

CASE NO. 21

BEFORE THE OIL CONSERVATION COMMISSION
FOR THE STATE OF NEW MEXICO

HEARING RELATIVE TO ADOPTING
A FINAL ORDER GOVERNING GAS-
OIL RATIOS IN THE VARIOUS PRO-
DUCING FIELDS IN NEW MEXICO.

THE CAPITOL, SANTA FE, NEW MEXICO
JULY 29, 1940

Pursuant to notice, duly given and published, hearing
in the above entitled matter was convened in the Hall of the House
of Representatives, Capitol Building, Santa Fe, New Mexico, at
the hour of ten o'clock, A. M., of July 29th, 1940, the Commission
sitting as follows:

Hon. John E. Miles, Governor, Chairman of Commission
Hon. Frank Worden, Commissioner of Public Lands, Secretary
Hon. A. Andreas, State Geologist, Member
Hon. Carl B. Livingston, Attorney for Commission.

APPEARANCES:

<u>NAME</u>	<u>COMPANY</u>	<u>ADDRESS</u>
Glenn Staley	Lea County Operators	Hobbs, New Mexico
R. K. Stovall	Culbertson & Irwin & Stovall	
J. H. Curtis	Culbertson & Irwin & R.K.Stovall	Jal, New Mexico
Martin Yates III	Yates Oil Co.	
R. T. Windfohr	Nash, Windfohr & Brown	
V. S. Welch	Flynn, Welch & Yates	
Harry Leonard	Leonard Oil Company	Roswell, New Mexico
M. Albertson	Shell Oil Co., Inc.	Houston, Texas
H. J. Kemler	Shell Oil Co.	Midland, Texas
A. E. Groff	Shell Oil Co.	Houston, Texas
Roy Yarbrough	Oil Conservation Commission	
H. S. Cole, Jr.	The Texas Co.	Fort Worth, Texas
J. W. Graybeal	Humble Oil & Rfg. Co.	Midland, Texas
J. W. House	Humble Oil & Rfg. Co.	" "
John R. Simon	Humble Oil & Rfg. Co.	Houston, Texas
E. F. Neisenwander	North Shore Corp.	Midland, Texas
J. N. Dunlavey	Skelly Oil Co.	Hobbs, New Mexico
W. K. Davis	El Paso Natural Gas Co.	Jal, New Mexico
C. L. Perkins	El Paso Natural Gas Co.	El Paso, Texas
J. S. Noland	Barnsdall Oil Co.	Tulsa, Oklahoma
J. S. Griffith	Humble Oil & R. Co.	Roswell, New Mexico
J. G. Benton	Westates Pet. Corp.	Jal, New Mexico
James W. Murray	Me-Tex	Hobbs, New Mexico
Howard P. Holmes	Two States Oil Co.	Dallas, Texas
J. P. Cusack	J. P. Cusack, Inc.	Midland, Texas
R. S. Christie	Amerada Pet. Corp.	Fort Worth, Texas
Lloyd L. Gray	Gulf Oil Corp.	Tulsa, Oklahoma
S. G. Sanderson	Gulf Oil Corp.	" "
H. D. Bedford	Gulf Oil Corp.	Roswell, New Mexico
Geo. P. Livermore	Great Western Prod., Inc.	Odessa, Texas
N. B. Larsh	Repollo Oil Co.	Midland, Texas
C. C. Cragin	El Paso Natural Gas Co.	El Paso, Texas
A. L. Forbes, Jr.	El Paso Natural Gas Co.	El Paso, Texas
G. D. Macy		Santa Fe, New Mexico
C. L. Talmadge	Independent	Santa Fe, New Mexico

H. L. Johnston	Continental Oil Co.	Hobbs, New Mexico
H. B. Hurley	Continental Oil Co.	Fort Worth, Texas
Neville G. Penrose	Neville Penrose, Inc.	Fort Worth, Texas
F. J. Danglade	Independent	Lovington, New Mexico
Barney Codsbine	Independent	Lubbock, Texas
F. W. Brigance	Rowan Drilling Co.	Fort Worth, Texas
Dewey A. Jordan	Atlantic Refg. Co.	Midland, Texas
Rex E. Rader	Stanolind Oil & Gas Co.	Hobbs, New Mexico
G. H. Card	Stanolind Oil & Gas Co.	Fort Worth, Texas
C. A. Daniels	Phillips Petroleum Co.	Amarillo, Texas
D. R. McKeithan	Phillips Petroleum Co.	Bartlesville, Okla.
J. O. Seth	Stanolind Oil & Gas Co.	Santa Fe, New Mexico
A. M. McCorkle	Lea County Operators Com.	Fort Worth, Texas
R. G. Schuehle	Shell Oil Co.	Midland, Texas
F. E. Heath	Sun Oil Co.	Dallas, Texas
D. D. Bodie	Cities Service Oil Co.	Hobbs, New Mexico

The hearing was called to order by Governor Miles, at whose request Mr. Livingston read the Notice for Publication of the call of the hearing, as follows:

"NOTICE FOR PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Pursuant to Chapter 72, Session Laws of 1935, State of New Mexico, by which Act the Oil Conservation Commission of New Mexico was created, investing said Commission with the jurisdiction and authority over all matters relating to the conservation of oil and gas in this State and of the enforcement of all provisions of said Act, notice is hereby given that a public hearing will be held at the Capitol, Santa Fe, New Mexico, on the 29th day of July, 1940, at ten o'clock A. M., for the purpose of considering the following:

Case No. 21.

The adoption of a final order governing gas-oil ratios in the various producing fields in New Mexico.

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

Given under the seal of said Commission at Santa Fe, New Mexico, on July 11, 1940."

BY MR. WORDEN: You have heard the reading of the notice. Now the Commission is ready to proceed.

BY MR. SETH: On behalf of Lea County Operators' Committee we would like to present some evidence, with the understanding that, so far as we are concerned, it applies only to Lea County. May we proceed on that theory?

BY MR. WORDEN: Proceed.

BY MR. SETH: We would like to offer in evidence a transcript of the

testimony taken on December 9th, 1939, pursuant to a call for hearing on the gas-oil ratios. These are official files of the Commission.

(Marked Lea County Operators Committee Exhibit No. 1)

We would like to offer in evidence transcript of Case No. 19, involving the hearing held March 5th, 1940 on gas-oil ratios. This transcript is also from the official files of the Commission, and is, I believe, the basis for the outstanding orders Nos. 238, 250 and 259, which is a temporary order, renewed every two weeks.

(Marked Lea County Operators Committee Exhibit No. 2)

We would like to offer in evidence, and have the Commission consider the testimony and other showings that have been made with respect to the various exceptions from the existing gas-oil ratio. I have not that available, but it is in the files of the Commission.

GLENN STALEY,

being called as a witness on behalf of the Lea County Operators Committee, and 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 State your name, please.

A Glenn Staley.

Q What is your position, Mr. Staley?

A I am Chairman of the Engineering Committee of the Lea County Operators Committee, and deputy of the Oil Conservation Commission of the State of New Mexico.

Q Are you in charge of the office of the Lea County Operators Committee at Hobbs?

A I am.

Q Mr. Staley, how long have you been connected with the oil industry at Hobbs?

A Ten years.

Q Are you familiar with the wells, the the record of wells kept

in your office?

A I am.

Q The existing order of the Commission states that that order is intended to continue in effect pending the completion of the oil gas survey then in progress in Lea County. You recall that in the present order of the Commission?

A I do.

Q Has that gas-oil ratio survey been completed in Lea County?

A Practically.

Q And under whose supervision has that gas-oil ratio survey been made? I mean, was it under your supervision?

A It has.

Q In your opinion has this survey been made accurately and by competent people?

A It has.

Q Has the result of that survey been filed with the Commission?

A It has.

BY MR. SETH: I desire to offer that in evidence.

(This report is in the files of the Commission and not marked)

Q Have the results of that survey been considered by the Engineering Committee of which you are Chairman?

A Yes sir.

Q Have they made recommendations?

A They have.

Q As to suggested outline of a gas-oil ratio order?

A Yes, sir.

Q You know, of course, that a suggested form of order has been made to the Commission and transmitted to the Commission?

A Yes, sir.

Q Did those suggestions meet the approval of the Engineering Committee, to your knowledge?

A Practically so, yes, sir.

Q Mr. Staley, is there anything further in connection with the making of the survey you desire to bring up at this time?

A No.

Q In your judgment, the figures shown in the report of this survey accurately set out the gas-oil ratios of the various wells in Lea County?

A Yes, as near accurate as we were able to get them under existing conditions.

BY MR. GEORGE LIVERMORE:

Q What percentage of the gas-oil ratios in the so-called sand belt were in at the time they were considered?

A I would judge about 60% -- I am not sure, at the time the engineering committee got them -- they were doing a good deal of remedial work in that area. Operators were not in position to take ratios in a good many cases.

Q Was it that high?

A I would not say that is accurate, but in that neighborhood.

Q I was under the impression it was less than that.

BY MR. SETH: Mr. Livermore, in his questions, reminded me of something I want to get in the record.

Q Has remedial work on the various wells with high gas-oil ratios been carried on generally in Lea County pools?

A It has.

Q Has that remedial work been going on several years?

A It has.

Q Is there a compilation made of the remedial work that the operators have bone?

A There is the monthly engineering reports, issued every month, setting out the remedial work done in various areas where the information has been submitted to our office.

Q Has that practice, of including that in the monthly engineering report, continued over a considerable time?

A Over quite a number of years.

Q Are those engineering reports filed with the Commission?

A Yes, sir.

BY MR. SETH: We would like to offer that information, contained in each monthly report of the Engineering Committee of the Lea County Operators Committee to show that remedial work

has been constantly carried on in Lea County.

(These reports, being in the files of the Commission, were not marked as exhibits).

Witness dismissed.

A. M. McCORKLE,

being called as a witness on behalf of the Lea County Operators' Committee, and 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 Please state your name.

A A. M. McCorkle.

Q You are Vice-President of the Stanolind Oil and Gas Company?

A I am.

Q And Chairman of the Lea County Operators Committee?

A I am.

Q You heard Mr. Staley's testimony with respect to the recommendation of the Lea County Engineering Committee?

A I did.

Q Did you submit the report of the Engineering Committee to the various operators in Lea County?

A I did.

Q Sent everyone a copy?

A I did.

Q Did you call a meeting at the same time?

A I did.

Q Will you state what action was taken at this meeting with respect to approval or disapproval of the engineering report?

A The operators, the Lea County operators that attended this meeting approved the report after several more or less minor changes, which had been suggested, were made.

Q Did you receive some suggestions from operators who were not represented at the meeting, as well as those present?

A Yes, sir.

Q All operators were furnished with a copy of the report and invited to submit criticisms and changes?

A Yes, sir.

Q Did you transmit to the Commission the recommendations of those present at the meeting, I believe on July 12th?

A July 10th. Yes, in accordance with instructions -- or a resolution passed at that meeting, I transmitted the recommendations to the New Mexico Oil Conservation Commission, with the request that they call a hearing at an early date, or on July 29th, or any date more suitable, to consider evidence for the promulgation of a final order governing gas-oil ratios in Lea County.

Q These operators and engineering committee recommendations are confined to pools in Lea County?

A Yes, sir.

BY MR. SETH: I believe that is all. We will have the next witness read the recommendations.

BY MR. WORDEN: Anybody else wish to ask the witness any questions?
(No response).

Witness dismissed.

R. G. SCHEUHELE,

being called as a witness on behalf of the Lea County Operators Committee, and 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 State your name, please.

A R. G. Scheuhele.

Q What is your profession?

A Petroleum engineer.

Q By whom are you employed?

A Shell Oil Company.

Q How long have you been engaged in practicing petroleum engineering?

A For eight years.

Q Are you familiar with the pools, generally, in Lea County?

A I am.

Q How long have you been connected with Shell's operations in Lea County?

A Seven years.

Q You, I believe, are a graduate petroleum engineer?

A I am.

Q Are you a member of the Hobbs -- Lea County Engineering Committee?

A Yes, I am.

Q Did you attend the meeting of the committee at which the committee considered the results of the gas-oil ratio survey made that Mr. Staley testified about?

A Yes, I did.

Q Did that committee make recommendations of a suggested form of gas-oil ratio order to be put into effect in Lea County?

A Yes, they did.

Q Is that the recommendation Mr. McCorkle testified was submitted to all operators?

A It is.

Q Have you those recommendations? (Witness displays report)
I wish you would read them so that everyone present can hear them.

A I have them right here. (Reading:)

"The New Mexico (Lea County) operators respectfully recommend to the New Mexico Conservation Commission the adoption of a permanent gas-oil ratio order which will incorporate in its provisions the following points or ideas:

All operating gas-oil ratio tests shall be taken by or under the supervision of the State Oil Conservation Commission.

1. Operator

The operator shall: (1) in accordance with existing rules and regulations of the Conservation Commission, equip each well to make conveniently a gas-oil ratio test, and shall equip same in accordance with an approved hookup; (2) furnish the Deputy

of the Commission a complete list of his wells showing the type of metering equipment best adaptable for accurate gas measurement in accordance with rules contained herein. Such information shall include the size of vent line, size of orifice flange or connection available, and if possible, the desirable size of orifice in the orifice plate; (3) furnish sufficient and qualified lease labor to install and manipulate all lease equipment, including the installation and/or changing orifice, raising or lowering vent lines, etc., in preparation for and during gas-oil ratio tests conducted in accordance with this order.

2. Oil Conservation Commission

The Oil Conservation Commission shall: (1) Assemble the information supplied by the operators as recommended above, and arrange test schedule; (2) assign engineers to supervise tests. Only in the event of an emergency shall company engineers be used as witnesses and they shall not be permitted to witness tests on their employer's property; (3) instruct all personnel in the proper operation of measuring equipment and procedure in conducting the test; (4) calibrate all metering equipment; (5) furnish, calculate, record and file all gas measurement charts and records; (6) compute all gas-oil ratios; (7) determine whether the test was properly conducted and if necessary schedule retests; (8) refuse to test wells not properly equipped in accordance with approved hookup.

3. Witness

The witness shall supervise: (1) the installation of the gas measuring equipment; (2) the proper operation of the equipment; (3) the proper gauging of the lease tanks to accurately determine the production of oil and water; (4) the proper recording of the pertinent data required; (5) the placing of seals on locking devices; (6) the witness shall take such other action as may be necessary to accomplish the desired purpose.

4. Manner of testing

- a. For the purpose of stabilization, each well shall be produced for a period of 24 hours at a rate as nearly as possible

to the normal manner of operation but not less than the daily allowable the well would have without gas-oil ratio adjustment.

- b. Tanks shall be gauged by the witness at the beginning and end of this stabilization period.
- c. No change shall be made which affects the rate of production during the last 12 hours of the stabilization period and during the entire test period.
- d. The test period shall consist of 24 hours. Oil and gas shall be gauged for the full period.
- e. In case of a stop-cocked well, the oil and gas shall be measured for the time it is produced.
- f. If for any reason gas should be withdrawn from the casing, this volume of gas shall be added to that produced through tubing in computing the gas-oil ratio and such gas shall be measured for the full 48 hours of stabilization and test periods, and the largest volume whether the first or second 24 hour period, shall be used in computing the gas-oil ratio.
- g. 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. The total input volume must be metered.

5. Liquid Measurements

- a. All tanks shall be gauged to the nearest 1/8 inch. Care should be exercised to keep the gauge line taut and in case there are ripples or foam on the oil surface the tank should be allowed to stand until the fluid reaches equilibrium and the foam can be brushed aside.
- b. Tanks shall be thieved immediately before and after the test and water percentage determined in accordance with A.P.I. specifications.
- c. The total volume of liquid produced shall be calculated in accordance with the latest strapping tables of the tanks.
- d. The net volume of oil shall be the total volume of fluid less the volume of S.S. and W. as determined by Paragraph "b"

above.

- e. Fluid level in the separator must be maintained relatively constant such that the oil dump valve is covered at all times by at least 12 inches of liquid.
- f. If it is necessary to use a flow tank for the separation of water the water-oil level must be the same at the beginning and end of test.
- g. All liquid measurements shall be in barrels of 42 gallons and shall be carried to the second decimal.

6. Gas Measurement

- a. A calibrated pressure gauge shall be installed on each separator and readings taken periodically. In the event the operator chooses to conduct the test at a separator pressure in excess of 100 lbs. a recording pressure gauge will be installed on the separator and the measured gas-oil ratio shall be increased by the measured or calculated volume of gas going to the tanks. Calculated volume shall be based on the gas-solubility vs pressure curves for the field or area in which the well is located.
- b. For computing the volume of all gas produced the standard of pressure shall be 10 oz. above an atmospheric pressure of 14.4 lbs. per sq. in. the standard temperature shall be 60° F. and the standard of specific gravity shall be 0.85 as compared to air. All measurements of gas shall be adjusted by computation to these standards. In case the gas measurement is made at a pressure in excess of 100 lbs., the measurement shall be adjusted in accordance to deviation from Boyles Law. Gas volumes will be computed in cubic feet and gas-oil ratios in cubic feet per barrel of oil.
- c. Only 24 hour recording type gas measuring devices shall be used.
- d. Orifice well testers, orifice meters and side pressure test nipples are approved. Side pressure nipples shall be used only when it is necessary to measure volumes larger than can conveniently be measured by orifice meter. A

standard set of tables for each device will be on file in the office of the Deputy of the Commission.

7. Any well that cannot be tested, under the preceding rules shall be referred to the Oil Conservation Commission for special consideration and rules.
8. The gas-oil ratio of a unit, regardless of the number of wells thereon, as applied in this order, shall be the total output gas less the total input gas divided by the barrels of oil produced.
9.
 - a. A marginal unit is one which did not produce the acreage allowable for the pool in which the well is located during the standard gas-oil ratio test.
 - b. The ability of a marginal unit to produce as determined by its standard gas-oil ratio test shall be taken as the normal allowable of such a unit.
10. The normal oil allowable of a non-marginal unit is the allowable it will receive before the gas-oil ratio adjustment is applied.
11. A standard gas-oil ratio test shall be made on each well or unit in accordance with the rules as provided herein once each year. The tests shall be made not more than 60 days prior to the effective date of the gas-oil ratio survey for the pool in which the well or unit is located, as shown in Exhibit A attached.
12. A standard gas-oil ratio test shall be made within 30 days after the completion of a new well, remedial work, work-over, clean-out, acidization or any changes which affect subsurface producing conditions. The effective date of such tests shall be the beginning of the next succeeding monthly proration period except that the Commission must be notified that the well or unit is ready for test at least five days before the beginning of such proration period. Tests shall not be required due to changes in choke opening or in subsurface pumping equipment unless requested by the owner or operator of the well or unit. All wells included in this section shall be retested on the next regular survey either annual or semi-annual.
13. A standard gas-oil ratio test shall be made at the discretion of the Commission or its duly authorized deputy on any well or

- unit whenever a written request is submitted to the Commission or its duly authorized deputy by any operator in the pool in which the well or unit is located. Also, tests may be made on any wells selected by the Commission or its deputy for any reason whatsoever. The effective date of such tests shall be the same as provided in paragraph 12 above.
14. A standard gas-oil ratio test shall be made semi-annually on all wells tested in accordance with paragraphs 11 and 13 above, which wells on the preceding test, had a gas-oil ratio in excess of 80% of the maximum provided for the pool in which the well is located. The tests shall be made not more than 60 days prior to the effective date for the pool in which the well or unit is located as shown in Exhibit A attached.
 15. Wells which have not had a standard gas-oil ratio test made at the effective date for the pool in which the well is located shall receive no oil allowable until the succeeding monthly proration period after a test has been made.
 16. The oil allowable of each well or unit producing with a gas-oil ratio in excess of the maximum provided for the pool in which the well or unit is located shall be adjusted as hereinafter provided. The maximum gas-oil ratio permitted each pool and undesignated area is shown in Exhibit A attached.
 17. The application of the gas-oil ratio adjustment shall be as follows:
 - a. The oil allocation shall be distributed to the various pools in the same manner used prior to February 1, 1940. In each pool, except Hobbs and Monument, the total amount of oil allocated to marginal units not subject to the gas-oil ratio adjustment shall first be subtracted from the pool total oil allocation. Each remaining unit shall be given a percentage rating the value of such rating depending upon its gas-oil ratio. Each unit having a gas-oil ratio equal to or less than the maximum permitted that pool shall be rated at 100. The rating of units having a gas-oil ratio in excess of the permitted maximum shall be calculated

according to the following fraction:

$$\text{rating} = \frac{\text{pool maximum gas-oil ratio} \times 100}{\text{unit gas-oil ratio}}$$

The remaining oil shall be distributed to each remaining unit in the ratio that the rating of each unit bears to the sum of all ratings in the pool.

- c. In the Hobbs and Monument Pools the proration schedule shall be calculated in the normal manner according to the order of the Commission for that field. Each unit having an allowable equal to or less than the average unit allowable for the pool shall be allowed to produce an amount of gas equal to the produce of the permitted maximum gas-oil ratio of the pool multiplied by the average unit allowable; provided that a unit, the oil allowable of which has been adjusted by high gas-oil ratio shall not exceed its normal allowable.

Any unit having an allowable greater than the average unit allowable for that field shall be allowed to produce only that amount of gas determined by the product of the permitted maximum gas-oil ratio and its normal oil allowable. From the pool allocation shall be deducted the amount of oil allocated to marginal wells and wells adjusted for high gas-oil ratio. The remaining oil shall be distributed to the remaining adjusted wells in accordance with the pool proration plan.

18. Legal overage and shortage shall be handled as in the past. That is, the adjusted oil allowable shall be the current oil allowable plus approved shortage or the current allowable less the overage, whichever applies in the particular case.
19. In order to encourage repressuring or the maintenance of reservoir pressure, the volume of gas injected into the reservoir may be deducted from the output gas in determining the net gas-oil ratio. The exact manner of applying this section shall be determined after a public hearing before the Commission.
20. When remedial work has been completed on a unit an adjusted allowable will be granted from the date of starting such work, for a period not exceeding 60 days, calculated on the basis of the standard gas-oil ratio test made subsequent to remedial work.

21. Units producing from a reservoir designated by the Commission as predominately gas-bearing shall be exempt from gas-oil ratio adjustments. Provided, however, that no unit producing from such a reservoir shall be allowed to produce more oil than the average top allowable of a unit for the county in which it is located.
22. Units producing gas only from a reservoir not designated as a gas reservoir, as provided in Section 21 above, shall be allowed to produce only as much gas as would result in a reservoir voidage on a volumetric basis equal to that voided by an oil well producing with a maximum gas-oil ratio permitted for that reservoir.
23. Marginal units produced primarily for gas sale in a reservoir, as described in Section 22 above, shall be permitted to produce a volume not to exceed that permitted in Section 22 above.
24. 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.
25. For purposes of oil allowable adjustment, only those gas-oil ratios taken under the supervision of the Conservation Commission and by its duly accredited deputy shall be used. Insofar as the proration of oil is concerned, gas-oil ratios reported monthly on Form C-104A shall not be used.
26. Exemptions shall be granted only after duly advertised public hearing.
27. In any case where it appears that serious inequities to property rights, or irreparable damage to a well or wells may be caused by the application of the gas-oil ratio adjustments above defined, the Commission shall postpone application of such penalties upon proper application for a hearing from the party or parties

who may be injured, until such time as a hearing has been held and a decision reached. The decision of the Commission as a result of such hearing shall be retroactive to the date at which the gas-oil ratio adjustment became effective as to other wells in the field.

E X H I B I T A

EFFECTIVE DATE OR GAS-OIL RATIO SURVEYS

FIELD	TOTAL WELLS	COMMISSION MAXIMUM GAS-OIL RATIO	EFFECTIVE DATE			
			ANNUAL SURVEY		SEMI-ANNUAL SURVEY	
Arrowhead	73	5000	March	1	September	1
Cooper	90	10000	April	1	October	1
Corbin	1		March	1	September	1
Eaves	10	7000	April	1	October	1
Eunice	491	7000	June	1	December	1
Halfway	4		March	1	September	1
Hardy	117	7000	October	1	April	1
Hobbs	251	4000	October	1	April	1
Jal	19	10000	March	1	September	1
Langlie	126	7000	December	1	June	1
Lynch	10		March	1	September	1
N. Lynch	2		March	1	September	1
Lynn	25	5000	March	1	September	1
Mattix	143	7000	December	1	June	1
Monument	493	6000	August	1	February	1
North Penrose)	177	7000	January	1	July	1
South Penrose)			January	1	July	1
Rhodes	6	5000	April	1	October	1
Skaggs	3	5000	March	1	September	1
Skelly	68	7000	January	1	July	1
South Eunice	65	7000	March	1	September	1
West Eunice	6		March	1	September	1
South Lovington	34	2000	July	1	January	1
Vacuum	300	2000	July	1	January	1"

A That completes the recommendations, with Exhibit A.

Q Mr. Scheuhle, what you have just read represents the recommendations of the Lea County Engineering Committee?

A It does.

Q Is that committee made up of engineers representing the various operators in Lea County?

A There are state engineers represented. They are all employed by some operator, functioning as a committee of operators.

Q The other members, besides the state employees, are engineers working in Lea County and familiar with the Lea County pools?

A That is right.

Q Was it from experience in those pools, and experience in the Engineering Committee as a whole, taking into consideration as well the result of the gas-oil ratio survey made by the Commission, that these recommendations were made?

A That is right.

Q Is it your opinion as a petroleum engineer familiar with the Lea County pools that these regulations are proper?

A I believe they are.

Q What would you say in that respect concerning the maximum gas-oil ratio prescribed for each pool -- you believe these are proper in that respect?

A I believe it is as equitable as can be arrived at at the present time.

Q You believe these gas-oil ratios, and the maximums set out in the appendix tend to prevent waste and improve the ultimate production of oil from every pool?

A I do.

Q Do you believe it will serve to prevent waste and conserve reservoir energy in each pool?

A Yes, sir.

Q And thereby make for larger ultimate recovery?

A That is right.

BY MR. HOWARD HOLMES:

I might say, in the first place, I am thoroughly in accord with the idea of conservation. I would like to ask a few questions in regard to the information with which the Engineering Committee worked.

Q Did you have sufficient information, Mr. Scheuhle, to lay your finger on a specific well, or forty-acre tract, in any one of the main pools, to testify whether the ratio of oil in place and gas in place are in proportion as you have set out?

A I think it is an error to attempt to make any general rule apply to any small detail, or specific case, but it will ultimately arrive at much that same point.

Q What you are saying is that on an average it will arrive at that point?

A That is it.

Q Do you recognize the elements of the case, which is primarily that we are working with property rights and equities? Has any discussion been had of that fact? In your engineering meetings or has it been discussed?

A The fundamental basis of that rule is to apportion all operators their equal share of reservoir energy, and that is based entirely on that premise.

Q That is so for the whole field, but regarding a particular eighty or forty-acre tract, has there been engineering information enough to pass judgment?

A It depends on how far you want to carry -- to what extent you would want to carry it.

Q What I am driving at is, this is more than an engineering problem?

A A problem in engineering and economics.

Q And also it has something to do with structure of the formation, the size of the gas reservoir, the thickness of the gas reservoir, in proportion to the volume of oil in place.

A All those points have been thoroughly looked into.

Q With respect to specific structures?

A Two States Morris No. 1 has not been looked up. It was looked

into at about this point on the structure, and should have so much energy. I didn't examine that particular well to see if the top producing zone was 570 or 571 below sea level or whether it was around 580 feet.

Q At the time we drove our wells, on advice of geologic counsel, we were very careful to take very careful samples, particularly while drilling in below the pipe, and very careful to get drilling times, which we hoped would give information on this section. We didn't rely upon information from offset wells. There is a great variation between wells, and we have reason to think between various pools. There are serious and decided variations as between wells in different sections, -- wells on different forty-acre tracts, wells in the north or south, wells in the east or west.

A Such variations may lead to inequities, but relief for any inequity is provided for in Section 27. (Reading) "In any case where it appears that serious inequities to property rights, or irreparable damage to a well or wells may be caused by the application of the gas-oil ratio adjustments above defined, the Commission shall postpone application of such penalties upon proper application for a hearing from the party or parties who may be injured, until such time as a hearing has been held and a decision reached."

Q We are putting in a positive thing; we are presumably putting it in upon the basis of adequate information to render a decision. The item of recourse is fine. I think we must always have a recourse. Do you have any reason to feel sure, within ten per cent of being right on any one of these pools?

A I think within ten per cent.

Q Did you -- I believe Mr. Staley testified that about 60% of the tests were in on the Langley pool. Have you any reason -- have you enough information on that pool to decide that those wells, which comprise 60% of the wells in the pool, are typical or are you assuming they are?

A I would have to see the 60%. But the Engineering Committee is

sufficiently familiar with the area to be able to examine a list of 60% and tell whether they are representative or not representative.

Q As I remember, in this field we have been working out here a considerable length of time. Certain wells were drilled in 1928 with a given degree of information; and with other wells drilled in 1932 with more information; others in 1936, others in 1939 and others in 1940 with correspondingly more information. Taking into consideration the fact that wells were drilled in good faith; all efforts have been made to operate them as well as can be done. Has there been any operator who drilled his well in good faith, but without the information that is available now,- the man drilled his well and set his pipe high, and shot it,- what loading has been given it?

A That is answered, I think, by Section 27. All operators, the whole practice has been examined and the various discussions have covered very near all points.

Q I would like merely to say that my questions are leading up to this point: We are heartily in favor of conservation; we think it very important, and worth while to protect the oil in any manner. We are a little concerned, this order is recommended as a permanent order, and without going on with the tests we think there are conditions which have not been thoroughly enough investigated to make it applicable to particular wells. That is all I intended to bring out by my questions. As you point out, the regulations provide for the ascertainment by the Commission of the fact that there are inequities being done in any particular well?

A That is right.

Witness dismissed.

BY MR. SETH: That is all we desire to offer for Lea County operators.

BY MR. C. C. CRAGIN: I represent the El Paso Natural Gas Company.

We wish to enter a protest to the issuing of this order in its present form. We represent something in excess of 85% of

the gas industry of the State of New Mexico, and except by exemptions, if this order is put into effect -- and it states exemptions shall be granted only after due hearing. We estimate our take from the 4000000 feet taken today to be 3800000 feet; that the area served by us, from Carlsbad, through Artesia and down to El Paso, through which area we serve about 90% of the gas consumed, would be cut off immediately. They have a very low rate, and all other users of gas have priority over that area. I have talked with several members of the Executive Committee, and I think we would be able, if we could get together with the Executive Committee, - our objections would be composed and would have our whole hearted support.

We were not notified of the Midland Meeting or the Fort Worth meeting, from which these recommendations emanated. We got hold of this copy for the first time yesterday. We would like about half an hour or three-quarters of an hour with our attorney, and an hour with the Executive Committee. Until that is done we wish our protest on record.

BY MR. NEVILLE PENROSE: These meetings have been going on on this question for well over a year. I am not in position to know who was advised and who was not advised. These meetings were handled very openly. If anybody had any objections, they were heard. Certainly not in my presence was anything passed over the objection of anyone in the meeting. If the El Paso Natural Gas desires to have an Executive meeting that will last an hour or two, to change this, it is going to be necessary to start where we were at the meeting at Fort Worth. These recommendations have been discussed with the engineers and attorneys, and have been more or less accepted. If they are changed drastically, we are going to have to have another meeting before we can do anything permanent in the matter.

BY MR. CRAGIN: I would like to have an expression from the Executive Committee as to whether our objections are fair. We think it is fair that we sit in on these discussions, and fair to the people of New Mexico. I am not criticizing. I am stating a

fact -- we were not notified. We have had a representative in every meeting we have been notified of. Those two meetings we were not notified.

BY MR. McCORMLE: I don't understand why they did not receive notice.

It was mailed out of the Hobbs office to the address to which all schedules for the El Paso Natural Gas are made. I have not talked with Mr. Cragin. I understand they have something in mind in connection with paragraphs 21 and 22. It would be my suggestion that they offer here in evidence any changes or ideas they may have, if I am correct that they apply to these two items. We have had several meetings, and every operator in Lea County could have been there. It occurs to me that they could get relief under paragraphs 26 and 27.

BY MR. SETH: It seems to me essential, if they have anything they think is wrong, they ought to offer testimony to show in what manner it is wrong before the Commission.

BY GOVERNOR NILES: What is it they are objecting to?

BY MR. CRAGIN: We have nothing to conceal about our objection.

Some are important and some are unimportant. There is a provision that the specific gravity is assumed at .85. All the gas we handle is .65, which makes a great difference when you are calculating what passes there at .85, in a 24-hour period.

The objection we have to paragraph 21 is, we don't know what you mean by "reservoir". We feel our only recourse, as stated before, is recourse to an exemption, which means a duly advertised meeting with a date set. If passed on today, we would have to go to the federal court to protect our rights and the rights of our customers. It seems a fair thing to have us meet with the Executive Committee to compose our differences. I think it would save everybody time if we could get together with our attorney for half or three-quarters of an hour and then meet with the Executive Committee. If that is going to cause them to go back to the Fort Worth meeting, or another meeting, I think it is important enough to do that.

I think the reason we have not gotten the notices is that the El Paso Natural Gas is a member operator through the Western Gas, and we pay our share through the Western Gas, and we find that notices are being sent to the Western Gas Company and we never got them. I don't imply they have held meetings ignoring us, but we have been ignored inadvertantly.

We are wholly sympathetic with what they are trying to do, and have cooperated.

BY MR. SETH: Couldn't the gentleman submit his objections by way of a written brief to the Commission?

BY GOVERNOR MILES: Would you submit a written brief?

BY MR. CRAGIN: Certainly, any way you want. I think the way I suggested would save time.

BY MR. WORDEN: This meeting is not ready to adjourn. Couldn't you consult your lawyer through the noon hour?

BY MR. CRAGIN: Yes, I would like a little time with him.

BY MR. WORDEN: If we adjourn until two o'clock would that give you time to consult him?

BY MR. CRAGIN: Could you make it two-thirty?

BY MR. WORDEN: I presume we could. There is another question before this Commission, an order affecting Eddy County. We could take that matter up, and come back to your problem.

BY MR. LIVINGSTON: If the Commission will permit me to say, the call for this meeting was to establish gas-oil ratios for the state as a whole. So far the Commission has heard from Lea County. There are other areas, Eddy County, and perhaps there may be operators from the Northwest here that have statements and testimony to offer to the Commission.

BY GOVERNOR MILES: The Commission has decided to adjourn until one-thirty, and at that time we will start on these other matters, and come back to this question later.

Whereupon the Commission recessed until
1:30 in the afternoon.

AFTERNOON SESSION

PRESENT:

Governor John E. Miles, Chairman of the Commission
Hon. Frank Worden, Commissioner of Public Lands, Secretary
Hon. A. Andreas, State Geologist, Member
Hon. Carl B. Livingston, Attorney for Commission.

The session was called to order by Governor Miles, who indicated the Commission was ready to hear from the Eddy County operators.

V. S. WELCH, Chairman, Eddy County Operators Committee:

Mr. Chairman: This order as written here,- where it is applicable to Lea County, it is not applicable to Eddy County, and we would -- as Chairman of the Eddy County operators, I would like to ask the Commission to extend the old order until such time as we can promulgate a new order that would fit our situation in Eddy County.

BY MR. LIVINGSTON: If the Commission is favorable to the suggestion, for the purpose of preserving the notice in this particular case, it will permit the continuance of the case until this order can be drawn.

BY MR. WELCH: If the Commission please, the Eddy County Operators, through Mr. Van Welch, has moved the Commission to continue this case, so far as Eddy County is concerned, until the Eddy County Operators can present a recommendation.

BY MR. LIVINGSTON: And the Commission has authorized me to state their ruling, which is that this case, in so far as Eddy County is concerned, is continued subject to the call of the Commission, for the purpose indicated in the motion of the Eddy County operators through Mr. Welch.

Whereupon, the representatives of the El Paso Natural Gas Company being present, the Commission reverted to the hearing in Lea County.

BY MR. CRAGIN: The El Paso Natural Gas Company states that they object to Paragraphs Nos. 21, 22 and 23, and state that particularly in the case of Paragraph No. 22, that we have properties totaling several thousand acres in the Langlie

area which, if that was enforced without exemptions, means we would be drained of the gas rights we have in this property, and we would not recover but a small fraction of the total recovery. And we, therefore, ask the Commission that it receive this protest and do not issue an order based on these recommendations until we have had a hearing, fixed by the Commission, to present to them the effect of drainage and confiscation of our property if we are not exempted.

BY MR. SETH: I understand you withdraw your objections to the provisions with respect to measuring gas?

BY MR. CRAGIN: Yes; and merely want time to present some exceptional cases in Lea County before the Commission issues an order; and there are two others who want to be in the same protest.

BY MR. MURRAY: You are hearing exceptions at this time?

BY GOVERNOR MILES: No, not exceptions. Mr. Cragin has asked for time to present his objections.

BY MR. MURRAY: We would like to ask that Sec. 33, T. 27, R. 37 be considered. That is now designated as an oil field. We would like to have that checked and see that it is designated as a gas reservoir without restriction.

BY MR. ANDREAS: Can't you put the history of that well before the Commission?

BY MR. MURRAY: We would like to. We would like to protest that no order be issued until such time as we can make that protest.

BY MR. H. S. COLE, of The Texas Company: We also have a number of exemptions we would like to have designated as gas reservoirs under Section 21. We would like to present that at the appropriate time.

BY MR. ANDREAS: We have been handling all requests for exemptions by having the company or operator submit in detail a cross section and history of the well. All exemptions, whether granted or not, are acted on by the Commission. We have to have that information to consider in detail before we can act. That applies to all operators in the southeast part of the state.

BY MR. ANDREAS: How long, Mr. Cragin, before you can get your information?

BY MR. CRAGIN: Three weeks at the outside. I said three weeks -- I want to be sure to have enough time, but if you left it open it would probably be less than two weeks. It is not only our own wells, but we have to get all the surrounding wells in the area, and it is not as simple as it seems.

BY MR. WORDEN: So far as the Commission is concerned, the 12th of August will be alright with us. Mr. Welch, do you think you could have your reports ready by that time for Eddy County?

BY MR. WELCH: That is a rather short time. Will it be necessary to have an open hearing?

BY MR. LIVINGSTON: Technically I think so, because the adoption of an order by the Commission must be based not only on recommendations, but there may be objections, and it would, therefore, be necessary to have an open and public hearing, and we should connect this hearing with that hearing so that we need not advertise the hearing.

BY MR. WELCH: Is August 12th the date?

BY MR. WORDEN: Yes.

BY MR. WELCH: I cannot be here on that date. However, will it be agreeable, if we do not have it ready by that time, that we have a little longer time?

BY MR. WORDEN: We are anxious to get this matter cleaned up. We want to get all matters in. If necessary we will set the date up a week or two weeks.

BY MR. WELCH: Could you do this? Could you make the temporary order a permanent order?

BY MR. LIVINGSTON: Mr. Welch, until the present order is changed, supplanted by another order, the present order can go on. It still goes on, although it is a temporary affair, until the Commission has adopted another order.

BY MR. WELCH: Could you adopt as a permanent order your temporary order now in effect? Of course it would have to be changed to apply to Eddy County.

BY MR. WORDEN: That is why we are giving you an extension of time, so that you can make the changes to make it apply to Eddy County.

BY MR. WELCH: Would it necessarily delay your issuing the order as to Lea County?

BY MR. LIVINGSTON: No, if the Commission adopted the temporary order as a permanent order a new case would have to be made. As I understand, the temporary order being carried on now is satisfactory to Eddy County until Eddy County has time to make recommendations and present them to the Commission.

BY MR. SETH: Couldn't we separate the two? It looks like Lea County -- some of the gentlemen want to know if there will be another hearing and if it is necessary for them to appear. I think you understand what the El Paso Natural Gas wants is to submit their exemptions. I suggest that for Lea County that date be fixed for the 12th of August.

BY MR. WORDEN: It is not our intention that they come back.

BY MR. SETH: So we understand Eddy County can take its course.

BY MR. WELCH: We will do all we can to get the information to you.

BY MR. LIVINGSTON: The Commission has authorized me to announce for the Commission that this case is continued to August 12th, 1940, at ten o'clock A. M., in Santa Fe.

C E R T I F I C A T E

I hereby certify that the foregoing and attached twenty-six and one-half pages of typewritten matter are a true, correct and complete transcript of the shorthand notes made by me on the 29th day of July, 1940, at the hearing before the Oil Conservation Commission in Case No. 21, and by me extended into typewriting.

Witness my hand this 5th day of August, 1940.


Reporter.

CASE NO. 21.

ORDER OF PROCEDURE TO CONSIDER THE
ADOPTION OF A FINAL ORDER GOVERNING
GAS-OIL RATIOS IN THE VARIOUS PRO-
DUCING FIELDS IN NEW MEXICO.

1. GOVERNOR MILES OPENS MEETING AND MAKES SUCH REMARKS AS HE DEEMS APPROPRIATE.
2. COMMISSIONER WORDEN ORDERS READING OF NOTICE OF HEARING.
3. WHEN READING OF NOTICE IS FINISHED, COMMISSIONER WORDEN ANNOUNCES THAT THE COMMISSION IS READY TO PROCEED.
4. COMMISSIONER WORDEN ANNOUNCES THAT HE WILL NOW SWEAR IN ANY WITNESSES TO BE OFFERED.
5. WHEN THE EVIDENCE AND ANY STATEMENTS MADE DURING THE PROCEEDINGS ARE CONCLUDED, COMMISSIONER WORDEN ANNOUNCES THAT SUCH WILL BE TAKEN UNDER ADVISEMENT BY THE COMMISSION.

+**

NOTICE FOR PUBLICATION
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Pursuant to Chapter 72, Session Laws of 1935, State of New Mexico, by which Act the Oil Conservation Commission of New Mexico was created, investing said Commission with the jurisdiction and authority over all matters relating to the conservation of oil and gas in this State and of the enforcement of all provisions of said Act, notice is hereby given that a public hearing will be held at the Capitol, Santa Fe, New Mexico, on the 29th day of July, 1940, at ten o'clock A. M., for the purpose of considering the following:

Case No. 21.

The adoption of a final order governing gas-oil ratios in the various producing fields in New Mexico.

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

Given under the seal of said Commission at Santa Fe, New Mexico, on July 11, 1940.

OIL CONSERVATION COMMISSION

By John E. Miles
Governor

By Frank Worden
Commissioner of Public Lands

