1958 No. 2149

...plication, Transcript,

...mall Exhibits, Etc.

INDIAN BASIN - UPPER PENN POOL

E C O N O M I C S

WELL COST OF TYPICAL UPPER PENN SINGLE COMPLETION	$ 155,000
APPROXIMATE COST OF 53 SUCCESSFUL UPPER PENN COMPLETIONS AT $155,000 PER WELL	$ 8,215,000
APPROXIMATELY COST OF 52 ADDITIONAL WELLS TO DRILL TO 320-ACRE DENSITY WITHIN PRESENT POOL LIMITS AT $155,000 PER WELL	$ 8,060,000

February 8, 1967

MARATHON OIL COMPANY

NMOCC CASE NOS. 2749
AND 2750 REOPENED

EXHIBIT 7

I N D I A N B A S I N P O O L A R E A

EDDY COUNTY, NEW MEXICO

	PRIOR TO FEBRUARY 6, 1963		PRESENT FEBRUARY 8, 1967	
	Upper Penn	Morrow	Upper Penn	Morrow
WELLS PENETRATING WITHIN MAP LIMITS	6	5	78	34
WELLS PENETRATING WITHIN UPPER PENN POOL LIMITS	3	3	55	22
WELLS COMPLETED WITHIN UPPER PENN POOL LIMITS	3	2	53	8
WELLS PRODUCING WITHIN UPPER PENN POOL LIMITS	0	0	53	7

February 8, 1967

MARATHON OIL COMPANY

NMOCC CASE NOS. 2749
AND 2750 REOPENED

EXHIBIT 3

27 5-0
27 49

INDIAN BASIN - UPPER PENN POOL

D A T A S H E E T

NUMBER OF PRODUCING WELLS	53
ACREAGE WITHIN PRESENT POOL LIMITS	34,677.78 acres

PRODUCTION DATA

Cumulative Gas Production to Jan. 1, 1967	38,912,000 MCF
Cumulative Condensate Production to Jan. 1, 1967	310,500 Bbls.
Cumulative Water Production to Jan. 1, 1967	142,200 Bbls.

CORE AND LOG DATA

Porosity from Cores (7 wells)	4.32%
Porosity from Logs	4.50%
Permeability from Cores	46.3 md.
Connate Water Saturation	Approx. 25%

FLUID DATA

Gas Specific Gravity	0.65
Compressibility - Z Factor	0.84
Condensate Gravity	59° API at 60° F
Approximate Condensate Yield	8 Bbls./MMCF

RESERVOIR DATA

Original Reservoir Pressure	(Datum: -3640')	Approx. 2917 psig.
Reservoir Temperature		146° F
Gas-Water Contact		Est. -3770 Feet

February 8, 1967

MARATHON OIL COMPANY

NMOCC CASE NOS. 2749
AND 2750 REOPENED

EXHIBIT 4

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

September 7, 1962

REPLY TO
P. O. BOX 4037
MIDLAND, TEXAS

Mr. Ralph Lowe
Box 832
Midland, Texas

Subject: Core Analysis
Indian Basin No. 1 Well
Wildcat
Eddy County, New Mexico
Location: Sec. 23-T21S-R23E

Dear Sir:

Pennsylvanian formation analyzed from 7610 to 7635 and 9200.0 to 9204.5 feet is interpreted to be gas productive where permeable. An economic completion will be entirely dependent upon additional productive formation being present above or below the cored intervals. A formation treatment will be necessary for satisfactory rates of flow. Summaries of average core analysis data are presented on page one of the report.

Formation analyzed from 9044 to 9050 feet is impermeable and non-productive and Devonian formation analyzed from 10,095 to 10,111 is interpreted to be water productive where permeable.

We sincerely appreciate this opportunity to be of service.

Very truly yours,

Core Laboratories, Inc.

R S Bynum Jr

R. S. Bynum, Jr.,
Division Manager

RSB:HC:dc

CL 318

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

Page 1 of 1 File WP-3-1945
Well Indian Basin No. 1

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

FORMATION NAME AND DEPTH INTERVAL: Pennsylvanian 7610.0-7635.0

FEET OF CORE RECOVERED FROM ABOVE INTERVAL		25.0	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE		48.7
FEET OF CORE INCLUDED IN AVERAGES		14.4	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	(c)	48.7
AVERAGE PERMEABILITY: MILLIDARCYS	Max.	0.6	OIL GRAVITY: °API		
	90°	0.3			
PRODUCTIVE CAPACITY: MILLIDARCY-FEET	Max.	8.6	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL		
	90°	4.3			
AVERAGE POROSITY: PER CENT		5.0	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL		
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE		1.4	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT		

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. *(Please refer to footnotes for further discussion of recovery estimates.)*

FORMATION NAME AND DEPTH INTERVAL: Pennsylvanian 9200.0-9204.5

FEET OF CORE RECOVERED FROM ABOVE INTERVAL		4.5	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE		19.3
FEET OF CORE INCLUDED IN AVERAGES		4.5	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	(c)	19.3
AVERAGE PERMEABILITY: MILLIDARCYS	Max.	2.5	OIL GRAVITY: °API		
	90°	2.2			
PRODUCTIVE CAPACITY: MILLIDARCY-FEET	Max.	11	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL		
	90°	9.9			
AVERAGE POROSITY: PER CENT		6.6	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL		
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE		2.2	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT		

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. *(Please refer to footnotes for further discussion of recovery estimates.)*

(c) Calculated (e) Estimated (m) Measured (*) Refer to attached letter.

These recovery estimates represent theoretical maximum values for solution gas and water drive. They assume that production is started at original reservoir pressure; i.e., no account is taken of production to date or of prior drainage to other areas. The effects of factors tending to reduce actual ultimate recovery, such as economic limits on oil production rates, gas-oil ratios, or water-oil ratios, have not been taken into account. Neither have factors been considered which may result in actual recovery intermediate between solution gas and complete water drive recoveries, such as gas cap expansion, gravity drainage, or partial water drive. Detailed predictions of ultimate oil recovery to specific abandonment conditions may be made in an engineering study in which consideration is given to overall reservoir characteristics and economic factors.

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc., and its officers and employees assume no responsibility and make no warranty or representation as to the productivity, proper operation, or profitableness of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

January 4, 1963

REPLY TO
P. O. BOX 4337
MIDLAND, TEXAS

Mr. Ralph Lowe
Box 632
Midland, Texas

Subject: Core Analysis
Indian Basin No. 1-A Well
Eddy County, New Mexico
Location: Sec. 22-T21S-R23E

Dear Sir:

Canyon formation analyzed between 7374.0 and 7660.4 feet is interpreted to be gas productive where permeable. The productive capacity is considered adequate for satisfactory production rates without formation treatment. Average core analysis values are presented on page one of this report.

From 7660.4 to 7675.6 feet, Canyon formation exhibits high total water saturations and is interpreted to be both water and gas productive.

Strawn sand analyzed from 8667 to 8678 feet is considered to be gas productive where permeable; however, due to low permeability, a completion attempt is not recommended. Average core analysis values also are presented for the interval on page one.

Permeable Morrow formation analyzed at intervals between 9132.0 and 9324.7 feet is interpreted to be gas productive with adequate productive capacity for satisfactory rates of production without formation treatment. A summary of average core analysis values is presented on page two.

Due to lower residual oil and high total water saturations, the interval from 9324.7 to 9360.0 feet is interpreted to be water productive where permeable.

We appreciate this opportunity to be of service.

Very truly yours.

Core Laboratories, Inc.

R S Bynum Jr

R. S. Bynum, Jr.,
Division Manager

RSB:JR:dc

CL 319

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

DALLAS, TEXAS

Well Indian Basin No. 1-A

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

FORMATION NAME AND DEPTH INTERVAL: Canyon 7374.0-7660.4

FEET OF CORE RECOVERED FROM ABOVE INTERVAL		273.9	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE		35.4
FEET OF CORE INCLUDED IN AVERAGES		181.4	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	(c)	35.4
AVERAGE PERMEABILITY: MILLIDARCYS	Max.	44	OIL GRAVITY: °API		
	90°	13			
PRODUCTIVE CAPACITY: MILLIDARCY-FEET	Max.	7982	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL		
	90°	2358			
AVERAGE POROSITY: PER CENT		3.7	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL		
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE		4.8	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT		

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (*Please refer to footnotes for further discussion of recovery estimates.*)

FORMATION NAME AND DEPTH INTERVAL: Strawn 8667.0-8678.0

FEET OF CORE RECOVERED FROM ABOVE INTERVAL		11.0	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE		54.4
FEET OF CORE INCLUDED IN AVERAGES		6.2	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	(c)	54.4
AVERAGE PERMEABILITY: MILLIDARCYS	Max.	0.2	OIL GRAVITY: °API		
	90°	0.2			
PRODUCTIVE CAPACITY: MILLIDARCY-FEET	Max.	1.2	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL		
	90°	1.2			
AVERAGE POROSITY: PER CENT		8.5	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL		
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE		2.2	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT		

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (*Please refer to footnotes for further discussion of recovery estimates.*)

(c) Calculated (e) Estimated (m) Measured (*) Refer to attached letter.

These recovery estimates represent theoretical maximum values for solution gas and water drive. They assume that production is started at original reservoir pressure; i.e., no account is taken of production to date or of prior drainage to other areas. The effects of factors tending to reduce actual ultimate recovery, such as economic limits on oil production rates, gas-oil ratios, or water-oil ratios, have not been taken into account. Neither have factors been considered which may result in actual recovery intermediate between solution gas and complete water drive recoveries, such as gas cap expansion, gravity drainage, or partial water drive. Detailed predictions of ultimate oil recovery to specific abandonment conditions may be made in an engineering study in which consideration is given to overall reservoir characteristics and economic factors.

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CORE LABORATORIES, INC.
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DALLAS, TEXAS

Well Indian Basin No. 1-A

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

FORMATION NAME AND DEPTH INTERVAL: Morrow 9132.0-9324.7

FEET OF CORE RECOVERED FROM ABOVE INTERVAL		187.9	AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE		48.5
FEET OF CORE INCLUDED IN AVERAGES		18.0	AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	(c)	48.5
AVERAGE PERMEABILITY: MILLIDARCYS	Max. 90°	12 11	OIL GRAVITY: °API		
PRODUCTIVE CAPACITY: MILLIDARCY-FEET	Max. 90°	216 198	ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL		
AVERAGE POROSITY, PER CENT		10.8	ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL		
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE		3.9	CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT		

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (*Please refer to footnotes for further discussion of recovery estimates.*)

FORMATION NAME AND DEPTH INTERVAL:

FEET OF CORE RECOVERED FROM ABOVE INTERVAL		AVERAGE TOTAL WATER SATURATION: PER CENT OF PORE SPACE	
FEET OF CORE INCLUDED IN AVERAGES		AVERAGE CONNATE WATER SATURATION: PER CENT OF PORE SPACE	
AVERAGE PERMEABILITY: MILLIDARCYS		OIL GRAVITY: °API	
PRODUCTIVE CAPACITY: MILLIDARCY-FEET		ORIGINAL SOLUTION GAS-OIL RATIO: CUBIC FEET PER BARREL	
AVERAGE POROSITY: PER CENT		ORIGINAL FORMATION VOLUME FACTOR: BARRELS SATURATED OIL PER BARREL STOCK-TANK OIL	
AVERAGE RESIDUAL OIL SATURATION: PER CENT OF PORE SPACE		CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE: BARRELS PER ACRE-FOOT	

Calculated maximum solution gas drive recovery is barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (*Please refer to footnotes for further discussion of recovery estimates.*)

(c) Calculated (e) Estimated (m) Measured (*) Refer to attached letter.

These recovery estimates represent theoretical maximum values for solution gas and water drive. They assume that production is started at original reservoir pressure; i.e., no account is taken of production to date or of prior drainage to other areas. The effects of factors tending to reduce actual ultimate recovery, such as economic limits on oil production rates, gas-oil ratios, or water-oil ratios, have not been taken into account. Neither have factors been considered which may result in actual recovery intermediate between solution gas and complete water drive recoveries, such as gas cap expansion, gravity drainage, or partial water drive. Detailed predictions of ultimate oil recovery to specific abandonment conditions may be made in an engineering study in which consideration is given to overall reservoir characteristics and economic factors.

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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 6, 1963

IN THE MATTER OF:

Application of Ralph Lowe to create a new pool for Upper Pennsylvanian gas production, and for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new gas pool for Upper Pennsylvanian gas production in Sections 22 and 23, Township 21 South, Range 23 East, and the establishment of temporary pool rules therefor, including a provision for 640-acre spacing units.

CASE 2749

IN THE MATTER OF:

Application of Ralph Lowe to create a new pool for Morrow gas production, and for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new gas pool for Morrow production in Sections 22 and 23, Township 21 South, Range 23 East, and the establishment of temporary pool rules therefor, including a provision for 640-acre spacing units.

CASE 2750

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: We will call next Case 2749.

MR. DURRETT: Application of Ralph Lowe to create a new pool for Upper Pennsylvanian gas production, and for special pool rules, Eddy County, New Mexico.

MR. [illegible]: Maynard Beaton, appearing on behalf of the Applicant. If we could, I would like to consolidate this case and 2750 together.

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FARMINGTON, N. M. PHONE 325-1182

MR. NUTTER: We'll call next Case 2750.

MR. DURRETT: Application of Ralph Lowe to create a new pool for Morrow gas production, and for special pool rules, Eddy County, New Mexico.

MR. NUTTER: Is there objection to the consolidation of Cases 2749 and 2750 for the purpose of taking the testimony? The cases will be consolidated.

MR. BRATTON: If the Commission please, I am a little embarrassed, Mr. Stamets asked me if I had an extra copy of the exhibits that he could take back with him. Unfortunately, we came with only one copy of the exhibits, and I am going to ask if the witness and the Examiner can sit in close proximity so we can see what we're talking about. We will furnish extra copies, including one for Mr. Stamets.

(Witness sworn.)

(Whereupon, Applicant's Exhibits Nos. 1 through 10 marked for identification.)

HARVIN L. LANDUA

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

DIRECT EXAMINATION

BY MR. BRATTON:

Q Will you state your name and by whom you are employed and in what capacity?

A Harvin L. Lanua, employed by Ralph Lowe as a Technical

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Administrator.

Q Have you previously testified before this Commission as an expert witness, Mr. Landua?

A Yes, I have.

Q Are you familiar with the area in question in these two cases?

A Yes, sir.

MR. BRATTON: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, sir, they are.

Q (By Mr. Bratton) Mr. Landua, as I understand, these two cases involve the same area and they involve two pools overlying each other, is that correct?

A That's correct.

Q And you will present the evidence relating to each of the two pools, the designation of them and the proposed field rules?

A Yes, sir.

Q Will you refer to your Exhibit No. 1, Mr. Landua, and explain what that is and what it shows?

A Exhibit No. 1 is a plat showing the location of the two completed wells and the current drilling well in this area, which has been designated the Indian Basin Area. It's located in 21 South, 23 East, of Eddy County, New Mexico.

Q What two sections are we talking about, Mr. Landua?

A We have asked that Sections 22 and 23 be included in

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the current designation of this pool.

Q Now the first well drilled was located in Section 23?

A 23.

Q And the second well drilled was located in Section 22?

A Correct.

Q And both wells encountered both pools, is that correct?

A That's correct.

Q Now there's a third well drilling at the moment where, Mr. Landua?

A In Section 14, being located 1650 from the south and east lines of Section 14, and this morning the well is drilling at 8460.

Q But for the moment we're just talking about the two sections in which the two completed wells are located?

A Yes, sir.

Q Now, Mr. Landua, do you have a geological structure map or any such of this area?

A No, sir.

Q Would you explain very briefly to the Commission why not?

A We have not prepared our geological structure map because we cannot explain this accumulation of gas. The original well was drilled on geophysics and the geophysics indicated that we had a Devonian structure. The Devonian proved water-bearing, and the Pennsylvanian gas shows were encountered up the hole. We

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do not know whether they will be related to structure or stratigraphic condition at this time.

Q It's just too early and incomplete information upon which you could hazard a guess that you would want the Commission to rely upon?

A That's correct. We have no idea which way the pool will tend to go.

Q Do you have anything further in connection with your Exhibit No. 1?

A I think the Exhibit would be self-explanatory. It shows the operators and the wells.

Q The first two wells are both operated by Ralph Lowe?

A That's correct.

Q Let's turn then to your Exhibit No. 2, Mr. Landua.

A Exhibit 2 is a Schlumberger electrical well log that was taken in the first well, and the log has been marked as to top of the various formations encountered. It further shows the interval open to production in each of these two intervals and is defined as a dual induction lateral log.

Q Let's get down to the two formations we're talking about now, Mr. Landua. The first pool, the first formation is the Upper Pennsylvanian, is that correct?

A That's correct. We have designated it as the Upper Pennsylvanian section and the section extends roughly from 7354 to 8,054 in this well, as depicted on this log.

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Q Now you have the tops and bottoms of the various formations drawn on that exhibit, is that correct?

A That's correct.

Q And also the interval open in this well, is that correct?

A To production, that's correct.

Q Now go on down the log to the Morrow formation.

A In this particular well, the Morrow formation was encountered from 8945 to 9442.

Q And you have the top and bottom marked on there, as well as the interval open in the well, is that correct?

A That's correct.

Q Do you have these two formations dualled in this well, is that correct?

A Yes, sir, they're dualled with two strings of tubing.

Q Is there anything else you care to bring out in connection with the log of that well?

A Nothing other than that our gas was encountered within the Pennsylvanian section.

Q Turn to your next exhibit, is that a log of the second well in Section 22?

A Yes, Exhibit 3 is an identical log that was run in the second well, and the formation tops were marked and designated just as in the other exhibit; and the interval open to production was indicated in the same manner.

Q Now the two formations encountered there, can you

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correspond them to the formations encountered in Well No. 1?

A Yes.

Q You picked up the same two formations and you can correlate them from one log to the other?

A Yes, sir.

Q And you have, and those are marked on the log?

A Yes, sir.

Q What are the intervals on those as to the two formations on that log?

A In the second well, the Upper Pennsylvanian was encountered from 7353 to 8,034. The Morrow was encountered from 8954 to 9418. The second well, incidentally, was not taken to the Devonian.

Q From those logs or from your other information, is there communication between these two pools, these two accumulations?

A Horizontal communication.

Q Yes.

A They are separated by shales, sands, limestones, definite separation.

Q Turn then to your next Exhibit 4, and they are identical, Mr. Landua, only as to the different formations in the wells?

A Yes. They are a Form C-122, New Mexico Oil Conservation Commission, Multi-point Back Pressure Test for Gas Wells. These forms indicate the results of the absolute open flow test taken

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on both wells in each zone. They were taken in the presence of the Commission's engineers by consulting engineers, and were taken under the recommended procedures of good production practices of testing.

Q What do they reflect as to the potential of each pool in the two wells?

A In the first well, the Upper Penn section had a calculated absolute open flow potential of 16,100,000 cubic feet of gas per day, along with approximately 13 barrels per million of 61 gravity condensate.

Q Then as to the others, Mr. Landua?

A The Morrow formation -- incidentally, this is Exhibit 4. Exhibit 5 is an absolute open flow test of the Morrow formation in the No. 1 well, and that absolute open flow potential was 12,100,000 cubic feet per day along with approximately three barrels per million of 53 gravity condensate.

We have also indicated on these forms exact productive interval open, which is shown on the logs. I present this as Exhibit 5.

Exhibit 6 is the absolute open flow test for the Upper Pennsylvanian in the second well, and it reflects an absolute open flow potential of 14,250,000 cubic feet of gas per day along with condensate in approximately the same ratio.

MR. NUTTER: As the No. 1?

A As the No. 1 Upper. Exhibit 7 is a test of the Morrow

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in the second well, and this test resulted in obtaining 20 million cubic feet of gas per day along with condensate in approximately the same ratio as in the first well.

MR. NUTTER: In the lower?

A In the lower. That's Exhibit 7.

Q (By Mr. Bratton) Now turn to your Exhibit No. 8, Mr. Landua.

A Exhibit 8 is a tabulation of core data of the cores that were taken in the first well. In this well, short intervals were cored primarily to get a look at the formation.

Q Actually, Mr. Landua, you cored extensively in the No. 2 Well, didn't you?

A Yes.

Q In this first well, how much did you core?

A In the first well, in the Upper Pennsylvanian we cored 25 feet and had 14.4 analyzed.

Q And in the lower you cored --

A In the lower?

Q No, in the first well.

A In the lower we cored 4.5 feet and had 4.5 feet analyzed.

Q Now the results of that analysis are shown in that exhibit?

A Yes.

Q And they reflect a lower range of permeability than in

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your No. 2 where you cored great portions of the intervals, is that correct?

A That's correct.

Q Let's turn to your Exhibit Number -- your next exhibit on the Well No. 2.

A That's Exhibit 9, which has the core data put up in similar fashion.

Q How much did you core in the Upper Penn in that No. 2 Well?

A In the Upper Penn in the second well we cored 273.9 feet.

Q What are the indicated results of that as to permeability and porosity and the other information reflected there?

A The permeability and porosity is much higher as an over-all average where we got more of the formation to look at. Out of the 273.9 feet, we had 181.4 analyzed.

Q What were the results of that, Mr. Landua?

A These results indicate that the average permeability for the 181.4 feet analyzed was 44 millidarcys, and the average porosity was 3.7 percent.

Q What also is reflected there? Is water reflected there?

A Yes, residual water saturations and the residual oil saturations are also reflected.

Q What are those?

A The connate water was 35.4 percent of the pore space,

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and the oil saturation was 4.8 percent of the pore space.

Q Go then to the Morrow formation, and what did you core of it and what were the results of that?

A In the Morrow formation, 187.9 feet were cored, and 18.0 feet were analyzed.

Q What were your results?

A The permeability is reflected here as 12 millidarcys for this 18 feet. The average porosity is 10.8 percent. The residual oil saturation is 3.9 percent, average connate water saturation, 48.5 percent.

Q These wells are shut-in, of course?

A Yes.

Q Is there any pipeline anywhere within the general area?

A Yes.

Q How close?

A We understand approximately 40 miles.

Q Is it liable to be quite a while before there is any production from this area?

A Yes.

Q In the terms of months or years?

A Personally, we think years.

Q Actually, you are not being paid at the moment?

A Yes, sir.

Q Do you have any other information upon which at this time effectiveness of drainage could be estimated, other than the

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productivity and the data from the cores?

A None.

Q Based on those data, what is your estimate, Mr. Landua, as to the drainage area of one well in each of these two pools?

A I would say, based on the material encountered in the well bore in these two wells in each of these formations, they would be capable of a drainage area in excess of 640 acres.

Q Until such time as you have some production history and the possibility of interference tests, would it be possible to make any other or different estimate of the area, Mr. Landua?

A No, sir.

Q So that at the present time, and based on the present information available, you think a well in each of these pools will drain in excess of 640 acres?

A Yes, sir.

Q Turn to your next exhibit, then, Mr. Landua.

A The tenth exhibit is a tabulation of the cost of the first well and the cost of the second well.

Q What do those reflect as to cost, Mr. Landua?

A The first well, which was taken to the Devonian at approximately 10,100 feet, cost $431,419.83.

Q And the second well?

A The second well, which was taken just to the Barnett shale at approximately 9500, cost $296,122.04.

Q Now that second well, Mr. Landua, would that be more

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approximately the cost of future wells in these two pools?

A Future dually completed wells, yes.

Q The first well went to the Devonian and also had considerably more testing?

A Yes.

Q Mr. Landua, do you or any of the operators in this area have any estimate as to possible recovery, based on the limited data that you have at this time?

A Yes.

Q What is that, Mr. Landua?

A One operator has estimated that the two zones together in the first well could have between ten and fourteen billion cubic feet of gas reserves to the gross well.

Q Computing gas and liquids, what would be the approximate recovery, dollar-wise, on a 640-acre spacing in this area, Mr. Landua?

A This same operator has estimated that his return on money would be somewhere between three and five to one on 640-acre spacing.

Q I hate to inject an unhappy note into the proceedings, Mr. Landua, but that is based on a gas price considerably in excess of what the F.P.C. or Examiners seem to be talking about at this point, isn't that correct?

A Yes, sir. If we used a nine cent price in our economic work, it would cut this return approximately by three-eighths, I

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guess.

Q It would be somewhere down between one and two to one?

A One and three to one, yes.

Q That's the price that apparently the F.P.C. is talking about at the moment?

A That's what I understand, yes, sir.

Q Mr. Landua, is there anything else you care to say in connection with any of these exhibits before we discuss the rules that you would propose to the Commission?

A Mr. Bratton, I believe I would like to point out that the Upper Pennsylvanian in these wells is an intercrystalline dolomite, has large vugs and large fractures; and as we said previously, would have considerable drainage area. We don't believe that our core information would reflect the best part of our formation characteristics.

Q In your opinion, based on the present information, one well will drain in excess of 640 acres in each of these two pools?

A Yes, sir.

Q And the two pools are two separate accumulations, two separate reservoirs, in your estimation?

A Yes, sir.

Q There's no interconnection vertically between them?

A That's correct.

Q What rules would you suggest to the Commission for each of these two pools?

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A We would suggest the following rules: First, temporary field rules be granted for a period of twelve months from the date issued.

Q That would be with the firm understanding that very possibly in twelve months we may not have very much more information than we have now because we may, probably, not have a pipeline in there?

A That's correct.

Q But we may have additional information from additional wells drilled?

A Yes, sir.

Q What would your second rule be?

A The second request that we have is that spacing units of 640 acres be set up, and all these acres be within a legal section.

Q Your third rule?

A The third rule, future wells should be placed at least 1650 feet fr[illegible]pacing unit lines.

Q I believe two of these wells are a little closer to the section line than that, is that correct?

A That's correct.

Q And the third well is within that limitation?

A Yes.

Q And you would suggest for some reasonable uniformity of pattern that 1650 be established for future wells?

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A Yes, sir.

Q What is your fourth rule?

A The fourth rule then is that the two currently completed wells and the one now drilling be excluded from the spacing requirements of our third rule. Actually, the second well is spaced all right, and the third well, the one currently drilling, is all right. The discovery well was 660 from the section line.

Q But the other two wells would meet the 1650?

A They would meet the pattern, but for the sake of uniformity --

Q Then otherwise you would suggest the Statewide rules, is that correct?

A The component that we would like to request is that all other rules be as the current Statewide rules.

Q Is there anything further you care to state in connection with this application, Mr. Landus?

A No, sir, I have nothing further.

Q Let's go back to one thing. What would you suggest by way of vertical delineations of the two pools?

A I would suggest a depth delineation to cover the interval as marked on electric log of the first well.

Q And those corresponding intervals, whatever depth found in future wells?

A Yes, sir.

Q And I believe you've testified as to those two intervals

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in connection with the first well?

A Yes, sir.

Q Were Exhibits 1 through 10 prepared by you or under your supervision?

A Yes, sir.

Q And can we, within a few days, supply to the Commission additional copies of all of these exhibits?

A Yes, sir.

MR. BRATTON: We would offer in evidence Exhibits 1 through 10.

MR. NUTTER: Ralph Lowe's Exhibits 1 through 10 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1 through 10 admitted in evidence.)

MR. BRATTON: I have nothing further at this time.

MR. NUTTER: Does anyone have any questions of Mr. Landua?

CROSS EXAMINATION

BY MR. NUTTER:

Q What is the name designation commonly used by the geologist for the upper section in these wells?

A Cisco.

Q That's the Cisco. You gave the gross interval of the Cisco and the Morrow in each of those wells. What is the actual perforated interval?

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A In the first well, the actual perforated interval open to production in the upper is 7376 to 7538, and 7560 to 7588. The lower, the Morrow, in the first well, 9,039 to 9,049, 9,199 - 9,207, 9,227 - 9,235, 9,238 - 9,246, 9,251 - 9,263. Would you like to have the second well?

Q Yes, sir, please.

A In the upper in the second well, 7505 - 7517, 7524 - 7533, 7539 - 7572. In the Morrow, the lower, 9,118 - 9,130, 9,252 - 9,266.

Q In the No. 1 upper, we have two perforated sections in the gross interval, and in the No. 1-A upper we have three perforated sections. Is one zone of porosity non-correlative from one well to the other?

A No, sir. I would say that they are correlative.

Q And that one of these that was perforated is, the third section in the No. 1-A, is included in the gross perforated interval of the No. 1?

A That's correct.

Q Well, then, you have five perforated sections in the Morrow in the No. 1 and only two in the No. 1-A. What's the reason for that?

A The reason for that would be that in the 1-A, we had one sand section that looked real good and in the first well we had a sand section but it was over an interval, over a wider interval.

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Q The pay is actually thinning out as you go from the No. 1 to the No. 1-A in the Morrow, isn't it? You have a gross perforated interval in the No. 1 from 9,039 to 9,263, which would be approximately 220 feet; and the other well, you have about 150 feet of pay?

A Yes, we do. We chose not to perforate all the sand intervals in the second well because the one sand we had looked so good that we thought it would provide adequate drainage.

Q But there was additional pay there that was not perforated?

A That's correct.

Q You gave us the average permeability and porosity in the No. 1-A. I realize you had a much greater core there. What was the indicated porosity and permeability in the core of the No. 1?

A In the upper, the 14.4 feet that was analyzed, the permeability was six-tenths of a millidarcy. The porosity was 5.0 percent. The residual oil saturation was 1.4 percent and the water saturation is 48.7 percent; and the interval cored was 7610 to 7635, which is well down in the dolomite section relatively near the gas-water contact.

Q That's low down in the upper pay, then?

A Yes, sir. In the Morrow, the interval cored was from 9200 to 9204.5. The average reported permeability, 2.5 millidarcys; average porosity, 6.6 percent; residual oil saturation,

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2.2 percent; water saturation, 19.3 percent.

Q Now referring back to the Upper Pennsylvanian in this No. 1 core, you got a permeability of six-tenths millidarcys. You said this was in the lower section of the Upper Penn?

A Correct.

Q Now the Upper Penn in the other well reflected an average permeability of 44 millidarcys, that was for the entire 181 feet that was analyzed. Was the permeability low in the section that corresponds to the section that was cored in the No. 1-A well?

A We have not studied that, but I think maybe we can read off here. I don't have the exact correlation.

Q Well, at approximately 7600 feet in the No. 1-A well, what was the permeability?

A Well, I have it from 7600 to 7610; at approximately 7600 here is a permeability reading, 7600.2 to 7601.8, permeability is 13 millidarcys and the porosity is 3.8 percent.

Q Then say at about 7620, what would it be?

A Here is one from 7620.4 to 7621.5. It's .5 of a millidarcy, and the porosity is 3.9 percent.

Q So that's getting down in the same range that you obtained in the core of the No. 1 well?

A Yes, sir.

Q What about pressures, Mr. Landua?

A The pressure in the dolomite section is approximately

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2900 pounds.

Q Is that the same in both wells?

A Yes, sir, which we assume would be normal for that depth. I don't have the exact figures, but that's the range. In the Morrow it's approximately 3600 pounds.

Q Is it the same in both wells, approximately?

A Approximately, yes; the pressures seem normal for depth.

Q You said that one of the pipelines was about 40 miles from here. What pipeline would that be?

A I understand that Transwestern and Southern Union have pipelines in the area within approximately the same distance.

Q They are both about the same distance?

A Yes, sir. We have not made a map study to determine the location of those lines.

Q Have you commenced any negotiations with either purchaser of gas at the present time?

A No, sir. Our intention is to see what sort of an area we have so that we can indicate to people approximately the magnitude of the reserves that we might have for them.

Q What's the distance to the nearest El Paso line?

A I don't know.

Q What's the estimated cost of the No. 3 Well?

A $295,000.00.

Q Now the No. 3 Well, you said, was drilling at 9460;

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that would be sufficient depth to penetrate the Upper Pennsylvanian. Was a drillstem test taken in the Upper Pennsylvanian?

A We got approximately 800,000 cubic feet of gas per day from the top 79 feet. We think we have roughly 400 feet of dolomite in this well, and it was encountered approximately 90 feet low to the second well in the area.

Q Now the dolomite was encountered at approximately the same depth in the No. 1 and the 1-A, so it would be about 90 feet low to the one, also?

A Actually, the dolomite was about 30 feet higher in the 1-A than in the first well.

Q So this would make the No. 1-B run about 60 feet lower than the No. 1, then?

A That's correct. We don't know if those are structural markers, but that was the exact location of the dolomite as we can identify in all three wells.

Q And the well isn't deep enough to have encountered the Morrow, is it?

A No, sir.

MR. NUTTER: Are there any other questions of Mr. Landua?

MR. DURRETT: Yes, I have a question.

MR. NUTTER: Mr. Durrett.

BY MR. DURRETT:

Q Mr. Landua, I'm referring to your proposed rules. If the Commission should determine that a more rigid spacing requirement

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in this pool or these pools might be desirable, would you have any objection to this, as long as wells that are presently completed or drilling are granted an exception?

A No, sir, I have none.

Q You think that this might possibly be reasonable, to require more rigid spacing of wells in order to protect correlative rights?

A What do you mean by "rigid"? You mean greater distance from lease lines?

Q Greater distance from lease lines or located in a specific quarter section.

A We have it located in the specific quarter section now.

Q I mean all wells drilled would be located in, for example, the Northwest Quarter or the Southeast Quarter of a governmental section?

A Yes.

Q Was that your proposal?

A No, my proposal was 1650 from lease lines and leave it at the discretion of the operator as to what quarter section he located his well in.

Q You wouldn't feel it would be unnecessarily unreasonable if the Commission required that they be drilled in specific quarter sections, as long as all the wells that are presently completed are granted an exception?

A In this type of reservoir, where we have no idea, the

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reason for the accumulation, if it would be related to structure then we might be able to say that we wouldn't mind having wells in the specific quarter section. I think perhaps we should have a little more leeway here in the choosing of the location of these wells.

Q Well, according to, or going along with you on that line, would it be objectionable then to have them located in the specific half section or alternative half sections?

A No, sir, I don't think it would be.

MR. NUTTER: What you have proposed here, Mr. Landua, is by using the 1650 feet from the outer boundary of the section --

A Yes, sir.

MR. NUTTER: You have proposed in effect that the well must be located within the interior 4 - 40-acre tracts?

A Yes. We don't mind getting 1980; we want to say at least 1650.

MR. PORTER: This would be a minimum?

A Minimum, yes, sir.

MR. DURRETT: That will do it, yes, sir.

MR. NUTTER: Any other questions of Mr. Landua? Do you have anything further, Mr. Stratton?

MR. BRATTON: No, sir.

MR. NUTTER: Does anyone have anything further to offer in Cases 2749, 2750 consolidated?

MR. DURRETT: Yes, sir. The Commission has received

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correspondence concerning this matter. I would like to read it into the record at this time. The first is a letter from Union Oil Company of California and reads as follows:

"Re Cases No. 2749 and 2750. Gentlemen: In the above-numbered cases set for hearing February 6, 1963, Ralph Lowe seeks special pool rules and new pool designations for Upper Pennsylvanian and Morrow gas production in Sections 22, 23, Township 21 South, Range 23 East, Eddy County, New Mexico. Union Oil Company of California, as leaseholder of neighboring acreage, strongly supports the proposed temporary field rules. We feel that the proposed provision for 640-acre spacing units is in the interest of conservation, and respectfully urge the Commission's favorable consideration of this provision." Signed, R. S. Cook, Division Engineer.

The Commission has received a telegram from B. G. Taylor, Kerr-McGee Oil Company. I would like to read it at this time. It reads: "Re Cases 2749, 2750, scheduled for hearing on February 6, 1963. As a working interest owner in Sections 22 and 23, Township 21 South, Range 23 East, Eddy County, New Mexico, Kerr-McGee Oil Industries, Inc. concurs in applications by Ralph Lowe for the creation of new pools and establishment of temporary pool rules including 640-acre spacing units for Upper Pennsylvanian and Morrow gas production, and that future wells not be drilled nearer than 1650 feet from the outer boundary of 640-acres spaced unit." That is designated as signed by B. G. Taylor for Kerr-

McGee Oil Industries.

We have a final communication in the form of a telegram from Marathon Oil Company, and it reads as follows: "Re Cases 2749 and 2750, Marathon Oil Company joins in the request of Ralph Lowe that temporary rules be adopted for the Upper Pennsylvanian and Lower Pennsylvanian gas pools encountered in Ralph Lowe's Federal Well No. 1 in Section 22, Township 21 South, Range 23 East, Eddy County, New Mexico. However, Marathon recommends the following variations. Number One, the 640-acre proration unit should be substantially in the form of a square comprised of any contiguous governmental quarter sections or lots, not necessarily within the same governmental section but with the usual acreage tolerance; and two, the well for each proration unit should be located at least 1650 feet from the nearest boundary of the proration unit with exception to the 1650-foot requirement for wells completed or currently being drilled, and such other exceptions after hearing as are necessary to protect correlative rights." Marathon Oil Company, by J. C. Terrell Couch.

MR. NUTTER: Does anyone have anything further they wish to offer in this case?

MR. BRATON: I would like to say we appreciate your share and share alike policy with our exhibits.

MR. NUTTER: I understand the proposal is to name them Indian Basin-Upper Pennsylvanian and Indian Basin-Morrow, is that correct?

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MR. BRATTON: Yes.

MR. NUTTER: If there's nothing further in Cases 2749 and 2750, we will take the cases under advisement and take a fifteen-minute recess.

(Whereupon, a short recess was taken.)

* * *

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this 8th day of February, 1963.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2749-2750 heard by me on 2/6, 1963.

, Examiner
New Mexico Oil Conservation Commission

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INDIAN BASIN - MORROW

DATA SHEET

NUMBER OF PRODUCING WELLS	7
ACREAGE WITHIN PRESENT POOL LIMITS	7,035.26 Acres

PRODUCTION DATA

Cumulative Gas Production to Jan. 1, 1967	2,308,000 MCF
Cumulative Condensate Production to Jan. 1, 1967	6,500 Bbls.
Cumulative Water Production to Jan. 1, 1967	11,000 Bbls.

CORE AND LOG DATA

Porosity from Cores (3 wells) 2% porosity cut off	6.99%
Porosity from Logs	11.30%
Permeability from Cores	15.29 md.
Connate Water Saturation	Approx. 26%

FLUID DATA

Gas Specific Gravity	0.60
Compressibility - Z Factor	0.90
Condensate Gravity	52° API at 60° F
Approximate Condensate Yield	3 Bbls./MMCF

RESERVOIR DATA

Original Reservoir Pressure (Datum: -5310')	Est. 3680 psig.
Measured Range: 3408 psig to 3750 psig	
Reservoir Temperature	166° F

February 8, 1967

MARATHON OIL COMPANY

NMOCC CASE NOS. 2749
AND 2750 REOPENED

EXHIBIT C

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool _____ Formation _____ County _____

Initial X Annual _____ Special _____ Date of Test 1/10-11/1963

Company _____ Lease _____ Well No. 1 (Lower)

Unit _____ Sec. _____ Twp. _____ Rge. _____ Purchaser _____

Casing _____ Wt. _____ I.D. _____ Set at _____ Perf. _____ To _____

Tubing _____ Wt. _____ I.D. _____ Set at _____ Perf. _____ To _____

Gas Pay: From _____ To _____ L _____ xG _____ -GL _____ Bar.Press. _____

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

Date of Completion: _____ Packer _____ Reservoir Temp. _____

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps _____

No.	Flow Data (Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI										
1.										
2.										
3.										
4.										
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.							
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
P_c _____ $(1-e^{-s})$ _____

Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c _____ P_c^2 _____

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$(F_cQ)^2$ $(1-e^{-s})$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.									
2.									
3.									
4.									
5.									

Absolute Potential: _____ MCFPD; n _____

COMPANY _____

ADDRESS _____

AGENT and TITLE _____

WITNESSED _____

COMPANY _____

REMARKS

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w). MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater. psia

P_w = Static wellhead working pressure as determined at the end of flow period. (Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

P_f = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.

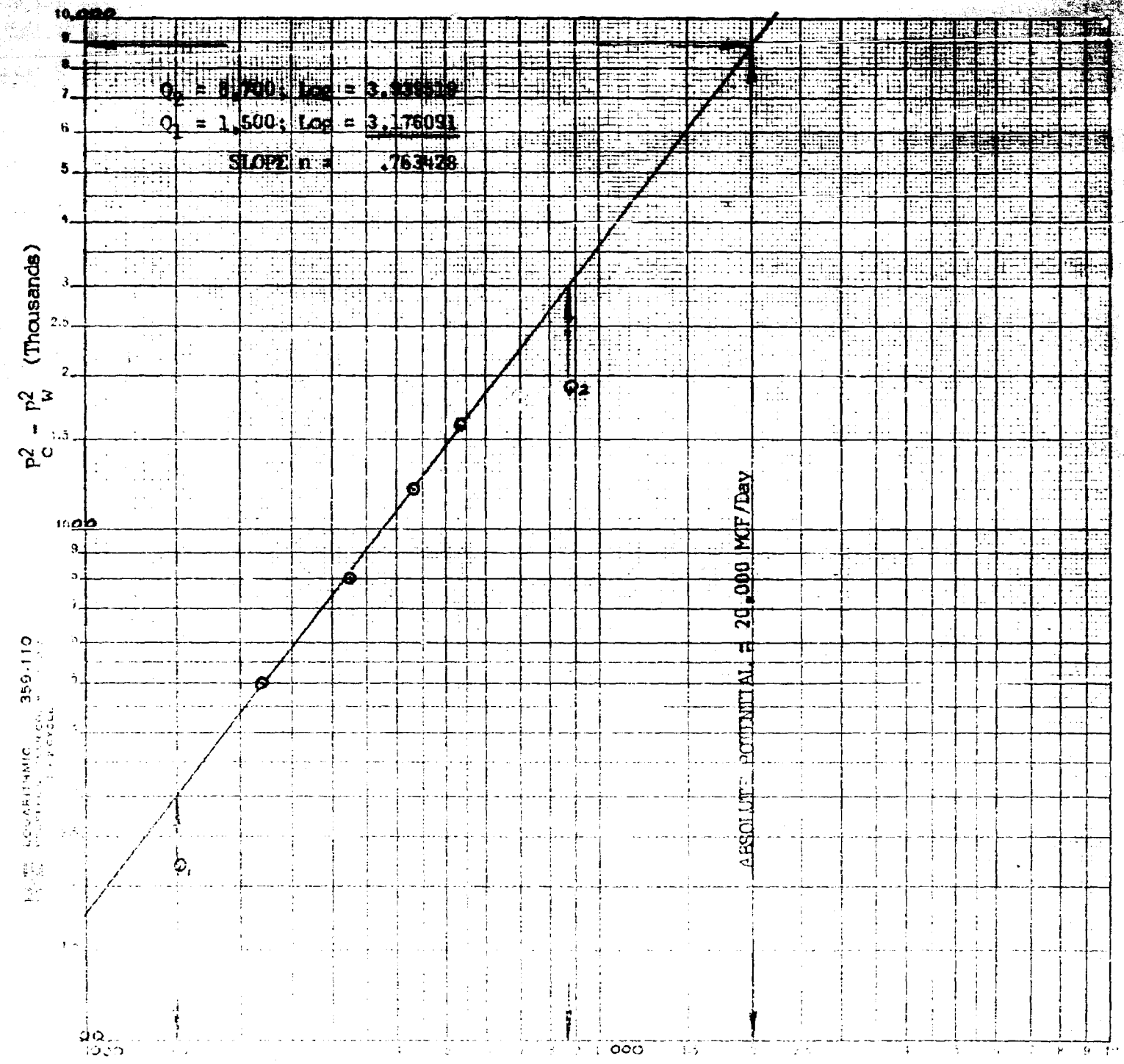
F_t = Flowing temperature correction factor.

F_{pv} = Supercompressability factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t.

COMPANY Ralph Lowe
WELL Indian Basin "A" 1 (Lower)
LOCATION J-22-21S-23E
COUNTY Eddy
DATE 1/10-11/1963



Q-MCF/Day @ 15.025 PSIA & 60°F

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Wildcat Formation (Upper) Lower 7-R County Eddy

Initial X Annual _____ Special _____ Date of Test 1/8-10/1963

Company Ralph Lowe Lease Indian Basin "A" Well No. 1 (Upper)

Unit J Sec. 22 Twp. 22S Rge. 23E Purchaser None

Casing 7 Wt. 26.0 I.D. 6.276 Set at 8385 Perf. 7505 Tc 7572

Tubing 2"IORD Wt. 4.70 I.D. 1.995 Set at 7280 Perf. _____ To _____

Gas Pay: From 7505 To 7572 L 7280 xG Mix =.667 -GL 4856 Bar.Press. 13.2

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

Date of Completion: 12-24-62 Packer Baker "K" 7280 Reservoir Temp. 146°F

OBSERVED DATA

Tested Through ~~(Prover)~~ ~~(Choke)~~ (Meter) Type Taps Flange

No.	Flow Data ~~(Prover)~~ (Line) Size	~~(Choke)~~ (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						2358				Over 72
1.	3.068	1.750	655	39.5	67	2308				6
2.	3.068	1.750	655	38.0	77	2258				6
3.	3.068	1.750	655	39.0	79	2150				6
4.	3.068	1.750	655	39.0	69	2218				6
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F_t	Gravity Factor F_g	Compress. Factor F_{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	20.15	99.48		.9933	.9721	1.053	2036
2.	20.15	301.59		.9880	.9721	1.059	2990
3.	20.15	200.23		.9922	.9721	1.059	4079
4.	20.15	245.28		.9911	.9721	1.062	5062
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 63,333 cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 3.259 $(1-e^{-s})$ .937

Specific Gravity Separator Gas .635
Specific Gravity Flowing Fluid .7[illegible]
P_c 2357.7 P_c^2 5560.5

No.	P_w P_t (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$(F_cQ)^2$ $(1-e^{-s})$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	2308	5327	6636	44028	41258	5327	233.2	2308.1	.9792
2.	2258	5098	9742	94911	88944	5098	462.2	2256.2	.9569
3.	2150	4622	13297	176821	165715	4622	938.2	2155.3	.9141
4.	2218	4919	16488	271832	254777	4919	641.2	2221.1	.9422
5.									

Absolute Potential: _____ MCFPD; n _____
COMPANY _____
ADDRESS _____
AGENT and TITLE _____
WITNESSED _____
COMPANY _____

REMARKS

INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w). MCF/da. @ 15.025 psia and 60° F.

P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater. psia

P_w = Static wellhead working pressure as determined at the end of flow period. (Casing if flowing thru tubing, tubing if flowing thru casing.) psia

P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia

P_f = Meter pressure, psia.

h_w = Differential meter pressure, inches water.

F_g = Gravity correction factor.

F_t = Flowing temperature correction factor.

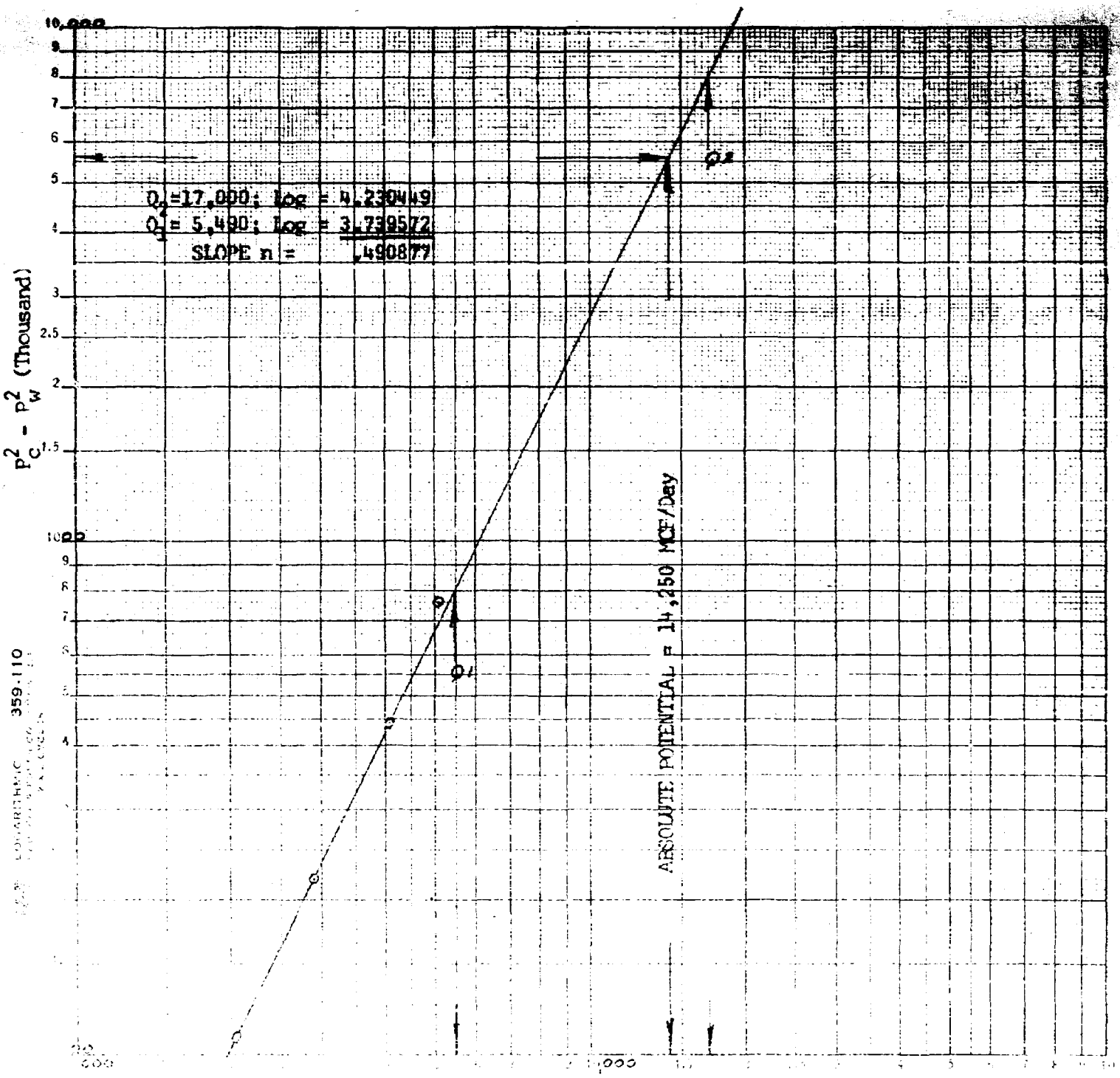
F_{pv} = Supercompressability factor.

n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t.

COMPANY Ralph Lowe
WELL Indian Basin "A" 1 (Upper)
LOCATION J-22-21-S-23E

COUNTY Eddy
DATE 1/9-10/1963



MCF/Day @ 15,025 PSIA - 60°F

Ralph Lowe
Development Cost
Indian Basin Wells #1 & #2

	Total	Indian Basin Well #1	Indian Basin A-1 Well #2
Supplies	$ 1,796.47	$ 1,152.81	$ 643.66
Trucking	1,737.66	1,515.90	221.76
Repairs & Welding	1,796.17	1,644.09	152.08
Geological & Surveying	38,701.77	29,631.51	9,070.26
Fuel	720.63	720.63	
Mud	39,754.36	23,829.49	15,924.87
Drilling Expense	336,316.97	189,064.22	147,252.75
Special Services	29,079.68	22,195.95	6,883.73
Tool Rental	33,889.72	13,576.43	20,313.29
Cement & Cementing Services	19,407.56	13,734.63	5,672.93
Acidizing	18,745.94	18,651.33	94.61
Perforating	17,245.40	13,518.09	3,727.31
Superintendent Expense	2,054.67	1,200.82	853.85
Casing	93,719.58	46,859.79	46,859.79
Tubing	46,183.59	28,617.57	17,566.02
Line Pipe	1,049.47	640.70	408.77
Large Fittings & Equipment	5,664.78	2,832.39	2,832.39
Well Head Equipment	25,380.44	12,690.22	12,690.22
Miscellaneous Intangibles	7,636.30	5,437.03	2,199.27
Miscellaneous Tangibles	5,555.71	3,906.23	1,649.48
Water	105.00		105.00
Test Tanks	1,000.00		1,000.00
Total	$ 727,541.87	$ 431,419.83	$ 296,122.04

The above figures represent the cost of the Indian Basin Well #1 and the Indian Basin A-1 Well #2 recorded on Ralph Lowe's books as at December 31, 1962.

RALPH LOWE

By _____
V. H. Van Horn, Jr.
Office Manager

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 2749
Order No. R-2440
NOMENCLATURE

APPLICATION OF RALPH LOWE
TO CREATE A NEW POOL FOR
UPPER PENNSYLVANIAN GAS
PRODUCTION AND FOR SPECIAL
POOL RULES, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on February 6, 1963, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 28th day of February, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Ralph Lowe, seeks the creation of a new gas pool for Upper Pennsylvanian production and the promulgation of temporary special rules and regulations governing said pool, including a provision for 640-acre spacing units.

(3) That a new gas pool for Upper Pennsylvanian production should be created and designated the Indian Basin-Upper Pennsylvanian Gas Pool. This pool was discovered by the Ralph Lowe Indian Basin Well No. 1, located in Unit E of Section 23, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico. The top of the perforations in the Upper Pennsylvanian formation is at 7376 feet.

(4) That temporary special rules and regulations establishing 640-acre spacing units should be promulgated for the subject

pool in order to prevent the possibility of economic loss resulting from the drilling of unnecessary wells and in order to allow the operators in the subject pool to gather information concerning the reservoir characteristics of the pool.

(5) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(6) That special rules and regulations should be established for a temporary period to expire one year from the date that a pipeline connection is first obtained for a well in the pool; that during this temporary period all operators in the subject pool should gather all available information relative to drainage and recoverable reserves.

(7) That this case should be reopened at an examiner hearing one year from the date that a pipeline connection is first obtained for a well in the Indian Basin-Upper Pennsylvanian Gas Pool, at which time the operators in the subject pool should appear and show cause why the Indian Basin-Upper Pennsylvanian Gas Pool should not be developed on 160-acre spacing units.

(8) That the first operator to obtain a pipeline connection for a well in the Indian Basin-Upper Pennsylvanian Gas Pool should notify the Commission in writing of such fact, and that the Commission should thereupon issue a supplemental order designating an exact date for reopening this case.

IT IS THEREFORE ORDERED:

(1) That a new pool in Eddy County, New Mexico, classified as a gas pool for Upper Pennsylvanian production is hereby created and designated the Indian Basin-Upper Pennsylvanian Gas Pool, consisting of the following-described area:

TOWNSHIP 21 SOUTH, RANGE 23 EAST, NMPM
Section 22: All
Section 23: All

(2) That Special Rules and Regulations for the Indian Basin-Upper Pennsylvanian Gas Pool are hereby promulgated as follows, effective March 1, 1963.

SPECIAL RULES AND REGULATIONS
FOR THE
INDIAN BASIN-UPPER PENNSYLVANIAN GAS POOL

RULE 1. Each well completed or recompleted in the Indian Basin-Upper Pennsylvanian Gas Pool or in the Upper Pennsylvanian formation within one mile of the Indian Basin-Upper Pennsylvanian

Gas Pool, and not nearer to or within the limits of another designated Upper Pennsylvanian pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the Indian Basin-Upper Pennsylvanian Gas Pool shall be located on a standard unit containing 640 acres, more or less, consisting of a single governmental section.

RULE 3. The Secretary-Director may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit and the unorthodox size or shape of the unit is necessitated by a variation in the legal subdivision of the United States Public Lands Survey, or the following facts exist and the following provisions are complied with:

(a) The non-standard unit consists of quarter-quarter sections or lots that are contiguous by a common bordering side.

(b) The non-standard unit lies wholly within a single governmental section and contains less acreage than a standard unit.

(c) The applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the section in which the non-standard unit is situated and which acreage is not included in said non-standard unit.

(d) In lieu of Paragraph (c) of this rule, the applicant may furnish proof of the fact that all of the aforesaid operators were notified by registered or certified mail of his intent to form such non-standard unit. The Secretary-Director may approve the application if no such operator has entered an objection to the formation of such non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well completed or recompleted in the Indian Basin-Upper Pennsylvanian Gas Pool shall be located no nearer than 1650 feet to the outer boundary of the section and no nearer than 330 feet to any governmental quarter-quarter section line.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the

proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the unorthodox location within 20 days after the Secretary-Director has received the application.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Upper Pennsylvanian formation within the Indian Basin-Upper Pennsylvanian Gas Pool or within one mile of the Indian Basin-Upper Pennsylvanian Gas Pool that will not comply with the well location requirements of Rule 4 is hereby granted an exception to the requirements of Rule 4. The operator of any such well shall notify the Artesia District Office in writing of the name and location of the well on or before March 1, 1963.

(2) That any operator desiring to dedicate 640 acres to a well presently drilling to or completed in the Indian Basin-Upper Pennsylvanian Gas Pool shall file a new Form C-128 with the Commission on or before March 1, 1963.

(3) That this case shall be reopened at an examiner hearing one year from the date that a pipeline connection is first obtained for a well in the Indian Basin-Upper Pennsylvanian Gas Pool, at which time the operators in the subject pool may appear and show cause why the Indian Basin-Upper Pennsylvanian Gas Pool should not be developed on 160-acre spacing units.

(4) That the first operator to obtain a pipeline connection for a well in the Indian Basin-Upper Pennsylvanian Gas Pool shall notify the Commission in writing of such fact, and that the Commission will thereupon issue a supplemental order designating an exact date for reopening this case.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JACK M. CAMPBELL, Chairman

E. S. WALKER, Member

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

esr

DRAFT

JMD/esr
February 14, 1963

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 2749

Order No. R-2440

APPLICATION OF RALPH LOWE
TO CREATE A NEW POOL FOR
UPPER PENNSYLVANIAN GAS
PRODUCTION AND FOR SPECIAL
POOL RULES, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on February 6, 1963, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 4 day of February, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Ralph Lowe, seeks the creation of a new gas pool for Upper Pennsylvanian production and the promulgation of temporary special rules and regulations governing said pool, including a provision for 640-acre spacing units.

(3) That a new gas pool for Upper Pennsylvanian production should be created and designated the Indian Basin-Upper Pennsylvanian Gas Pool. This pool was discovered by Ralph Lowe, Indian Basin Well No. 1, located in Unit E of Section 23, Township 21 South, Range 23 East, NMPM, Eddy County, New Mexico. The top of the perforations in the Upper Pennsylvanian formation is at ~~7354~~ 7376 feet.

(4) That temporary special rules and regulations establishing 640-acre spacing units should be promulgated for the subject

DRAFT

JMD/esr
February 14, 1963

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
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(4) That temporary special rules and regulations establishing 640-acre spacing units should be promulgated for the subject

pool in order to prevent the possibility of economic loss resulting from the drilling of unnecessary wells and in order to allow the operators in the subject pool to gather information concerning the reservoir characteristics of the pool.

(5) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(6) That ~~the temporary~~ special rules and regulations should be established for a one-year ~~period~~ temporary period to expire from the date that a pipeline connection is first obtained for a well in the pool, ~~and~~ that during this ~~one-year~~ temporary period all operators in the subject pool should gather all available information relative to drainage and recoverable reserves.

(7) That this case should be reopened at an examiner hearing one year from the date that a pipeline connection is first obtained for a well in the Indian Basin-Upper Pennsylvanian Gas Pool, at which time the operators in the subject pool should appear and show cause why the Indian Basin-Upper Pennsylvanian Gas Pool should not be developed on 160-acre spacing units.

(8) That the first operator to ~~acquire~~ obtain a pipeline connection for a well in the Indian Basin-Upper Pennsylvanian Gas Pool should notify the Commission in writing of such fact, and that the Commission should thereupon issue a supplemental order designating an exact date for reopening this case.

IT IS THEREFORE ORDERED:

(1) That a new pool in Eddy County, New Mexico, classified as a gas pool for Upper Pennsylvanian production is hereby created and designated the Indian Basin-Upper Pennsylvanian Gas Pool, consisting of the following-described area:

TOWNSHIP 21 SOUTH, RANGE 23 EAST, NMPM
Section 22: All
Section 23: All

(2) That special rules and regulations for the Indian Basin-Upper Pennsylvanian Gas Pool are hereby promulgated as follows, effective March 1, 1963.

SPECIAL RULES AND REGULATIONS
FOR THE
INDIAN BASIN-UPPER PENNSYLVANIAN GAS POOL

RULE 1. Each well completed or recompleted in the Indian Basin-Upper Pennsylvanian Gas Pool or in the Upper Pennsylvanian formation within one mile of the Indian Basin-Upper Pennsylvanian Gas Pool, and not nearer to or within the limits of another designated Upper Pennsylvanian pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the Indian Basin-Upper Pennsylvanian Gas Pool shall be located on a standard unit containing 640 acres, more or less, consisting of a single governmental section.

RULE 3. The Secretary-Director may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit and the unorthodox size or shape of the unit is necessitated by a variation in the legal subdivision of the United States Public Lands Survey, or the following facts exist and the following provisions are complied with:

(a) The non-standard unit consists of quarter-quarter sections or lots that are contiguous by a common bordering side.

(b) The non-standard unit lies wholly within a single governmental section and contains less acreage than a standard unit.

(c) The applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the section in which ~~any part of~~ the non-standard unit is situated and which acreage is not included in said non-standard unit.

(d) In lieu of Paragraph (c) of this rule, the applicant may furnish proof of the fact that all of the aforesaid operators were notified by registered or certified mail of his intent to form such non-standard unit. The Secretary-Director may approve the application if, ~~after a period of 30 days~~, no such operator has entered an objection to the formation of such non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well completed or recompleted in the Indian Basin-Upper Pennsylvanian Gas Pool shall be located no nearer than

1650 feet to the outer boundary of the section and no nearer than 330 feet to any governmental quarter-quarter section line.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the unorthodox location within 20 days after the Secretary-Director has received the application.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Upper Pennsylvanian formation within the Indian Basin-Upper Pennsylvanian Gas Pool or within one mile of the Indian Basin-Upper Pennsylvanian Gas Pool that will not comply with the well location requirements of Rule 4 is hereby granted an exception to the requirements of Rule 4. The operator shall notify the Artesia ~~Hobbs~~ District Office in writing of the name and location of the well on or before March 1, 1963.

(2) That any operator desiring to dedicate 640 acres to a well presently drilling to or completed in the Indian Basin-Upper Pennsylvanian Gas Pool shall file a new Form C-128 with the Commission on or before March 1, 1963.

(3) That this case shall be reopened at an examiner hearing one year from the date that a pipeline connection is first obtained for a well in the Indian Basin-Upper Pennsylvanian Gas Pool, at which time the operators in the subject pool may appear and show cause why the Indian Basin-Upper Pennsylvanian Gas Pool should not be developed on 160-acre spacing units.

(4) That the first operator to obtain a pipeline connection for a well in the Indian Basin-Upper Pennsylvanian Gas Pool

shall notify the Commission in writing of such fact, and that the Commission will thereupon issue a supplemental order designating an exact date for reopening this case.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

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

WESTERN UNION
TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

SYMBOLS
DL = Day Letter
NL = Night Letter
LT = International Letter Telegram

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

..LA082 KC109

K OCB196 PD=WUX OKLAHOMA CITY OKLA 5 1221P CST=
=DANIEL S NUTTER, NEW MEXICO OIL CONSERVATION COMMISSION=
file STATE LAND OFFICE BLDG SANTA FE NMEX:
=RE:CASE NUMBERS 2749 AND 2750 SCHEDULED FOR HEARING ON
FEBRUARY 6, 1963.
AS A WORKING INTEREST OWNER IN SECTIONS 22 AND 23,
T21S, 423E, EDDY COUNTY, NEW MEXICO, KERR MCGEE OIL IND
INC CONCURS IN APPLICATIONS BY RALPH LOWE FOR THE CREATION
OF NEW POOLS AND ESTABLISHMENT OF TEMPORARY POOL RULES,
INCLUDING 640 ACRE SPACING UNITS, FOR UPPER PENNSYLVANIAN
AND MORROW GAS PRODUCTION, AND THAT FUTURE WELLS NOT BE

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

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

WESTERN UNION
TELEGRAM
W. P. MARSHALL, PRESIDENT
1201 (4-60)

SYMBOLS
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DRILLED NEARER THAN 1650 FT. FROM THE OUTER BOUNDARY
OF 640 ACRE SPACED UNIT=
B G TAYLOR KERR MCGEE OIL IND INC=

=2749 2750 6 1963 22 23 T21S 423E 640 1650 640=

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE
This is a message unless its character is indicated by the proper symbol.

WESTERN UNION
TELEGRAM

W. P. MARSHALL, PRESIDENT

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LA127 DA372

1965 FEB 5 (AM) 2 15

=L D HSF253 PD=HOUSTON TEX 5 248P CST=
NEW MEXICO OIL CONSERVATION COMMISSION=
ATTN DANIEL S NUTTER AND ELVIS A UTZ STATE
LAND OFFICE BLDG SANTAFE NMEX=

File

RE CASES 2749 AND 2750 - MARATHON OIL COMPANY JOINS IN THE REQUEST OF RALPH LOWE THAT TEMPORARY RULES BE ADOPTED FOR THE UPPER PENNSYLVANIAN AND LOWER PENN. GAS POOLS ENCOUNTERED IN RALPH LOWE'S FEDERAL WELL NO. 1 IN SECTION 22, TOWNSHIP 21 SOUTH, RANGE 23 EAST, EDDY COUNTY, NEW MEXICO. HOWEVER, MARATHON RECOMMENDS THE FOLLOWING VARIATIONS:

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE
This is a message unless its character is indicated by the proper symbol.

WESTERN UNION
TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

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1. THE 640-ACRE PRORATION UNITS SHOULD BE SUBSTANTIALLY IN THE FORM OF A SQUARE, COMPRISED OF ANY CONTIGUOUS GOVERNMENTAL QUARTER SECTIONS OR LOTS, NOT NECESSARILY WITHIN THE SAME GOVERNMENTAL SECTION, BUT WITH THE USUAL ACREAGE TOLERANCE; AND

2. THE WELL FOR EACH PRORATION UNIT SHOULD BE LOCATED AT LEAST 1650 FEET FROM THE NEAREST BOUNDARY OF THE PRORATION UNIT, WITH EXCEPTION TO THE 1650 FOOT REQUIREMENT FOR WELLS COMPLETED OR CURRENTLY BEING DRILLED AND SUCH OTHER EXCEPTIONS AFTER HEARING AS ARE NECESSARY TO PROTECT CORRELATIVE RIGHTS=

MARATHON OIL CO BY J O TERRELL COUCH=

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

P. O. BOX 871
SANTA FE

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

February 28, 1963

(Hinkle)

Mr. Howard Bratton
Harvey, Dow & Hinkle
Attorneys at Law
Post Office Box 10
Roswell, New Mexico

Re: Case No. 2749 & 2750
Order No. R-2440 & R-2441
Applicant:
Ralph Lowe

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC
OTHER

DOCKET MAILED
Date 1-30-67

INDIAN BASIN - MORROW GAS POOL

E C O N O M I C S

WELL COST OF A TYPICAL MORROW SINGLE COMPLETION—NO ATTEMPT TO COMPLETE IN UPPER PENN	$ 200,000
WELL COST OF A TYPICAL MORROW SINGLE COMPLETION—UNSUCCESSFUL ATTEMPT TO COMPLETE IN UPPER PENN	$ 210,000
WELL COST OF A TYPICAL MORROW AND UPPER PENN DUAL COMPLETION	$ 257,000
ADDITIONAL COST TO DUAL IN MORROW ABOVE UPPER PENN SINGLE COMPLETION COST	$ 102,000
ESTIMATED CHANCE FOR SUCCESSFUL COMPLETION IN MORROW	33%

February 8, 1967

MARATHON OIL COMPANY

NMOCC CASE NOS. 2749
AND 2750 REOPENED

EXHIBIT 9

AZTEC OIL & GAS COMPANY

2000 FIRST NATIONAL BANK BUILDING
DALLAS, TEXAS 75202

LAND DEPARTMENT
KENNETH A. SWANSON, MANAGER

May 11, 1967

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

Attn: Ida Rodriguez

Re: Transcripts, Cases No. 2469, 3261 and 3400

Gentlemen:

We are returning herewith the transcripts of the captioned cases loaned to us on April 20, 1967. Thank you for making these transcripts available to us.

Yours very truly,

Gordon E. Coe

sbb
Enclosure

Union Oil Company of California

M MAIN OFFICE OGC D [redacted] T E X A S

1963 JAN 30 PM 1:28

January 29, 1963

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

Attn: Mr. A. L. Porter, Jr.
Secretary-Director

Re: Cases No. 2749 and No. 2750

Gentlemen:

In the above numbered cases, set for hearing February 6, 1963, Ralph Lowe seeks special pool rules and new pool designations for Upper Pennsylvanian and Morrow gas production in Sections 22 and 23, Township 21 South, Range 23 East, Eddy County, New Mexico.

Union Oil Company of California, a leaseholder of neighboring acreage, strongly supports the proposed temporary field rules. We feel that the proposed provision for 640-acre spacing units is in the interest of conservation, and respectfully urge the Commission's favorable consideration of this provision.

Very truly yours,

R. S. Cooke
Division Engineer

RSC:bn
cc: Mr. Ralph Lowe

FORM 401 MT 10M 4-62

1983 JAN 21 AM 8

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

IN THE MATTER OF THE APPLICATION OF RALPH LOWE FOR THE CREATION OF A NEW GAS POOL IN THE UPPER PENNSYLVANIA RESERVOIR, CONSISTING OF SECTIONS 22 AND 23, TOWNSHIP 21 SOUTH, RANGE 23 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO, TO BE KNOWN AS THE INDIAN BASIN GAS POOL, AND FOR THE PROMULGATION OF SPECIAL FIELD RULES THEREFOR INCLUDING PROVISIONS FOR 640 ACRE SPACING AND PRORATION UNITS.	)	NO. 2749

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Comes the undersigned, Ralph Lowe of Midland, Texas, and hereby makes application for the designation of a new gas pool for the Upper Pennsylvania reservoir, found at a depth of approximately 7,300 feet below the surface in Sections 22 and 23, Township 21 South, Range 23 East, N.M.P.M., Eddy County, New Mexico, to be known as the Indian Basin Pennsylvania Gas Pool, and for the promulgation of special field rules therefor, including a provision for 640 acre spacing and proration units, and respectfully requests that an Examiner's Hearing be held thereon after publication of notice, as provided by the rules and regulations of the Oil Conservation Commission.

Respectfully submitted,

RALPH LOWE

By _____
Attorney

HERVEY, DOW & HINKLE

By _____
P.O. Box 10
Roswell, New Mexico
Attorneys for Ralph Lowe

Case 2749

J. M. HERVEY 1874-1953
HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.
HOWARD C. BRATTON
S. B. CHRISTY IV
LEWIS C. COX, JR.
PAUL W. EATON, JR.
CONRAD E. COFFIELD
HAROLD L. HENSLEY, JR.

LAW OFFICES
HERVEY, DOW & HINKLE
MAIN OFFICE OCC
...LE BUILDING
ROSWELL, NEW MEXICO

TELEPHONE 622-6510
AREA CODE 505
POST OFFICE BOX 10

1963 JAN 21 AM 8:27

January 18, 1963

Mr. Dan Nutter
New Mexico Oil Conservation Commission
State Capitol
Box 871
Santa Fe, New Mexico

Dear Dan:

I have prepared and enclose herewith three copies each of two applications of Ralph Lowe for special field rules for the Upper Pennsylvania and Morrow gas zones in the Indian Basin area, consisting of Sections 22 and 23, Township 21 South, Range 23 East.

It is my understanding that these cases will be heard at the Examiner's Hearing to be held on February 6th.

Thanking you for your cooperation in connection with this matter, I am

Yours sincerely,

HERVEY, DOW & HINKLE

By _____

CEH: ev

Encls.

cc: Mr. Harvin Landua
c/o Ralph Lowe
Box 832
Midland, Texas

DOCKET MAILED
Date 1/23/63

DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 6, 1963

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM, STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Elvis A. Utz, as alternate examiner:

CASE 2746: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Continental National Insurance Group and all other interested parties to appear and show cause why the Kenneth V. Barbee Well No. 1, located 1980 feet from the South line and 660 feet from the East line of Section 9, Township 11 South, Range 25 East, NMPM, Chaves County, New Mexico, should not be plugged in accordance with a Commission-approved plugging program.

CASE 2747: Application of El Paso Natural Gas Company for cancellation of a non-standard gas proration unit, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks cancellation of a non-standard gas proration unit comprising the SW/4 of Section 23 and the NW/4 of Section 26, Township 31 North, Range 7 West, Blanco-Mesaverde Gas Pool, San Juan County, New Mexico, said unit having been established and designated Block "N" by Order No. R-1066.

CASE 2480: (Reopened)
In the matter of Case 2480 being reopened pursuant to the provisions of Order No. R-2182, which order established temporary 80-acre proration units for the Henshaw-Wolfcamp Pool, Eddy County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 40-acre proration units.

CASE 2748: Application of Ralph Lowe for approval of a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Indian Hills Unit Area, comprising 4,480 acres of Federal and State lands in Township 21 South, Range 24 East, Eddy County, New Mexico.

CASE 2749: Application of Ralph Lowe to create a new pool for Upper Pennsylvanian gas production, and for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new gas pool for Upper Pennsylvanian gas production in Sections 22 and 23, Township 21 South, Range 23 East and the establishment of temporary pool rules therefor, including a provision for 640-acre spacing units.

CASE 2750: Application of Ralph Lowe to create a new pool for Morrow gas production, and for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new gas pool for Morrow production in Sections 22 and 23, Township 21 South, Range 23 East, and the establishment of temporary pool rules therefor, including a provision for 640-acre spacing units.

CASE 2751: Application of Gulf Oil Corporation for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of its W. A. Ramsay (NCT-C) Well No. 4, located in Unit M of Section 36, Township 24 South, Range 37 East, as a triple completion (conventional) to produce oil from the Fusselman, Montoya, and Waddell Pools, North-Justis Field, Lea County, New Mexico.

CASE 2752: In the matter of the hearing called by the Commission upon its own motion to allow all interested parties to appear and present evidence to determine the proper location of the survey line dividing Sections 3, 10, 15, 22, 27 and 34 from Sections 2, 11, 14, 23, 26, and 35, respectively, Township 10 South, Range 32 East, NMPM, Lea County, New Mexico. The Commission also will consider the approval of any non-standard location which might result from such determination.

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