

Casa No.

42

Application, Transcript,
Small Exhibits, Etc.

PETITION FOR ORDER GOVERNING

WILSON CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

C
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P
Y

October 5, 1943

Mr. Glenn Staley
Promotion Office
Santa Fe, New Mexico

Re: Order No. 546

Dear Glenn:

In the future in order that the Commission may have a fair and accurate check on all tests taken in conjunction with the transferring of licenses under Order No. 546, the Commission hereby directs your office to witness each and every test and to file with the Commission the original of these tests and file with the operators involved copies in order that they may attach these copies to their application form.

It will be appreciated if you will notify all operators by circular letter as to this change in procedure in order to avoid future delays when the operators file for transferring under Order 546.

Very truly yours,

John M. Kelly
Director

JMK:MS

BETH AND MONTGOMERY
ATTORNEYS AND COUNSELLORS AT LAW
SANTA FE, NEW MEXICO

August 23, 1944.

Mr. A. M. McCorkle
Stanolind Oil and Gas Company
Fort Worth, Texas

Dear Mr. McCorkle:

Referring to the Lea County gas-oil ratio matter:

The records and files of the Oil Conservation Commission have been examined, and I find the following:

The first gas-oil ratio order is dated January 13th, 1940, and is Order No. 236. A companion order, adopted the same day, No. 237, provides the method of making gas-oil ratio tests or measurements.

By Order No. 250, dated March 27th, 1940, and effective April 1st, 1940, Order No. 236 of January 13th, 1940, was amended or replaced, but this Order No. 250 in no way affected Order No. 237, governing the method of making gas-oil ratio tests.

The next order is No. 545 which was adopted July 27th, 1943, and was effective August 1st, 1943. This order was the result of a hearing held April 27th, 1943.

This Order No. 545, which is still in effect, fixes the gas-oil ratios for the various pools or areas, and provides with reference to gas-oil ratio tests (Paragraph 1 (1), as follows:

The Gas-Oil Ratio Test applicable shall be such Test designated by the Commission, made by such method and means, in such manner, and at such periods as the Commission in its discretion may prescribe from time to time.

This Order No. 545 is applicable only to Lea County. It expressly repealed Order No. 250, above referred to, except for fields in Eddy County, and also repealed Order No. 237, above referred to.

Mr. A. M. McCorkle

-2-

August 23, 1944

You will probably recall that the Lea County Operators' Committee, after much discussion, made written recommendations to the Oil Conservation Commission and put on testimony to support its recommendations.

Paragraph 3 of these recommendations is as follows:

5. That testing procedure for measuring gas-oil ratios, appended hereto as Exhibit "B", be adopted as Rules and Regulations of the Commission and not included as part of the gas-oil ratio order.

The Exhibit "B" referred to in this recommendation of the Committee sets out the testing procedure appearing on pages two and three of the final report of the Engineering Committee of the Lea County Operators' Committee, which was sent to all operators by Mr. Staley on April 12th, 1943.

While the Operators recommended the adoption of this Exhibit "B", the procedure set out in such Exhibit was not formally adopted by the Commission.

My recollection is that all parties intended to leave the testing procedure as flexible as possible, and to have such procedure adopted in such form that changes might be made in the testing procedure by the Commission without the necessity of notice and formal hearing. This seems to be the intent of the Committee as appears from the above quoted provision of Order No. 545.

While the procedure outlined in Exhibit "B" of the recommendations of the Operators' Committee to the Commission was not formally adopted by the Commission, it is probable that it or some modification of it is the procedure that has since been followed. It seems to me, therefore, that the matter of the times for taking gas-oil ratio tests, the procedure for taking such tests, and whether such tests shall be made by the operators themselves or by the Commission, are all matters which can be prescribed by a regulation of the Commission made without any notice or hearing.

Very truly yours,



JON:OB
cc - C. O. Staley
John M. Kelly

A.M. McCORKLE, CHAIRMAN
OPERATORS COMMITTEE

GLENN STALEY, CHAIRMAN
ENGINEERING COMMITTEE

LEA COUNTY OPERATORS COMMITTEE

HOBBS, NEW MEXICO

August 10, 1944

*Ans. verbally
in Globe.*

Mr. John M. Kelly
Oil Conservation Commission
Santa Fe, N.M.

Dear John:

I am enclosing herewith copy of a letter from Mr. Peterson of the Stanolind Oil & Gas Company, which is self-explanatory.

In Case No. 42 Order No. 545 Sec. 1 Sub-head L is the following:

"The Gas-Oil Ratio Test applicable shall be such Test designated by the Commission, made by such method and means, in such manner, and at such periods as the Commission in its discretion may prescribe from time to time."

I think what Mr. Peterson has in mind is a copy of the Commission's order or regulation directing the operators to take gas-oil ratio tests every six months, under the authority given it under Sub-head L.

As I remember, somewhere in the testimony presented to the Commission at one of the gas-oil ratio hearings the operators advocated that a survey be made under the supervision of the Oil Conservation Commission once every six months but I don't have any record of such an order or directive having been issued by the Commission. Will appreciate it very much if you will send me a copy of such order so that I can distribute it to the operators.

With kindest personal regards, I am,

Yours very truly,

Glenn Staley
Glenn Staley

GS:M

cc: L.F. Peterson

COPY

STANOLIND OIL & GAS COMPANY

Fair Bldg.

Ft. Worth, Texas

August 7-1944

Mr. Glenn Staley
Hobbs, N.M.

Dear Glenn:

In reviewing the recent correspondence and minutes of the various meetings regarding the gas-oil ratio rules for New Mexico, it is brought out that present rules provide for a semi-annual gas-oil ratio survey. We have checked our records completely and can not find the specific order of the Conservation Commission which provide for a semi-annual gas-oil ratio survey. Will you please furnish us with a copy of the order and rule which provides for this regular survey. It is hoped that we can attend the forthcoming Operators Meeting in Hobbs since we have several matters that we want to discuss with you.

Yours very truly,

J.H. Moyer

(Sgd) L.F. Peterson

SOIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

April 8, 1943

The Santa Fe New Mexican
Santa Fe, New Mexico

El Paso Daily News-Sun
El Paso, New Mexico

Carlsbad Argus
Carlsbad, New Mexico

Re: Case No. 42 - Notice for Publication

Gentlemen:

Please publish the enclosed notice once, immediately.
Please proof read the notice carefully and send a copy of the
paper carrying such notice.

UPON COMPLETION OF THE PUBLICATION, PLEASE SEND
PUBLISHER'S AFFIDAVIT

For payment please submit statement in duplicate
accompanied by voucher executed in duplicate. The vouchers
must be signed by a notary in the space provided on the back
of the voucher. The necessary voucher blanks are enclosed.

Very truly yours,

John M. Kelly
Director

By
Chief Clerk & Legal Advisor

CBL:MS

CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

April 10, 1943

Mr. A. M. McCorkle, Chairman
Lee County Operators Committee
P. O. Box 1420
Fort Worth, Texas

Re: Case No. 42. Permanent gas-oil ratio order with
allowable for high gas-oil ratio wells to be
taken from low gas-oil ratio wells.

Dear Mr. McCorkle:

The hearing upon your petition in the above captioned
matter is set for 10 A.M., April 27, together with other
cases, at Santa Fe. For this purpose the Commission sits
in its quasi-judicial capacity. You should, therefore, be
prepared to present your case with such sworn testimony and
documentary evidence in support of your petition as you may
deem necessary.

With kindest personal regards.

Very truly yours,

John M. Kelly
Director

By

Chief Clerk & Legal Advisor

CEL:MS
cc J. O. Seth

OPV

"A gas-oil ratio test shall be made by the operator for each well completed well within 7 days after completion, and on all producing wells at least once each year. Any well not tested in the prescribed manner and whose test is not deemed satisfactory, shall be dropped from the operation schedule until satisfactory gas-oil ratio test has been filed with the Commission.

"Any well that cannot be tested during the prescribed period for mechanical or other reasons shall be referred to the Commission for special consideration and rules."

LEA COUNTY OPERATORS COMMITTEE

DRAWER I

HOBBS, NEW MEXICO

January 16, 1946

Mr. R. R. Spurrier
State Geologist
Santa Fe, New Mexico

Dear Dick:-

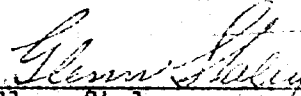
Subject: Official G.O.R. tests, 1945.

I have your letter of January 10, regarding Commission Order #545, as it pertains to the filing of gas oil ratio tests on all wells in Lea County, for the year 1945.

In response to your request we are making a tabulation of all official ratios that have been filed with this office. This tabulation will be checked with the Commission office here in Hobbs, and your office in Santa Fe can check it with your files to see that no wells on which ratios have been taken have been omitted. When this is complete, a list of the companies and their wells, who have furnished no evidence to your office as having made gas oil ratio tests can be compiled, then such action as you deem necessary can be taken.

In the meantime no well will be removed from the proration schedule, as requested in your letter of January 10.

Very truly yours,


Glenn Staley

GS/gi

cc: Mr. S. G. Sanderson

III - CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

January 10, 1946

Mr. Glenn Staley
Proration Office
Hobbs, New Mexico

Dear Sir:

Enclosed is Order 545, Section 1, subsection (1) - directions governing gas-oil ratio surveys in New Mexico, read in part as follows:

"Any well that cannot be tested during the prescribed period shall be referred to the Commission for special consideration and rules. Any well not tested in the prescribed manner and whose test is not filed at the prescribed time will be dropped from the proration schedule until satisfactory gas-oil ratio test has been filed with the Commission".

With your kind indulgence I am requesting a list of operators who have complied but also request you do not drop from the proration schedule any operator who is in default until the list is compiled.

It may be that because of the shortage of labor some operators have been unable to take proper tests. We do not wish to unfairly penalize.

Very truly yours,

RHS:MS

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May 16, 1945

Honorable Glenn Staley
Proctor's Office
Sulphur, New Mexico

Re: Order 545 - Section 1, sub-section (1).
Gas-oil ratio tests - amendment No. 1

Dear Mr. Staley:

This is to advise that the Commission at its executive meeting on May 14, 1945, adopted Las County Operators Committee's recommendation of Order 545, 1945, amending that part of "Directions Governing Gas-Oil Ratio Surveys in New Mexico" designated "Required Tests", by inserting in lieu of the matter under the latter caption the following:

"A gas-oil ratio test shall be made by the operator for each newly completed well within 30 days after completion, and on all producing wells at least once each year. Any well not tested in the prescribed manner and whose test is not filed within the year (beginning January 1, 1945) will be dropped from the production schedule until satisfactory gas-oil ratio test has been filed with the Commission.

"Any well that cannot be tested during the prescribed period for mechanical or other reasons shall be referred to the Commission for special consideration and rules."

Very truly yours,

Chief Clerk & Legal Adviser

CBL:MS
cc Foster Morrell

A. M. McCORKLE, CHAIRMAN
OPERATORS COMMITTEE

GLENN STALEY, CHAIRMAN
ENGINEERING COMMITTEE

LEA COUNTY OPERATORS COMMITTEE

HOBBS, NEW MEXICO

May 1, 1945

Hon. Carl Livingston
Santa Fe, N.M.

Dear Carl:

Just returned to the office from a brief absence
and find your letter of the 25th. regarding my letter to
the Commission relative to gas-oil ratio survey.

The "master sheet" referred to will be kept up
by this office merely for the convenience of the operators
and the Commission in determining at a glance what wells
have furnished gas-oil ratios throughout the year rather
than having to wade through the records of each individual
well.

Best regards.

Yours very truly,

Glenn Staley
Glenn Staley

GS:M

NEW MEXICO CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

April 25, 1945

AIRMAIL

Honorable Glenn Staley
Proration Office
Hobbs, New Mexico

Re: Gas-Oil Ratio Surveys in New Mexico -
Directions

Dear Glenn:

Reference is made to your recommendations of April 17 of changes in the above captioned matter. In the last paragraph you state: "The writer also suggests that a master sheet be made up listing all oil wells in Lea County, the gas-oil ratio and the date it was taken. This tabulation shall be supported by Oil Conservation Commission Form 116 and meter chart."

Please be more explicit as to what you mean by a "master sheet"; what it should contain and the necessity for the Commission to maintain such at Santa Fe. What could be better than the C-116 report itself which is filed by company index? A duplicate also goes to Lea County Operators.

One of the difficulties with which the Santa Fe Office is confronted is sufficient time for a very small staff to do the many things that must be done.

I shall be grateful to you for your ideas and suggestions in this matter.

Kindest personal regards.

Very truly yours,

Chief Clerk & Legal Adviser

CBL:MS

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A. M. McCORKLE, CHAIRMAN
OPERATORS COMMITTEE

GLENN STALEY, CHAIRMAN
ENGINEERING COMMITTEE

LEA COUNTY OPERATORS COMMITTEE

HOBBS, NEW MEXICO

April 17, 1945

New Mexico Oil Conservation Commission
Santa Fe, N.M.

Gentlemen:

On January 16, 1945 your Commission issued regulations governing gas-oil ratio tests on all producing oil wells in Lea County. Under sub-head "Required Tests" the regulation reads as follows:

"A gas-oil ratio test shall be made by the operator for each newly completed well within 30 days after completion, and on all producing wells once each year in accordance with the following schedule:

JANUARY, FEBRUARY OR MARCH:
Arrowhead, Corbin, Eaves, S. Eunice, Vacuum

APRIL, MAY OR JUNE:
Eunice, Skaggs, Lovington, S. Maljamar, W.
Eunice, W. Lovington

JULY, AUGUST OR SEPTEMBER:
Monument, N. Lynch, N. Maljamar

OCTOBER, NOVEMBER OR DECEMBER:
Halfway, Hobbs, Lynch, Maljamar

Any well that cannot be tested during the prescribed period shall be referred to the Commission for special consideration and rules. Any well not tested in the prescribed manner and whose test is not filed at the prescribed time will be dropped from the proration schedule until satisfactory gas-oil ratio test has been filed with the Commission."

This schedule was made up and presented to the Commission by a committee appointed by the Lea County Operators Engineering Committee on January 8, 1945.

Due to the shortage of equipment and manpower, it is extremely difficult (and in some cases almost impossible) for the operators to follow this schedule. In order that all regulations of the Commission be complied with as closely as possible, the writer suggests

page 2

that the above section be changed to read as follows:

"A gas-oil ratio test shall be made by the operator for each newly completed well within 30 days after completion, and on all producing wells at least once each year. Any well not tested in the prescribed manner and whose test is not filed within the year (beginning January 1, 1945) will be dropped from the production schedule until satisfactory gas-oil ratio test has been filed with the Commission."

Any well that cannot be tested during the prescribed period for mechanical or other reasons shall be referred to the Commission for special consideration and rules.

The writer also suggests that a master sheet be made up listing all oil wells in Lea County, the gas-oil ratio and the date it was taken. This tabulation shall be supported by Oil Conservation Commission Form 116 and meter chart.

All other sections of the gas-oil ratio regulations to remain in their present form.

Yours very truly,

Glenn Staley
Glenn Staley

GS:M

cc: S.G. Sanderson

**NEW MEXICO
OIL CONSERVATION COMMISSION**

GOVERNOR JOHN J. CEMPEY
CHAIRMAN
LAND COMMISSIONER H. R. RODGERS
MEMBER
STATE GEOLOGIST JOHN M. KELLY
SECRETARY



DIRECTOR
JOHN M. KELLY
ADDRESS ALL COMMUNICATIONS
TO THE DIRECTOR

Santa Fe, New Mexico

January 16, 1945

Order 545, Section 1, sub-section (1):

"The Gas-Oil Ratio Test applicable shall be such Test designated by the Commission, made by such method and means, in such manner, and at such periods as the Commission in its discretion may prescribe from time to time."

Mr. Glenn Staley
Proration Office
Hobbs, New Mexico

Dear Glenn:

The suggestions submitted by you as representing a sub-committee of the Lea County Operators Committee at the hearing of the Commission on January 8 relative to manner and means of taking and reporting gas oil ratios to comply with Commission Order No. 545 have been reviewed.

The Commission hereby accepts your recommendations as the proper and official procedure for taking and reporting gas oil ratios. Also the ratios in the various fields will be taken as outlined in your suggestion.

As soon as possible the Commission will have the necessary forms printed and sent to you for distribution to the operators.

In accordance with the above captioned provisions of Order 545 these directions become effective as of January 15, 1945.

Very truly yours,

John M. Kelly
John M. Kelly
Director.

DIRECTIONS GOVERNING
GAS-OIL RATIO SURVEYS IN NEW MEXICO

Pursuant to Order 525, Section 1, sub-section (1):

The rules and the directions set out hereinbelow shall govern gas-oil ratio surveys in New Mexico.

Each well shall be permanently equipped to make a gas-oil ratio test at any time. Gas-oil ratio tests shall be made by persons qualified by training and/or experience. All gas measurement charts and gas-oil ratio calculations (shall be filed with the Conservation Commission) or (will be kept on file and available to the Conservation Commission for a minimum period of one year).

MANNER OF TESTING:

Produce each well in the normal operating manner and at the customary production rate for a stabilization period of 24 hours immediately previous to a 24 hour test period. Measure all (oil, gas and water) or oil and gas) produced during the test period. For gas lift or jetted wells the total volume of gas to be used in computing the operating gas-oil ratio is the total output volume minus the total input volume.

LIQUID MEASUREMENTS:

Stock tanks shall be gauged to the nearest 1/4 inch. Tanks shall be thieved immediately before and after the test and water percentage determined in accordance with A.P.I. specifications. The net oil volume shall be equal to the total liquid volume less the volume of basic sediment and water. Fluid level in the separator shall be the same at the beginning and end of the test period. Where a flow tank is used for the separation of water from the oil, the water-oil level shall be the same at the beginning and end of the test period. The computations for all liquid measurement shall be reduced to the barrels of 42 US gallons and be carried to the second decimal point.

GAS MEASUREMENTS:

(1) For computing the volume of all gas produced the standard pressure shall be 10 oz. above an assumed atmospheric pressure of 14.4 pounds per square inch, the standard temperature 60° F, and standard specific gravity 0.85. Where gas measurements are made at abnormally high pressures, the gas volume shall be adjusted for deviation from Boyles Law. Gas volumes shall be computed in cubic feet and gas-oil ratios in cubic feet per barrel of oil. Only recording type gas measuring devices shall be used. Orifice well testers and orifice meters are approved measuring devices. Side pressure test nipples are only approved for measuring volumes beyond capacity of approved orifice equipment. Where necessary to measure gas at abnormally high pressures, a recording pressure gauge shall be installed on the separator. The measured gas volume shall be

increased by the measured or estimated gas volume to the stock tanks. Estimated gas volumes shall be computed from amount of gas in solution in the oil at the separator pressure.

REQUIRED TESTS:

A gas-oil ratio test shall be made by the operator for each newly completed well within 30 days after completion, and on all producing wells once each year in accordance with the following schedule:

JANUARY, FEBRUARY OR MARCH:
Arrowhead, Corbin, Eaves, South Eunice, Vacuum

APRIL, MAY OR JUNE:
Eunice, Skaggs, Lovington, South Maljamar, West Eunice,
West Lovington

JULY, AUGUST OR SEPTEMBER:
Monument, North Lynch, North Maljamar

OCTOBER, NOVEMBER OR DECEMBER:
Halfway, Hobbs, Lynch, Maljamar

Any well that cannot be tested during the prescribed period shall be referred to the Commission for special consideration and rules. Any well not tested in the prescribed manner and whose test is not filed at the prescribed time will be dropped from the proration schedule until satisfactory gas-oil ratio test has been filed with the Commission.

SPECIAL TESTS:

May be taken at the option of the operator or ordered by the Commission, and such tests shall be so designated on the reporting form.

CLASSIFICATION OF WELLS:

A well not capable of making top allowable during the test period shall be classified as a marginal well.

NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO REPORT

OPERATOR _____ FIELD _____
Address _____ Month of _____ 194____
Required Test _____ Special Test _____ (Check one)

(Make separate report for each well - See instructions on reverse side)

LEASE	Well No.	Date of Test	Pro- ducing Method	Choke Size	Test Hrs.	Daily Allow. Bbls.	PROD. DURING TEST	Water Bbls.	Oil Bbls.	Gas MCF	G.O.R. Cu.Ft. per Bbl.
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(I hereby certify that the information given is true and correct.)

Date _____

(Company)

By: _____

(Title)

(to be printed on back of
gas-oil ratio form 3-116)

-6-

INSTRUCTIONS

Mail original to Oil Conservation Commission, Santa Fe, New Mexico, and
one copy to Lea County Operators, Hobbs, New Mexico.

This report shall be mailed to the Commission on or before the 15th day
of the month following the three-month period in which the well is
scheduled to be tested. The ratios, as reported, shall become effective
for proration purposes the first of the month following the end of
the quarter in which the test is scheduled to be made. Failure to make
the required test and report will be penalized as the Commission's
Regulations provide.

Report each well separately. Under "producing methods," show flowing,
pumping, or gas lift. Under "hours," show the duration of the test in
hours, which includes all time the well is open for production of oil
or gas during the 24-hour test period. The "allowable" is the daily
allowable for the well at the time of the test.

METHOD OF TESTING: Produce each well in the normal operating manner
and at the customary production rate and measure all gas, oil and water
produced during 24 hours.

MEASUREMENTS shall be made in accordance with the directions of the
Commission effective January 15, 1945. In computing the gas-oil ratio
on gas lift wells, input is subtracted from output to obtain net gas
volume.

REQUIRED TESTS: On newly completed wells - within 30 days after com-
pletion.
On all producing wells, once each year in accordance
with the following schedule:

JANUARY, FEBRUARY OR MARCH:

Arrowhead, Corbin, Eaves, South Eunice, Vacuum

APRIL, MAY OR JUNE:

Eunice, Skaggs, Lovington, South Maljamar, West Eunice,
West Lovington

JULY, AUGUST OR SEPTEMBER:

Monument, North Lynch, North Maljamar

OCTOBER, NOVEMBER OR DECEMBER:

Halfway, Hobbs, Lynch, Maljamar

SPECIAL TESTS: May be taken and so designated on this form.

REMARKS:

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

January 18, 1945

AIRMAIL
SPECIAL DELIVERY

Honorable Glenn Staley
Proration Office
Hobbs, New Mexico

Dear Glenn:

You will note that the words "rules and regulations" have been replaced by the word "directions". The reason for this is that the Oil Conservation Act provides that no rule or regulation may be changed or adopted without hearing after advertising etc.

Order 545 which is the present Lea County Gas-Oil Ratio Order, at Section 1, Sub-section (1) gives the Commission considerable discretion and latitude with regard to gas-oil ratio tests by providing:

"The Gas-Oil Ratio Test applicable shall be such Test designated by the Commission, made by such method and means, in such manner, and at such periods as the Commission in its discretion may prescribe from time to time".

Therefore, the directions which you termed as "rules and regulations" are in fact simply directions of the Commission and are designated as directions so as to preclude confusion by the use of the term "rules and regulations" which can only be changed at a hearing. The Commission may give it, directions from time to time without hearing within the provisions of the latitude provided in the quoted portion of the letter. I explained the above matter to John who authorized me to make the change. He in turn was to explain the matter to you when he reached Hobbs and show you a duplicate of the corrected copy enclosed, but by phone today he informed me he had not received

CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Glenn Staley

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Two enclosed, special delivery letter containing corrected copy.
Enclosures are being sent you directly. John had stated that
the enclosed letter to Mr. Staley was a duplicate and was not
corrected. I would like to advise you that the
enclosure should be given to your office as soon as possible.

With kindest personal regards.

Very truly yours,

Chief Clerk & Legal Adviser

CHL:HS

IL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Case 42
Order 545
Gas-oil ratio tests -

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January 18, 1945

AIRMAIL

Mr. Glenn Staley
Protection Office
Hobbs, New Mexico

Re: Form C-116 - Gas-oil ratio tests

My dear Glenn:

Requisition was made with the State Purchasing Agent yesterday for 10,000 copies of the above captioned form with the request that delivery be made to the Protection office where distribution is to be made and for delivery of corrected proof to you. Enclosed is a copy of Form C-116 that accompanied the requisition which the purchasing agent will send to the printer when the contract is awarded. The copy enclosed for you is for comparison.

With kindest personal regards.

Very truly yours,

Chief Clerk & Legal Adviser

CHL:MS

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Case 42

Glenn Staley - I have one matter I would like to discuss. A matter the Commission heard under Commission Order No. 545, adopted July 27, 1943. The Commission asked the Operators to make suggestions in the matter of procedure to be followed in taking Gas-Oil ratios in New Mexico, not in any way changing the order, but to comply with the order, and due to the shortage of man-power on the part of the Commission and Operators, the Commission has asked for suggestions for the handling of our problem in taking Gas-Oil ratios. So the Operators appointed a committee, and this that I am presenting is the report of that Committee, which is merely suggestions to the Commission as to the taking of Gas-Oil ratios in the time in which the ratios from the various fields shall be in the hands of the Commission and the manner in which they shall be reported to the Commission.

WILSON CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

January 16, 1945

Dear John:

Wherever "rules and regulations" were mentioned the word "directions" has been substituted in order to preclude confusion as to what may be changed without a hearing under authority of Order 545, Section 1, sub-section (1).

Inasmuch as Glenn is to mimeograph the directions and in order to preclude confusion, enclosed is a corrected copy of the directions.

The requisition for the printing of 10,000 copies of Form C-116 with instructions printed on the back thereof is being put through the purchasing Agent's office today with request that they be printed by the Hobbs New Sun.

Regards,

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OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

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January 16, 1945

Order 545, Section 1, sub-section (1):

"The Gas-Oil Ratio Test applicable shall be such Test designated by the Commission, made by such method and means, in such manner, and at such periods as the Commission in its discretion may prescribe from time to time."

Mr. Glenn Staley
Production Office
Bosque, New Mexico

Dear Glenn:

The suggestions submitted by you as representing a sub-committee of the Lea County Operators Committee at the hearing of the Commission on January 8 relative to manner and means of taking and reporting gas oil ratios to comply with Commission Order No. 545 have been reviewed.

The Commission hereby accepts your recommendations as the proper and official procedure for taking and reporting gas oil ratios. Also the ratios in the various fields will be taken as outlined in your suggestion.

As soon as possible the Commission will have the necessary forms printed and sent to you for distribution to the operators.

In accordance with the above captioned provisions of Order 545 these directions become effective as of January 15, 1945.

Very truly yours,

John N. Kelly
Director

REPORT THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 42

ORDER NO. 545

THE APPLICATION OF THE LEA COUNTY
OPERATORS COMMITTEE FOR A GAS-OIL
RATIO ORDER FOR THE VARIOUS FIELDS
LOCATED IN LEA COUNTY.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at ten o'clock A.M., April 27, 1943, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission".

NOW, on this 27th day of July, 1943, the Commission having before it for consideration the testimony adduced at the hearing of said case and being fully advised in the premises, the Commission finds:

FINDINGS

I. That the order herein is reasonable and necessary in the material curtailment of avoidable underground and surface forms of waste affording the owner of each property in a pool the opportunity to produce his just and equitable share of the oil and gas by using his just and equitable share of the reservoir energy of the pool, within the meaning of the basic oil and gas Conservation Law, Chapter 72, Laws of New Mexico 1935, taking into consideration all pertinent factors applicable to the various fields; such as age, state of depletion, character of producing formations, water and gas drive, application of gas to beneficial use, and the returning of the gas to the formation for storage, repressuring and pressure maintenance projects.

IT IS THEREFORE ORDERED:

That the Order herein shall be applicable to the fields in Lea County and shall be known as the:

LEA COUNTY GAS-OIL RATIO ORDER

1. (a) The proration unit shall be the unit of proration as defined by the State-wide Proration Order.

(b) A marginal unit is: for fields having no special proration plan, a proration unit that will not produce the unit top allowable as in the State-wide Proration Order; and for fields having such plans, a proration unit that will not produce the acreage factor allowable thereunder--both during the Gas-Oil Ratio Test.

(c) A non-marginal unit is: for fields having no special proration plans, a proration unit that will produce the unit top allowable as in the State-wide Proration Order; and for fields having such plans, a proration unit that will produce the acreage factor allowable--both during the Gas-Oil Ratio Test.

(d) The top unit allowable shall be as in the State-wide Proration Order.

(e) The gas-oil ratio of a proration unit shall be the total net formation gas produced with the oil from such unit divided by the total net barrels of oil so produced during the Gas-Oil Ratio Test.

(f) The limiting gas-oil ratios for various fields shall be as in Section 2 hereinbelow.

(g) A high gas-oil ratio unit shall be a proration unit that exceeds the limiting gas-oil ratio prescribed for the field in which such unit is located.

(h) A low gas-oil ratio unit shall be a proration unit that does not exceed the limiting gas-oil ratio prescribed for the field in which it is located.

(i) The gas-oil ratio adjustment shall be as in Section 3 hereinbelow.

(j) The unadjusted allowable shall be the allowable a proration unit would receive before the gas-oil ratio adjustment is applied.

(k) The adjusted allowable shall be the allowable a proration unit receives after the gas-oil ratio adjustment is applied.

(l) The Gas-Oil Ratio Test applicable shall be such Test designated by the Commission, made by such method and means, in such manner, and at such periods as the Commission in its discretion may prescribe from time to time.

2. (a) The limiting gas-oil ratios in cubic feet per barrel for the following fields shall be, to wit:

<u>POOL OR AREA</u>	<u>GAS OIL RATIO LIMIT</u>
Arrowhead	3500
Corbin	2000
Eaves	4000
Eunice	6000
Halfway	2000
Hobbs	3500
Lynch	2000
Maljamar	3000
Monument	4000
North Lynch	2000
North Maljamar	2000
Skaggs	5000
South Eunice	6000
South Lovington	2000
South Maljamar	2000
Vacuum	2500
West Eunice	2000
Now and undesignated pools	2000

✓ (b) No limiting gas-oil ratio shall be applied in: Hardy, Penrose, Skelly, Maddix, Langlie, Rhodes, Lynn, Cooper and Jal Fields.

3. The system of gas-oil ratio control shall be that of volumetric control, whereby the current oil allowable for a proration unit, under the provisions of the State-wide Proration Order, is adjusted by reason of exceeding the corresponding limiting ratio hereinabove described, in accordance with the following formula:

(a) Any proration unit with a gas-oil ratio in excess of the limiting ratio for the field in which it is located shall be permitted to produce daily that total volume of oil which, when multiplied by the gas-oil ratio of that unit will result in a total gas volume that does not exceed the current top unit allowable times the limiting gas-oil ratio for such field;

(b) A marginal unit shall be permitted to produce the same total volume of gas which it would be permitted to produce if it were a non-marginal unit.

(c) From the field allocation shall be deducted the amount of oil allocated to marginal units and high gas-oil ratio units, then the remaining oil shall be distributed to the low gas-oil ratio units within the same field in accordance with the field proration plan.

4. No proration units within a repressuring or pressure maintenance project area, where 85% of the total gas withdrawal is returned to the formation shall be effected by the limiting ratios of this order. Such areas shall be those set out by the Commission by order upon hearing as provided by law.

5. All proration units to which gas-oil ratio adjustments are applied shall be so indicated in the Proration Schedule with adjusted allowables stated.

6. The order herein repeals Order No. 250, except for fields in Eddy County until a further gas-oil ratio order for said county is adopted; and supersedes any other order or part thereof with which this order is in conflict.

7. Reservation of jurisdiction of this case is made herein for the purpose of promulgating the Transfer of Allowables For The Prevention Of Underground Waste Order.

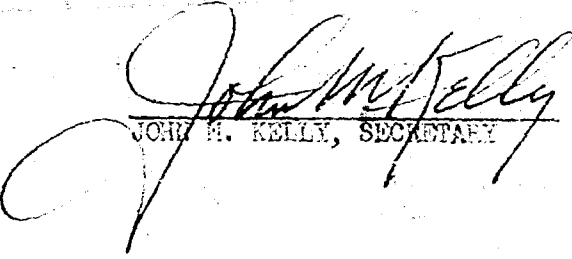
That this order shall become effective on the first day of the proration month next succeeding the month in which said Order is adopted.

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

OIL CONSERVATION COMMISSION


JOHN J. DEMPSEY, CHAIRMAN

H. R. RODGERS, MEMBER


JOHN M. KELLY, SECRETARY

(SEAL)

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 42

ORDER NO. 546

THE APPLICATION OF THE LEA COUNTY OPERATORS
FOR A PLAN TO PERMIT THE TRANSFER OF ALLOWABLE
FROM HIGH GAS-OIL RATIO WELLS TO LOW GAS-OIL
RATIO WELLS TO PREVENT WASTE AND TO PROTECT
PROPERTY RIGHTS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at ten o'clock A.M., April 27, 1943, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission".

NOW, on this 27 day of July, 1943, the Commission having before it for consideration the testimony adduced at the hearing of said case and being fully advised in the premises, the Commission finds:

FINDINGS

I. That the order herein is reasonable and necessary, a practicable means: by which the owner of property with high gas-oil ratio wells is afforded an opportunity to recover his just and equitable share of the oil and gas in the pool within the limits of his just and equitable share of the reservoir energy; which should result in a greater ultimate recovery of oil with a minimum of underground and surface waste as contemplated by the provisions of the basic oil and gas Conservation Law, Chapter 72, Laws of New Mexico, 1935, and the transfer of allowable law, Chapter 88, Laws of New Mexico, 1943.

IT IS HEREBY ORDERED:

That the Order herein shall be applicable to the fields in Lea County and shall be known as the:

TRANSFER OF ALLOWABLES FOR THE PREVENTION
OF UNDERGROUND WASTE ORDER

1. (a) The proration unit shall be the unit of proration as defined by the State-Wide Proration Order.

(b) A high gas-oil ratio unit shall be a proration unit containing one or more high gas-oil ratio wells as defined by the Lea County Gas-Oil Ratio Order.

(c) A low gas-oil ratio unit shall be as defined by said Lea County Gas-Oil Ratio Order.

(d) The allowable for a marginal or non-marginal unit shall be: as determined by the State-Wide Proration Order for fields having no special proration plans and as determined by the special proration plans for fields having such plans.

(c) The transfer area means not less than two and not to exceed eight contiguous shuttling proration units of the same basic lease or unitized area. Said transfer area shall not be longer than four times its width.

2. (a) The allowables for one or more high gas-oil ratio units within the same transfer area may be transferred to one or more low gas-oil ratio units within said area upon application to and approval thereof as a permit by the Commission as hereinafter provided.

(b) The allowable transferred from a high gas-oil ratio unit shall not exceed the allowable for such unit in accordance with whether it is marginal or non-marginal.

(c) No proration unit receiving any such transfer of allowable shall produce an amount of oil in excess of 150% of its allowable.

3. (a) For each high gas-oil proration unit whose allowable is desired to be transferred a separate application for transfer shall be submitted to the Commission in quadruplicate upon Form C-102. Also a copy of the application shall be furnished all offset operators by the applicant at the time said application is submitted to the Commission and said offset operators shall be permitted 15 days from date of application to file a protest with the Commission. Approval of the application shall be by the Commission acting through its Director. Two copies of the approved application shall be retained by the Commission; one such copy transmitted to the applicant and one such copy to the Lea County Proration Office.

(b) To these applications shall be attached a plat of the transfer area, showing the proration units and the wells thereupon involved plus all immediate offsets. Also attached to these applications shall be a statement showing:

The amount of allowable to be transferred to each proration unit; 48-hour individual tests of production of oil, gas, and water of the well or wells on the proration unit from which transfer of allowable is requested and the well or wells on the proration unit or units receiving the transferred allowable--such tests shall have been made within 30 days of submitting application for such transfer.

(c) Permits to transfer allowables shall be in force for a period of one year from date of approval, unless rescinded by the Commission, or its Director, in its discretion. Renewals or changes may be obtained at the discretion of the Commission, acting through its Director, only upon the application procedure prescribed hereinabove.

4. The order herein supersedes any order with which it is in conflict.

5. Reservation of jurisdiction of this case is made herein for the purpose of promulgating the Lea County Gas-Oil Ratio Order.

That this order shall become effective on the first day of the proration month next succeeding the month in which said Order is adopted.

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

OIL CONSERVATION COMMISSION

JOHN J. DEMPSEY, CHAIRMAN

H. R. ROBERTS, MEMBER

JOHN H. KELLY, SECRETARY

Case 42

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 997
Roswell, New Mexico
May 20, 1943

Mr. John E. Kelly
New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Kelly:

With reference to the hearing of the New Mexico Oil Conservation Commission in Santa Fe on April 27, a brief review of our field policy on federal oil and gas leases might be informative for your consideration of the general problem. In our opinion, several progressive steps were suggested for greater conservation of the oil and gas reserves of New Mexico under Case No. 42 in the matter of the application of the Lea County Operators Committee for a permanent gas-oil ratio order for the various fields in Lea County and for a plan to permit the transfer of allowable from high gas-oil ratio wells to low gas-oil ratio wells to prevent waste and to maintain equity. No objections are offered to the applications under Cases Nos. 39, 40 and 41.

The matter of adequate control of reservoir energy in Lea County fields, particularly through gas-oil ratio limitation and gas marketing, has long been under consideration by this office in connection with our responsibilities for operations on public lands. Our experience with a large number of remedial jobs on public land wells indicates that such attempts to reduce gas-oil ratios are of only local or temporary benefit and do not substantially affect the conservation problem. Therefore, other means must be attempted to secure the benefits of production with reasonable gas-oil ratios.

Although somewhat high for some fields, this office is inclined to concur at this time with the specific maximum gas-oil ratios recommended for certain fields in Lea County by the Lea County Operators Committee with the exception of the Maljamar field as discussed hereafter. We are inclined to seriously question the recommendation that no gas-oil ratio limit be set for the Hardy, Langlie, Lynn, Mattix, Penrose, Rhodes and Skelly pools. It was stated that these fields should either be classed as stripper production from sand pays or as producers of large volumes of water from Dolomitic limestone pays, and that limitation of gas-oil ratios therein would prevent the greatest ultimate recovery of oil or cause further operation to be uneconomical.

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The recommendation with respect to the sand-pay fields is based largely on the rapid decline in reservoir pressure and the low estimated ultimate per-acre recovery. The recovery estimates are based on decline curves for production during a period when large volumes of gas were allowed to be produced with the oil. It would appear that large volumetric withdrawals of gas would contribute materially to the decline of reservoir pressure of those fields producing solely under volumetric control. Limiting the volume of gas withdrawal from the reservoirs, preferably with return to the reservoir of at least some of the produced gas should reduce the rate of decline of reservoir pressure, prolong the life of wells and increase the ultimate recovery of oil.

The Rhodes field is included among those sand fields considered as containing only stripper production. As this field has had more active drilling operations in the past year and a half than any other field in Lea County, including a substantial number of oil wells completed in secs. 21, 27 and 28 in T. 36 S., R. 37 E., we are unable to concur in the contention that the Rhodes field is in the stripper stage of production. Perhaps this field may be placed in a special class subject to the operating practices necessary to attain the conservation objectives of the unit agreement now under consideration.

As to recommended gas-oil ratios for individual fields, we do not approve of ratios exceeding 2,000 cubic feet per barrel on federal lands in the Maljamar area for the reasons that the current, average ratio is only 900, any ratio exceeding the suggested maximum will be highly detrimental to efficient operation of the Maljamar repressuring project, and very probably, excessive ratios can be improved by simple remedial work or production technique.

We have had under consideration for some time, the possibility of making effective on public lands limitations of gas-oil ratios above which a well would be classified as a gas-well, rather than as an oil well subject to gas-oil ratio penalty. A gas well in such classification would be allowed to produce only in cases where at least that volume of gas in excess of the maximum gas-oil ratios is marketed for complete utilization. Oil production would be restricted so that no more would be produced than the equivalent of an adjusted penalized oil allowable based on maximum gas-oil ratios.

The determination of a maximum gas-oil ratio for classifying any producer as a gas well might well be based on a definite figure between 15,000 to 30,000 cubic feet per barrel for all Lea County fields. A more equitable basis might provide for a multiple of the maximum allowable gas-oil ratio set for each field for penalty adjustments, say, four or five times the field allowable ratio. To make such an arrangement workable, each and every field should have a definite allowable gas-oil ratio with no fields exempted.

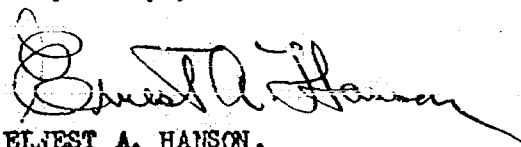
We are in accord with the principal of transfer allowables from high gas-oil ratio wells to low gas-oil ratio wells and see no objection in limiting the area for such transfers to 200 acres on the same basic lease. In fairness to all operators there should be some limitation to the shape of such transfer area, otherwise, the area could be made of five 40-acre tracts in line, the length being five times its width and adversely affect drainage from several adjoining property holders. On a number of public land leases, this provision could adversely affect State or fee lands. We would prefer that the transfers be approved only as to tracts that are as nearly square as possible, the length of such area not to exceed twice its width.

Transfers of allowables undoubtedly would be more successful where allowables are divided among the greatest number of wells. This would tend toward greater equilibrium in reservoir conditions and prevent excessive withdrawals from limited areas with resultant increase in drainage and spreading local gas caps or high gas-oil ratio conditions. This consideration leads to the opinion that no limitation of the transfer of allowables should be fixed for unitized areas. To encourage the possible benefits of transfer of allowables, provision might be made that waiver of the 200-acre restriction is obtainable only for areas completely unitized containing 640 or more acres. The benefits from such units could greatly exceed those obtainable from the smaller 200-acre transfer allowable areas.

As to the volume of oil that may be transferred, we feel the only equitable basis is for transfer of the adjusted or penalized allowable of a well. There are too many possibilities of inequities if transfer of full allowables were permitted.

These thoughts and suggestions are being offered for your consideration in connection with any orders that the Commission may issue on the basis of the hearing of April 27. We would be glad to discuss these matters further with you at any convenient time or place. Every additional barrel of oil gained in ultimate recovery and every cubic foot of gas utilized, and not blown to the air, whether from State, fee or public lands, will contribute more to the public good and to the State of New Mexico.

Very truly yours,



ELVEST A. HANSON,
Supervisor, Oil and Gas Operations.

Name	Company	Address
W. Brown	The Texas Co.	Midland Tex
Thomas	The Texas Co.	Midland Tex
John E. Vicks		Santa Fe N. Mex.
H. H. Hines	Southern Union Prod. Co.	Santa Fe, N. M.
Tom Higney		Dallas Texas
M. C. Parrish Jr.		Fort Worth
E. S. Campbell	Texaco	Midland Tex.
O. F. Hedrick	"	"
Niven Baird	American Republics Corp.	Artesia N. M.
B. V. Fanning	Shell Oil Co.	Midland, Texas
E. D. Huggins	State Tr. Corp.	Santa Fe
R. S. DeLong	Humble Oil & Ref. Co.	Midland Tex.
E. Downing	Magnolia	Kermit Texas
J. H. Moore	Shell	Hobbs
F. B. Heath	Sun Oil Co.	Dallas, Tex.
Frank J. Vetter	P. A. W.	Washington
John M. Malley	County Prod. Co.	
M. C. Robertson	Shell Oil Co.	Houston Texas
Foster Merrill	U.S. G.S.	Roswell, N. M.
Conrad A. Hanson	"	"
W. F. Hubbard	Humble Oil Co.	Houston Tex.
H. J. Kemler	Shell Oil Co.	Midland Tex.
H. E. Wildig	The Texas Co.	Ft. Worth, Tex.
E. G. Dahlgen	Interstate Oil Compact Commission	Oklahoma City
W. H. Hamman	Magnolia	Roswell N. M.
D. A. Howell	Drilling & Exploration Co.	Hobbs N. M.
Bond Jones	Geologist	Amarelo Texas
H. N. Card	Stanolind Oil Co.	Ft. Worth, Texas
C. V. Melikan	Amerada Petroleum Corp.	Julia Okla.

Note: J. C. Cussack, present but did not register - Chief Clerk S.C.C.

Affidavit of Publication

State of New Mexico, } ss.
County of State Fe }

I, A. N. Morgan, being first duly sworn,
 declare and say that I am the (Business Manager) (Editor) of the Santa Fe
New Mexican, a daily newspaper, published in the English
 Language, and having a general circulation in the City and County of Santa Fe, State of
 New Mexico, and being a newspaper duly qualified to publish legal notices and adver-
 tisements under the provisions of Chapter 167 of the Session Laws of 1937; that the
 publication, a copy which is hereto attached, was published in said paper once each week
 for one time ~~on one week, on one day, on one~~
 the regular issue of the paper during the time of publication, and that the notice was
 published in the newspaper proper, and not in any supplement, ~~on one week for~~
one time ~~on one week, on one day, on one~~
12th day of April, 1943, ~~on one week for~~
~~on one week, on one day, on one~~ no; that payment
 for said advertisement has been (duly made), or (assessed as court costs); that the
 undersigned has personal knowledge of the matters and things set forth in this affidavit.

W. H. Morgan
Editor Manager

Subscribed and sworn to before me, this 15th
day of April, A.D., 1943
Anna K Ormsbee
Notary Public.

My Commission expires June 11, 1945

50 lines, one time at \$ 4.00
 lines, times, \$
 Tax \$
 Total \$ 4.00

Received payment,

By _____

AFFIDAVIT OF PUBLICATION

State of New Mexico, }
County of Lea

I, Thomas C. Summers
Publisher

Of the Hobbs Daily News-Sun, a
daily newspaper published at Hobbs,
New Mexico, do solemnly swear that
the clipping attached hereto was
published once a week in the regular
and entire issue of said paper, and
not in a supplement thereof for a

period of _____
one issue 14 days

beginning with the issue dated _____
April 12, 1943

and ending with the issue dated _____
_____, 1943

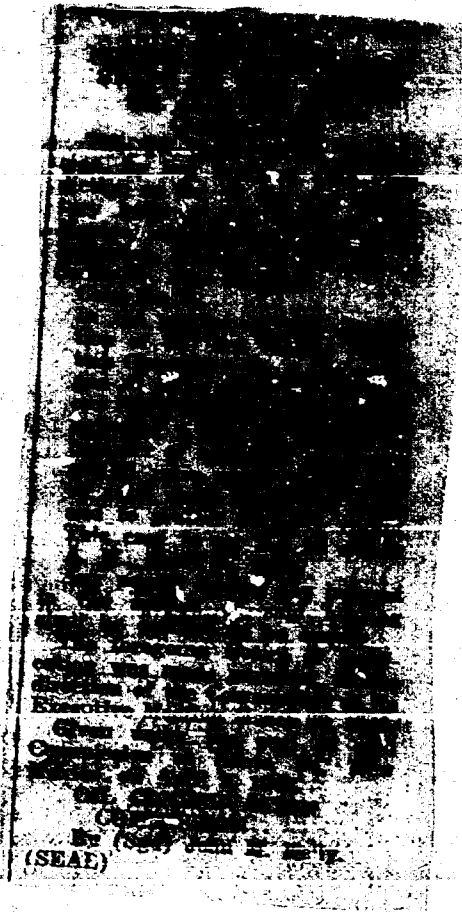
Thomas C. Summers
Publisher.

Sworn and subscribed to before me
this 12th day of _____

April, 1943
Blanche Springer
Notary Public

My commission expires _____
June 25, 1946, 1943
(Seal)

This newspaper is duly qualified
to publish legal notices or ad-
vertisements within the mean-
ing of Section 3, Chapter 167,
Laws of 1937, and payment of
fees for said publication has
been made.



NOTICE FOR PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

The Oil Conservation Commission, by law invested with jurisdiction as the oil and gas regulatory body of the State of New Mexico, hereby gives notice of the following hearing to be held at Santa Fe, New Mexico:

Case No. 42

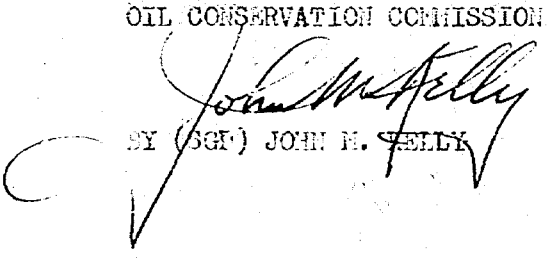
In the matter of: The application of the Lea County Operators Committee for a permanent gas-oil ratio order for the various fields located in Lea County; including a plan to permit the transfer of allowable from high gas-oil ratio wells to low gas-oil ratio wells to prevent waste and to protect property rights. This case is set for 10 o'clock A.M., April 27, 1943.

Any person having any interest in the subject of said hearing shall be entitled to be heard.

The foregoing Notice of Publication was made pursuant to the direction of the Commission at its Executive Meeting March 29, 1943.

Given under the seal of said Commission at Santa Fe, New Mexico, on April 9, 1943.

OIL CONSERVATION COMMISSION


BY (SGT) JOHN M. KELLY

LEA COUNTY OPERATORS COMMITTEE

P. O. BOX #1410,
Fort Worth, Texas
February 5, 1943

Honorable Carl B. Livingston
Honorable John J. Duggan, Governor,
Santa Fe, New Mexico, Oil Conservation Commission,
Santa Fe, New Mexico.

Dear Sir:

On December 2, 1942, in accordance with the recommendation of the Lea County Operators Sub-Advisory and Engineering Advisory Committee and with approval of a majority of the Executive Committee, I requested that the Oil Conservation Commission of the State of New Mexico call a hearing at Santa Fe, New Mexico, on the 17th day of December, 1942, or at any other proximate date which might be more convenient to your honorable body for the purpose of hearing evidence for

- (1) The promulgation of a permanent gas/oil ratio order for the various fields located in Lea County;
- (2) The promulgation of an order, which upon proper application and presentation of sufficient evidence to protect property rights, etc. will permit the transfer of allowable from high gas/oil ratio to low gas/oil ratio wells in certain Lea County fields on an experimental basis for a limited period not to exceed one year;

and requesting that notice of hearing be sufficiently broad to permit the introduction of any evidence for or against the above proposals the operators or other interested parties might consider necessary.

Under date of December 5, the Honorable John E. Miles, Governor and Chairman of the New Mexico Oil Conservation Commission, advised that pending completion of an engineering survey being conducted by the Commission, hearing could not be held until some time in the latter part of February, 1943.

Since the above dates, the Lea County Engineering Committee has continued its study of conditions in the various Lea County fields and in order to obtain information on effects of temporary transfers of allowables that have been granted by the Commission as well as additional data involving gas/oil ratios, etc., I have been requested to ask you to again postpone hearing until the work of the Engineering Committee is completed and can be reviewed by the operators, after which we will again contact you regarding date for a hearing.

Yours very truly,

A. M. McCorkle
A. M. McCorkle, Chairman
Lea County Operators Committee

AMM:JU

cc - Honorable H. R. Rodgers,
Commissioner of Public Lands and
Conservation Commissioner.

Honorable John M. Kelly,
State Geologist and Conservation Commissioner.

Honorable Carl B. Livingston,
Attorney for Oil Conservation Commission.

Casa No.

42 File #2

Application, Transcript,
Small Exhibits, Etc.

TRANSCRIPT

File 2

I N D E X

McCorkle, A..M.	3-7
Millikan, C. V.	8-28
Hannifin, S. P.	18
Gray, Lloyd L.	28-31
Griswold, E. H.	32-33

CASE NO. 42

BEFORE THE OIL CONSERVATION COMMISSION OF THE
STATE OF NEW MEXICO

IN THE MATTER OF: THE APPLICATION OF THE LEA COUNTY
OPERATORS COMMITTEE FOR A PERMANENT GAS-OIL RATIO ORDER
FOR THE VARIOUS FIELDS LOCATED IN LEA COUNTY; INCLUDING
A PLAN TO PERMIT THE TRANSFER OF ALLOWABLE FROM HIGH
GAS-OIL RATIO WELLS TO LOW GAS-OIL RATIO WELLS TO PRE-
VENT WASTE AND TO PROTECT PROPERTY RIGHTS.

Pursuant to notice by the Commission, duly made and published,
setting April 27, 1943, at ten o'clock, A. M., for hearing in the
above entitled matter, said hearing was convened on said day, at
said hour, in the Coronado Room, La Ponda, Santa Fe, New Mexico,
the Commission sitting as follows:

HON. JOHN J. DEMPSEY, Governor of New Mexico, Chairman
HON. JOHN M. KELLY, State Geologist, Secretary
HON. H. R. RODGERS, Commissioner of Public Lands, Member
HON. CARL B. LIVINGSTON, Chief Clerk and Legal Advisor.

APPEARANCES:

<u>Name</u>	<u>Company</u>	<u>Address</u>
R. E. Adams	Cities Service Oil Co.	Bartlesville, Okla.
D. C. Albers	The Ohio Oil Co.	Midland, Texas
W. D. Mitchell	Gulf Oil Corp.	Hobbs, N. M.
G. H. Gray	Repollo Oil Co.	Midland, Texas
Floyd Brett	do	Ft. Worth, Texas
H. E. Berg	Tidewater Assoc. Oil	Midland, Texas
L. F. Shiplet	The Texas Co.	Midland, Texas
E. H. Holcomb	Great Western Prod., Inc.	Lubbock, Texas
Geo. P. Livermore	do	Lubbock, Texas
Francis C. Wilson	Wilson Oil Co.	Santa Fe, N. M.
Neville G. Penrose		Ft. Worth, Texas
Glen Daley	Proration Office	Hobbs, N. M.
Leo Fay	Stanolind	Hobbs, N. M.
R. W. O'Neill	Phillips Pet. Co.	Odessa, Texas
D. R. McKeithan	do	Bartlesville, Okla.
Colin C. Rae	Skelly Oil Co.	Tulsa, Okla.
George W. Selinger	do	Tulsa, Okla.
H. B. Hurley	Continental Oil Co.	Ft. Worth, Texas
E. H. Griswold	N.M.P.U.	Midland, Texas
R. Van A. Mills	Continental Oil Co.	Ponca City, Okla.
C. C. Cragin	Western Gas	El Paso, Texas
W. B. Davis	do	Jal, N. M.
Bert Aston	Franklin Pet.	Roswell, N. M.
C. A. Scheurich	do	Clovis, N. M.
A. M. McCorkle	Lea Co. Oper. Com.	Ft. Worth, Texas
D. D. Bodie	Cities Service Oil Co.	Hobbs, N. M.
Edgar Kraus	Atlantic Refining Co.	Dallas, Texas
J. O. Seth	Lea Co. Oper. Com.	Santa Fe, N. M.
Cuy Shepard	State Treasurer	Santa Fe, N. M.
Roy Yarbrough	State Oil & Gas	Hobbs, N. M.
Wilton E. Scott	Cities Service Oil Co.	Hobbs, N. M.
Fred M. Clement	Continental Oil Co.	Hobbs, N. M.
Leo R. Manning	State Land Office	
P. D. Grommon, Jr.	The Texas Co.	Midland, Texas

L. C. Thomas	The Texas Co.	Midland, Texas
John E. Miles		Santa Fe, N. M.
H. A. Kiker, Atty.	Southern Union Prod. Co.	Santa Fe, N. M.
Van Thompson	do	Dallas, Texas
M. C. Parrish, Jr.	do	Santa Fe, N. M.
C. G. Campbell	Texas Pacific Coal & Oil	Midland, Texas
O. F. Hedrick	do	Midland, Texas
Niven Baird	American Republics Corp.	Artesia, N. M.
R. V. Fitting, Jr.	Shell Oil Co.	Midland, Texas
J. D. Hudgins	State Tax Com.	Santa Fe, N. M.
R. S. Dewey	Humble Oil & Rfg. Co.	Midland, Texas
Ed Downing	Magnolia	Kermit, Texas
J. H. Moore	Shell Oil Co.	Hobbs, N. M.
F. E. Heath	Sun Oil Co.	Dallas, Texas
Frank Patten	P.A.W.	Washington, D.C.
John J. O'Malley		
M. Albertson	Shell Oil Co., Inc.	Houston, Texas
Foster Merrell	U.S.G.S.	Roswell, N. M.
Ernest A. Hanson	do	Roswell, N. M.
W. E. Hubbard	Humble Oil Co.	Houston, Texas
H. J. Kemler	Shell Oil Co.	Midland, Texas
A. E. Willig	The Texas Co.	Ft. Worth, Texas
E. G. Dahlgrin	Interstate Oil Compact Com.	Oklahoma City, Okla.
S. P. Hannifen	Magnolia	Roswell, N. M.
D. A. Powell	Drilling & Exploration Co.	Hobbs, N. M.
Bond D. Jones	Geologist	Amarillo, Texas
G. H. Card	Stanolind O & G. Co.	Ft. Worth, Texas
C. V. Millikan	Amerada Petroleum Corp.	Tulsa, Okla.

The meeting was called to order by the Chairman, and upon request of the Secretary, the Chief Clerk read the call of the meeting, as follows:

"NOTICE FOR PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

The Oil Conservation Commission, by law invested with jurisdiction as the oil and gas regulatory body of the State of New Mexico, hereby gives notice of the following hearing to be held at Santa Fe, New Mexico:

Case No. 42

In the matter of: The application of the Lea County Operators Committee for a permanent gas-oil ratio order for the various fields located in Lea County; including a plan to permit the transfer of allowable from high gas-oil ratio wells to low gas-oil ratio wells to prevent waste and to protect property rights. This case is set for 10 o'clock A. M., April 27, 1943.

Any person having any interest in the subject of said hearing shall be entitled to be heard.

The foregoing Notice of Publication was made pursuant to the direction of the Commission at its Executive Meeting March

1943.

Given under the seal of said Commission at Santa Fe, New Mexico, on April 9, 1943.

OIL CONSERVATION COMMISSION

By (Sgd) John M. Kelly"

BY MR. SETH: I would like to have Mr. McCorkle sworn as a witness.

A. M. McCORKLE,

being first duly sworn to tell the truth, the whole truth, and nothing but the truth, was examined by Mr. Seth, and testified as follows:

DIRECT EXAMINATION

Q Mr. McCorkle, will you make your statement to the Commission?

A Governor Dempsey, Mr. Rodgers, Gentlemen: I am here as Chairman of the Lea County Operators Committee. There are approximately a hundred operators in the Lea County field. Notice of the meeting yesterday was sent out to each operator, but a large majority of the operators did not attend, but we held our meeting, and I want to read into the record the recommendations adopted at this meeting: (Reading)

"At a meeting of the Lea County Operators Committee called on April 12, 1943, and held in Santa Fe on April 26, 1943, representatives of twenty-three operators were present of approximately ninety-eight operators who are members of the Lea County Operators Committee. The operators were polled and a majority of those present agreed that the following recommendations be presented to the Conservation Commission at its hearing called to consider 'The application of the Lea County Operators Committee for a permanent gas-oil ratio order for the various fields located in Lea County; including a plan to permit the transfer of allowable from high gas-oil ratio wells to low gas-oil ratio wells, to prevent waste and to protect property rights', to be held at Santa Fe, April 27, 1943:

1. That a permanent gas-oil ratio order be promulgated.

2. That such permanent gas-oil ratio order provide for no exceptions without due notice and public hearing.

3. That no limiting gas-oil ratio be applied in Hardy, Penrose, Skelly, Mattix, Langlie, Rhodes, Lynn, Cooper and Jal Fields, for the following reasons:

(a) Two types of waste must be considered -- subsurface and surface. All fields mentioned above are nearing depletion and adequate reservoir energy exists to produce the remaining recoverable oil without subsurface waste. (See Exhibit "A" attached).

(b) In the case of the sand belt fields, namely, Hardy, Penrose, Skelly, Mattix, Langlie and Rhodes, approximately 55% of the gas is being utilized at present, and plans are completed and priorities have been granted for the equipment to make possible the utilization of approximately an additional 10% of the gas, which will bring the total to approximately 65%.

(c) The Lynn, Cooper and Jal Fields have a very active water drive. There are several wells which have high gas-oil ratios, but when the volume of fluid lifted is considered, the ratios are quite low considering the existing conditions in the reservoirs. Both from a geological study and results of remedial work, it can be stated that oil, gas and water are so closely association within the reservoir that the segregation of one from the other two is very hazardous. Attempted remedial work in the three dolomitic limestone fields has usually proven unsuccessful and ultimately led to the abandonment of the well.

4. That the following limiting ratios be set for the other fields in Lea County, to-wit:

<u>POOL OR AREA</u>	<u>GAS OIL RATIO LIMIT</u>
Arrowhead	3500
Corbin	2000
Eaves	4000
Eunice	6500
Halfway	2000
Hobbs	2500
Lynch	2000
Maljamar	4000
Monument	4000

North Lynch	2000
North Maljamar	2000
Skaggs	5000 6000
South Eunice	7000
South Lovington	2000
South Maljamar	2000
Vacuum	2000
West Eunice	2000
New and undesignated pools	2000

Wells in newly discovered or undesignated pools shall be allowed to produce with a limiting gas-oil ratio of 2,000 cubic feet per barrel for purposes of allocation until a hearing shall have been called and testimony presented upon which a ratio can be set. Such hearing shall be called and rules issued within six months after the completion of the discovery well or upon the completion of ten producing wells in the new pool, whichever occurs first.

No substantial subsurface waste exists in the fields listed above. In order to accomplish progress in the elimination of surface waste a mathematical approach was used in determining the limiting ratios. These limiting ratios were set so as to affect approximately the same percentage of units in each field.

5. That testing procedure for measuring gas-oil ratios, appended hereto as Exhibit "B", be adopted as Rules and Regulations of the Commission and not included as part of the gas-oil ratio order.

6. It is further recommended that in order to reduce the volume of gas produced, that the transfer of allowable from high to low gas-oil ratio units be permitted in all Lea County Fields under the following provisions:

(a) Transfer of allowable will be permitted only after application to and approval by the Commission. The application shall show 48-hour individual tests of production of oil, gas and water of the well from which transfer is requested and the well or wells receiving the transferred allowable. Such tests shall have been made within 30 days of date of submitting request for transfer. A plat of the wells involved shall be attached and also a statement of the amount of allowable to be transferred

to each such well. A copy of the application shall be furnished all offset operators by the applicant at the time same is submitted to the Conservation Commission.

(b) Permits to transfer shall be in force for a period of one year from date of approval, unless rescinded by the Commission. Renewals or changes may be obtained at the discretion of the Commission only upon submission of the information as shown in (a) above.

(c) Transfer of oil from one unit to another or others will be permitted only within contiguous abutting portions of the same basic lease or unitized area provided the areas involved shall not exceed 200 acres.

(d) Transfers of allowable oil can be made only to a unit or units with a lower gas-oil ratio.

(e) The amount of allowable transferred shall be the marginal or adjusted allowable for the unit, whichever is the smaller.

(f) No unit shall be permitted to produce an allowable in excess of the allowable for two units.

Test data supporting the above recommendations are submitted as Exhibit "C".

^{don't}
We didn't have any duty to prolong this hearing. It is our ^{duty} duty to have an engineer to support the engineering parts of these recommendations. As I said a few minutes ago, these recommendations were not unanimous. Therefore, the minority will no doubt also want to introduce some evidence.

Q Could you give an estimate of the percentage of production represented by the twenty-three operators present at that meeting?
A I never checked up, but I am satisfied at least eighty-five to ninety per cent of the total production was represented at this meeting yesterday.

BY MR. KRAUS: In reading the figures for limiting the gas-oil ratios, I think 6000 was read for the Skaggs pool. I believe that is a typographical error, and it should be 5000.

A That is correct. That is the figure recommended yesterday and approved by the majority of the operators. I would appreciate it if you would change that figure. (Figure changed in pencil). I am glad Mr. Kraus picked that up.

BY MR. CUSACK: What I would like to get is, whose idea it was to limit the 4000 to 2500. The Hobbs Operators Committee say there has been no war; that there is no intention to disturb that field. There are a lot of operators from Hobbs that rely on that,- on those letters. Why did you reduce Hobbs? What is your answer?

A I would prefer the engineer would answer that. That is the purpose of asking the engineer to be here. As Chairman of the Committee I polled the Committee, and there were very few there that voted against it. You could raise that question later. You were not in the room when that was voted on.

BY MR. CUSACK: No, I asked before I left whether the question was going to come if.

A I did not tell you it was not coming up.

BY MR. HANNIFIN (Magnolia Petroleum Company) Our principal interest is in the Vacuum area. We have thirty-eight wells that have higher gas-oil ratio than 2000 cubic feet. We would like to have some relief, and would like to raise that to 3000 cubic feet.

BY MR. KELLY: Are there any further questions of this witness?

BY MR. SEETH: I would like to offer in evidence the records of the Commission as to the gas-oil ratios which were taken. I would like to have the data and charts attached to the Lea County Operators Committee recommendations, based on records of the Commission and Mr. Staley's office at Hobbs, received as part of the exhibit.

BY MR. KELLY: The exhibit will be accepted.

(Marked Exhibit No. 1).

Witness dismissed.

C. V. MILLIKAN,

being called as a witness, and being first duly sworn, was examined by Mr. Geth, and testified as follows:

DIRECT EXAMINATION

- Q State your name.
- A C. V. Millikan.
- Q What is your profession?
- A Petroleum engineer with the Amerada Petroleum Corporation.
- Q How long have you been employed by the Amerada Petroleum Corporation?
- A A long time,- about twenty years.
- Q Have you been acquainted with Lea County operations since the beginning of that field?
- A Not quite since the beginning,- since 1930.
- Q Does the Commission desire any further qualification?
- BY THE CHAIRMAN: No.
- Q Mr. Millikan, you have participated in the meetings held in Santa Fe during the past few days?
- A Yes, sir.
- Q And taken an active part in the deliberations?
- A Yes, sir.
- Q You have heard the report read by Mr. McCorkle?
- A Yes, sir.
- Q And are familiar with it?
- A Yes, sir.
- Q Will you please take up the report and discuss the various recommendations from an engineer's point of view?
- A I might explain here that while I am quite familiar with the Lea County operations in general, for the past two or three years duties have called my detailed attention to other areas. There are perhaps some details with which I am not familiar, but I am sure that other engineers, who have followed the details, can answer.

In discussing the recommendations one at a time, I will as best I can try to give a summary of the majority opinion of the

committee that presented these recommendations. I think you can recognize that at certain points there might be differences of opinion, and that I might be influenced to some extent by my own personal opinions.

I believe the best way to proceed is to discuss each individually, and complete that point, with any questions on the part of the Commission or the operators as to that point.

The recommendation for that permanent gas-oil order may, on the face, appear superfluous. The reason set out for that particular recommendation as it is made here is that the conditions which have existed in Lea County fields is due to the number of exceptions being granted to high gas-oil ratio wells, although the temporary order in each provided for adjusted production for high gas-oil ratio wells. There are some reasons, and very good reasons, why it should and some why it should not apply to certain wells in a given area, but a large number have been granted, and resulted in excess production of gas, which we believe now should be prevented, and it would be true conservation to give that consideration.

No. 1 is that a permanent gas-oil ratio order be promulgated, and No. 2, that such permanent gas-oil ratio order provide for no exceptions without due notice and public hearing. I think we could discuss that by saying that as a whole, operators are pretty apt to object to any applications for exceptions which may be made before the Commission. Once exceptions have started, the reasons for asking for exceptions is like the proverbial snowball,- it may be good to start a snowball down hill, but before it gets to the bottom of the mountain it gets beyond control and is very destructive. I think that is what the operators had in mind, but when stated in that form it may appear a little unusual.

No. 3, "that no limiting gas-oil ratio be applied in Hardy, Penrose, Skelly, Mattix, Langlie, Rhodes, Lynn, Cooper and Jal Fields, for the following reasons."

Now, there are two types of fields, the Lynn, Cooper and

Jal are water drive fields. The other fields are sand production, producing in a thin, very tight formation. We have no evidence there is any water drive present. The amount of gas in the fields show they are substantially depleted. They are very close to the point where they might be called stripper wells. There is still good production, as in a number of stripper wells, but at the same time they are producing considerable gas. A large part of the gas is being marketed, and some is being returned to the field. I believe 55% of the gas is now being marketed, and plans are under way to market additional gas, and I think long before this year is out there will be very little gas not going into market. The recommendation is that no limit be placed on that gas as it seems inconsistent with pool conservation. But under the conditions in this field we believe that is definitely the case, as it would restrict the volume of gas produced in that area which is below the actual market demand, which gas is being used in definite war industries. We think it should be put to the point where we could supply the gas, but if we put it at fifteen or twenty thousand, there would obviously be something wrong, so we would suggest there be a very high limit, so we put no limit. There is ample energy to get the oil, and the gas produced, a very high percentage goes into commercial use.

As to Lynn, Cooper and Jal, they are dolomite, and they have a substantial water drive, and it is simple to recover all the oil remaining in those reservoirs. The high percentage of water and the low percentage of gas, to put the gas oil ratio on that basis makes it look quite high, yet when put it on an energy basis, with the amount of fluid, it is quite low. A well calling for a fifteen to twenty thousand gas-oil ratio, when you consider the fluid, it may be ^{that} it is around one thousand. In most of the wells that have been plugged off to shut off the water, or the gas, in too many cases it was entirely unsuccessful and led to abandonment of the well. While the operator hoped to reduce the ^{work} cost, what he actually did was to plug the well off.

If we do put a high gas-oil ratio, a reasonably high gas-oil ratio limit on those, it is liable to encourage attempted recovery work, which will lead to waste rather than conservation.

I think that covers the first point. Perhaps you would like to ask some questions on that.

BY MR. KELLY: Any questions to be put to the witness?

BY MR. RODGERS:

Q In asking for a permanent gas-oil ratio order,- has there been anything particularly unsatisfactory in the way the Commission has handled this in past years?

A I would say, with no criticism whatever on the action of the Commission, that the natural result has been that there is considerable dissatisfaction, not because of the order, but because of the exceptions that have been granted.

Q With a permanent order, and no provision for exceptions, do you suppose there would be any danger of it being inflexible, because there might be isolated cases where injustice would be done?

A I think there might be isolated cases where it might appear to the Commission there were good reasons why exceptions should be granted. I think there are very good reasons why exceptions should not be granted, and it would be up to the Commission to prevent waste in attempting to conserve. I would call your attention to this: when an exception is granted, we may have a case where the reason for it may appear very good. If the exception is granted, we are offering the opportunity to that particular well to use in excess of its proportion of the reservoir energy. So far as that particular operator is concerned, it may appear perfectly fair, but when you look at the field as a whole, it would actually create waste because of waste of energy, and thereby decrease the ultimate recovery.

BY MR. KELLY:

Q You feel that in case extreme hardship is caused an operator, Section 2 will provide relief after due notice and public hearing?

A Certainly; that is the privilege of any operator at any time.

Q In other words, you will not confiscate a man's property?

A It certainly gives him an opportunity to show his grounds. Yes, certainly, if they like.

Q Do you, by putting no limiting ratios in those fields, feel that satisfactorily takes care of the several exceptions heretofore granted?

A That substantially takes care of the existing exceptions.

BY MR. CRAGIN:

Q You mentioned the figure fifteen to twenty thousand cubic feet as a possible requirement of the gas-oil ratio to serve the existing market.

A Something of the sort is what I understood.

Q Are you familiar with the fact that some wells take a gas-oil ratio in excess of one hundred thousand to give gas needed to meet the market demand?

A It is my understanding, looking at the fields as a whole, it would take a gas-oil ratio limit of that order.

Q My point is it would take five or six times that to meet our market, the market we serve in New Mexico, Texas and Arizona.

A That is your statement?

Q Yes, sir, I want that in the record. I don't want the Commission to think a fifteen or twenty thousand ratio would meet that market.

BY MR. CUSACK: If there is any waste I would like to know where we are wasting gas. That field has gone along, and I would like to know where there is gas being wasted.

BY MR. KELLY: Would you want to discuss the Hobbs field?

BY MR. MILLIKAN: I think that will come under the next point.

BY MR. CUSACK: It always comes later, I know that.

BY MR. MILLIKAN: The next recommendation is that the following limiting ratios be set for the other fields in Lea County: (Reading)

Arrowhead	3500
Corbin	2000
Eaves	4000
Eunice	6500
Halfway	2000
Hobbs	2500
Lynch	2000
Maljamar	4000
Monument	4000
North Lynch	2000
North Maljamar	2000
Skaggs	5000

South Eunice	7000
South Lovington	2000
South Maljamar	2000
Vacuum	2000
West Eunice	2000
New and undesignated pools	2000

To set limiting ratios in such fields as these others is always a nightmare to the engineer. Inasmuch as engineering is a practical science, we do, at times, have to be practical. If we were setting these on a strictly technical basis, I think probably there could be an order of one thousand cubic feet per barrel, or on an average as low as six or seven hundred. To place the ratio as low as that would be obviously unreasonable. On the other hand, to turn them loose is much more unreasonable, so we have to bear a number of things in mind. We would like to do, or attempt the thing that is absolutely technically correct, and something that is reasonable. I doubt if all operators in any one of these fields would agree to any one of these figures suggested to the Commission. I think there is a difference of opinion on each one of them. To say they are right, -- no, I can't. They are reasonable in the opinion of the committees who have made the detailed studies. We believe an amount of conservation would be accomplished by setting the ratios suggested. To reduce them below, would create economic hardship; to raise them above that would create waste. I think that is all I can say. We believe they are reasonable.

BY MR. KELLY:

Q What changes have been made by these recommendations from the temporary order of the Commission now in effect?

A Arrowhead, in the temporary order, is 5000; in the recommended order it is 3500; Corbin is a new field; Eaves was 7000, reduced to 4000; Eunice was 7000, reduced to 6500; Halfway was 1000, increased to 2000 -- I will comment a little later on this; Hardy was 7000 and is now in the other classification; Hobbs was 4000, reduced to 2500; Langlie was 7000 and is now -- that comes later; Lynch was 1000, increased to 2000; Maljamar was 5000, -- I am sorry, that is Lynn.

Q We would be interested in a comparison on Section 2. I believe

Lynch is the field,- no, Monument.

A Maljamar, now, was 2000, and raised to 4000.

Q North Lynch?

A North Lynch was 1000, increased to 2000.

Q North Maljamar?

A It was 1000, is 2000 now.

Q Skaggs?

A Was 5000, not changed.

Q South Eunice?

A 7000, not changed.

Q South Lovington?

A South Lovington was 1000, increased to 2000.

Q South Maljamar?

A South Maljamar, 2000 in the other order. It is a new field.

Q Vacuum?

A Vacuum was 1000, increased to 2000.

Q West Eunice is a new field. That is the list.

BY GOVERNOR DEMPSEY:

Q This temporary order was made some three years ago?

A Something like that.

Q On the recommendation of the same operators?

A I believe not, as I recall.

Q On whose recommendation?

BY MR. KELLY: I believe it was on the recommendation of the same operators.

BY GOVERNOR DEMPSEY: You now want a permanent order, recommending changes in about one-third of the field. Why do you want us to issue an order, a permanent order?

BY MR. SETH: Do you wish to explain?

A I think there are several reasons for wanting the change, which may be different in different fields. Let's explain the permanent order, as contrasted with the temporary order. I think the words "permanent" and "temporary" are legal terms that apply to the powers of the Commission to write orders, rather than indicating permanency, as ordinarily used. As I recall, the Commission has

the authority to write temporary orders, which they have had very good reason to write as a benefit to the operators. As I recall, the temporary gas-oil ratio order was of that kind. Rather than having it renewed at relatively short intervals, we are asking it be made an order.

BY MR. KELLY: There is no such thing as permanency?

A There is no such thing as permanency, because I think this group may be back within a year asking for further changes, depending on changes in the field by depletion, or other causes.

BY MR. WILSON: Is that distinguished from a temporary order by the fact that the Commission can, in its discretion, issue, without notice to the operators in a field, necessary changes applied for by some operator?

BY MR. KELLY: No, sir, not under a temporary order.

BY MR. WILSON: It says temporary.

BY MR. KELLY: It is relatively the same as a permanent order. As I recall the testimony three years ago, the operators stated they would like to introduce new testimony.

BY MR. WILSON: It is a distinction without a difference.

BY MR. KELLY: That is right.

BY GOVERNOR DEMPSEY: Instead of coming in at frequent intervals and asking that it be continued, we make a definite order.

BY MR. SETH: It is always subject to change by the Commission.

BY MR. HANNIFIN:

Q I think Mr. Millikan read 1000, instead of 2000, on Vacuum.

A I believe that is correct.

Q And Maljamar?

BY MR. KELLY: I believe the record shows 2000 to 4000. Will you explain the reasons for the changes?

A I think that those changes particularly require,-- the next paragraph after these ratios are given, reads:

"Wells in newly discovered or undesignated pools shall be allowed to produce with a limiting gas-oil ratio of 2000 cubic feet per barrel for purposes of allocation until a hearing shall have been called and testimony presented upon which a ratio can be set. Such hearing shall be called and rules issued within six months after the completion of the discovery well or upon the completion of ten producing wells in the

new pool, whichever occurs first."

On those fields which heretofore had ratios of 1000, it seemed rather inconsistent to the majority of the Committee to set a 1000 ratio on them, and then apply, on other areas which might come in, a limiting ratio of 2000. There was also argument that from the figures we now have, placing it at 1000 is all right. The indication is that the natural or existing conditions, over which no one has any control, will, over a relatively short time, begin to raise the gas-oil ratio from 1000 to 2000, definitely creating a number of wasteful conditions. At this time, in order to keep the field under reasonable operating conditions, it was left at 2000. Otherwise, within a few months it might be necessary to make application to change it to 2000, or even higher.

BY MR. RODGERS: Some operators in the Vacuum field would like to see it changed from 2000 to 3000. Do you think that would bring about waste?

A Mr. Rodgers, as I attempted to explain, that is one of those relative things. To answer the question from a technical standpoint, I would have to say yes.

BY GOVERNOR DEMPSEY:

Q From a practical standpoint?

A From a practical standpoint, it was the opinion of the majority of the Committee considering this problem that 2000 is a more reasonable ratio.

Q We are asking you as a technical expert.

A From my own personal opinion, I do not feel qualified to answer. I have not followed the details of operations in the Vacuum field for the 1 year or so.

Q So you would not know whether 2000 or 3000 would be proper?

A I cannot answer.

BY MR. HANNIFIN: At the meeting of the operators yesterday, Magnolia took no part in the Lea County Operators meeting. We present this request to raise the gas-oil ratio from 2000 to 3000 as our individual request. We are the largest operator there; we

have 97 out of 340 wells.

BY MR. KELLY: Do you have an engineer to put on the stand?

BY MR. HANNIFIN: We have one engineer who works all of West Texas and this field also.

BY GOVERNOR DEMPSEY: Were you present at the meeting yesterday?

BY MR. HANNIFIN: Yes, sir.

BY GOVERNOR DEMPSEY: And made no request?

BY MR. HANNIFIN: I didn't see that we would be gaining anything.

BY MR. MILLIKAN: It is the privilege of any operator to take it up with the Commission at any time.

BY GOVERNOR DEMPSEY: That is the purpose of this hearing, but what I am trying to do is to avoid work.

BY MR. MILLIKAN: We are short handed and short of materials too.

BY MR. RODGERS:

Q I would like to ask a question to get some information. I don't know much about this. Who works out these tables?

A The Lea County operators have a number of engineers located in Lea County proper, or adjacent areas, whose duties it is to keep up with the details of the fields in which their respective companies are interested.

Q You don't employ an engineer, disassociated from any company?

A Not for this type of work or purpose. We do have some engineers employed by the Lea County operators. Their duty is to collect and coordinate data and assist the engineers of the companies.

BY MR. KELLY: We would like to have an engineer more familiar with the field to testify to that.

BY MR. BODIE: I would like to ask Mr. Hannifin a question. The engineers got out a sheet setting out the proposed ratios. They listed the Vacuum field --

BY MR. HANNIFIN: I think that was made five years ago.

BY MR. BODIE: And was --

BY MR. KELLY (Interrupting): I believe we would like to have Mr. Hannifin sworn in as a witness if you are going to question him for the record. We will excuse Mr. Millikan for a few minutes.

S. P. HANNIFIN

being called as a witness, and being first duly sworn to tell the truth, the whole truth and nothing but the truth, was examined by Mr. Bodie, and testified as follows:

Q In that same engineering report, it provided for a transfer of allowable, did it not?

A Yes, sir.

Q Yesterday afternoon when these ratios were voted on, and a majority of the operators accepted them as such, they still had in this report a clause for the transferring of allowables?

A Yes, sir.

Q After the various ratios had been decided on, the clause for transferring allowables was virtually wiped out?

A I believe so.

Q If they had left that clause in, for the transferring of allowables, would that have helped you out?

A I cannot state definitely. I am not an engineer.

Q It might have?

A It might have. I am not an engineer.

Witness dismissed.

C. V. MILLIKAN

now being recalled to the witness stand, was questioned by Mr. Seth, and continued as follows:

Q Will you please resume?

BY MR. KELLY:

Q A question was asked, Mr. Millikan, relative to the next paragraph, if the full allowable on transfer was allowed in the Vacuum field, would that remedy to a great extent the situation Mr. Hannifin was talking about; that is, the full transfer of penalized oil, would that grant the same relief as raising the ratio from 2000 to 3000?

A Yes, I believe it would do more than that.

Q You believe it would grant more than full relief?

A It would grant more relief than raising the ratio from 2000 to 3000.

BY MR. WILSON:

Q I am just asking for information. How much of Vacuum's output is used at the Phillips plant?

A I am sorry, I cannot answer that.

Q Is there any underground waste?

A We don't believe there is any unreasonable waste.

Q If the Phillips plant uses all, there would not be any waste?

A It is used to some extent, at least.

BY GOVERNOR DEMPSEY: Is the gasoline stripped there?

BY MR. WILSON: Yes, sir.

A I would say there is less waste than if --

BY MR. WILSON (Interrupting) I am asking for information. I believe all of Vacuum's gas is run to the Phillips plant.

BY MR. HANNIFIN: The Phillips plant takes all the well gas over 2000.

BY MR. MILLIKAN: As far as the transfer of allowables is concerned, that is a question that we discussed for the entire Lea County area. It will come up later, in a discussion of transferring allowables in Lea County. That question can be discussed as it applies to the whole field, rather than make Vacuum the guinea pig.

BY MR. KELLY: Any further questions? Will you proceed, Mr. Millikan?

BY MR. RODGERS: I wonder if Mr. Cusack's question was answered. Why was there a reduction from 4000 to 2500 in the Hobbs Pool? Can you answer that?

A I believe I can. The Committee gave consideration to the volume of gas being produced at Hobbs, and the ratios on the various wells. We tried to apply something that would be reasonable. Most any ratio for a particular well involves some underground waste. We have a practical problem of giving a reasonable balance between the wells.

BY GOVERNOR DEMPSEY:

Q He asked a question, if there is waste in the Hobbs field?

A Specifically, yes. I think there is some waste in every field.

in Lea County, to be technical.

Q Can you be practical? I want to know the reason for the reduction in the Hobbs field. The question was asked if there was existing waste?

A There is waste in the Hobbs field.

BY MR. RODGERS:

Q Is there excessive waste?

A No, sir. At 2500 feet we believe we can get a reasonable balance.

Q Has there been a decrease in the pressure?

A I believe, according to the records, the pressure at Hobbs has been substantially the same.

Q Isn't it true that the bottom hole pressure indicates whether there is underground waste?

A Yes, sir.

Q As you answered before, there is not excessive waste at the present time?

A No, sir.

BY MR. SETH:

Q The waste is sub-surface waste?

A Yes, I believe there is some sub-surface waste.

Q At Hobbs, after it goes through the plant it is just burned?

A Yes, sir.

BY MR. CUSACK:

Q We have a letter that was sent us by the Operators Committee that there is no waste.

BY GOVERNOR DEMPSEY: When was that written?

BY MR. CUSACK: A couple of weeks ago, stating there is no waste at Hobbs.

BY MR. KELLY: Is that letter in this exhibit?

BY MR. CUSACK: Perhaps Mr. Millikan was not at that meeting. We want to rely on their statements when they are sent out -- we pay so much a barrel for their intelligence.

BY MR. KELLY: If that letter is not in this exhibit, will you see that it is filed with the Commission?

A Yes, sir, I think it is there.

BY MR. SETH: Here is the copy (Referring to Exhibit No. 3). We offer this exhibit in evidence.

BY MR. KELLY (To Mr. Millikan): Will you proceed?

A Recommendation No. 5 is, I believe, more of a suggested order, rather than a recommendation. (Reading)

"5. That testing procedure for measuring gas-oil ratios, appended hereto as Exhibit 'B', be adopted as Rules and Regulations of the Commission and not included as part of the gas-oil ratio order."

The reason for making that suggestion, these testing procedures are rather,-- quite involved. The details of making tests and setting up rules to apply generally over the County became quite involved, and the technique of testing changes from time to time necessarily after getting reports, and the use of new methods or instruments makes it desirable to make certain changes. If that is issued as rules and regulations, the Commission, rather than ordering them as it becomes advisable to make changes in testing procedures, those changes may be made by the Commission without going through the formality of a hearing. That is our reason for making that suggestion.

BY MR. KELLY:

Q How often do you think the wells should be tested?

A You mean on gas-oil ratios?

Q Yes, sir.

A I believe the practice now is at least once a year. I think that for low wells, I think that plenty frequent. Those wells which have a tendency to increase the gas-oil ratio, which are known by the men in charge, perhaps they should be tested with somewhat more frequency. I am sure Mr. Staley and his assistants know each individual well well enough to know whether it should be tested or not. To try to set out a rule that all wells should be tested at very frequent intervals, I think, might create a lot of work for the Commission and the members of the Lea County Operators Committee and the individual company, which in the end would accomplish very little. Those wells which have a tendency to increase the gas-oil ratio should be tested more frequently.

BY MR. GEORGE LIVERMORE: Do you mean for all operators to use standard equipment? It is now difficult to obtain pressure gauges.

A That is true, and there are several methods of measuring gas which are acceptable to the authorities.

BY MR. SETH: Is that all on that point? Will you proceed to the next one?

A No. 6: (Reading)

"It is further recommended that in order to reduce the volume of gas produced, that the transfer of allowable from high to low gas-oil ratio units be permitted in all Lea County Fields under the following provisions:

(a) Transfer of allowable will be permitted only after application to and approval by the Commission. The application shall show 48-hour individual tests of production of oil, gas and water of the well from which transfer is requested and the well or wells receiving the transferred allowable. Such tests shall have been made within 30 days of date of submitting request for transfer. A plan of the wells involved shall be attached and also a statement of the amount of allowable to be transferred to each such well. A copy of the application shall be furnished all offset operators by the applicant at the time same is submitted to the Conservation Commission."

That almost makes the suggested wording for the order, and I think it is so dependent on other points it needs no explanation.

BY MR. KELLY: I wish you would explain that a little more in detail, paragraph "a" under No. 6.

A That transfer of allowable should be permitted?

BY MR. KELLY:

Q Wouldn't you run into trouble with royalties on that?

A No, I think not. There are limitations here that would restrict it to the same lease.

Q Then don't explain. That is answered.

A (Reading) "(b) Permits to transfer shall be in force for a period of one year from date of approval, unless rescinded by the Commission. Renewals or changes may be obtained at the discretion of the Commission only upon submission of the information as shown in (a) above."

Oil leases sometimes act in peculiar ways, and it seems to have a tendency to go in either direction. When you are sure it will not make redistribution of factors within the reservoir from when it was opened up; that it produces under current, definite conditions; if we get a permit to transfer oil from one well to another, we would be bound for one year. After that well is

pulled on for several months it may come back and be a low ratio well. After producing the well to which a well is transferred, the higher one,-- it may also go to a high ratio well. It may then be desirable to reverse the transfer. We want to be in position so that we can make application to the Commission whenever it is desirable, as a conservation measure, to change the order at any time desired.

BY MR. BODIE: In case an operator has two wells on an 80-acre tract, and one well has a high gas-oil ratio, and the other well is normal. He transfers from the high to the normal. The normal well may make top allowable, but not double the amount. The pull on that well to get double the amount, would that not be waste?

A If that were the condition, yes, sir, and I don't know -- the operator should know his own well, and if you know it is going to make waste, then I think it is his obligation to come before the Commission and change it to where it will not make waste. Under the conditions he must make his amount of transfer half of the allowable, or an amount to be satisfactory. There is no obligation to transfer all of the allowable.

BY MR. WILSON: Are you referring to the penalized, or the whole allowable?

A That is the adjusted allowable.

(Reading from sub-division (c), Paragraph 6)

"Transfer of oil from one unit to another or others will be permitted only within contiguous abutting portions of the same basic lease or unitized area provided the areas involved shall not exceed 200 acres."

In other words, we cannot transfer from one side of the field to another, and can't transfer from one royalty to another. We would also be limited to 200 acres. There can be an extreme example,-- I believe one example is at Eunice, 300 acres,-- 320 acres I believe, in one lease, only 40 acres wide, which would make the whole tract two and a half miles long. Transferring oil two miles and a half might be a little unreasonable. We found it quite difficult to make a recommendation which would cover all cases, but we believe the Commission will use reasonable judgment in allowing this, and at the same time give

reasonable leaway so that we can obtain the objective of conservation, and at the same time not create any undue drainage by the offset operators.

BY MR. KELLY: Any questions on this Section c?

A (Reading sub-division (d)):

"Transfers of allowable oil can be made only to a unit or units with a lower gas-oil ratio."

At first thought, that may seem superfluous,- it possibly is.

What we wanted to be sure to get away from was to leave an opening to transfer from a low gas-oil ratio well to a high gas-oil ratio well, because the higher might be a little better producer. The object of the transfer of allowable is conservation, and in the case of a transfer from a lower to a higher would not be in the direction of conservation.

(Reading sub-division (e)):

"The amount of allowable transferred shall be the marginal or adjusted allowable for the unit, whichever is the smaller."

There is a point at which we ran into a considerable divergence of opinion within the operators meeting. There are two points I would like to discuss. We have used the word "adjusted",- the common term is "penalized" allowable. The term "penalized" allowable is quite misleading, because it is not penalized. If the oil production is reduced because of high gas-oil ratio, it is not a penalty,- it is adjusted in order to accomplish equity between the operators there through conservation of gas within the reservoir. The reason for trying to reduce the gas-oil ratio is for the purpose of conserving energy within the reservoir. The State law says, in effect, that all operators shall have equal opportunity to produce and share the oil from a common reservoir by the use and sharing of the common energy. Gas is reservoir energy. When adjusted because of high gas-oil ratio, what we are trying to accomplish is equal distribution both of the oil produced and the reservoir energy. In order to do that,

we make an adjustment of the oil produced, but we are not penalizing that unit. We are adjusting it in order to create better equity.

BY MR. BODIE:

Q It is in the nature of a penalty?

A No, sir, there is no penalty. He may have his allowable reduced, but he has got equity,-- it is reduced if he is using an excess of reservoir energy. He is getting, without a reduction,-- he is using in excess of the reservoir energy.

Q He would not use that if the transfer was to a low energy well?

A I would like to discuss that, Mr. Bodie. There is a difference of opinion among the operators, whether adjusted allowable should be transferred, or just the allowable should be transferred. I was on the side of transferring adjusted allowable. I would like to give my opinion, as a personal opinion, and not as a representative of the Operators. In the first place, within Lea County we have given the Commission a considerable number of data substantiating the fact that one well will drain forty acres. If it had drained eighty acres, we would have asked for an 80-acre spacing, but at the time the orders were written we believed forty acres was a reasonable spacing. Therefore, when we recommend a transfer,-- as I recall, there was no opposition to the idea of a transfer,-- when we recommended the allowable be transferred, we were, in effect, saying one well will drain eighty acres. Perhaps no one would agree to that without qualification. We believe the reservoir energy and ultimate recover that will be accomplished will more than offset it. Can we say there is a mal adjustment of space as a result of such transfer? That, of course, has a direct relationship to irregular drainage. If we transfer the allowable from one unit to another, we are to assume we could concentrate withdrawals to the unit to which transferred, as respects the areas from which transferred. Operators in Lea County have spent large quantities of money in working for the conservation of gas. If we transfer the full

allowable from a high to a low ratio well, what incentive has the operator to go ahead and repair his well? In a majority of cases they are in bad condition, through no fault of the operator, but through a natural development of the field, but the waste is there. Each operator has the question before him as to whether he is justified in repairing his well or taking a lower recovery. If the full allowable is transferred, he has no incentive whatever to go in and repair his well and re-establish a normal drainage pattern under which the field was developed.

One other point is very important,-- certain inequities, -- if you transfer the full allowable certain inequities are bound to occur. If I should have one unit, with a high ratio, I am penalized because I have no place to transfer. If I have several units, I am in position to transfer from a high gas-oil ratio well to a low gas-oil ratio well, and the net result is, I am still getting the allowable if you put the full allowable,-- under conditions of transferring the full allowable. If I do not get the full allowable, I would repair the well, or not, as I saw fit. If I have one unit, and have a high gas-oil ratio, there is nothing I can do, in my opinion.

BY MR. RODGERS: Why transfer any allowable? Are there instances where you can't repair the well?

A Yes, sir, there are instances where you can't repair the well. In our own operations we have wells we have tried to work over three or four times. We have two wells in Monument shut in completely for several months. We don't know what to do with them. We have a number of other wells capable of making five, ten, fifteen, twenty or twenty-five barrels a day, producing at a high ratio, but adjusted down to lower quantities. We still have to produce out of a particular well, and the gas goes to naught. If allowed to transfer that, we can cut the gas produced, I think, twenty per cent less in some cases, in some cases ten per cent, and in some cases not over half as much gas.

BY MR. BODIE: Conditions as they are at present, with materials hard to get and labor scarce, you think it is a sound condition to

create an incentive for doing work when you could get the same result in some other way?

A In most wells there is very little material involved,-- a packer, or something like that. So far as tons of steel is concerned, when you come to the war program, it is only in tons of steel. I doubt if there would be on the average one ton of steel used, and in a large majority you would use practically none.

BY MR. RODGERS:

Q As I understand, an operator might have two wells, one low and one high gas-oil ratio, and we might be able to repair the well, ^{by} you say?

A Yes, sir.

Q And we lack interest, and fail to do that, consequently our allowable is adjusted down?

A That is one condition.

Q Now assume we have done nothing about that,-- we have accepted the adjusted allowable and done no repair work, and we come along with this particular recommendation. We can attempt to repair the well, or transfer over to the other well. Inasmuch as we have had no interest in doing anything about it, and are willing to accept the waste, we might continue doing that rather than transfer?

A That is right.

Q If permitted to transfer the total allowable, that would be some incentive?

A No.

Q Or close down this one with the high ratio and transfer?

A If you transfer the adjusted allowable you would be in exactly the same position, if you did not have any interest in repairing the well, by transferring only the adjusted. If he could have transferred the full allowable, he would have less interest. It is not only the interest in conservation, there is the matter of economics. It is not indifference on the part of the operators, it is a matter of economics.

BY MR. KELLY: What about the case where a man has done the remedial work, and has failed, due to natural conditions in the reservoir. Do you believe in that case he should be allowed to transfer the full allowable?

A No, sir.

BY MR. KELLY: Any further discussion?

A Just one more point: (Reading sub-division (f)).

"No unit shall be permitted to produce an allowable in excess of the allowable for two units."

I think the reason for that is obvious. Transferring too much oil would tend to create waste.

BY MR. SETH: We have one other engineer, or other engineers, but it scarcely seems necessary to put them on. We rest for the Operators, unless the Commission desires to call some of the other witnesses.

Witness dismissed.

LLOYD L. GRAY,

being sworn to tell the truth, the whole truth, and nothing but the truth, testified as follows:

BY MR. KELLY:

Q State your name and occupation.

A Lloyd L. Gray; Chief Production Engineer for the Gulf Oil Corporation.

There was a difference of opinion at the meeting yesterday. One group wanted a little different wording than the other. One preferred to transfer the normal allowed, rather than the adjusted. This group recommended that section read as follows:

"That the amount of allowable transferred shall be the marginal or normal allowable for the field, whichever is the smaller."

I am not sure whether I am testifying in support of the majority or the minority opinion. Yesterday afternoon in the meeting the minority vote was about eleven to six. However, it is my understanding that after the meeting some of them stated

if the thing came to a vote again, they thought they would vote the other way.

Q Which way?

A Our way, for the minority. In addition to that, this problem came before the group during the latter part of a rather long session, and some had left the meeting. Several of those contacted later stated they would support our opinion, so I don't know whether I am supporting the majority or the minority.

Q Is that the only difference between the majority and the minority?

A Yes, sir.

Q No other differences?

A There were two or three that differed from the majority in certain phases, but no serious differences. As a matter of fact, I would like to give a little further testimony on the gas-oil ratios, as a representative of the Gulf Oil Corporation, and not the group.

It is my opinion that the transferring of allowables to lower gas-oil ratio wells will reduce the gas production in Lea County at least thirty million cubic feet per day, and it may be substantially more. I believe this will occur, no matter which of these proposals is accepted and made into an order. However, I believe there is no question that more gas will be saved if the normal allowable is transferred, for two reasons: First, if the penalty is applied, there is no incentive for an operator to transfer the allowable. I question, in many cases, whether the operator would go through the routine which would be required to obtain the transfer in order to do that, if he received no benefit. I see no reason why he would go through the ordeal of submitting plats, etc. Second: If the penalty is applied there is no incentive for the operator to unitize small tracts. In the recommendation, if the transfer be on the same project, lease, or unitized area, as though the operator has a small forty or eighty acre tract, it is entirely possible he may unitize that with his neighbor who has no incentive. Unitization is a hard job. In order to have the incentive to get a greater saving of gas, I think he should receive some benefit. There are some adjoining

small tracts, with different royalty owners, but having the same operator. If there were some incentive he would go to the royalty owner and see if he could not unitize. There are other tracts that have different lease owners, but the same royalty owners. If the lease owner and the royalty owner have enough at stake, I believe they could make a real effort to unitize. I believe a permit to transfer the normal allowable would be sufficient to increase that unitization.

In these critical times there is another item to be given consideration: Manpower and critical materials. In these times there should be nothing done unnecessarily to increase the use of labor and materials. If only penalized allowable is transferred, there remains the full incentive to carry out remedial work, for which there may be no actual need for the duration.

In addition to what is perhaps theory, as a practical matter Lea County has carried on a very extensive remedial program. Because such extensive measures have already been taken, the possibility of reducing the gas-oil ratios in the remaining wells is becoming less and less. In the early stages of remedial work, successful operations in the neighborhood of seventy to eighty per cent have been carried out. I don't know what percentage there is now, but there have been operators where it is not over twenty per cent. It is not, then, how much it would mean to this well or that well, but to all wells, to get one job successful.

In addition, there is another idea I believe Mr. Millikan mentioned: In many instances there is not a great deal of material needed. Perhaps that is true. Setting a packer is an easy job, but that has already been done. Now we are up against the jobs requiring more and more material. We have two wells that I don't believe can be corrected except by drilling new wells, or whipstocking, which would require a number of tons of material.

I believe the whole problem resolves itself to this: whether the purpose of adjusted allowable is merely penalizing, or con-

^o serving gas. If the purpose is to penalize, certainly the majority opinion would be correct. On the other hand, if the purpose is to produce the equitable allowable of oil with the least amount of gas, and conservation of reservoir energy, I believe transferring the normal allowable is indicated.

That is all the testimony I have.

Q Mr. Gray, in any case, the transferring of allowable is just a temporary matter?

A I think the matter is up for readjustment continuously.

I have one other item: It has to do with gas-oil ratios. We have recommended a number of changes in gas-oil ratios. Several pools were eliminated. Those were eliminated for the reason they were all marginal classification; that is, the sand belt; and in the dolomite pools, there is a large water drive. I believe some suggested changes in the gas-oil ratios might not have been quite proper at this time. One reason, in my opinion, in most instances the present maximums are satisfactory and reasonable, considering the condition of the pools. The other being that it is usually a good engineering principle not to try too many changes all at one time. If you make a great many changes, there is no way of knowing which one would be good and which did no good. I believe it is much better to take the steps one or two at a time. For that reason I recommend the pools in which the Gulf is interested, being about as follows: Arrowhead, Monument, Hobbs, and South Eunice, that there be no change in the gas-oil ratio limits as are presently in force.

Q Are you recommending this for the benefit of the pool?

A I think in those instances, considering the condition of the pools, that the gas-oil ratios at present in effect are reasonable and are now effecting conservation within the meaning of the equities involved, and everything else.

I am speaking for the Gulf.

Witness dismissed.

E. H. GRISWOLD,

being sworn to tell the truth, the whole truth, and nothing but the truth, testified as follows:

BY MR. KELLY:

Q State your name and occupation.

A E. H. Griswold; Consulting Engineer, Midland, Texas, currently retained by the New Mexico Federal Unit. The New Mexico Federal Unit (a name used for convenience to describe an operation conducted by Continental Oil Company for itself and the other joint owners, Stanolind Oil and Gas Company, Standard Oil Company of Texas and Atlantic Refining Company, of certain Federal leases in Lea County) supervises the operation of 223 wells and considerable undeveloped acreage. The New Mexico Federal Unit recommends the enactment and enforcement of stringent rules and regulations for the conservation of oil and gas in New Mexico and suggests the following procedure:

I would like to make this statement: This recommendation as to procedures was arrived at thoughtfully at the meeting of the Lea County Operators. We are not presenting this in the nature of a minority report. We vary a little in detail. In those cases we are pleased to rely on the good judgment of the Committee to reconcile any differences between our procedure and that of the Lea County Committee. The procedure which we believe is practical is as follows:

- (a) The establishment of a reasonable gas oil ratio limit for each pool.
- (b) The penalizing of the allowable of each well exceeding that limit so that no well be permitted to produce more gas than an amount equal to the normal oil allowable multiplied by such gas oil ratio limit.
- (c) That no exceptions from this procedure be granted, regardless of supposedly peculiar conditions affecting any particular well or operation.
- (d) That accurate gas oil ratio measurements be made at periodic intervals and that sworn reports be required from the operators through the U. S. mails.

(e) The state authorities test a sufficient number of wells to insure reasonably accurate reports and enable them to detect inequities.

(f) That consideration be given to a production unit plan in those cases where additional conservation may be achieved by the use of such a plan, but that the tentative or final application of such plan be not permitted to alter the procedure here suggested or delay putting it into effect.

BY MR. KELLY: You wish to offer that as an exhibit?

A Yes, sir. (Marked Exhibit No. 3.)

BY MR. SELINGER: Would you mind reading that paragraph again?

A That consideration be given to a production unit plan in those cases where additional conservation may be achieved by the use of such a plan, but that the tentative or final application of such plan be not permitted to alter the procedure here suggested or delay putting it into effect.

It is the current procedure.

Witness dismissed.

BY MR. KELLY: If there are no further witnesses, the meeting will be adjourned, and the Commission will take this case under consideration.

C E R T I F I C A T E

I hereby certify that the foregoing and attached thirty-two and a half pages of typewritten matter are a true, correct and complete transcript of the shorthand notes taken by me in case No. 42, on the 27th day of April, 1943, and by me extended into typewriting; that the three exhibits offered in evidence are attached to the original of this transcript.

Witness my hand this 2nd day of May, 1943.

Esther Barton
Esther Barton.