000	464
2.							

Compressor on during test.

33.9

12.8

10.2

21.1
23.7

0.8903

9.949536-10 — .923 — 9.953422-10 — 0.8980

464 — 0.8980 — 417

Unit Size: 1.00

Meter Station No.: 60-795

R. A. Mikel

R. A. Mikel

Jalmat			Yates - 7 Rivers			Lea				
		X						3-6/3-13-59		
Jal Oil Company				Legal		El Paso Natural Gas Company				2
I	31	25	37							
7	20			2778						
2	4.7			2922						
	2778	2922	2922		.703					
			X		Single					
40										

3-9-59	3-10-59	24	Flg.	4	1.250	133.2	18.49	75	
1:30	1:30								

133.2	18.49	49.63	9.643	.9239	.9859	1.014	442.1	

*	*	143.3	178.2

Pw Measured

			* 209.2	psia
			442.1	Mcf/da.
			178.2	psia
178.2	209.2	.8518	167.4	psia
			567.6	
.1482	1.852	.2745		
1.311	.11760	.923	.10854	

El Paso Natural Gas Company
P. O. Box 1384, Jal, New Mexico
[signature] Gas Tester

	2.64552
	2.75406
El Paso Natural Gas Company	56.76

* P_c was taken from R. Olsen Winningham #3. Well could not be shut-in due to water logging off well bore.

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST CORRECTED COPY

(To Determine Wellhead Deliverability at 100 PSIG)

Jal Oil Company Legal 2

I 31 25 37 Lea

Jalmat Single 3-6/3-13/1959

X .703

.923 8-15-58

No.	FLOW DATA Line Size	Orifice Size	Press. psig	Diff. h_w	Temp. °F	FLOWING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in						* 196				72
1.	4 x 1.250		120	18.49	75	130				24
2.										

Data obtained from deliverability test dated 3-6/3-13/1959

No.	Coefficient FLG. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	49.63		.9859	.9239	1.014	442
2.							

$D_t = \left[\frac{P_c^2 - P_t^2}{P_c^2 - P_d^2}\right]^{n}$

$P_c^2 =$ 43.8

$P_d^2 =$ 12.8

$P_t^2 =$ 20.5

$\left[\frac{P_c^2 - P_t^2}{P_c^2 - P_d^2}\right] = \frac{31.0}{23.3} = 1.330$

n = Slope of Wellhead Deliverability curve ($P_c^2 - P_t^2$ vs. Q)

Q = Actual Flow Rate of Flow Period at Wellhead Pressure P_t

P_c = Maximum Shut-in Pressure observed in 48 hour period, PSIA

P_t = Flowing Wellhead Pressure (taken at flowing conditions and prior to any adjustments), psia

P_d = Deliverability Pressure (100.2 psia for Minimum Contract Requirements)

Q_d = Wellhead Deliverability at Deliverability Pressure of P_d, MCF/Day

12385 .923 .11431 1.304 = D_t

442 1.304 576

Meter Station No. 60-795
Unit Size 1.00

Name David H. Dyer

EL PASO NATURAL GAS COMPANY

* well could not be shut-in. Shut-in pressure taken from N. Olsen - Winningham No. 3

60-832

El Paso Natural Gas Company

El Paso, Texas

August 14, 1958

Jal Oil Company
Drawer Z
Jal, New Mexico

Gentlemen:

We are unable to produce your Dyer (LEASE) J (NO. UNIT) 31-25-37 (S-T-R)

in the Jalmat (POOL) for the following reason:

SEPARATOR OUT OF ORDER	LOGGED OFF	INSUFFICIENT PRESSURE TO PRODUCE
SHUT IN AT WELLHEAD X	PRODUCING AN EXCESSIVE AMOUNT OF FLUID	AT YOUR REQUEST

When this situation is corrected and the well is ready to be produced, please contact this office.

Remarks: This will confirm my telephone conversation with Mr. Watson on August 14, 1958. Mr. Watson stated that the Jal Oil Company was pulling the tubing on this well.

Yours truly,

EL PASO NATURAL GAS COMPANY

Gas Dispatching Department
R. L. Pagan

RLP:bjc
cc: J. A. Seamice
F. N. Woodruff
R. T. Wright
Central File
File

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Jal Oil Company — Dyar — 3

M — 31 — 25 — 37 — Lea

Jalmat — Single — Sept. 8-12, 1958

.686

.767 — 3-14-58

No.	FLOW DATA: Prover Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in							288				
1.	4"	x	1.250	90	20.25	72	104				24
2.											

No.	Coefficient FLG (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD 15.025 psia
1.	9.643	45.71		.9887	.9352	Mil	408
2.							

$P_t = \sqrt{\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}}$

P_c^2 = 90.7

P_d^2 = 12.8

P_t^2 = 13.7

$\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2} = \frac{77.9}{77.0} = 1.012$

.0051805 — .767 — .0039734 — 1.009

408 — 1.009 — 412

Unit Size: 1.00

Meter Station No.: 60-832-01

J. B. Murray

J. B. Murray

This well was not shut-in due to logging off. The Jenkins No. 1 shut-in pressure was used for this test - which is the nearest offset.

Form 15-332-0-55

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Company Jal Oil Company Lease Dyer Well No. 3

Unit H Sec. 31 Twp. 25 Rge. 37 County Lea

Pool Jalmat Type Well Single Date 3-(7-14) 1958

Producing Thru: Casing Tubing X Gravity .680 G.L. or G.C. 1442

n from Previous Test .767 Date Previous Test 7-19-57

FLOW DATA									
No.	Line Size	x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	TUBING DATA Temp. °F	CASING DATA Press. psig	CASING DATA Temp. °F	Duration of Flow Hr.
Shut-in						224-194-135		264-277-283		24-48-72
1.	4	x 1.250	93	21.16	47	108				24
2.										

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	47.36		1.0127	0.9393		435
2.							

$$Q = C \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^n$$

$P_c^2 =$ 87.7

$P_d^2 =$ 12.8

$P_t^2 =$ 14.7

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right] = \frac{74.9}{73.0} = 1.026$

72

Absolute Open Flow = .011147 x (1.026)$^{.767}$ = .008549 x 1.020 = 444

Q = 435 x (1.026)$^{.767}$ = 1.020

Unit Size: 1.00

Meter Station No. 60-832

I hereby swear or affirm that the information given above is true and correct.

Name Jack T. Littlefield

Position

EL PASO NATURAL GAS COMPANY

Witnessed by B. G. Boaz

Company El Paso Natural Gas Company

Form C-122-58

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Company Jal Oil Company Lease Dyer Well No. 3

Unit H Sec. 31 Twp. 25 Rge. 37 County Lea

Pool Jalmat Type Well Single Date Test 3-6/3-13/1959

Producing Thru: Casing Tubing X Gravity .691 Bar. Pressure 13.2

% from Previous Test .767 Date of Previous Test 9/12/58

No.	FLOW DATA: Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					196*				72
1.	4 x 1.250	117	9.00	75	124				
2.									

Data obtained from deliverability test dated 3/6-3/13/1959

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	31.28		.9859	.9318	1.012	307
2.							

$$D_t = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^{n_t}$$

P_c^2 = 43.8 *

P_d^2 = 12.8

P_t^2 = 18.8

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]$ = $\frac{31.0}{25.0}$ = 1.240 = F

n_t = Slope of Wellhead Deliverability Curve ($P_c^2 - P_t^2$ vs. Q)

Q = Actual flow @ end of Flow Period at Wellhead Pressure P_t

P_c = Maximum Shut-in Pressure observed in a 48 hour period, psia

P_t = Flowing Wellhead Pressure (casing if blowing thru tubing and vice versa), psia

P_d = Deliverability Pressure (14.4 psia for Minimum Contract Requirements)

D_t = Wellhead Deliverability at Deliverability Pressure (P_d), MCFD @ 15.025

Log R = 0.093422 x (n_t) .767 = 0.071655 Antilog = 1.179

Q = 307 x F 1.179 = 362

Unit Size 1.00
Meter Station NO. 60-632

I hereby swear or affirm that the information given above is true and correct.

Name David H. Dyer

Position

EL PASO NATURAL GAS COMPANY

Witnessed

Company

* Well could not be shut-in. Shut-in pressure taken from R. Olsen- Winningham No. 3

Tubing ... Type ... Bar.Press. ...

Elevation: G.L. or D.F. or K.B. Dual

FLOW DATA

Started Date	Started Time	Taken Date	Taken time	Duration Hours	Flow Temp.	Coef.	Meter Pressure	Differential	Flow Temp.
4-15-58	2:00 PM	4-16-58	2:00 PM	24	F.T. 4		108.2	1936	70

Static Pressure Pf	Differential h_w	Meter Pressure P_f or P_t	24-Hour Coefficient	Gravity Factor F_g	Temp. Factor F_t	Compressibility Factor F_{pv}	Rate of Flow Q Mcf/Da. @ 15.025 psia
108.2	1936	92.72	6.492	.9503	.9965		1172

SHUT-IN DATA

Shut-in Date	Shut-in Time	Press. Taken Date	Press. Taken Time	Duration Hours	Recovered Pressure (Pc) psia Tubing	Casing	B.H. working Pressure (Pw) and (Pt) psia Tubing	Casing
4-15-58	AM	4-16-58	AM	24	229.2			
	2:00 PM	4-17-58	AM	48	1132			
		4-18-58	PM	72	1139			

FRICTION CALCULATIONS (if necessary)

SUMMARY

Pc = ... psia

Q = ... Mcf/Da.

Pd = ... psia

... psia

... Mcf/Da.

DELIVERABILITY CALCULATION

Jalmat | Yates | Lea | 2-20/2-27-59

X

R. Olsen Oil Company | S. R. Cooper | 1

H | 23 | 24 | 36 | El Paso Natural Gas Company

7 | 23 | 3010

2¼ | 6.5 | 3197

3127 | 3215 | 3197 | 0.660

X | Single

40

2-23-59	10:00	2-24-59	10:00	24	Flg.	4"	.750	240.2	1.96	63

240.2	1.96	21.70	3.435	0.9535	0.9971	1.024	72.56	

		2-25-59	10:00	24	655.2	655.2		
		2-26-59		48	684.2	684.2	252.2	395.2
2-24-59	3:45	2-27-59		72	679.2	679.2		

Pw Measured

679.2

72.56

395.2

543.4

42.54

395.2 | 679.2 | 0.5819

0.4181 | 1.5819 | 0.6614

0.5443 | 9.735833 - 10 | 0.878 | 9.768066 - 10

1.860697

11.628763 - 10

42.54

El Paso Natural Gas Company
P. O. Box 1384 - Jal, New Mexico
J. B. Murray - Gas Tester

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Operator R. Olsen Oil Company Lease S. R. Cooper Well No. 1

Unit H Sec. 23 T. 24 R. 36 County Lea

Field Jalmat Reservoir Single Date of Test 2-20/2-27-59

Meter Run Size X Orifice Size .666

Type Taps .878 Gravity 9-19-58

Data from Deliverability Test 2-20/2-27-59

No.	FLOW DATA: Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					642-671-666				24-48-72
1.	4 X .750	227	1.96	63	239				24
2.									

No.	Coefficient F_{tg} (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD 15.025 psia
1.	3.435	21.70		.9971	.9491	1.024	72
2.							

$P_t = \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^n$

$P_c^2 = 468.1$

$P_d^2 = 12.8$

$P_t^2 = 63.6$

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right] = \frac{455.3}{404.5} = 1.126$

n = Slope of Wellhead Deliverability Curve $(P_c^2 - P_t^2)$ vs. Q

Q = Actual flow rate of flow through at Wellhead Pressure P_t

P_c = Maximum Static Pressure observed in ... hour period SIPA

P_t = Flowing Wellhead Pressure obtained at flowing rate Q after ... hours

P_d = Back Pressure against which Well will deliver Q

AOF = Wellhead Deliverability at Pressure P_d = Q $(P_c^2 - P_d^2)^n$ MCFPD

P_t .0515384 .878 .0452507 n 1.110

Q 72 P_t 1.110 801

Unit Size: 1.00
Meter Station No.: 60-800

Witnessed by

Company H. H. Kerby

27

El Paso Natural Gas Company

El Paso, Texas

March 5, 1959

Jal Oil Company
P. O. Box 1744
Midland, Texas

Gentlemen:

During the month of January, 1959, we were unable to produce the following wells under contract to El Paso Natural Gas Company.

WELL NAME	DATE	DAYS	REASON
Jack No. 1	1/ 8	1	Freeze in El Paso line
Hodges No. 2	1/ 8	1	Freeze in El Paso line
Gutman B No. 1	1/12	1	El Paso heater repairs
Gutman B No. 1	1/21	1	Freeze in El Paso line
Eva Owens No. 1	1/ 1-31	31	Shut in-state regulations (Overproduced)
Jenkins No. 2	1/ 1-16	16	Logged off with fluid

Yours very truly,

EL PASO NATURAL GAS COMPANY

J. W. Bauloh, Jr.
Gas Production Engineer

JWB,Jr:bjc
cc: Jal Oil Company - Jal, N. M.
E. A. Pearce
P. N. Woodruff
Central File
File

COPY

December 7, 1955

Re: [illegible]

Jal, New Mexico

R. Olsen Oil Company
Drawer [illegible]
Jal, New Mexico

ATTN: Mr. Aaron Olsen

Dear Sir:

We were unable to run a minimum segment test on your [illegible] #1 and S. R. Cooper #1 on date scheduled (November [illegible], 1955). The Jenkins #1 was logged off and would not produce at the [illegible]; the S. R. Cooper #1 [illegible] water [illegible].

If remedial work is done on these wells, [illegible] for Dispatching Department [illegible] for inspection.

Yours very truly,

[illegible]

[illegible]

cc: [illegible]
Dispatching Department
Box 1979, Jal, New Mexico

[illegible]

17

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability @ 100 PSIG)

Company R. Olsen Oil Company Lease S. R. Cooper Well No. 1

Unit Sec. 23 Twp. 24 Rge. 36 County Lea

Field Jalmat Type Well Single Date of Test 3-8-57

Producing Thru: Casing Tubing X Reservoir Temp. 1665 Bar. Press. @ 13.2

Gg from Previous Test .878 Date of Previous Test 2-15-57

No.	FLOW DATA: Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					679-710-708				24-48-72
1.	4 x .750	207	10.89	57	210				
2.									

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	3.435	48.95		1.0029	.9498	1.023	164
2.							

$\left[\frac{P_c^2 - P_c^2}{P_c^2 - P_t^2}\right]^n$

P_c^2 = 520.1

P_w^2 = 12.8

P_t^2 = 49.8

$\left[\frac{P_c^2 - P_c^2}{P_c^2 - P_t^2}\right]$ = $\frac{507.3}{470.3}$ = 1.079

n = Slope of Wellhead Deliverability Curve ($P_c^2 - P_t^2$ vs. Q)

P_c = Actual Flow Period or Shut-in Pressure Period at Wellhead Pressure P_t

P_c = Maximum Shut-in Pressure observed at 48 hour period, PSIA

P_t = Flowing Wellhead Pressure (tubing if flowing thru tubing and vice versa), PSIA

P_d = Deliverability Pressure (100.0 psia for Minimum Contract Requirements)

Q_d = Wellhead Deliverability at Deliverability Pressure (P_d), MCF/Day

.033021 .878 .028992 1.069

164 1.069 175

18

L. D. Southern

L. D. Southern

Form C-30 (Rev.)

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Operator R. Olsen Oil Company Lease S. R. Cooper Well No. 1

Unit H Sec. 23 Twp. 24 Rge. 36 County Lea

Field Jalmat Type Well Single Date of Test 7-(19-26) 1957

Producing Thru: Tubing X Casing Pr. .665 Gas Gravity

Meter Prover Diam. .878 Date of Previous Test 3-8-57

No.	FLOW DATA Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					499-508-488				24-48-72
1.	4 x .750	217	10.24	90	218				24
2.									

No.	Coefficient Flg. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	3.435	48.53		.9723	.9498	1.019	157
2.							

$P_t = \sqrt{\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}}$

$P_c^2 =$ 271.6

$P_d^2 =$ 12.8

$P_t^2 =$ 53.5

$\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2} =$ 258.8 / 218.1 = 1.187

.074451 x .878 x .665368 x 1.162 = P_b

157 x 1.162 = 182

Unit Size 1.00

Jack T. Littlefield

19

Form C-30 (12-61)

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Company R. Olsen Oil Company Lease S. R. Cooper Well No. 1

Unit H Sec. 23 Twp. 24 Rge. 36 County Lea

Pool Jalmat Type Well Single Date of Test 3-(7-14) 1958

Producing Thru: Casing Tubing X Gravity .665 Separator Yes

n from Previous Test .878 Date of Previous Test 7-26-57

No.	FLOW DATA: Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					608-490-670				24-48-72
1.	4 x .750	234	12.25	54	238				24
2.									

No.	Coefficient Fig. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	3.435	55.01		1.0058	0.9498	1.027	185
2.							

$$D_t = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^{n_t}$$

$P_c^2 =$ 466.8

$P_d^2 =$ 12.8

$P_t^2 =$ 63.1

$$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right] = \frac{454.0}{403.7} = 1.125 = B$$

n_t = Slope of Wellhead Deliverability Curve ($P_t^2 - P_w^2$ vs. Q)

Q = Actual flow @ end of Flow Period at Meter or Wellhead Pressure P_t

P_c = Maximum Shut-in Pressure observed on 72 hour test period, PSIA

P_t = Flowing Wellhead Pressure obtained during this test (Tubing and Casing pressure if Tubing data not available) PSIA

P_d = Deliverability Pressure (113.2 psia for Minimum Contract Requirements)

D_t = Wellhead Deliverability at Deliverability Pressure (P_d) MCFPD

Log B = .051152 x (n) .878 = .044911 Antilog 1.109

Q = 185 x (Antilog) 1.109 = 205 MCFPD

Unit Size: 1.00

Meter Station No.: 60-800

I hereby swear or affirm that the information given above is true and correct.

Name Jack T. Littlefield

Position

Witnessed by B. G. Boaz

Company El Paso Natural Gas Company

EL PASO NATURAL GAS COMPANY

Date

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EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

R.Olsen Oil Company | S.R. Cooper | 1

H | 23 | 24 | 36 | Lea

Jalmat | Single | 9-15/9-19/58

X | .672

.878 | 3-14-58

No.	FLOW DATA Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow, Hr.
Shut-in							684-677-705		684-677-705		24-48-72
1.	4" x .750			223	9.00	49	225				24
2.											

No.	Coefficient FLQ. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	3.435	46.11		1.0107	.9449	1.027	155
2.							

P_c = Shut-in Wellhead Pressure

P_t = Flowing Wellhead Pressure during Deliverability Test

P_d = Calculated Wellhead Pressure at Deliverability Rate of 155 MCFPD

515.8

12.8

56.7

503.0 | 1.096

459.1

.0398106 | .878 | .0349537 | 1.086

155 | 1.086 | 158

Unit Size 1.00

Meter Station 60-800

J.B. Murray

21

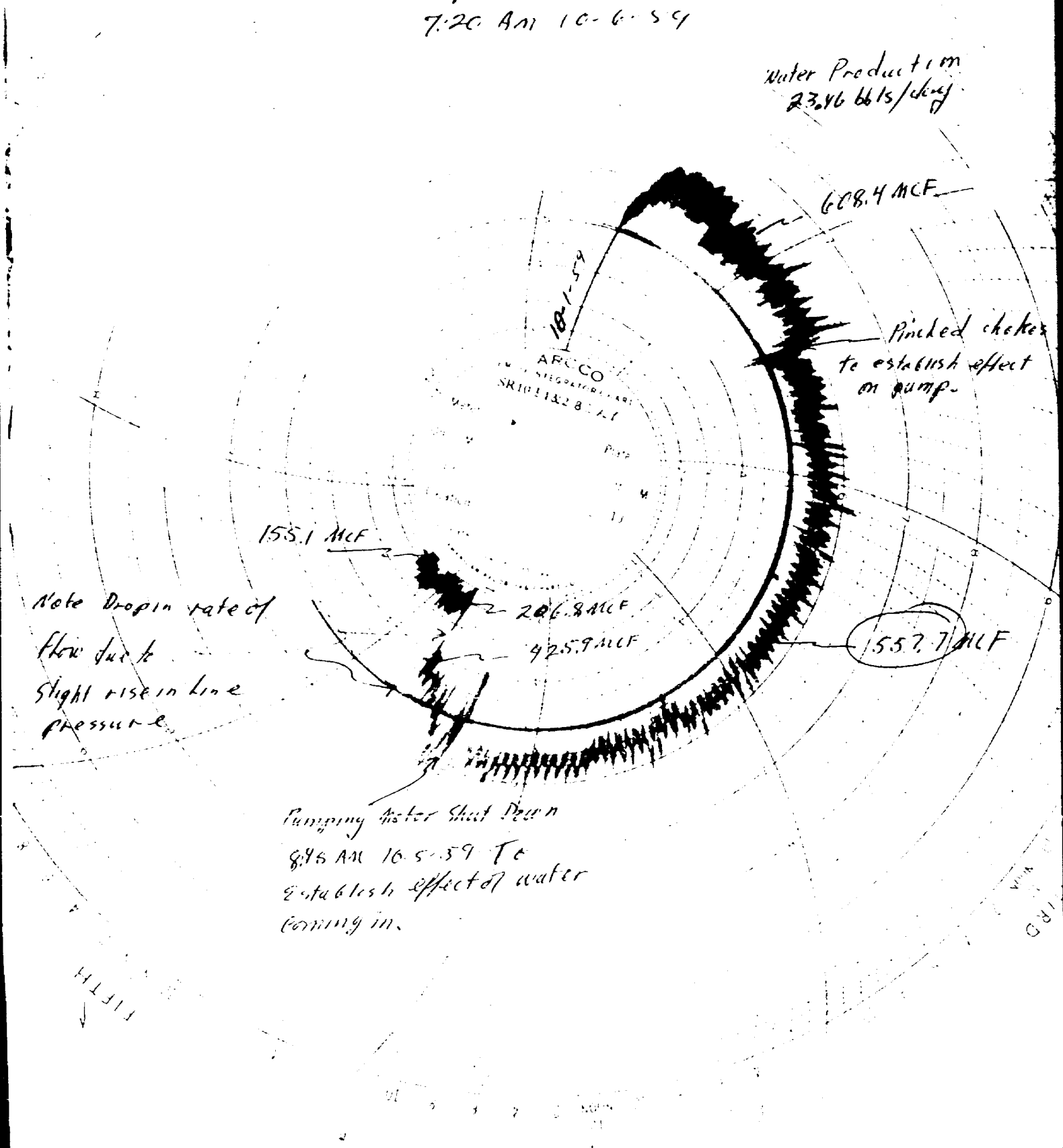
Olsen Oils Inc

Winningham #3

El Paso Natural Gas Co Gas Chart

Taken off & photated

7:20 AM 10-6-59



El Paso Natural Gas Company

El Paso, Texas

July 27, 1956

Jal Oil Company
P. O. Box 1744
Midland, Texas

Gentlemen:

During the months of January through May, 1956, we have received or purchased the following wells under contract to El Paso Natural Gas Company.

Well Name	Date	MCF	Reason
Carlsbad No. 1	4/ 7- 9	5	Shut in-Deliverability Test
Hodges No. 2	5/15-16	2	Shut in while offset well being tested
Eva Greene No. 1	4/ 1-7	3[illegible]	Shut in-Statewide Regulations (Overproduced)
Jenkins No. 2	1/18-22	5	Logged off with fluid
Jenkins No. 2	2/ 1-28	28	Logged off with fluid
Jenkins No. 2	3/ 2-31	30	Logged off with fluid
Jenkins No. 2	4/ 1-30	3[illegible]	Logged off with fluid
Jenkins No. 2	5/ 1- 4	[illegible]	Logged off with fluid

Yours very truly,

EL PASO NATURAL GAS COMPANY

[illegible]

J. M. Fitch, Jr.
Gas Production [illegible]

JMF:jr:jm
cc: Jal Oil Company - Jal, New Mexico
L. A. Arnold
F. M. Connolly
Central File
File

COPY

READ & INITIAL

El Paso Natural Gas Company

El Paso, Texas

April 22, 1959

Jal Oil Company
P. O. Box 1744
Midland, Texas

Gentlemen:

During the months of February and March, 1959, we were unable to produce the following wells under contract to El Paso Natural Gas Company.

WELL NAME	DATE	DAYS	REASON
Woolworth No. 1	2/24-26	3	Shut in-Deliverability Test
Woolworth No. 1	3/ 5- 8	4	El Paso setting separator
Jac. No. 1	2/24-26	3	Shut in-Deliverability Test
Hodges No. 2	2/24-26	3	Shut in-Deliverability Test
Gregory No. 2	3/11	1	Leak in El Paso line
Eva Owens No. 1	3/ 1- 4	4	Shut in-state regulations (Overproduced)
Eva Owens No. 1	3/11-12	3	Shut in-Deliverability Test
Eva Owens No. 1	3/13-18	6	Shut in-state regulations (Overproduced)
Watkins No. 2	2/24-26	3	Shut in-Deliverability Test
Watkins No. 2	3/ 5- 8	4	El Paso setting separator

Yours very truly,

EL PASO NATURAL GAS COMPANY

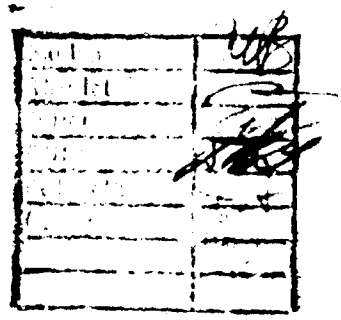
ORIGINAL SIGNED
J. W. BADGER JR.

J. W. Badger, Jr.
Gas Production Engineer

JWB,jr:ljc
cc: Jal Oil Company - Jal, N. M.
C. A. Terrell
F. M. Roberts
Central File
File

COPY

READ & INITIAL



El Paso Natural Gas Company

El Paso, Texas

[illegible], 1961

[illegible]
[illegible]
[illegible]

Gentlemen:

This letter will confirm our [illegible] of June 5, 1961, concerning the reclassification of [illegible] Jalco Unit.

The New Mexico Oil Conservation Commission has determined that (a) [illegible] connected to the gathering system [illegible] to the original status. The [illegible] the year 50, [illegible], has [illegible] the Republic of [illegible] Jalco Unit. The [illegible] well will be cumulative to July, 1961, and all of the [illegible] overproduction [illegible] produced at [illegible] as [illegible].

Since the Republic [illegible] a considerable [illegible] it should be ordered that [illegible] the New Mexico Oil Conservation Commission due to overproduction then it would probably be [illegible] to the well with proper [illegible] of gas produced. It would probably be advantageous to request permission for an exception to the rules from the New Mexico Oil Conservation Commission so that we will be in position to produce at full rates. The Commission [illegible] exception to the rules in order [illegible] to continue to produce [illegible] your normal rate. It was [illegible] this be [illegible] to a [illegible] well.

As you have requested in the past [illegible] will [illegible] your production, [illegible] you [illegible] we do not [illegible].

Yours very truly,

[illegible]

[illegible]

[illegible]

cc: [illegible]

[illegible], Box 1492, El Paso, Texas

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COPY

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Operator: R. Olsen Oil Co. Lease: Winningham No.: 3

Unit: I Sec.: 30 Twp.: 25 Rge.: 37 County: Lea

Pool: Jalmat Type Comp.: Single Date: 3-29-57

Producing Thru: Casing Tbg.: X Gravity: .660 Separator: 13.2

Meter Prover: 1.000 Last Prover Test: 7-22-55

No.	FLOW DATA: Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					266/275/272				24/48/72
1.	4 x 1.250	187	11.56	66	189				
2.									

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	48.08		.9943	.9535	1.018	448
2.							

$P_t = P_w \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^n$

$P_c^2 = 83.1$

$P_d^2 = 12.8$

$P_t^2 = 40.8$

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right] = \frac{70.3}{42.3} = 1.662^n$

n = Slope of Wellhead Deliverability Curve ($P_c^2 - P_t^2$ vs. Q)

Q = Actual flow rate at Flow Period at Wellhead Pressure P_t

P_c = Maximum Shut-in Pressure observed in 72** hour period, PSIA

P_t = Flowing Wellhead Pressure (tubing if flowing thru tubing and vice versa), psia

P_d = Deliverability Pressure (13.2 psia for Minimum Contract Requirements)

P_w = Wellhead Deliverability at Deliverability Pressure (P_d) as calculated by

Log $\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]$ x (n) 1.000 = 1.662

448 x 1.662 = 745

Witnessed by: Jack T. Littlefield

Company: El Paso Natural Gas Company

Earl G. Smith

El Paso Natural Gas Company

10

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

R. Olsen Oil Company, Winningham No. 3

I 30 25 37 Lea

Jalmat Single 9-15/9-19/58

I .686

.771 3-14-58

No.	FLOW DATA: Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					200-82-12		249-256-261		24-48-72
1.	4" x 1.250	108	28.09	76	121				24
2.									

No.	Coefficient FLG. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	58.35		.9850	.9352	1.011	525
2.							

75.2

12.8

18.0

72

62.4
57.2

1.091

.0378248 .771 .0291629 1.070

525 1.070 562

Unit Size 1.50
Meter Station 60-835

J. B. Murray

J. B. Murray

1959

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Company R. Olsen Oil Company Winningham 3

Unit I Sec. 30 Twp. 25 Rge. 37 County Lea

Pool Jalmat Type Well Single Date of Test 1-16-59

Producing Thru: Casing Tubing X Type Taps .679 Meter Run Size 2"

Gravity (Air = 1.000) .771 Type Chart Date Last Meter Calibrated 9-19-58

No.	FLOW DATA Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow hr.
Shut-in					208-213-210				24-48-72
1.	4 x 1.250	78	63.56	64	85				24
2.									

No.	Coefficient Flg. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	63.03		.9962	.9400	NIL.	570
2.							

$$D_t = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^{n}$$

P_c^2 = 51.2

P_d^2 = 12.8

P_t^2 = 9.6

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]$ = $\frac{38.4}{41.6}$ = .9231 = B

n = Slope of Wellhead Deliverability Curve ($P_c^2 - P_t^2$ vs. Q)

Q = Actual flow @ end of Flow Period at Wellhead Pressure P_t

P_c = Maximum Shut-in Pressure observed in a 48 hour period, PSIA

P_t = Flowing Wellhead Pressure (tubing if flowing thru tubing and vice versa), psia

P_d = Deliverability Pressure (1/2 P_c psia for Northwestern Contract Requirements)

D_t = Wellhead Deliverability at Deliverability Pressure (P_d) MCF/Day

Log B = 9.9652488-10 x (n_t) .771 = 9.9732068-10 Antilog .9402 = B

Q = 570 x (B) .9402 = 536

Unit Size 1.50
Meter Station No. 60-836

I hereby swear and affirm that the information given above is true and correct.

Name H.H. Kerby

Position

EL PASO NATURAL GAS COMPANY

Witnessed

Title

Company

12

1959

Jalmat Yates Lea

X 3-6/3-13-59

B. Olsen Oil Company Winningham 3

I 30 25 37 El Paso Natural Gas Company

7 20 2664

2½ 6.5 3083 3052 3062

3052 3062 3052 .673 2072

X Single

3-9	3-10	24	Flg.	4	1.250	113.2	30.25	71
1:00	1:00							

113.2	30.25	58.52	9.643	.9400	.9896	1.010	530.1

3-10	3-11	24	203.2	130.2	
	3-12	48	209.2		
1:00	3-13	1:00	72	205.2	

$$P_w^2 = (130.2)^2 + (5.866 \times 530.1)^2 (.133) = 18.3$$

203.2

530.1

135.3

135.3	203.2	.6467	167.4
			366.1
.3533	1.6467	.5818	
.6188	9.79155-10	.771	9.83928-10

2.72437

12.55384-10

366.1

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

Gas Tester
El Paso Natural Gas Company

12

El Paso Natural Gas Company

El Paso, Texas

[illegible], 19[illegible]

[illegible]
[illegible]
[illegible]

Gentlemen:

We are unable to produce your Birmingham (LEASE) #3 (NO. UNIT) [illegible] (S - T - R)

in the [illegible] (FIELD) for the following reason:

SEPARATOR OUT OF ORDER	LOGGED OFF	INSUFFICIENT PRESSURE TO PRODUCE
SHUT IN AT WELLHEAD	PRODUCING AN EXCESSIVE AMOUNT OF FLUID	AT YOUR REQUEST

When this situation is corrected and the well is ready to be produced, please contact this office.

Remarks: [illegible]

Thank you for your [illegible].

Yours truly,

EL PASO NATURAL GAS COMPANY

[illegible]
[illegible] Department

14

[illegible]
[illegible]

50-835

[illegible] Gas Company

[illegible]

[illegible]

[illegible]

Gentlemen:

We are unable to produce your [illegible] [illegible] 31-25-37

in the [illegible] for the following reason:

When this situation is corrected and the well is ready to be produced, please contact this office.

Remarks: This will confirm telephone conversation between [illegible] and your [illegible], dated July 25, 1950. Gas was encountered, tested and the above well was [illegible] shut-in. Please notify this office when the well has been [illegible].

[illegible] for your cooperation.

Yours truly,

[illegible] GAS COMPANY

[illegible]
Superintendent Department

15

[illegible]

[redacted]

HIGH PRESSURE GAS WELL TEST REPORT

June 9, 1950

Operator: R. Olsen

Well Name and Number: Repollo #1

Location: Section 28-25-37; 1[illegible] N & 660 W; SW/4 NE/4

Shut-in Pressure, PSIG:	866
Open Flow, MCFPD	6,000
How Tested: Open Type Pitot Tube, through 2" on tubing. 660# on casing after blowing two hours.	
Volume @ PSIG W.P., MCFPD	
H_2S, gr./100 cf.:	0.012
GPM (13.2 P.B.):	0.136
Acid Gases, % by Volume:	1.5

Approximate amount of pipe required to tie into our High Pressure System: 100 feet.

Remarks: This well is still making a considerable amount of water after being blown several hours at different times. After being shut-in several days, it accumulates so much water it unloads slowly. This would lead us to believe that a considerable water is present, but, after running a test on a water sample, we found it contained only 7 parts per million chloride. The operators believe that it is water they pumped into the formation to kill the well at the time of drilling.

This well is included in our present high pressure contract acreage.

D. L. Fite

cc: [illegible]

25

Mr. D. M. Tucker

June 28, 1950

G. E. Kendrick

Jal Division Office

Re: R. Olsen Oil Company - Repollo No. 1

We are proceeding with arrangements to tie this well into our high pressure system and should have it hied in by July 18, 1950.

I will mention that this well is making water at the present time. If it does not clear up, Olsen should set a separator to take care of this excessive water.

G. E. Kendrick

GEK:pd

cc: H. F. Steen
J. W. Baulch
File

C. E. Kendrick

August 9, 1951

J. O. Shiplet

Jal Division Office

Re: R. Olsen Apollo #1 Well

As you know, this well has made a large quantity of water since the initial tie-in to our High Pressure Gathering System. R. Olsen set a Parkersburg Hydrocepter to eliminate water getting into our system.

On March 23, 1951, this well was shut-in due to the inability of the Hydrocepter to eliminate water from our system. R. Olsen's Jal Office (Mr. French) was notified by telephone the same day.

On April 23, 1951, our office was notified by R. Olsen's Mr. French that the Hydrocepter had been repaired. That afternoon our Mr. Viker and a representative of R. Olsen put the well on. However, after about one (1) hour, the well was turned off due to inability of the Hydrocepter to remove all the water.

R. Olsen's Jal Office (Mr. French, Mr. McColl and Mr. Knox) was notified before the end of each month that the well had not been produced. Also, that the well was getting behind on contract requirement.

On August 9, 1951, R. Olsen's Mr. McColl notified us that a high pressure separator was installed. Our Mr. Viker put the well on that afternoon, and to date, is still on.

J. O. Shiplet

25

Jal, New Mexico June 23, 1954

Mr. Howard Olsen
R. Olsen & Blount
Drawer "Z"
Jal, New Mexico

Dear Sir:

This will confirm our telephone conversation on June 23, 1954, regarding a shutdown at our Jal No. 3 Plant.

As stated our Jal No. 3 Plant will go off at 6:00 A.M. June 24, 1954, for approximately ten to twelve hours. During this period of time our Intermediate Gathering System will be off. Therefore we request you make necessary arrangements on your Repollo #1 well to prevent it logging off during this time.

Yours truly,
EL PASO NATURAL GAS COMPANY

A. O. Shiplet

AOS:eeh
cc:EAS, GEK,
VMP, File

[illegible] NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Well Deliverability at 100 PSIG)

R. Olsen, Personal — Repollo — 1

28 — 25 S — 37 E — Lea

Jalmat — Single — 12-6-55

X — .650

1.000 — 5-29-53

No.	FLOW DATA Line Size	x	Orifice Size	Press. psig	D.H. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA *Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in									750 *		
1.	4	x	1.000	217	26.01	58			225		24
2.											

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD 15.025 psia
1.	6.135	77.35		1.0019	.9608	1.023	468
2.							

* This shut-in pressure assumed. Unable to shut-in well because of water production.

$\frac{P_c^2}{P_c^2 - P_t^2}$ = 582.4

12.8

56.7

569.6 — 1.083

525.7

1.000

468 — 1.083 — 507

Absolute Open Flow Deliverability $Q = \ldots P_c^2$ Vol. 2

Actual Flowing Rate at Flow Pressure at Wellhead Pressure P_t

Maximum Surface Pressure obtainable at Wellhead, PSIA

Flowing Bottom Hole Pressure (Back pressure plus drop in tubing and vice versa) psia

Well Potential Deliverability at Delivery Pressure of ... MCF/Day

1.083

Earl G. Smith

EPNG

C. M. Cole

C. M. Cole

Gas Engineer

El Paso Natural Gas Company

El Paso, Texas

March 2[illegible], 1955

Mr. Garlett D. Legg
L. Olson
Drawer "2"
Jal, New Mexico

Dear Sir:

This will confirm my telephone conversation with you on March 25, 1955.

As stated, our Jal No. 3 Plant will go off at 9:00 A.M. (MST) March 28, 1955, for approximately thirty minutes. Then again on April 1, 1955, at 9:00 A.M. (MST) for approximately two (2) hours. During these periods of time the pressure on our Intermediate Gathering System will rise.

We are notifying you in order that you may vent your Republic No. 1 Gas Well if you so desire.

Yours truly,

EL PASO NATURAL GAS COMPANY

R. T. Shiplet

RTS:jm
cc: [illegible]. P. Wright
[illegible]. H. Hendrick
File

COPY

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

R. Olsen, Per. — Repollo — 1

28 — 25 — 37 — Lea

Jalmat — Single — Date of Test 4-15-57 ✓

X — .650 — 13.2

1.000 — 12-2-55

No.	FLOW DATA: Prover Line Size	FLOW DATA: Choke Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	TUBING DATA: Temp. °F	CASING DATA: Press. psig	CASING DATA: Temp. °F	Duration of Flow Hr.
Shut-in										
1.	4 X 1.000		232	1.00	72			232		24
2.										

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD 15.025 psia
1.	6.135	15.65		.9887	.9608	1.022	93
2.							

* Unable to shut-in well because of water production

12.8

Jack T. Littlefield

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

R. Olsen (Pere) — Repollo — 1

E — 28 — 25 — 37 — Lea

Jalmat — Single — 1-31/2-7 1958

X — .665

1.000 — 4-15-57

No.	FLOW DATA Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in											24
1.	4 x		1.250	107	25.00	63			118		24-48-72
2.											

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	54.77		.9971	.9498	1.011	506
2.							

Compressor was on during test.

$$\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$$

$P_c^2 =$

$P_w^2 =$

$P_t^2 =$

$\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_t^2}\right]$

n = Slope of Modified Deliverability Curve $(P_c^2 - P_w^2)$ vs. Q

P_c = Static Flow at end of Flow Period at Ambient Pressure P_t

P_w = Maximum Shut-in Pressure observed during 24 hour period, PSIA

P_t = Flowing Wellhead Pressure (Pressure at flowing into tubing and flow vessel), psia

P_d = Deliverability Pressure (1/2 of 24 hour Maximum Shut-in Pressure)

Q_d = Wellhead Deliverability at Deliverability Pressure of P_d, MCFPD

520 (Approx)

Meter Station No. 60-780

Unit Size: 1.00

J.B. Murray

El Paso Natural Gas Company

Jack T. Littlefield

NOTE: Well cannot be shut-in. Logs off quickly.

MULTIPOINT CONTRACT TEST

(To Determine Deliverability for Contract Purposes)

Jal Oil Company | Repollo | Well No. 1

E | 28 | 25 | 37 | Lea

Jalmat | Single | August 8-15, 1958

X | .657 | Pr. Gauge 13.2

1.000 | 1-31/2-7, 1958

No.	FLOW DATA: Line Size	FLOW DATA: Orifice Size	Press. psig	Diff. h_w	Temp. °F	CASING DATA: Press. psig	CASING DATA: Temp. °F	TUBING DATA: Press. psig	TUBING DATA: Temp. °F	Duration of Flow Hr.
Shut-in						Not shut-in				
1.	4 x 1.250		83	30.25	82			84		
2.										

No.	Coefficient (24-hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	53.89		.9795	.9556	1.000	486
2.							

Well cannot be shut-in; logs off quickly.

Compressor on during test.

P_c = Shut-in pressure (Casing)

P_t = Flowing pressure (Tubing)

P_w = Working pressure: P_c or P_t whichever is greater

P_d = Pressure used in calculating deliverability and against which deliverability is to be determined, psia

P_s = Separator pressure

P_f = Flowing meter pressure (gauge or meter reading when flowing against P_d pressure), psia

P_m = Meter pressure, psia

P_t = Flowing temperature of gas at meter

P_r = Meter pressure, psia (Pressure base)

1.000

460

Unit Size: 1.00

Meter Station No.: 60-780

R. A. Mikel

R. A. Mikel

EL PASO NATURAL GAS COMPANY

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool: **Jalmat** Formation: **Yates - 7 Rivers** County: **Lea**

Initial: Annual: Special: **X** Date of Test: **4-18-58**

Company: **Jal Oil Company, Inc.** Lease: **Repollo** Well No.: **1**

Unit: **K** Sec.: **28** Twp.: **25** Rge.: **37** Purchaser: **El Paso Natural Gas Company**

Csg.: **7** Wt.: **20** I.D.: **6.456** Set at: **2263** Perf.: To:

Tbg.: **2** Wt.: **4.7** I.D.: **1.995** Set at: **2403** Perf.: Name:

Gas Pay: From **2295** To **2453** : **2403** x **.665** = GL **1598** Bar. Press.: **13.2**

Producing Thru: Casing: **X** Tubing: Type Well: **Single**
Single - Bradenhead - G. G. or G. O. Dual

Date of Completion: **Approximately July 1958** Packer:

No.	Flow Data: Prover Line Size	x Orifice Size	Press. psia	Diff. hw	Temp. °F.	Tubing Data: Press. psia	Temp. °F.	Casing Data: Press. psia	Temp. °F.	Duration of Flow Hr.
SI						*412.0				72
1.	4	X 1.250	92	42.25	71			92		24
2.										
3.										
4.										
5.										

* Shut in pressure taken from Tbg. of offset well.

No.	Coefficient (24-Hour)	$\sqrt{h_w p_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compressibility Factor Z	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643		105.2	0.9896	0.9498		604
2.							
3.							
4.							
5.							

Gas Liquid Hydrocarbon Ratio: Mcf/bbl.
Specific Gravity of Liquid Hydrocarbons: deg.
Specific Gravity Separator Gas: 425.2
Specific Gravity Flowing Gas: 180.7

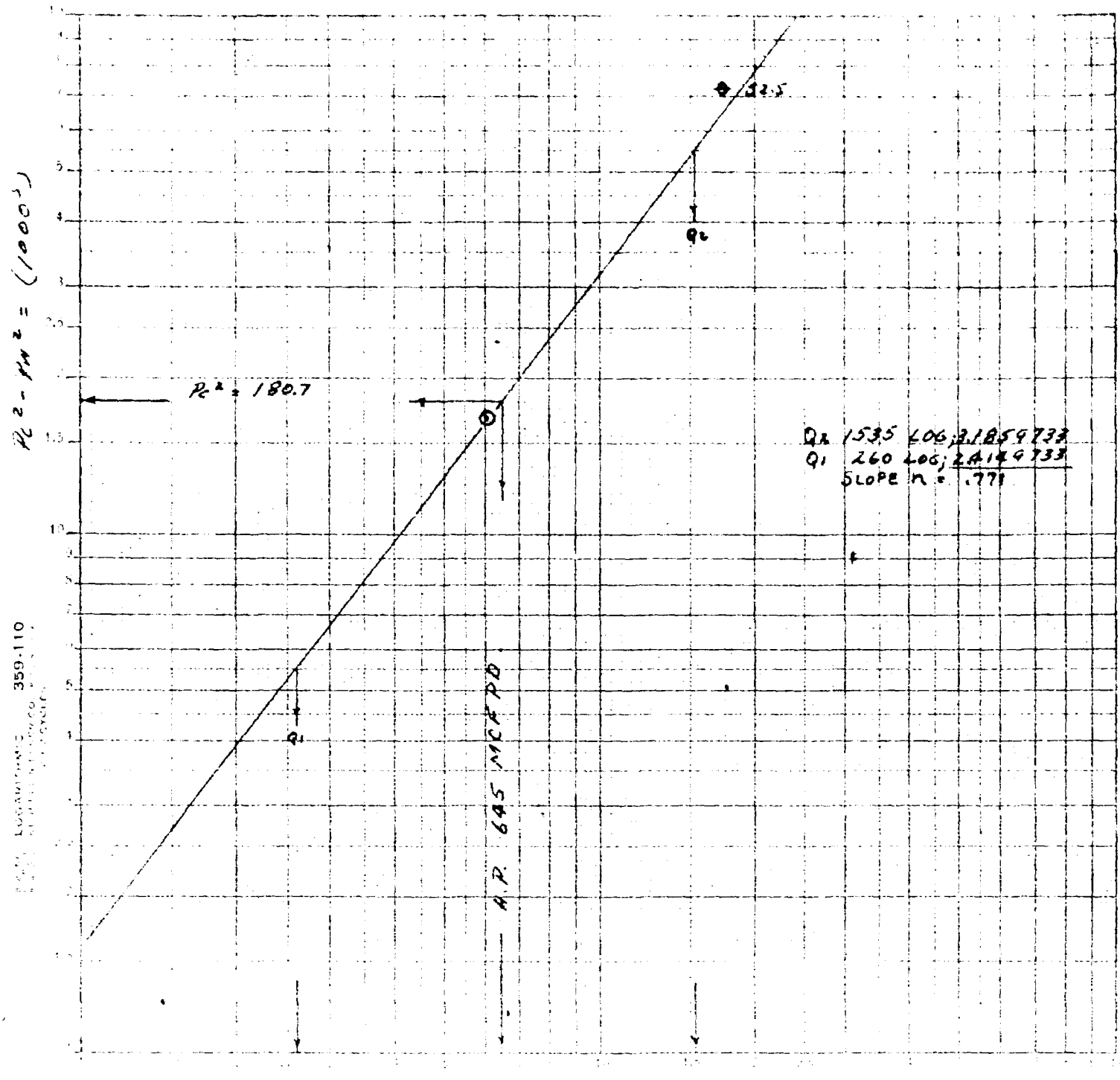
No.	P_w	P_w^2	P_c^2	$P_c^2 - P_w^2$	$\frac{P_c^2}{P_c^2 - P_w^2}$	P_c	P_w
1.	105.2	11.1	169.6	——— Negative ———		11.1	169.6
2.							
3.							
4.							
5.							

* Average Jalmat Slope

Absolute Potential: 645 MCFPD; n = 52.5 Slope = *.771

Calculated by: Earl G. Smith
Witnessed by: J. B. Murray
Compiled by: Jack Whitling

'L OIL COMPANY
KEHOLLO NO. 1
E-28-25-37 LEA CO., NM.
4-18-58

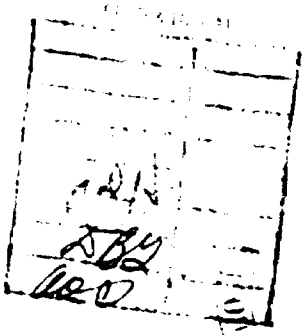


25

El Paso Natural Gas Company

El Paso, Texas

April 15, 1958



[illegible] Inc.
[illegible]
[illegible], New Mexico

Attention: Mr. [illegible]

Gentlemen:

This reference to the letter dated April 11, 1958 from [illegible], Jr. of the New Mexico Oil Conservation Commission, Aztec, New Mexico, requesting tests in the Dakota zone, listed below are wells operated by your company on which we have unable to submit any test data to date. This information is being furnished to enable you to make any disposition of subject wells which you deem appropriate. Perhaps you will desire to have these wells exempt from the multi-point deliverability tests. In any event, if the multi-point tests are not reported by June 1, 1958 or an exemption is not obtained on such wells, no allowable will be assigned on the July 1958 proration schedule.

Davis No. 1	21-29-3W	Produces with a piston lift.
Hopkins No. 1	2-29-3W	Unable to obtain due to water production.
Federal No. 2	1-31-3-37	Unable to obtain

Yours truly,

[illegible]

[illegible]

cc: [illegible]

COPY

[illegible] GAS WELL TEST
[illegible]
One-point Back Pressure [illegible] Gas Wells
(Deliverability)

Pool **Jalmat** Formation **Yates - 7 Rivers** County **Lea**
Initial: Annual **X** Special: Date of test **3-6/3-13-59**
Company **Jal Oil Company** Lease **Repollo** Well No. **1**
Unit **E** Sec. **28** Twp. **25** Rge. **37** Purchaser **El Paso Natural Gas Company**
Casing **7** Wt. **24.0** I.D. Set at **2263** Perf. [illegible]
Tubing **2** Wt. **4.7** I.D. Set at **2403** Perf. [illegible]
Gas Pay: From **2295** To **2453** L **2263** x G **.656** = GL **1484** Bar. Press. [illegible]
Producing Thru: Casing **X** Tubing Type Well **Single**
Series **90** Meter Run Packer at 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	Static Press.	Differential	Flow Temp.
3-9	8:45 AM PM	3-10	8:45 AM PM	24	Flg.	4"	1.250	110.2	34.81	72

FLOW CALCULATIONS

Static Pressure p_f	Differential h_w	Meter Extension $p_f h_w$	24-Hour Coefficient	Gravity Factor F_g	Temp. Factor F_t	Compressibility F_{pv}	Rate of Flow MCF/Da @ [illegible] psia Q
110.2	34.81	61.93	9.643	.9564	.9887		564.7

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	FLOW DATA W.H. Working Pressure (P_w) and (P_t) psia Tubing	FLOW DATA W.H. Working Pressure (P_w) and (P_t) psia Casing
	AM PM		AM PM		*	*		111.2

FRICTION CALCULATION (If necessary)

$$P_t^2 = (111.2)^2 + (.740 \times 564.7)(.097) = 12.4$$

SUMMARY

P_c	*434.2
Q	564.7 MCF/Da.
P_w	111.2 psia
P_c^2	347.4
P_w^2	270.7
$P_c^2 - P_w^2$	9.60965 - 10
n	2.75182
Log	12.43247 - 10
Antilog	270.7

DELIVERABILITY CALCULATIONS

P_w 111.2 P_c 434.2 $P_c^2 - P_w^2$ .2561

P_w	P_c	$P_c^2 - P_w^2$
.7439	1.256	.9343
.3353	9.58580 - 10	.771

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

*Pc was taken from Jal Oil Company Eva Owens #1. Well could not be shut-in due to water logging off well-bore.

Form C-122-A-58

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 500 PSIG)

Company Jal Oil Company Lease Apollo 1

Unit E Sec. 28 Twp. 25 Rge. 37 County Lea

Pool Jalmat Type Comp. Single Date 3-6/3-13/1959

Producing Thru: Tubing X Casing

Meter Run Size 1.000 Elevation 8/15/58

No.	FLOW DATA Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in							421*				
1.	4 x 1.250			97	34.81	72	98				24
2.											

Data Obtained from Deliverability test dated 3-6/3-13/1959

No.	Coefficient FLG. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	61.93		.9887	.9564	-	565
2.							

$Q = \left[\frac{P_c^2 - P_a^2}{P_c^2 - P_d^2}\right]^n$

$P_c^2 = 188.5$ *

$P_d^2 = 12.8$

$P_t^2 = 12.4$

$\left[\frac{P_c^2 - P_a^2}{P_c^2 - P_d^2}\right] = \frac{175.7}{176.1} = 0.9977$

$n =$ 72*

Slope of Deliverability Curve ($P_c^2 - Q$ curve)

Actual Flow at 15.025 psia and Pressure Base

Meter Pressure (Flowing)

Flowing Temperature Factor

Gravity Factor

Supercompressibility Factor

Q = 9.999000-10 x 1.000 x 565 x .9977 = 9.999000 x 0.9977 x 564

Unit Size 1.00
Meter Station No. 60-780

I hereby certify that the above information is true and correct.

Name David H. Dyer

Position

Company

Date

* Well could not be shut-in. Shut-in pressure taken from Jal Oil Co. - Eva Owens No. 1.

60 780

Gentlemen:

We are unable to produce you _____ in the _____ for the following reason:

When this situation is corrected and the well is ready to be produced, please contact this office.

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

R. Olsen, Personal	Eva Owen		1
M	21	25 S	37 E	Lea
Jalmat	Single		1-13-56
	x .670		
.932			10-4-52

No.	FLOW DATA: Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in			7.4		360/270/212				24/48/72
1.	4 x 1.250	257	54.76	71	291				24
2.									

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	121.59		.9896	.9463	1.028	1,129
2.							

$\sqrt{\frac{P_c^2}{P_c^2 - P_w^2}}$

139.3

12.8

92.5

126.5 2.702

46.8

.431685 .932 .402330 2.525

1,129 2.525 2,851

Earl G. Smith

ENG

C. M. Cole

Gas Engineer

NEW MEXICO OIL CONSERVATION COMMISSION

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Company: R. Olsen Oil Company Lease: S. R. Cooper Well No.: 1

Unit: H Sec.: 23 Twp.: 24 Rge.: 36 County: Lea

Pool: Jalmat Type: Single

Date of Test: 2-20/2-27-59

Meter Run Size: X Orifice: .666

Gravity: .878 Type Taps:

Date Shut-In: 9-19-58

Data from Deliverability Test 2-20/2-27-59

No.	FLOW DATA: Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	SHUT-IN DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in											
1.	4	X	.750	227	1.96	63	642-671-666				24-48-72
2.							239				24

No.	Coefficient F_{tg} (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD 15.025 psia
1.	3.435	21.70		.9971	.9431	1.024	72
2.							

$P_t = \left[\frac{P_c^2 - P_a^2}{P_c^2 - P_t^2}\right]^n$

Absolute Wellhead Deliverability

Curve $P_c^2 - P_t^2$ vs. Q

Final Flow Pressure P_t

Wellhead Pressure P_c

72

Static Pressure, psia

Square Value of Pressure Taken at Bottom of Tubing, psia

Wellhead Deliverability at Delivery Pressure P_d = Mcf/day

$P_c^2 =$ 468.1

$P_d^2 =$ 12.8

$P_t^2 =$ 63.6

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right] = \frac{455.3}{404.5} = 1.126$

.0515284 × .878 × 72 × 1.110

.0452507 × 801 × 1.110

Unit Size: 1.00

Meter Station No.: 60-800

H. H. Kerby

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 23
CASE NO. 1722 - 1721

December [illegible], 1953

[illegible] 1953 Jal, New Mexico

R. Olsen Oil Company
Drawer 845
Jal, New Mexico

ATTN: Mr. Aaron Quellmore

Dear Sir:

We were unable to run a pitless control test on your Jenkins #1 and S. R. Cooper #1 on date scheduled (November [illegible], 1953). The Jenkins #1 was lowered off and would not produce into our line; the S. R. Cooper #1 pulled valve loose.

If remedial work is done on these wells, please notify our Dispatching Department when well is ready for production.

Yours very truly,

EL PASO NATURAL GAS COMPANY

Original Signed
Gas Engineer

cc: [illegible] J. E. Kaylor, Jr.
Dispatching Department
Box 1[illegible], Jal, New Mexico

[illegible]

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 17
CASE NO. 1778 1779

EL PASO NA[illegible] COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Sent out 3-11-57

Operator: R. Olsen Oil Company Lease: S. R. Cooper No.: 1

Unit: 23 Sec.: 24 Twp.: 36 Rge.: Lea

Pool: Jalmat Type Unit: Single Date of Test: 3-8-57

Producing Thru: Casing Reservoir Temp.: X Mean Annual Temp.: 1665 Baro. Press.: [illegible]

Meter Run Size: .878 Orifice Size: [illegible] Type Taps: 2-15-57

No.	FLOW DATA: Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in							679-710-708				24-48-72
1.	4	x	.750	207	10.89	57	210				
2.											

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	3.435	48.95		1.0029	.9498	1.023	164
2.							

$\left[\frac{P_c^2}{P_c^2 - P_t^2}\right]^n$

P_c^2 = 520.1

P_t^2 = 12.8

P_w^2 = 49.3

$\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]$ = 507.3 / 470.3 = 1.079

n = Slope of Wellhead Deliverability Curve ($P_c^2 - P_t^2$ vs. Q)

Q = Actual Flow Rate at Flow Temp. at Wellhead Pressure, P_t

P_c = Maximum Static Pressure observed at 24 hour period, psia

P_t = Flowing Wellhead Pressure (tubing or casing if no tubing was used), psia

P_w = Deliverability Pressure (113.0 psia for Minimum Contract Requirements)

Q = Wellhead Deliverability at Deliverability Pressure, MCF/Day

.033021 .878 .028992 1.069

164 1.069 175

L. D. Southern

L. D. Southern

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 10
CASE NO. 1728-1729

Form C-30...

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Pool: R. Olsen Oil Company — Lease: S. R. Cooper — Well No.: 1

Unit: H — Sec.: 23 — Twp.: 24 — Rge.: 36 — County: Lea

Field: Jalmat — Type Well: Single — Date: 7-(19-26) 1957

Completion: X — Gas Gravity: .665

Meter Run Size: .878 — Date of Test: 3-8-57

No.	FLOW DATA Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in							499-508-488				24-48-72
1.	4 x .750			217	10.24	90	218				24
2.											

No.	Coefficient Flg. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	3.435	48.53		.9723	.9498	1.019	157
2.							

$\left[\frac{P_c^2 - P_a^2}{P_c^2 - P_c^2}\right]^n$

P_c^2 = 271.6

$P_c^2 - P_t^2$ = 12.8

P_t^2 = 53.5

$\left[\frac{P_c^2 - P_a^2}{P_c^2 - P_t^2}\right]$ = 258.8 / 218.1 = 1.187

n = Slope of Wellhead Deliverability Curve ($P_c^2 - P_t^2$ vs. Q)

P_t = Actual flowing wellhead pressure at Wellhead Pressure (P_t)

Q = Maximum allowable rate as stated or approved in a 48 hour period, MCFPD

P_t = Flowing Wellhead Pressure (Actual or flowing pressure after flow vertical), psia

P_a = Deliverability Pressure (15.025 psia for Minimum Contract Requirements)

Q_a = Wellhead Deliverability at Deliverability Pressure (P_a), MCF/Day

Absolute Potential: .074451 — P_c: .878 — .065368 — Antilog: 1.162 — n:

157 — $(P_c^2 - P_t^2)^n$: 1.162 — 182

Unit Size 1.00

Witnessed by:

Jack T. Littlefield

Company:

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 12
CASE NO. 1221 - 1222

Form C-30?, Rev?

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Texaco EXHIBIT NO. 20
CASE NO. 1038-1039

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Company R. Olsen Oil Company Lease S. R. Cooper Well No. 1

Unit H Sec. 23 Twp. 24 Rge. 36 County Lea

Pool Jalmat Type Well Single Date of Test 3-(7-14) 1958

Producing Thru: Casing Tubing X Gravity .665 Separator Pressure 13.2

n from Previous Test: .878 Date of Previous Test: 7-26-57

No.	FLOW DATA: Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					608-490-670				24-48-72
1.	4 x .750	234	12.25	54	238				24
2.									

No.	Coefficient Fig. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	3.435	55.01		1.0058	0.9498	1.027	185
2.							

$$Q_t = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^n$$

P_c^2 = 466.8

P_d^2 = 12.8

P_t^2 = 63.1

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]$ = $\frac{454.0}{403.7}$ = 1.125 = s

n = slope of backpressure deliverability curve ($P_c^2 - P_w^2 = AQ^n$)

P_c = Absolute shut-in end of flow pressure at Meter or Pressure Point

P_w = Measured Static Pressure observed at 72 hr. shut-in period, PSIA

P_t = Flowing Bottom Hole Pressure during test (Flowing thru tubing and case annulus) psia

P_d = Deliverability Pressure (113.2 psia for Minimum Contract Requirements)

Q_t = Wellhead Deliverability at Deliverability Pressure (P_d). (MCFPD @ 15.025 psia)

Log s = .051152 x n .878 = .044911 Antilog = 1.109

Q_t = 185 x 1.109 = 205

Unit Size: 1.00
Meter Station No.: 60-800

I hereby swear or affirm that the information given above is true and correct.

Name Jack T. Littlefield Signature

Position

EL PASO NATURAL GAS COMPANY

Witnessed by B. G. Boaz

El Paso Natural Gas Company

Company

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

R. Olsen Oil Company — S.R. Cooper

H — 23 — 24 — 36 — Lea

Jalmat — Single — 9-15/9-19/58

X — .672

.678 — 3-14-58

No.	Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	Press. psig	Temp. °F	Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in							684-677-705		684-677-705		24-48-72
1.	4"	x	.750	223	9.00	49	225				24
2.											

No.	Coefficient FLG. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	3.435	46.11		1.0107	.9449	1.027	155
2.							

$\left[\frac{P_c^2 - P_a^2}{P_c^2 - P_w^2}\right]^n$

P_c^2 515.8

P_w 12.8

P_w^2 56.7

$\left[\frac{P_c^2 - P_a^2}{P_c^2 - P_w^2}\right]$ 503.0 / 459.1 = 1.096

.0398106 — .878 — .0349537 — 1.086

155 — 1.086 — 168

Unit Size 1.00

Meter Station 60-800

J. B. Murray

J.B. Murray

Jalmat | Yates | Lea | 2-20/2-27-59

R. Olsen Oil Company | I | S. R. Cooper | 1

H | 23 | 24 | 36 | El Paso Natural Gas Company

7 | 23 | 3010

2½ | 6.5 | 3197

3127 | 3215 | 3197 | 0.660

X | Single

40

2-23-59	10:00	2-24-59	10:00	24	Flg.	4"	.750	240.2	1.96	63

240.2	1.96	21.70	3.435	0.9535	0.9971	1.024	72.56

		2-25-59	10:00	24	655.2	655.2		
		2-26-59		48	684.2	684.2	252.2	395.2
2-24-59	3:45	2-27-59		72	679.2	679.2		

Pw Measured

			679.2
			72.56
			395.2
395.2	679.2	0.5819	543.4
			42.54
0.4181	1.5819	0.6614	
0.5443	9.735833 - 10	0.878	9.763066 - 10
			1.860637
			11.623763 - 10
			42.54

El Paso Natural Gas Company
P. O. Box 1384 - Jal, New Mexico
J. B. Murray - Gas Tester

GIRAND & STOUT
LAWYERS
204 LEA COUNTY STATE BANK BUILDING
HOBBS, NEW MEXICO

W. D GIRAND
LOWELL STOUT
ROBERT F PYATT

TELEPHONE
EXPRESS 3-9116

POST OFFICE BOX 1445

August 27, 1959.

Oil Conservation Commission,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter.

IN RE: OLSEN OILS, INC. WINNINGHAM #3 GAS WELL, NE¼SE¼, SECTION 30, TOWNSHIP 25 SOUTH, RANGE 37 EAST.

Gentlemen:

Enclosed you will find original and two copies of Application of Olsen Oils, Inc. for relief from shut-in action on the part of the Commission covering the above captioned well.

Please advise the case number assigned to this Application and the Hearing date on same.

Very truly yours,

GIRAND & STOUT,

BY: W. D. Girand

G/bc
Encls.
cc: Oil Conservation Commission, Hobbs, New Mexico.
(Attention: Mr. Randall Montgomery)
Olsen Oils, Inc., 2808 Liberty Bank Bldg., Oklahoma City, Oklahoma.

BEFORE THE OIL CONSERVATION COMMISSION,

STATE OF NEW MEXICO.

APPLICATION OF OLSEN OILS, INC. FOR AN EXCEPTION TO RULE 10 OF ORDER NO. R-967 AND FOR THE ASSIGNMENT OF MINIMUM ALLOWABLE TO ITS WINNINGHAM #3 GAS WELL, LOCATED IN THE NE¼SE¼ OF SECTION 30, TOWNSHIP 25 SOUTH, RANGE 37 EAST, JALMAT GAS POOL AND FOR RELIEF FROM A THREATENED SHUT IN.	)	CASE NO._____

COMES NOW the Olsen Oils, Inc., a New Mexico corporation, with principal office in Jal, Lea County, New Mexico, and files this its Application for an exception to Rule 10, Order No. R-967 and for the Commission to assign a minimum allowable to its Winningham #3 and for cause would show:

1. Applicant is the owner and operator of the gas well known as the Winningham #3 located in the NE¼SE¼ of Section 30, Township 25 South, Range 37 East, in the Jalmat Gas Pool.

2. That the Winningham #3 has previously been designated as a marginal gas well and has been operated under said classification.

3. That in connection with the production of gas from said well, the water has encroached to such an extent

that the well was shut in on August 1, 1959 and has not produced any gas since said date. That operator is presently engaged in the installation of a pump jack. Operator believes that with the use of the pump jack it will be able to reduce the water to such an extent that the well can and will produce large quantities of gas.

4. Applicant would show that after the classification of said well as a marginal well the El Paso Natural Gas Company reduced their line pressures considerably in the lines to which said well was connected and by reason thereof, the well was capable of producing into the El Paso Natural Gas Company's line gas in excess of the fixed allowable. However, this condition was not the only condition existing which caused the over-production. During recent months the allowables assigned to marginal wells within the Jalmat Gas Pool was so reduced that the production of gas by the methods employed by the applicant could not keep from over-producing.

5. Applicant states that in its opinion enormous gas reserves are located under the acreage assigned to the

Winningham #3 and that unless applicant is allowed to install the pump jack and produce gas from the well by reason of the lifting of enormous amounts of water, the well will have to be abandoned and all gas reserves attributable to said well will be lost.

6. Applicant would further show the Commission that on January 29, 1958, the Commission entered its Order No. 1092-A in Case No.1327. That said Order has been under attack of the Courts in the State of New Mexico by many operators within the affected gas pools. That on July 1, 1958, the Jalmat Gas Pool proration formula was changed and the Commission, on its own motion, found it necessary to delay for approximately one year before attempting to reclassify the gas wells under the new proration formula. That, thereafter, in the month of June, 1959, the Commission reclassified approximately 118 gas wells, including applicant's and advised applicant that said Winningham #3 was no longer a marginal gas well and had over-produced more than six times its allowable. Thereafter, by Memo No. 13-59, the Commission notified all operators that unless applications were filed seeking relief from this Commission,

all of the 118 wells would be shut in as of September 1, 1959. That Order No. R-967 provides under Rule 6-C as follows:

> "The Commission may assign minimum allowables in order to prevent the premature abandonment of wells."

The Order further provides, under Rule 10:

> "The Commission may allow over-production 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."

7. Applicant states that in order for applicant to protect its gas reserves, the encroaching water must be produced from its well to prevent the killing of the same. The exact amount of water that will be required to be produced in order to stablize a flow of gas from said well cannot be definitely ascertained at this time. However, applicant believes and states to the Commission that if the Commission will allow a 120 day producing period, applicant will report to this Commission the minimum amount of water required to be produced in order to prevent the killing of the well and yet allow its continued production.

Applicant will advise the Commission as soon as possible, the total flow of gas that will be produced under such production method.

8. The Commission being charged with the conservation of oil and gas and the protection of correlative rights adopted the rules and regulations above quoted to insure relief to an operator situated as the applicant. In light of its declared policy, the Commission should enter an Order covering applicant's Winningham #3 well authorizing applicant to continue to produce the same for a period of 120 days and then report to this Commission the data necessary for this Commission to enter an Order establishing a minimum allowable for this well. However, if applicant is wrong in its interpretation of the meaning and intent of the Commission in its quoted Rule 6, then applicant believes that the Commission should allow applicant to make up its over-production over an extended period whereby applicant could continue to produce its well employing a pump jack presently being installed.

9. The Commission, on numerous occasions, has seen fit in the handling of production of oil to disregard

fixed allowables where production was made by secondary recovery methods. Applicant believes and so states to the Commission that the methods to be employed by it in the production of gas from its well, Winningham #3, is a secondary recovery method and designed to obtain the ultimate production of gas underlying the acreage assigned to said well.

WHEREFORE, applicant prays:

(1) That the Commission enter an Order allowing applicant to produce its well employing the methods presently used for a period of 120 days requiring applicant to keep a record of its production of both gas and water and to establish within said period insofar as it is capable of doing so, the minimum amount of water required to be produced in order to produce gas.

(2) And, the Commission furtner provide that the control of production on applicant's well be under the direct supervision of the Hobbs Office granting unto the Director of the Hobbs Office the right to notify the producer the determined amount of water to be produced or allowed to be produced based on production reports should it be

determined that the water is encroaching at a greater rate than is established through the 120 day testing period.

(3) That the Commission fix a minimum allowable for the Winningham #3 gas well located in the Jalmat Gas Pool as provided by Rule 6 of Order R-967.

(4) And, in the alternative, that the Commission enter its Order authorizing applicant to make up its allowable over such extended period of time as will allow applicant to continue the production of gas through the methods presently being installed be employed to such an extent as to maintain said well as a gas well.

GIRAND & STOUT,

BY _____
(ATTORNEYS FOR APPLICANT)
POST OFFICE BOX 1445,
HOBBS, NEW MEXICO.

G/DC

[redacted]

HIGH PRESSURE GAS WELL TEST REPORT

June 9, 1950

Operator: R. Olson

Well Name and Number: Repaile #1

Location: Section 29-25-37; 1980 N & 660 W; SW/4 NW/4

Shut-in Pressure, PSIG:	366
Open Flow, MCFPD	6,000

How Tested: Open to pit thru 2" tubing. 6/8" on casing after blowing two hours.

Volume @ PSIG W.P., MCFPD

H_2S, gr./100 cf.:	0.612
GPM (13.2 P.B.):	0.176
Acid Gases, % by Volume:	1.5

Approximate amount of pipe required to tie into our High Pressure System: 100 feet.

Remarks: This well is still making a considerable amount of water after being blown several hours at different times. After being shut-in several days, it accumulates so much gas it unloads wildly. This would lead us to believe that formation water is present, but after running a test on a water sample, we found it contained only 7 parts per million chloride. The operators believe that it is water they pumped into the formation to kill the well at the time of drilling.

This well is included in our present high pressure gathering system.

D. [illegible] Rice

cc: [illegible]
[illegible], R. Olson, File

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Case EXHIBIT NO. 25
CASE NO. 1728-1729

Mr. D. M. Tucker

June 28, 1950

G. E. Kendrick

Jal Division Office

Re: R. Olsen Oil Company - Repollo No. 1

We are proceeding with arrangements to tie this well into our high pressure system and should have it tied in by July 18, 1950.

I will mention that this well is making water at the present time. If it does not clear up, Olsen should set a separator to take care of this excessive water.

G. E. Kendrick

GEK:pd

cc: H. F. Steen
J. W. Baulch
File

L. E. Kendrick

August 29, 1951

. O. Shiplet

Jal Division Office

Re: R. Olsen Apollo #1 Well

As you know, this well has made a large quantity of water since the initial tie-in to our High Pressure Gathering System. R. Olsen set a Parkersburg Hydrocepter to eliminate water getting into our system.

On March 13, 1951, this well was shut-in due to the inability of the Hydrocepter to eliminate water from our system. R. Olsen's Jal Office (Mr. French) was notified by telephone the same date.

On April 23, 1951, our office was notified by R. Olsen's Mr. French that the Hydrocepter had been repaired. That afternoon our Mr. Kiker and a representative of R. Olsen put the well on. However, after about one (1) hour, the well was turned off due to inability of the Hydrocepter to remove all the water.

R. Olsen's Jal Office (Mr. French, Mr. McColl and Mr. Enos) was notified before the end of each month that the well had not been produced. Also, that the well was getting behind on contract requirement.

On August 9, 1951, R. Olsen's Mr. McColl notified us that a high pressure separator was installed. Our Mr. Kiker put the well on that afternoon, and to date, is still on.

R. O. Shiplet

Jal, New Mexico June 23, 1954

Mr. Howard Olsen
R. Olsen & Blount
Drawer "Z"
Jal, New Mexico

Dear Sir:

This will confirm our telephone conversation on June 23, 1954, regarding a shutdown at our Jal No. 3 Plant.

As stated our Jal No. 3 Plant will go off at 6:00 A.M. June 24, 1954, for approximately ten to twelve hours. During this period of time our Intermediate Gathering System will be off. Therefore we request you make necessary arrangements on your Repollo #1 well to prevent it logging off during this time.

Yours truly,
EL PASO NATURAL GAS COMPANY

A. O. Shiplet

AOS:eeh
cc:EAS, GEK,
VMP, File

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Well Rate of Deliverability at 100 PSIG)

R. Closer, Personal		Repollo		1
28	25 S	37 E	Lea	
Jalmat		Single		12-6-55
		X	.650	
	1.000			5-29-53

No.	FLOW DATA Line Size	Orifice Size	Press. psig	D'H. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in								750 *		
1.	4 x	1.000	217	26.01	58			225		24
2.										

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	6.135	77.35		1.0019	.9608	1.023	468
2.							

* This shut-in pressure assumed. Unable to shut-in well because of water production.

$P_c^2 = P_c^2 - P_w^2$ = 582.4

P_w = 12.8

P_c = 56.7

$\frac{P_c^2}{P_c^2 - P_w^2}$ = 569.6 / 525.7 = 1.083

1.000

468 1.083

1.083

507

C. M. Cole
C. M. Cole
Gas Engineer

Earl O. Smith
EPNG

El Paso Natural Gas Company

El Paso, Texas

March 2[illegible], 1955

Mr. Corbett E. Legg
L. Olsen
Drawer "2"
Jal, New Mexico

Dear Sir:

This will confirm my telephone conversation with you on March 25, 1955.

As stated, our Jal No. 3 Plant will go off at 9:00 A.M. (MST) March 28, 1955, for approximately thirty minutes. Then again on April 4, 1955, at 9:00 A.M. (MST) for approximately two (2) hours. During these periods of time the pressure on our Intermediate Gathering System will rise.

We are notifing you in order that you may want your Republic No. 1 Gas Well if you so desire.

Yours truly,

EL PASO NATURAL GAS COMPANY

A. A. Shiplet

AAS:jm
cc: J. F. Wright
C. M. Hendrick
File

COPY

[illegible] NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

[illegible] R. Olsen, Per. [illegible] Repollo [illegible] 1 [illegible]

[illegible] 28 [illegible] 25 [illegible] 37 [illegible] Lea

[illegible] Jalmat [illegible] Single [illegible] 4-15-57

[illegible] X [illegible] .650 [illegible]

[illegible] 1.000 [illegible] 12-2-55

No.	FLOW DATA: Prover Line Size	x	Choke Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in											
1.	4	X	1.000	232	1.00	72			232		24
2.											

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD 15.025 psia
1.	6.135	15.65		.9887	.9608	1.022	93
2.							

* Unable to shut-in well because of water production

$\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$

P_d = 12.8

$\left[\frac{P_c^2 - P_w^2}{P_c^2 - P_d^2}\right]$

n = Slope of Wellhead Deliverability Curve ($P_c^2 - P_w^2$ vs. Q)

P_c = Absolute Shut-in Pressure of Flow Period at Wellhead Pressure P_t

P_c = Maximum Shut-in Pressure observed in a 48 hour period, PSIA

P_t = Flowing Wellhead Pressure (Subject to flowing into Pipeline Line Valve Valve) psia

P_d = Deliverability Pressure (14.4 + 1 psia for Measurement Charts & the point tested)

Q = Wellhead Deliverability at Deliverability Pressure (P_d) MCFPD

[illegible]

Jack T. Littlefield

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Operator: R. Olsen (Pers) Pool: Repollo Well No.: 1

Unit: E Sec.: 28 Twp.: 25 Rge.: 37 County: Lea

Field: Jalmat Type Well: Single Date of Test: 1-31/2-7 1958

Producing Thru: X Gravity: .665 Gas Temperature: 130

Meter Run Size: 1.000 Date of Previous Test: 4-15-57

No.	FLOW DATA: Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in									24
1.	4 x 1.250	107	25.00	63			118		24-48-72
2.									

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	54.77		.9971	.9498	1.011	506
2.							

Compressor was on during test.

$(P_t) = \left[\frac{P_c^2 - P_t^2}{P_c^2 - P_w^2}\right]^n$

$P_c^2 =$

$P_d^2 =$

$P_t^2 =$

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right] =$ = n

P_t = Point of Wellhead Deliverability Curve ($P_c^2 - P_t^2$ vs. Q)

Q = Actual flow rate at end of Flow Period at Wellhead Pressure P_t

P_c = Maximum Shut-in Pressure observed during 24 hour period, PSIA

P_t = Flowing Wellhead Pressure (tubing if flowing thru tubing and casing if flowing thru casing), PSIA

P_d = Deliverability Pressure (1/2 P_c psia for Minimum Contract Determination)

P_w = Wellhead Deliverability at Deliverability Pressure (P_d), MCF/day

520 (Approx)

Meter Station No. 60-780

Unit Size: 1.00

Witnessed by: J.B. Murray

Company: El Paso Natural Gas Company

I hereby certify that the above information is true and correct.

Name: Jack T. Littlefield

Position:

NOTE: Well cannot be shut-in. Logs off quickly.

[illegible] NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Jal Oil Company — Repolle — Well No. 1

E — 28 — 25 — 37 — Lea

Jalmat — Single — Date of Test: August 8-15, 1958

X — .657 — Meter Pressure: 13.2

1.000 — 1-31/2-7, 1958

No.	FLOW DATA: Line Size	FLOW DATA: Orifice Size	Press. psig	D ft. h_w	Temp. °F	TUBING DATA: Press. psig	TUBING DATA: Temp. °F	CASING DATA: Press. psig	CASING DATA: Temp. °F	Duration of Flow Hr.
Shut-in						Not shut-in				
1.	4 x 1.250		63	30.25	82			84		
2.										

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor	Gravity Factor	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	53.89		.9795	.9556	1.000	486
2.							

Well cannot be shut-in; logs off quickly.

Compressor on during test.

1.000

460

Unit Size: 1.00
Meter Station No.: 60-780

R. A. Mikel

EL PASO NATURAL GAS COMPANY

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool **Jalmat** Formation **Yates - 7 Rivers** County **Lea**

Initial ____ Annual ____ Special **X** Date of Test **4-18-58**

Company **Jal Oil Company, Inc.** Lease **Repello** Well No. **1**

Unit **E** Sec. **28** Twp. **25** Rge. **37** Purchaser **El Paso Natural Gas Company**

Casing **7** Wt. **20** I.D. **6.456** Set at **2263** Perf. ____ To ____

Tubing **2** Wt. **4.7** I.D. **1.995** Set at **2403** Perf. ____ To ____

Gas Pay: From **2295** To **2453** L **2403** x G **.665** = GL **1598** Bar. Press. **13.2**

Producing Thru: Casing **X** Tubing ____ Type Well **Single**
Single - Bradenhead - G. G. or G. O. Dual

Date of Completion: **Approximately July 1950** Packer ____

No.	Flow Data: Prover Line Size	x	Orifice Size	Press. psig	Diff. hw	Temp. °F.	Tubing Data: Press. psig	Temp. °F.	Casing Data: Press. psig	Temp. °F.	Duration of Flow Hr.
SI							*412.0				72
1.	4 X		1.250	92	42.25	71			92		24
2.											
3.											
4.											
5.											

* Shut in pressure taken from Tbg. of offset well.

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor Ft	Gravity Factor Fg	Compress. Factor Fpv	Rate of Flow Q-Mcf/D @ 15.025 psia
1.	9.643		105.2	0.9896	0.9498		604
2.							
3.							
4.							
5.							

Gas Liquid Hydrocarbon Ratio ____ Mcf/bbl. Specific Gravity Separator Gas ____

Gravity of Liquid Hydrocarbons ____ (1-e-s) Specific Gravity Flowing Fluid ____

Pc **425.2** Pc² **180.7**

No.	Pw Psia	Pt (psig)	Pw (psig)	Pc (psig)	Pc² - Pw²	Pc² / (Pc² - Pw²)	Pc² - Pw²	Pc² / (Pc² - Pw²)
1.	105.2	11.1	169.6	——— Negative ———			11.1	169.6
2.								
3.								
4.								

* Average Jalmat Slope

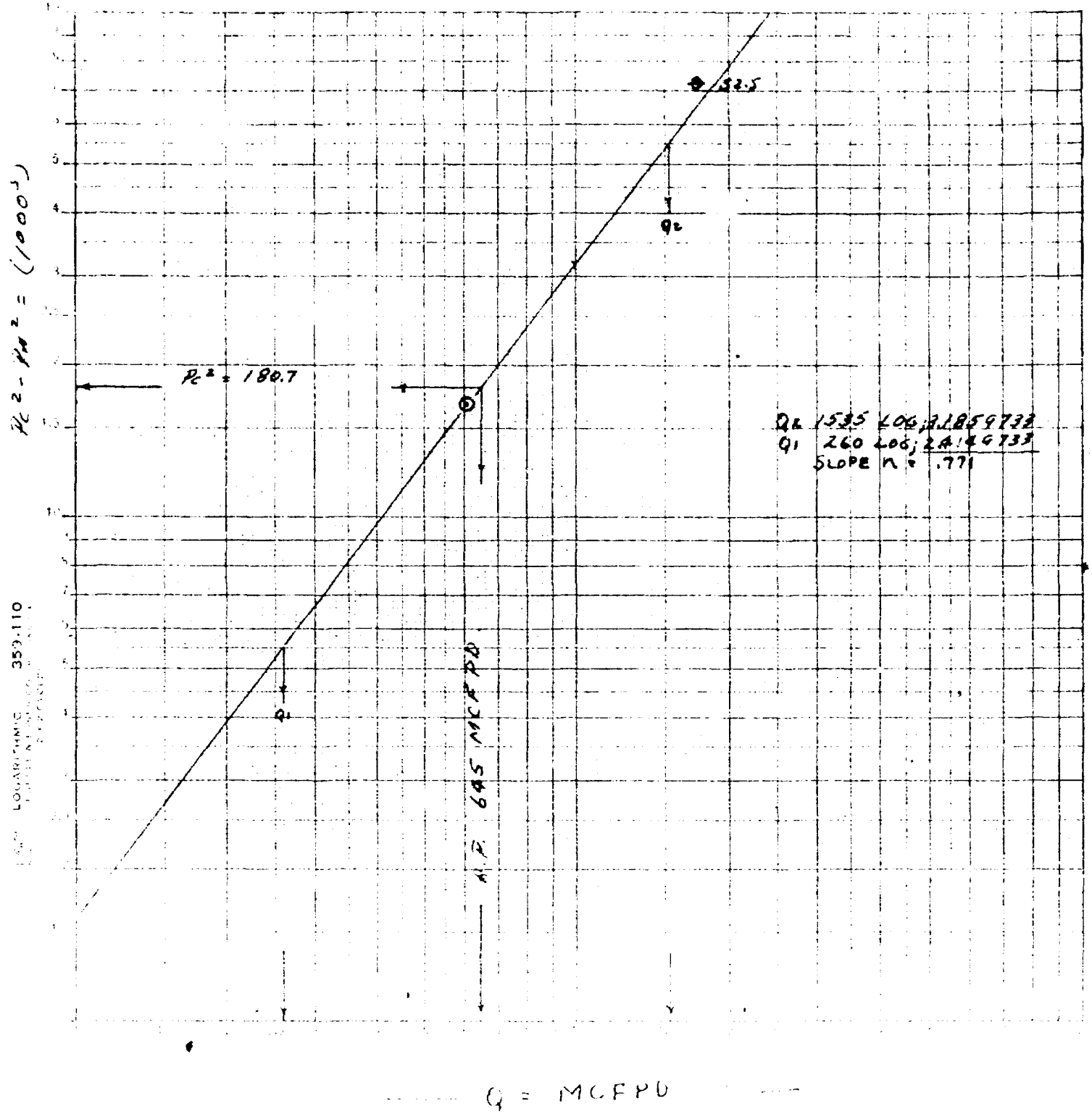
Absolute Potential: **645** MCFPD; n = **52.5** slope = ***.771** Calculated by: **Earl G. Smith**
Checked by: **J. B. Murray**
Approved by: **Jack Whitling**

?L OIL COMPANY

HEPOLLO No. 1

E-28-25-37 LEA CO., NM.

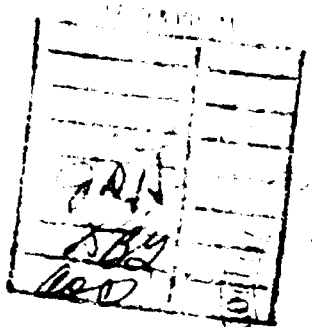
4-18-58



El Paso Natural Gas Company

El Paso, Texas

April 12, 1950



Del Oil Company, Inc.
Drawer C
Jal, New Mexico

Attention: Mr. Leroy Eaton

Gentlemen:

With reference to the memorandum dated April 11, 1950 from [illegible] Jr. of the New Mexico Oil Conservation Commission concerning delinquent multi-point tests in the Jalmat Pool, listed below are wells operated by your company on which we were unable to obtain any test data whatever. This information is being furnished to enable you to make any disposition of subject wells which you deem appropriate. Perhaps you will desire to have these wells exempt from the required multi-point tests. In any event, if the multi-point tests are not reported by June 1, 1950 or an exemption is not obtained on such wells, no allowable will be assigned on the July 1950 San Juan schedule.

Owens No. 1	21-25-36	Produces with a pumping unit.
Ragsdale No. 1	[illegible] 20-25-37	Unable to obtain due to water production.
[illegible] No. 2	[illegible] 31-[illegible]-37	Unable to obtain

Yours truly,

[illegible]

[illegible]

cc: [illegible]

COPY

[illegible]

[illegible]

[illegible]

(Delivery Only)

Pool Jalmat Formation Yates - 7 Rivers County Lea

Initial Annual X Special Date of Test 3-6/3-13-59

Company Jal Oil Company Lease Repollo Well No. 1

Unit E Sec. 28 Twp. 25 Rge. 37 Purchaser El Paso Natural Gas Company

Casing 7 Wt. 24.0 I.D. Set at 2263 Perf. [illegible]

Tubing 2 Wt. 4.7 I.D. Set at 2403 Perf. [illegible]

Gas Pay: From 2295 To 2453 L 2263 x G .656 - GL 1484 Bar. Press. [illegible]

Producing Thru: Casing X Tubing Type Well Single

Series 90 Meter Run Packer at 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	Static Press.	Differential	Flow Temp.
3-9	8:45 AM PM	3-10	8:45 AM PM	24	Flg.	4"	1.250	110.2	34.81	72

FLOW CALCULATIONS

Static Pressure P_f	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 @ [illegible] psia Q
110.2	34.81	61.93	9.643	.9564	.9887		564.7

SHUT-IN DATA

Shut-in Date	Shut-in Time	Press. Taken Date	Press. Taken Time	Duration Hours	Wellhead Pressure (P_c) psia Tubing	Wellhead Pressure (P_c) psia Casing	FLOW DATA W.H. Working Pressure (P_w) and (P_t) psia Tubing	FLOW DATA W.H. Working Pressure (P_w) and (P_t) psia Casing
	AM PM		AM PM		*	*		111.2

PRESSURE CALCULATIONS (If necessary)

$$P_w^2 = (111.2)^2 + (.740 \times 564.7)(.097) = 12.4$$

SUMMARY

P_c	434.2	psia
Q	564.7	MCF/Da.
P_w	111.2	psia
P_d	347.4	psia
D	270.7	[illegible]

DELIVERABILITY CALCULATIONS

P_w	111.2	P_c	434.2	$P_c^2 + P_w^2$ .2561
n	.7439		1.256	.9343
log Q	.3353		9.58580 - 10	.771
				9.68065 - 10
				2.75182
				12.43247 - 10
				270.7

El Paso Natural Gas Company
P. O. Box 1334 - Jal, New Mexico
[signature] Gas Tester

*Pc was taken from Jal Oil Company Eva Owens #1. Well could not be shut-in due to water logging off well-bore.

Form C-30 (Rev. 6-61)

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 PSIG)

Company Jal Oil Company Lease Repollo Well No. 1

Unit E Sec. 28 Twp. 25 Rge. 37 County Lea

Pool Jalmat Type Comp. Single Date of Test 3-6/3-13/1959

Producing Thru: Casing X Tubing Type Taps

Gg (from Prover Test) 1.000 Date of Prover Test 8/15/58

No.	FLOW DATA: Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					421*				
1.	4 x 1.250	97	34.81	72	98				24
2.									

Data Obtained from Deliverability test dated 3-6/3-13/1959

No.	Coefficient FLG. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	61.93		.9887	.9564	-	565
2.							

$P_t = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right]^n$

$P_c^2 =$ 188.5 * *

$P_d^2 =$ 12.8

$P_t^2 =$ 12.4

$\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_t^2}\right] = \frac{175.7}{176.1} = 0.9977 = n$

n = Slope of Multipoint Deliverability Curve (P_c vs. Q)

Q = Actual flow rate of flow period at Wellhead Pressure P_t

* P_c = Maximum shut-in pressure observed in ~~well~~ 72* period, PSIA

P_t = Flowing Multipoint Pressure at Point of Flowing thru tubing or casing, psia

P_d = Deliverability Pressure (Back pressure for Maximum Allowable Production)

P_t = Wellhead Multipoint Deliverability or Deliverability Test Point at 100 PSIG

Log b = 9.999000-10 (n) 1.000 9.999000 0.9977

Q = 565 $\times$ .9977 564

Unit Size 1.00

Meter Station No. 60-780

I hereby swear or affirm that the information given above is true and correct.

Name David H. Dyer

Position

Date

* Well could not be shut-in. Shut-in pressure taken from Jal Oil Co. - Eva Owens No. 1

60-780

El Paso Natural Gas Company

Gentlemen:

We are unable to produce your _____ well _____ No. Unit _____ dated _____ in the _____ Pool for the following reason:

	INSUFFICIENT PRESSURE TO PRODUCE
SHUT IN AT WELL	AT YOUR REQUEST

When this situation is corrected and the well is ready to be produced, please contact this office.

Remarks: This will confirm conversation between our Mr. Gordon and your Mr. Ellis on July 27, 1959. Mr. Ellis stated that the above well was shut in July 27, 1959, to build up pressure.

Thank you for your cooperation.

Yours truly,

EL PASO NATURAL GAS COMPANY

Supervising Engineer

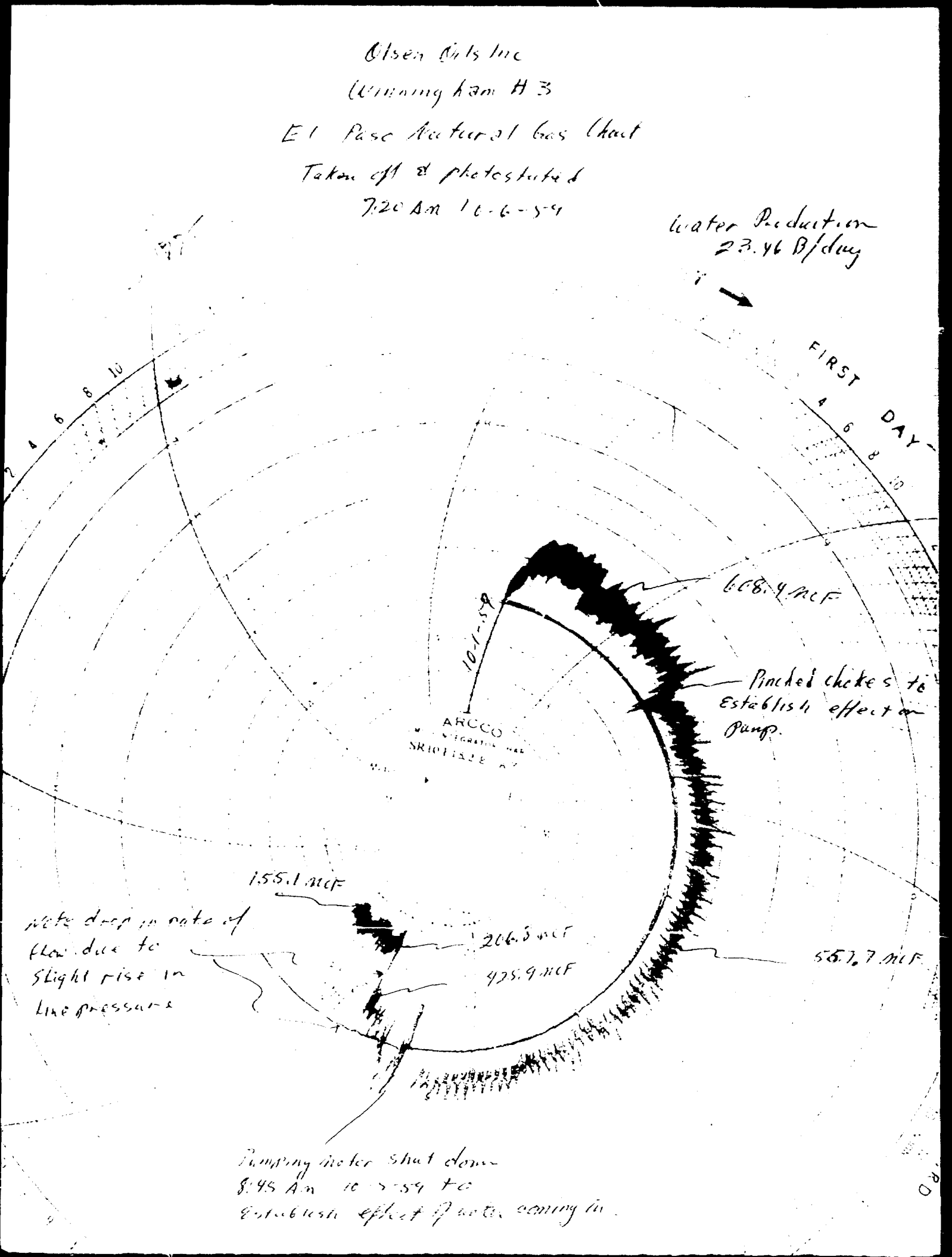
Olsen Oils Inc

Wenning ham # 3

El Paso Natural Gas Chart

Taken off & photostated

7:20 AM 10-6-59



OIL CONSERVATION COMMISSION

HOBBS, NEW MEXICO

August 25, 1954

COPY

Mr. R. Olsen
2808 Liberty Bank Bldg.
Oklahoma City, Okla.

Re: Deliverability test Repollo #1

Dear Sir:

Due to the fact that your Repollo #1 SE NW Sec. 28-25S-37E, Jalmat Pool, is producing a considerable amount of water as outlined in your letter of August 6, 1954, the Commission exempts the deliverability tests on the above-mentioned well.

Yours very truly,

OIL CONSERVATION COMMISSION

S. G. Stanley

S. G. Stanley
Engineer

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 4
CASE NO. 778-1229

SJS/hs
cc- Mr. Elvis Utz-Oil Commission-Santa Fe
El Paso Natural Gas Company-Jal, New Mexico

OIL CONSERVATION COMMISSION

HOBBS, NEW MEXICO

March 22, 1955

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
APP. EXH. NO. 5
CASE NO. 1778-1779

W. B. Macey
Oil Conservation Commission
Box 871
Santa Fe, New Mexico

RE: R. Olsen, Nepollo #1, 28-25-37

Dear Sir:

The operator of the above gas well requests a waiver pertaining to over-production of the 160 acre proration unit as defined in Order R-520. The reason for the request is as follows:

The area in question is water-logged and presents an unusual operating practice for the continued production of gas. With respect to the above well the operator has installed pumping equipment sometime during the month of February, 1955, to "kick-off" the water-logged well. The operator pumped the well, for a period of four weeks prior to a show of gas and finally the well flowed. The well continually produces water with the gas. To maintain gas production an electrical pumping system is being installed at the present time to replace the regular type gas engine to insure a source of fuel whenever water-logging occurs. We have checked the records of the well and find that the Top of the Yates is at 2,292 and the Total Depth is 2,463; thereby plug-back operationsare outruled.

The reason that this case has been reviewed in detail is that El Paso Natural Gas Co., may be forced to shut-in the well due to over-production as directed by your office.

The undersigned feels that the shutting-in of the well will cause premature abandonment. Furthermore, it will only be a matter of time whereby economics will cause the well to be plugged and abandoned. The desire of the operator is to extend the over-production rule for a period of one year and I sincerely feel that the waiver should be granted in the interest of conservation and perhaps a recommendation for disposal of the case be initiated.

Yours very truly,

S. J. Stanley
District Engineer

SJS/ss
cc: R. Olsen, Oklahoma City
El Paso Natural Gas, Jal
O.C.C., Hobbs

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

March 25, 1955

A. OLSEN
Jal, New Mexico

Dear Sir:

Re: A. Olsen Apollo No. 1,
Section 28, Twp. 25S, Rge. 37E,
Jalmat Gas Pool, Lea County, NM

Reference is made to correspondence pertaining to the overproduction of gas from the above-captioned well. Permission is hereby granted to produce this well for a one-year period, despite its overproduced status, due to the fact that the well produces a considerable volume of water and it is apparent that if the well is shut in, a considerable amount of waste might result.

Both you and the transporter, El Paso Natural Gas Company, should attempt to produce the well in such a manner that the overproduction is made up as soon as possible.

Yours very truly,

W. B. Macey
Secretary - Director

MBM:nr

cc: A. Olsen
Liberty Bank Building
Oklahoma City

El Paso Natural Gas Company
Jal, New Mexico

Oil Conservation Commission
Hobbs

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
APP. EXHIBIT NO. 6
CASE NO. 1728-1729

El Paso Natural Gas Company

Jal Oil Company
P. O. Box 1164
Midland, Texas

Gentlemen:

During the months of January through May, 1961, we have made to produce the following wells under contract to El Paso Natural Gas Company:

WELL NAME	DATE	MCF	REMARKS
Christmas No. 1	1/ 1- 9	3	Shut in-Deliverability Test
Hodges No. 2	1/10-31	7	Shut in while offset well being tested
Eva Goens No. 1	1/ 1-31	31	Shut in-State regulations (Overproduced)
Jenkins No. 2	1/19-22	3	Logged off with fluid
Jenkins No. 2	2/ 1-28	26	Logged off with fluid
Jenkins No. 2	3/ 2-21	20	Logged off with fluid
Jenkins No. 2	4/ 1-30	30	Logged off with fluid
Jenkins No. 2	5/ 1- 4	4	Logged off with fluid

Yours very truly,

EL PASO NATURAL GAS COMPANY

By: _____

_____

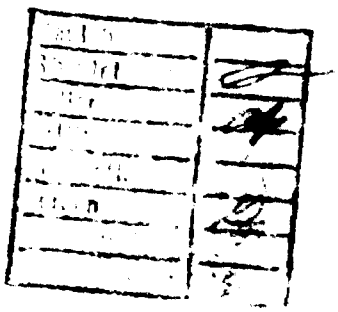
J. F. Burch, Jr.
Gas Production Engineer

cc: Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
APP. EXHIBIT NO. 7
CASE NO. 1228-1229

COPY

PLEASE INITIAL



El Paso Natural Gas Company

El Paso, Texas

April 22, 1954

Jal Oil Company
P. O. Box 1746
Midland, Texas

Gentlemen:

During the months of February and March, 1954, we were unable to produce the following wells under contract to El Paso Natural Gas Company.

WELL NAME	DATE	DAYS	REASON
Woolworth No. 1	2/24-26	3	Shut in-Deliverability Test
Woolworth No. 1	3/ 3- 6	4	El Paso setting separator
Jac. No. 1	2/24-26	3	Shut in-Deliverability Test
Rodgers No. 2	2/24-26	3	Shut in-Deliverability Test
Gregory No. 2	3/11	1	Leak in El Paso line
Eva Owens No. 1	3/ 1- 4	4	Shut in-state regulations (Overproduced)
Eva Owens No. 1	3/10-12	3	Shut in-Deliverability Test
Eva Owens No. 1	3/13-18	6	Shut in-state regulations (Overproduced)
Watkins No. 2	2/24-26	3	Shut in-Deliverability Test
Watkins No. 2	3/ 3- 6	4	El Paso setting separator

Yours very truly,

EL PASO NATURAL GAS COMPANY

ORIGINAL SIGNED
J. W. BAUCH JR

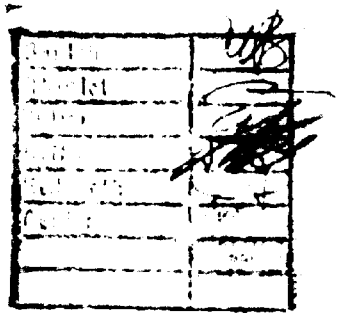
J. W. Bauch, Jr.
Gas Production Engineer

JWB,Jr:bjc
cc: Jal Oil Company - Jal, N. M.
D. A. Spence
F. M. Woodruff
Central File
File

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
APP. EXHIBIT NO. 8
CASE NO. 1778-1779

COPY

READ & INITIAL



El Paso Natural Gas Company

El Paso, Texas

June 6, 1958

Jal Oil Company
Jalmat Field
Jal, New Mexico

Gentlemen:

This letter will confirm our conversation of June 5, 1958, in which we requested the reclassification of the wells in the Jalmat Field.

The New Mexico Oil Conservation Commission has designated that (4) of your wells connected to our gathering system are entitled to be classified as marginal status. The (4) wells are the Lyon #2, Lyon #3, Lennox #1 and Hapgood #1 in the Jalmat Gas Pool. The allowable will be retroactive to July 1, 1957, and all of the wells are now overproduced and will be shut-in, produced at six times the marginal well.

Since the Hapgood #1 makes a considerable amount of water and it is believed that if by the New Mexico Oil Conservation Commission due to overproduction then it would probably be detrimental to the well with possible complete loss of gas production. It would probably be advantageous to request permission for an exception to the rules from the New Mexico Oil Conservation Commission to allow the Hapgood #1 to continue to produce at full rate. The Commission granted an exception to the rules in order to allow it to continue to produce for a one year period after it was overproduced prior to being reclassified as a marginal well.

As you have requested in the past, the Hapgood #1 will also be the producing well and gauges will be obtained quarterly.

Yours truly,

EL PASO NATURAL GAS COMPANY

[illegible]

[illegible]

cc: [illegible]

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 9
CASE NO. 1278-1279

COPY

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 10
CASE NO. 1228 - 1229

EL PASO NATURAL GAS COMPANY
MINIMUM CONTRACT TEST
(To Determine Wellhead Deliverability at 100 PSIG)

Operator: R. Olsen Oil Co. Lease: Winningham Well No.: 3
Unit: I Sec.: 30 Twp.: 25 Rge.: 37 County: Lea
Pool: Jalmat Type Well: Single Date of Test: 3-29-57
Producing Thru: Casing/Tubing: X Type Fluid: .660 Gas Gravity: Est.
Meter Run Prover Coef.: 1.000 Prover Line Press.: 7-22-55

No.	FLOW DATA: Line Size x Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA: Press. psig	Temp. °F	CASING DATA: Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in					266/275/272				24/48/72
1.	4 x 1.250	187	11.56	66	189				
2.									

No.	Coefficient (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	9.643	48.08		.9943	.9535	1.018	448
2.							

$P_t = \sqrt{\left[\frac{P_c^2 - P_a^2}{P_c^2 - P_t^2}\right]}^n$

$P_c^2 = 83.1$

$P_a^2 = 12.8$

$P_t^2 = 40.8$

$\left[\frac{P_c^2 - P_a^2}{P_c^2 - P_t^2}\right] = \frac{70.3}{42.3} = 1.662$ ^n

n = Slope of Wellhead Deliverability Curve ($P_c^2 - P_t^2$ vs. Q)

P_t = Actual flowing Wellhead Pressure of Flow Period at Wellhead Pressure P_t

P_c = Maximum Shut-in Pressure observed in a **72 hour period, PSIA

P_t = Flowing Wellhead Pressure (tubing if flowing thru tubing and vice versa), psia

P_a = Deliverability Pressure (1/4 P_c or 200 psia for Minimum Contract Requirements)

Q = Wellhead Deliverability at Deliverability Pressure (P_a), MCFPD

Log B = ____ x (n) 1.000 = ____ Antilog = 1.662 ^n

Q = 448 x ^n 1.662 = 745 = P_t

I hereby swear or affirm that the information above is true and correct to the best of my knowledge.

Name: Jack T. Littlefield

Position:

EL PASO NATURAL GAS COMPANY

Witnessed by:

Earl G. Smith

El Paso Natural Gas Company

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 11
CASE NO. 1228 1229

EL PASO NATURAL GAS COMPANY

MINIMUM CONTRACT TEST

(To Determine Wellhead Deliverability at 100 psia)

R. Olsen Oil Company — Winningham — 3

I — 30 — 25 — 37 — Lea

Jalmat — Single — 9-15/9-19/58

X — .686

.771 — 3-14-58

No.	Line Size	Orifice Size	Press. psig	Diff. h_w	Temp. °F	Press. psig	Temp. °F	Press. psig	Temp. °F	Duration of Flow Hr.
Shut-in						200-82-12		249-256-261		24-48-72
1.	4" x 1.250		108	28.09	76	121				24
2.										

No.	Coefficient FLG. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD 15.025 psia
1.	9.643	58.35		.9850	.9352	1.011	525
2.							

75.2

12.8

18.0

62.4
57.2

1.091

.72

.0378248 — .771 — .0291629 — 1.079

525 — 1.070 — 562

Unit Size 1,5[illegible]
Meter Station 60-83[illegible]

J. B. Murray

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
NMP EXHIBIT NO. 12
CASE NO. 1772-1773

MINIMUM CONTRACT TEST

To Determine Wellhead Deliverability at 100 PSIG

H. Olsen Oil Company | Winningham | 3

I | 30 | 25 | 37 | Lea

Jalmat | Single | 1-16-59

X | .679

.771 | 9-19-58

No.	FLOW DATA Line Size	x	Orifice Size	Press. psig	Diff. h_w	Temp. °F	TUBING DATA Press. psig	Temp. °F	CASING DATA Press. psig	Temp. °F	Duration of Flow hr.
Shut-in							208-213-210				24-48-72
1.	4 x	1.250		78	43.56	64	85				24
2.											

No.	Coefficient Flg. (24-Hour)	$\sqrt{h_w P_w}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD 15.025 psia
1.	9.643	63.03		.9962	.9400	NIL.	570
2.							

$$Q_1 = Q \left[\frac{P_c^2 - P_a^2}{P_c^2 - P_d^2}\right]^n$$

P_c^2 = 51.2

P_d^2 = 12.8

P_t^2 = 9.6

$\frac{P_c^2 - P_a^2}{P_c^2 - P_d^2}$ = $\frac{38.4}{41.6}$ = .9231

9.9652488 10 | .171 | 9.9732068 10 | .9402

570 | .9402 | 536

Unit Size 1.50
Meter Station No. 66-036

Name H.S. Kersey

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

Walnut Water Log

X

R. Olsen Oil Company — Winningham — El Paso Natural Gas Company — 3-F/3-13-59 — 3

I
30 25 37
7 20 2464
2½ 6.5 3003
3052 3082 3052 .679 3052 2072 3062
X Single

3-9		3-10		24	Flg.	4	1.250	113.2	30.25	71
	1:00		1:00						

113.2	30.25	58.52	9.643	.9400	.9896	1.010	530.1

3-10		3-11		24	203.2	130.2
		3-12		48	205.2	
	1:00	3-13	1:00	72	205.2	

$$P_w^2 = (130.2)^2 + (5.866 \times 530.1)^2 (.133) = 18.3$$

135.3	800.2	.6467	205.2
			530.1
			135.3
			140.4
			340.1
.3533	1.6467	.3516	
.6180	9.79155-10	.771	9.7[illegible]-10
			.4[illegible]3
			10.5[illegible]-10
			340.3

El Paso Natural Gas Company
P. O. Box 1984, Jal, New Mexico

Gas Engineer
El Paso Natural Gas Company

El Paso Natural Gas Company

El Paso, Texas

[illegible]

[illegible] Oil, Inc.
[illegible]
[illegible], New Mexico

Gentlemen:

We are unable to produce your [illegible] (LEASE) [illegible] (WELL NO.) [illegible] (UNIT) in the [illegible] for the following reason:

SEPARATOR OUT OF ORDER	PIPELINE OUT	INSUFFICIENT PRESSURE TO PRODUCE
SHUT IN AT WELLHEAD	PRODUCTION IN EXCESS OF ALLOWABLE	AT YOUR REQUEST

When this situation is corrected and the well is ready to be produced, please contact this office.

Remarks: This will confirm [illegible]'s telephone conversation with this office [illegible], 1959. [illegible] instructed to produce the above-described well [illegible] with [illegible] and the gas [illegible] be vented.

Thank you for your prompt [illegible].

Yours truly,

EL PASO NATURAL GAS COMPANY

[illegible]
Petroleum Engineer

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 14
CASE NO. 1278 1279

60-836

El Paso Natural Gas Company

El Paso, Texas

July 22, 19[illegible]

[illegible]

Gentlemen:

We are unable to produce your [illegible] in the [illegible] for the following reason:

SEPARATOR OUT OF ORDER	LOSS OF [illegible]
SHUT IN AT WELLHEAD	PRODUCTION AT [illegible]

When this situation is corrected and the well is ready to [illegible] this office.

Remarks: [illegible]

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
APP. EXHIBIT NO. 15
CASE NO. 2278 2279

December 7, 1953

Box 127 Jal, New Mexico

H. Olson Oil Company
Drawer "A"
Jal, New Mexico

ATTN: Mr. Aaron Cummings

Dear Sir:

We were unable to run a minimum contract test on your Jenkins #1 and S. R. Cooper #1 on date scheduled (November 6, 1953). The Jenkins #1 was lowered off and would not produce into our line; the S. R. Cooper #1 wellhead valve leaks.

If remedial work is done on these wells, please notify our Dispatching Department when well is ready for production.

Yours very truly,

EL PASO NATURAL GAS COMPANY

Edward Fritz
Gas Engineer

cc: Mr. J. F. Arnold, Jr.
Dispatching Department
Box 127, Jal, New Mexico

EFrds

Well Name J. R. Cooper #1

Legal Description SE/4 NE/4 Section 23-24S-36E, Lea County, New Mexico

Producing Pool Jalmat Means of Lifting Free Piston

Date Installed

Casing Pressure October 1958 Tubing Pressure October 1958

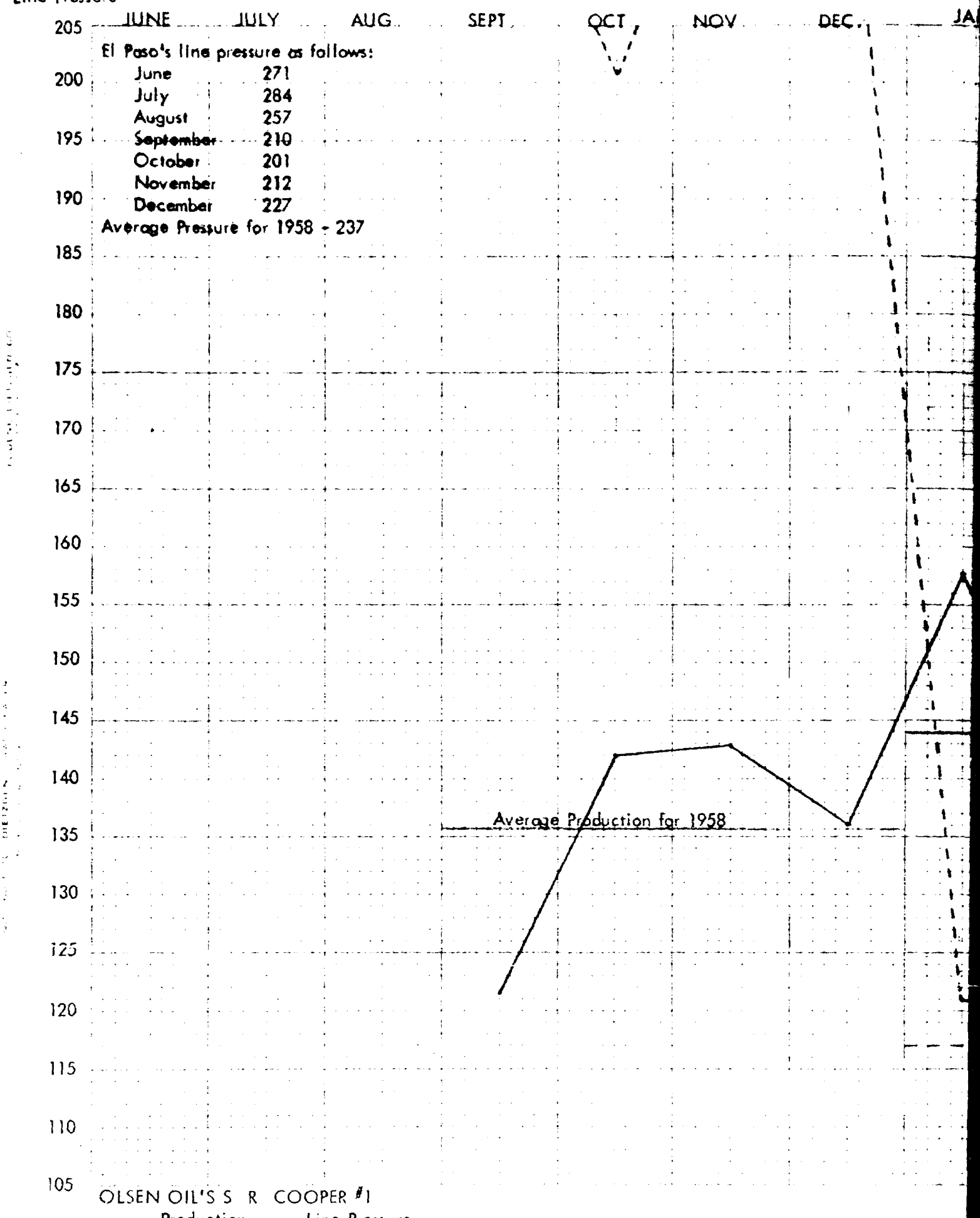
Casing Pressure October 1959 125 Tubing Pressure October 1959 110

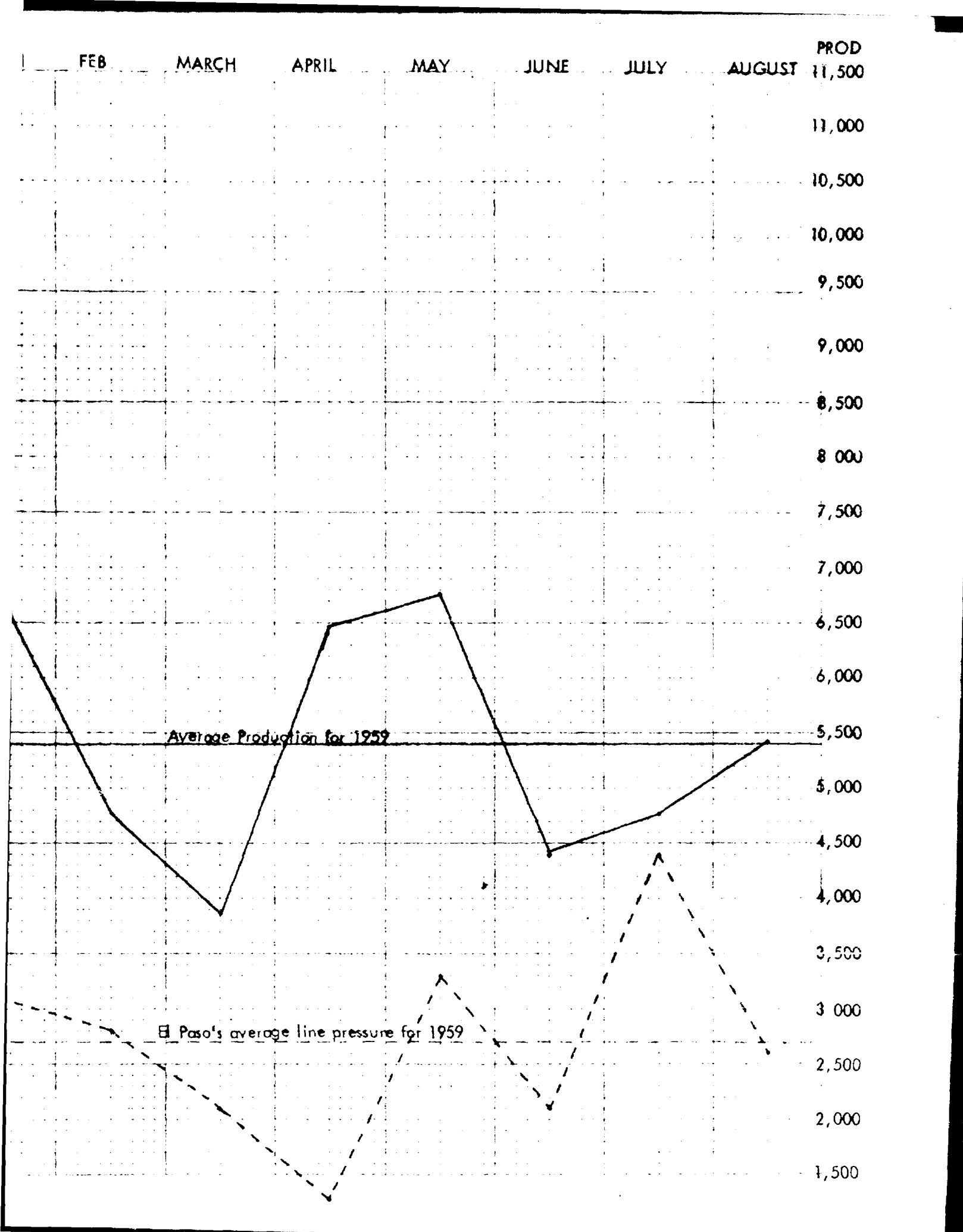
Normal Production prior to October 1958 15 Barrels per day

Estimated production prior to November 1959 16.5 Barrels per day

Over production August, 1959 - 20,630 MCF

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Olson EXHIBIT NO. 16
CASE NO. 1778


Line Pressure
JUNE
JULY
AUG.
SEPT.
OCT.
NOV
DEC.
JA
205
200
195
190
185
180
175
170
165
160
155
150
145
140
135
130
125
120
115
110
105
El Paso's line pressure as follows:
June 271
July 284
August 257
September 210
October 201
November 212
December 227
Average Pressure for 1958 - 237
Average Production for 1958
OLSEN OIL'S S R COOPER #1
Production
Line Pressure


FEB
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
PROD
11,500
11,000
10,500
10,000
9,500
9,000
8,500
8 000
7,500
7,000
6,500
6,000
5,500
5,000
4,500
4,000
3,500
3 000
2,500
2,000
1,500
Average Production for 1959
El Paso's average line pressure for 1959

El Paso Natural Gas Company

El Paso, Texas

December 27, 1955

ADDRESS REPLY TO P. O. BOX 1264 JAL, NEW MEXICO

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 28
CASE NO. 1778-1779

R. Olsen
Drawer Z
Jal, New Mexico

Gentlemen:

The Rea Owens LEASE 1-M NO. UNIT 21-25-37 S - T - R

Jalmat POOL is off for the following reason:

☐ Separator out of order.

☒ Logged off.

☐ Insufficient pressure to produce into the line.

☐ Shut in at the wellhead.

☐ Producing a great amount of fluid.

☐ Froze off in the well.

☐ At your request.

When this situation is corrected and the well in ready to be produced, please contact this office.

If additional information is required, please contact this office.

Yours truly,

EL PASO NATURAL GAS COMPANY

Proration Department

cc: LFS
CMP
FAM
WMF
RLW
FILE

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. 26
CASE NO. 1778-1779