CASE 5025: Application of THE SUPERIOR OIL CO. FOR DOWN-HOLE COMMINGLING, LEA COUNTY, N.M.

CASE No.

5025

Application,

Transcripts,

Small Exhibits

ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
OIL CONSERVATION COMMISSION CONFERENCE ROOM
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
Wednesday, July 11, 1973

EXAMINER HEARING

IN THE MATTER OF:

Application of The Superior Oil Company for down-hole commingling, Lea County, New Mexico.

Case Number 5025

BEFORE: Daniel S. Nutter
Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case 5025.

MR. CARR: Case 5025, application of The Superior Oil Company for down-hole commingling, Lea County, New Mexico.

MR. MORRIS: Mr. Examiner, I'm Dick Morris of Montgomery, Federici, Andrews, Hannahs, & Morris, appearing on behalf of the Applicant. We have one witness, Mr. Terry Clay, and ask that he be sworn, please.

TERRY CLAY,

was called as a witness, and after being duly sworn according to law, testified as follows:

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Clay, please state your name, where you reside, and by whom you are employed, and in what capacity.

A My name is Terry Clay, and I am employed by Superior Oil Company in Midland as a Petroleum Engineer.

Q Have you previously testified before this Commission or its Examiners and had your qualifications established and accepted as a matter of record?

A Yes, I have.

Q What does Superior Oil Company seek by its application in Case 5025?

A Case 5025, Superior seeks to commingle the Upper Seven Rivers gas, sometimes referred to as Queen, with the

Lower Seven Rivers, sometimes referred to as Yates Seven Rivers, oil zone in the Eumont Pool.

Q Would you please refer to Exhibit Number 1, being the location plat, and point out the location of the subject well?

A The subject well is Superior State "12" Number 1 Well which is located in Unit L of Section 12, Township 21 South, Range 35 East,in the Eumont Oil and Gas Pool located in Lea County, New Mexico.

Q And does this plat also show the location of Superior's other leases in this area?

A Yes. The offset lease to the West comprising the South half of Section 11 is under lease by Superior as well as the East half of the Southwest quarter of which Superior has a royalty interest in,offsetting the State "12" Number 1 Well.

Q All right. Would you refer to Exhibit Number 2 and state the principal elements pertaining to the history of this well?

A Exhibit 2 is a well history in chronological order giving the date that the State "12" Number 1 Well was completed. It was completed in the oil zone or the lower zone in July 13, 1954; and it was completed later as a dual completion in the gas zone September the 12th, 1954. It also would be noted from the data sheet that the

perforated interval as well as the tubular and casing goods, and the treatment of these particular two zones are shown on the sheet.

Q Would you refer next to Exhibits 3 and 4, being graphs showing the production history from both the Seven Rivers Oil and Seven Rivers Gas Pools?

A The graph of the Seven Rivers Oil Pool, as would be noted, shows the shut-in well-head pressure and also a calculated bottom-hole pressure as of 1972. In the lower part of the graph it will be noted that the oil production, the gas-oil ratio, are shown on this graph; and it will also be noted the graph from 1965 to 1972 shows that the produced oil in the Yates Seven Rivers zone had continued to decline.

The current producing rate in the oil zone is approximately 6 barrels of oil a day to 7 barrels of water per day.

Q All right. Go on to the next exhibit if you are finished with this one.

A The next exhibit shows the Queen gas zone in the Eumont Pool. It shows the shut-in well-head pressures and also a calculated bottom-hole pressure as of 1972. It also shows the produced gas from 1965 to 1972 and that is denoted in the column in the upper right-hand corner of the graph. It will be noted from the graph that the gas

production in the Queen Gas Pool has shown an increase up until 1972. However, the first three producing months of 1973, the gas zone has loaded up with fluid and the gas production has dropped down to below an economical limit.

Q Please refer to Exhibit 5, the diagrammatic sketch, and describe how the well has been equipped as a dual completion, and also describe how the well would be equipped and operated if this application is approved.

A It will be noted from the schematic drawing of the wellbore that the upper perforations, the gas zone, and the lower perforations, the oil zone, have in the past been separated by a packer located at 3943. The lower zone which is the oil zone has been pumped by means of a Beam Pumping Unit.

The upper gas zone has produced by a flowing through the annulus; and as mentioned previously, it was doing fairly good until the first part of this year when it loaded up with fluid and at the present time is producing very little gas as a result of the flood covering the perforations in the upper zone.

Q Now, how would this be operated if the packer is removed and the two zones commingled and the commingled production produced?

A We would simply pull the tubing and the packer that

dearnley, meier & associates
209 SIMMS BLDG.•P.O. BOX 1092•PHONE 243-6091•ALBUQUERQUE, NEW MEXICO 87103
1216 FIRST NATIONAL BANK BLDG. EAST•ALBUQUERQUE, NEW MEXICO 87108

separates the gas zone from the oil zone, running the tubing back in with a plunger lift installation in the tubing and a standing valve.

We would use the gas pressure from both zones to lift the plunger in the tubing and lift it up to the surface to recover produced fluids and what gas is needed to operate the plunger.

This oil and gas that is produced through the tubing would go to the low-pressure system, the purchaser being Philips Petroleum, and the low pressure being approximately 25 pounds.

By utilizing this method, we would be able to keep the wellbore free of fluids that are coming in from the formation. The gas zone would be produced up the annulus and go to the higher pressure system, too, which is approximately a 90-pound pressure line, and the purchaser being El Paso.

Q Is there pressure differential between the oil and gas zones?

A Yes, there is. From the shut-in tubing pressures, even though we haven't measured bottom-hole pressure,in the shut-in tubing pressures it is indicated that as denoted on the graph that the pressure in the lower zone is 475 pounds as compared to the pressure in the upper zone of 206 pounds.

What we plan to do and propose to do is to flow the annulus, the gas from the annulus at a pressure less than the 200 pound pressure exhibited in the upper zone; and we believe by the plunger lift operation of keeping the wellbore free of fluids and also the lowering the annulus pressure down below this 200 pounds that we can increase the gas production from this well and continue to maintain the oil production that is currently existing.

Q Will approval of this installation affect the total quantity of gas that can be produced from the commingled zones?

A In my opinion, it will. In 1972, this well had a revenue over expenses of approximately $1500. In 1973, the first three producing months of 1973, it had an expense exceeding revenue from the oil and gas of some $500. And to continue the well producing it as a dual completion and gas zone loading up, and we have no way of technically at the present time keeping the gas zone unloaded.

We are looking at a situation where we are losing money, and we believe that in order to turn the profit picture around in this well that the plunger lift operation is a means of doing it. It will also reduce operating costs, and we believe it will also increase the gas production and consequently increase the revenue from this well and consequently increase the life of the well.

Q Mr. Clay, in connection with the economics that you have just mentioned, I take it that you believe the increased gas production from the upper zone will be sufficient to offset the lower gas price that would be received by the production into the low-pressure system?

A Yes, that's correct. The gas is being sold from the tubing that is going through the separator into this low-pressure system and is receiving or demanding about a nickel less per Mcf as compared to the annulus-produced gas that is going into this higher pressure system, and it is my belief that with this plunger lift system that we can maintain the oil production and at the same time pull the pressure down in the annulus and consequently increase the producing volumes from the high-pressure zone that is going to the higher price and the higher pressure of the two systems.

Q Now, have you at this point in time prepared and submitted an application for commingling authority to the State Land Office?

A We have submitted a request to the New Mexico Commission.

Q I'm not talking about the application to the Oil Commission. Let me put the question another way. Do you intend to prepare and submit an application for commingling to the Commissioner of Public Lands?

A Yes, we do.

Q All right. And with that submission, will you submit an economic analysis of the gas production to demonstrate the effect upon revenues to the Commissioner of Public Lands as a result of this commingling should it be approved by both the OCC and the State Land Office?

A Yes. We would be very happy to; and again it's my opinion that, of course, we know what the revenue is now with the dual completion, and it is my opinion that we can increase this production; and we would be very happy to submit average production assuming a favorable ruling by the Commission.

Q Will you furnish to this Commission a copy of the economic analysis that you make and furnish to the Commissioner of Public Lands?

A Yes. We would be very happy to.

MR. MORRIS: Mr. Examiner, we don't have that economic analysis available at this time; but we would ask permission to submit that data to the Commission and would request that no action be taken on this application until we have had time to prepare and submit that analysis.

MR. NUTTER: We will hold the case open until then.

Q (By Mr. Morris) Mr. Clay, were these Exhibits 1 through 5 prepared by you or under your supervision?

A Yes, they were prepared under my supervision.

MR. MORRIS: We offer Exhibits 1 through 5 into

evidence.

MR.NUTTER: Superior Exhibit's 1 through 5 will be admitted into evidence.

MR. MORRIS: That's all I have on Direct, Mr. Examiner.

CROSS-EXAMINATION

BY MR. NUTTER:

Q Mr. Clay, referring to your Exhibit Number 5, first of all these upper perforations are identified as Queen gas perforations. They are actually in the Seven Rivers; aren't they, or in the Yates?

A We have for log purposes called them Seven Rivers as well as the lower perforations. And that terminology of Queen is simply in conformance with the production as recorded by the Commission and recognized by the Commission and being in the Eumont Queen Field.

Q However, inasmuch as the Queen formation is below the Yates and the Seven Rivers formation, they couldn't be Queen perforations above the Yates Seven Rivers?

A Right.

Q But actually, everything is probably producing in the Yates Seven Rivers; isn't it?

A Yes. That's what we call it is the Seven Rivers.

Q Now, you do have seven-inch casing in this well and your big problem seems to be that your upper gas perforations are loading up with liquids. Have you even considered the

installation of a string of tubing so the well could unload its liquid through the tubing rather than up the annulus?

A Yes, we have; and there again, we have got a situation here where the Commission, as we can see it right now, we are talking about a dual head, dual tree; and we are talking about an additional string of tubing. So we are talking about approximately $4,000 just in investment.

Q You are not talking about a lot of money for intangibles; are you?

A It's all intangible, this is correct. So this would certainly be a possibility.

Q I suspect that when Superior got authority to dually complete this well pursuant to Order Number DC-142 that they indicated that they could produce the well without waste in the manner that they proposed at that time?

A Yes, that's correct.

Q And while it was producing liquid-free production, I'm sure the annular flow wasn't inefficient? It may be inefficient at this point.

A Right.

Q Now, you don't propose actually the gas lift with this upper perforation gas. It won't be gas lift going in through gas lift valve and lifting in the fluid in the tubing. You'd be operating a plunger lift; is this correct?

A That's correct. The plunger lift is on an intermittent time cycle depending on the setting, 12 to 24 times a day; and when the pressure on the annulus builds up to sufficient, it pushes the fluid up into the tubing through the standing valve; and the pressure on the annulus is used to push this plunger when it opens at the surface. It would push that plunger up to the surface carrying the fluids and what little gas is required to do that, push the plunger up the tubing string and then unload into the flow line. The intermitter closes and the plunger drops back to the standing valve.

Q To repeat the cycle then?

A That's correct. So it's not a gas-lift operation and not similar to one where you are cycling gas through a gas-lift valve at either pressure or a time stage.

Q Now, with the plunger-type operation, there is no means of determining how much gas is actually coming from the upper perforations and utilized in lifting the plunger in the tubing; is there?

A Well, not from the standpoint of measuring down-hole. However, we have got a measurement of the gas pressure or the gas flow rate in the dual completion status, the gas and oil; and it would be a matter of deduction or subtraction of what gas you would be producing in a commingled state versus what you were producing before;

and I think it could be reasonable to assume that the predominant difference in that gas would be coming from the gas zone.

Q If you start lifting more fluid in the lower Morrow zone, certainly the GOR would change. You'd think the production of gas would change.

A The best that we have to go on now is that our GOR, we would have to use a GOR similar to what we have seen in the last year or two producing zones isolated and use that.

Q I thought I understood you to mention in your testimony that your oil zone was producing about 6 barrels a day. However, 1972's rate appears to be 710 for the year; is that right?

A 1972, and I think that graph there, that would be for the year of 1972.

Q So it's actually making less than two barrels of oil per day?

A That's correct.

Q And it's on a Beam Pump at this time?

A And the well has been actually shut-in the oil zones since October or November of last year.

Q So this 710 doesn't represent a full year's production, then?

A That's correct.

Q Now, when did the well start declining in the gas production as far as the upper set of perforations?

A Well, the gas production really started declining the first part of this year. Well, actually looking at December of last year, it was producing 170 Mcf a day. And so at that time as compared to November last year of producing 410 Mcf a day and as of April of this year 150 Mcf a day, it's been in the last months of last year and the early months of this year that the gas production has been gradually going down.

Q Was it loading up with hydrocarbon liquid or water?

A We are really not sure since we haven't unloaded it. We think there is a possibility of water in the Queen in the gas zone in the Seven Rivers.

Q Now, you mentioned that the annular gas goes to the El Paso line which operates at 90 pounds. What's the price paid to Superior for that gas?

A I don't have the contract with me; and without directly referring to it, it's only an estimate of between 12 and 14 cents.

MR. MORRIS: Can you indicate that on your economic analysis that you will furnish later?

THE WITNESS: Yes.

Q (By Mr. Nutter) But the gas from the tubing goes to the Philips low-pressure system, and it's something like

$5 less per Mcf?

A Yes.

MR. NUTTER: Are there any further questions of Mr. Clay? He may be excused. At what date do you think we could have this analysis of the economics of this thing and the method that you propose for allocation of gas and so forth submitted, Mr. Clay?

THE WITNESS: I would think within a three-month period that we could have sufficient producing data, sufficient productive data on the dual completion situation that we could submit it after this. At least a two-month producing period, I would like to have.

MR. MORRIS: Mr. Clay, I don't think Mr. Nutter is referring to an analysis based on actual production; but he is talking about that you are going to have to make an application to the State Land Office before you can go ahead with this.

THE WITNESS: I see.

MR. MORRIS: They will have to approve it, and the Commission will have to approve it. What they need to have now is an analysis based on projected performance and an allocation of projected performance based on available data; and I think they will need this within a week or ten days.

THE WITNESS: I could submit that in a very short

period of time, which would be a projected estimate, production and the income in a commingled state versus a dual completion situation.

MR. NUTTER: If there are no further questions, the witness may be excused. Do you have anything further, Mr. Morris?

MR. MORRIS: No, sir, I don't.

MR. NUTTER: Does anyone have anything they wish to offer in Case 5025.

MR. GRAHAM: Ray Graham, Director of Oil and Gas Division, New Mexico State Land Office. On behalf of the Land Office, we would like to oppose the approval of this commingling installation until such time as it has been assured the Commission of Public Lands that our royalty will not be decreased in any manner from the gas production from the upper zone.

The assurance may either be in the form of an agreement to continue paying royalty based on the high pressure gas or some other confirmation that our royalty will not be decreased; and when we have that assurance, I am sure that we would consider removing our objection to the approval of this installation. That's all.

MR. NUTTER: Thank you, Mr. Graham. Does anyone have anything for Case 5025? We will take the case under advisement. We will recess until 1:30.

(Whereupon, the Hearing was in recess until 1:30.)

* * * * *

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, JANET RUSSELL, a Certified Shorthand Reporter, in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing 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.

Janet Russell
CERTIFIED SHORTHAND REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5025, heard by me on 7/11, 1973.

....., Examiner
New Mexico Oil Conservation Commission

I N D E X

WITNESS	PAGE
TERRY CLAY	3
Direct Examination by Mr. Morris	11
Cross-Examination by Mr. Nutter	

E X H I B I T S

	OFFERED	ADMITTED
Applicant's Exhibit #1	11	11
Applicant's Exhibit #2	11	11
Applicant's Exhibit #3	11	11
Applicant's Exhibit #4	11	11
Applicant's Exhibit #5		

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

August 14, 1973

I. R. TRUJILLO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

Re: CASE NO. 5025
ORDER NO. R-4607
Applicant:
Superior Oil Company

Mr. Richard S. Morris
Montgomery, Federici, Andrews,
Hannahs & Morris
Attorneys at Law
Post Office Box 2307
Santa Fe, New Mexico

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

ALP/ir

Copy of order also sent to:

Hobbs OCC x
Artesia OCC _____
Aztec OCC _____

Other _____

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. 5025
Order No. R-4607

APPLICATION OF THE SUPERIOR OIL
COMPANY FOR DOWN-HOLE COMMINGLING,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on July 11, 1973, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 13th day of August, 1973, the Commission, a quorum being present, having considered the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

That the applicant's request for dismissal should be granted.

IT IS THEREFORE ORDERED:

That Case No. 5025 is hereby dismissed.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

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

S E A L

dr/

THE SUPERIOR OIL COMPANY
P. O. BOX 1900
MIDLAND, TEXAS 79701

July 31, 1973

Mr. D. S. Nutter, Chief Engineer
NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Case No. 5025
Downhole Commingling
Superior Oil Company
State 12 No. 1
Section 12, T-21-S, R-35-E
Eumont (Oil and Gas) Pool

Dear Sir:

Relative to Superior Oil Company Application of July 11, 1973, to commingle downhole the Seven Rivers gas and Lower Seven Rivers oil in the well bore of the State "12" No. 1 Well, we ask that consideration of this application be cancelled. Upon further testing of the lower zone perforations at 3961-72' on July 20, 1973, it was determined that this interval produced 100 percent water. We have therefore set a bridge plug above the lower perforations and plan to produce this well from the upper gas zone perforations 3674'-3690' as a single zone completion.

In view of the non-commercial test from the lower oil zone, we believe that we can produce a higher volume of gas as a single completed gas well from the upper zone by using the plunger lift described at the hearing. This gas will be sold to the higher pressure system and is higher in price than gas sold into lower pressure system.

Yours very truly,

THE SUPERIOR OIL COMPANY

T. D. Clay
Petroleum Engineer

TDC/jf

cc: Mr. Ray Graham
Mr. Richard Morris

Docket No. 19-73

DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 11, 1973

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 Richard L. Stamets, Alternate Examiner:

ALLOWABLE: (1) Consideration of the allowable production of gas for August, 1973, from seventeen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico.

(2) Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for August, 1973.

CASE 4749: (Reopened) (Continued from the June 6, 1973, Examiner Hearing)

In the matter of Case No. 4749 being reopened pursuant to the provisions of Order No. R-4338, which order established special rules and regulations for the Humble City-Strawn Pool, Lea County, New Mexico, including a provision for 80-acre proration units. All interested parties may appear and show cause why said pool should be developed on other than 40-acre units.

CASE 5019: Application of Cities Service Oil Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the S/2 of Section 14, Township 20 South, Range 28 East, Eddy County, New Mexico, to be dedicated to a well to be drilled in an undesignated Morrow gas pool at a standard location in Unit K of said Section 14. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and up to 200 percent charge for risk involved in drilling said well.

CASE 5020: Application of Belco Petroleum Corporation for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the South Salt Lake-Morrow Gas Pool, including a provision for 320-acre drilling and proration units. In the absence of objection, this pool will be placed on 320-acre spacing rather than the present 160-acre spacing.

CASE 5021: Application of Mobil Oil Corporation for an unorthodox oil well location and special pool allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its proposed New Mexico "B" Well No. 9 at an unorthodox location 940 feet from the North line and 1510 feet from the East line of Section 27, Township 10 South, Range 32 East, Mescalero-Devonian Pool,

(Case 5021 continued from page 1)

Lea County, New Mexico. Applicant further seeks the assignment of a special depth bracket allowable for said pool of 604 barrels of oil per day.

CASE 5022: Application of Skelly Oil Company for an exception to Rule 104, Lea County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to Rule 104, authority to produce its Mexico "L" Wells Nos. 1 and 23 located less than 330 feet from each other in Unit A of Section 5, Township 25 South, Range 38 East, and its Mexico "J" Wells Nos. 2 and 23 located less than 330 feet from each other in Unit O in Section 32, Township 24 South, Range 38 East, and its Mexico "J" Wells Nos. 4 and 17 located less than 330 feet from each other in Unit N of said Section 32, all in the Dollarhide-Fusselman Pool, Lea County, New Mexico, each 40-acre unit being limited to one top unit allowable.

CASE 5023: Application of Skelly Oil Company for a waterflood project, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project by the injection of water into the Upper and Lower San Andres formations through perforations in the intervals from 4207 feet to 4418 feet and from 4676 to 4849 feet in its Hobbs "T" Well No. 11 located in Unit P of Section 33, Township 7 South, Range 33 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.

CASE 5024: Application of Midwest Oil Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Cottonwood Spring Unit Area comprising 3838 acres, more or less, of federal and fee lands in Township 25 South, Range 26 East, Eddy County, New Mexico.

CASE 5025: Application of The Superior Oil Company for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Upper Seven Rivers gas and Lower Seven Rivers oil in the wellbore of its State "12" Well No. 1 located in Unit L of Section 12, Township 21 South, Range 35 East, Eumont Pool, Lea County, New Mexico. Said well was authorized as a gas-oil dual completion in the Eumont Pool by Commission Order DC-142.

CASE 5026: Application of The Superior Oil Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow, Atoka, Strawn and Canyon formations underlying the N/2 of Section 7, Township 23 South, Range 27 East, South Carlsbad Field, Eddy County, New Mexico. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and a 150 percent charge for risk involved in drilling said well.

CASE 5027: Application of Dalport Oil Corporation for the amendment of Order No. R-4553, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-4553 to provide that the well to be drilled on the proration unit pooled by said order shall be located in Unit G of Section 17, Township 12 South, Range 31 East, Chaves County, New Mexico, rather than Unit J of said Section 17. In the absence of objection, Order No. R-4553 will be amended as above.

CASE 5015: (Continued and Readvertised)

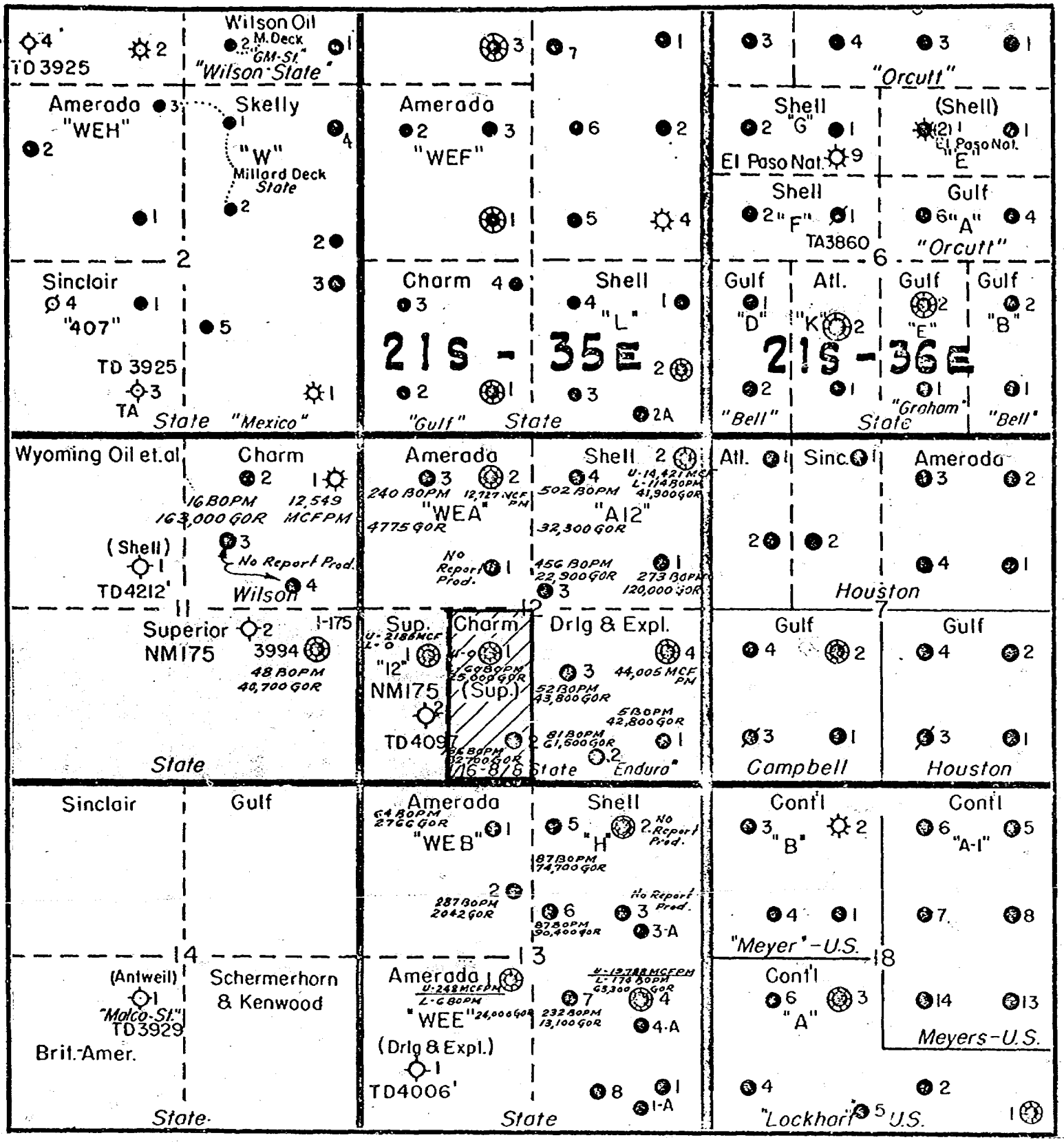
Application of Michael P. Grace II and Corinne Grace for compulsory pooling, Eddy County, New Mexico. Applicants, in the above-styled cause, seek an order pooling all mineral interests down to and including the Pennsylvanian formation underlying Section 16, Township 24 South, Range 26 East, adjacent to the White City-Pennsylvanian Gas Pool, Eddy County, New Mexico, to form a standard 640-acre unit for said pool, to be dedicated to a well to be drilled at an orthodox location for said unit. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and up to 200 percent charge for risk involved in drilling said well.

CASE 5010: (Continued from the June 27, 1973, Examiner Hearing)

Application of Yates Petroleum Corporation for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down to and including the Pennsylvanian formation underlying the N/2 of Section 18, Township 18 South, Range 26 East adjacent to the West Atoka Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to a well to be drilled 1650 feet from the North line and 660 feet from the West line of said Section 18, the unorthodox location of which was previously approved by Commission Order No. R-4508. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs as well as actual operating costs and charges for supervision. Also to be considered is the designation of applicant as operator of the well and up to 200 percent charge for risk involved in drilling said well.

CASE 5012: (Continued from the June 27, 1973, Examiner Hearing)

Application of Gandy Construction for an oil treating plant permit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority for the construction and operation of an oil treating plant for the purpose of treating and reclaiming sediment oil at a site in the SE/4 of Section 11, or the SW/4 of Section 12, Township 10 South, Range 35 East, Lea County, New Mexico.



Legend
- Oil Well
- Gas Well
- Dual (Oil & Gas)

INDICATED PRODUCTION
TAKEN FROM THE OCC
MONTHLY STATISTICAL REPORT
FOR THE MONTH OF APRIL 1973
Volume II, Southeast New Mexico

THE SUPERIOR OIL COMPANY
ENGINEERING
MIDLAND

EUMONT FIELD AREA
Lea County, New Mexico

SCALE 1" = 2000'

Appl Ex 1
Cs 5025

[illegible] STATE 12 #1

1980' FSL & 990' FWL
Section 12, T-21-S, R-35E
Lea County, New Mexico

Field: Eumont (Oil & Gas)

KB: 3593 **DF:** 3591 **GL:** 3583 **TD:** 4211 **PBTD:** 4175 **TLD:** 9'

Spudded: 6-8-54 **Completed:** Oil Zone - 7-13-54
Gas Zone - 9-12-54

Pay Zone: Seven Rivers - Oil & Gas
Log Top - 3622' (-29)

Perfs: Oil - 3961-72 w/8 Jets/ft
Gas - 3674-90 w/8 Jets ft

Casing: 9-5/8" 32# @ 312' w/250 sax
7" @ 4211' w/300 sax (top of cmt outside 7" csg @ 2895)
135 Jts 20# J-55, R-2, ST&C 4226.60

Tubing: 2-1/2" J-55 EUE 8rd (128 jts) w/tail @ 3993'.

Packers: Lane-Wells 7" x 2-1/2" BOCL set @ 3943'

Pmpg Equip: E-11 National Unit Pumper w/57 DP
Fairbanks Morse Gas Engine

Remarks: Otis Type "A" sliding side door choke @ 3906'
2" FP Mech SN w/out G.A. @ 3983' w/FP HD dbl vlv standing in SN.
2-1/2" x 1-1/4" x 12' pump set on 2-1/2" FP mech pump anc @ 3892'
86--3/4" rods swinging.
NOTE: Fish in hole-Pump, 65--5/8" rods, fishing tool & btm half hyd jars set on FP pump anchor.

7-13-54 TREATMENT: Seven Rivers Perfs 3961-72 (Western Co.)
Acidized perfs w/250 GMA. Washed 4 BA over perfs, 1 BA @ 10 min. intervals. Squeezed 2 BA into fmtn. Max press 1900/900 psi, FP 1400/900 psi.

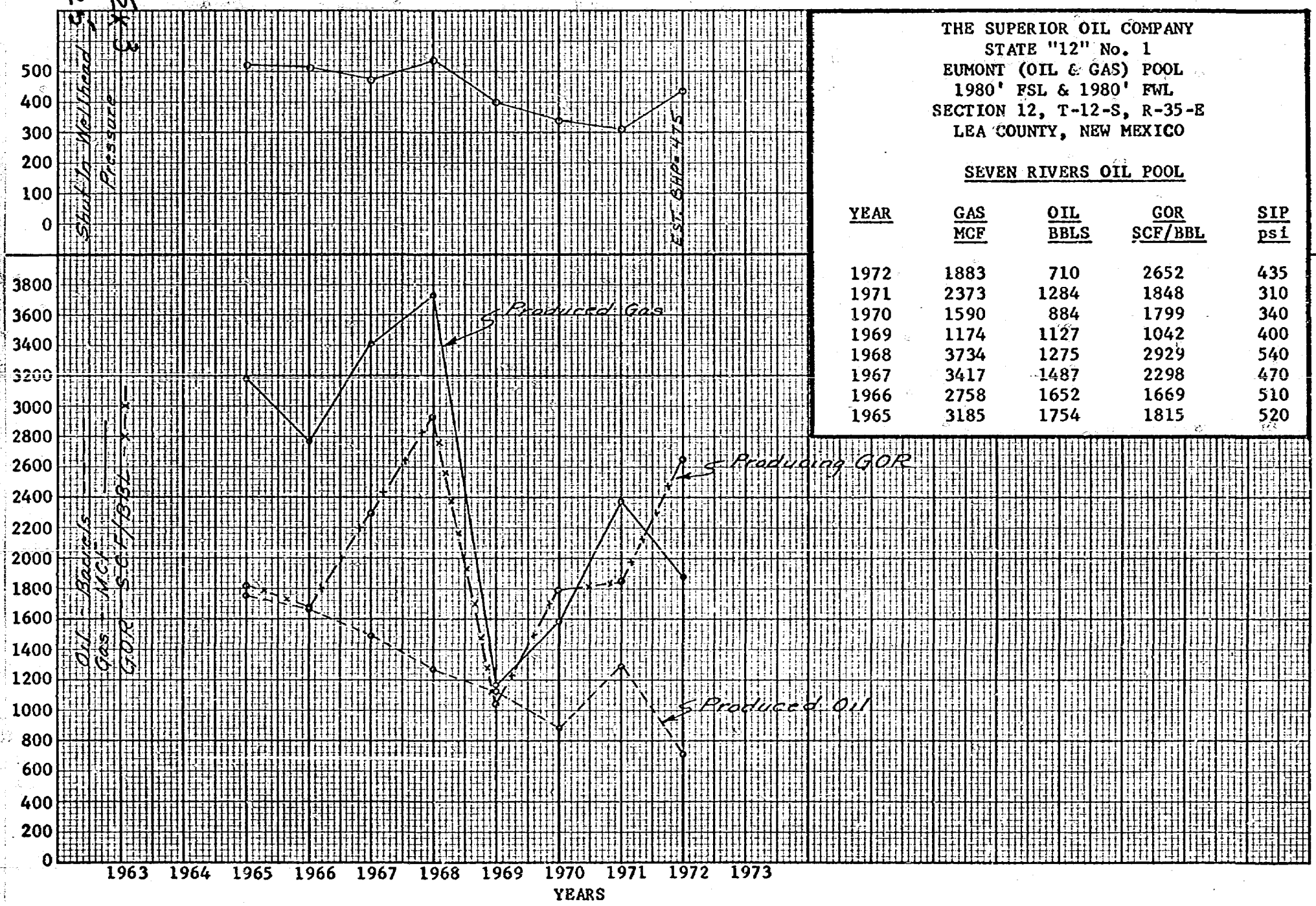
7-13-54 TREATMENT: Seven Rivers Perfs 3961-72 (Western Co.)
Treated w/3000 gals green oil & 4500# sand, followed w/90 BLO. Max press 3600/2000 psi. FP 2600/1000 psi. Avg inj rate 6.5 BPM.

9-8-54 WORKOVER: To Dually Complete
Perforated from 3674-90 w/8 Jets/ft.

9-8-54 TREATMENT: Seven Rivers Perfs 3674-90 (Western Co.)
Treated w/5000 gals diesel oil & 5000# sand, followed w/40 BLO. Max press 3450/1300 psi. FP 3000/1300 psi. Avg inj rate 9.9 BPM.

appl Ex 2
Ca 5025

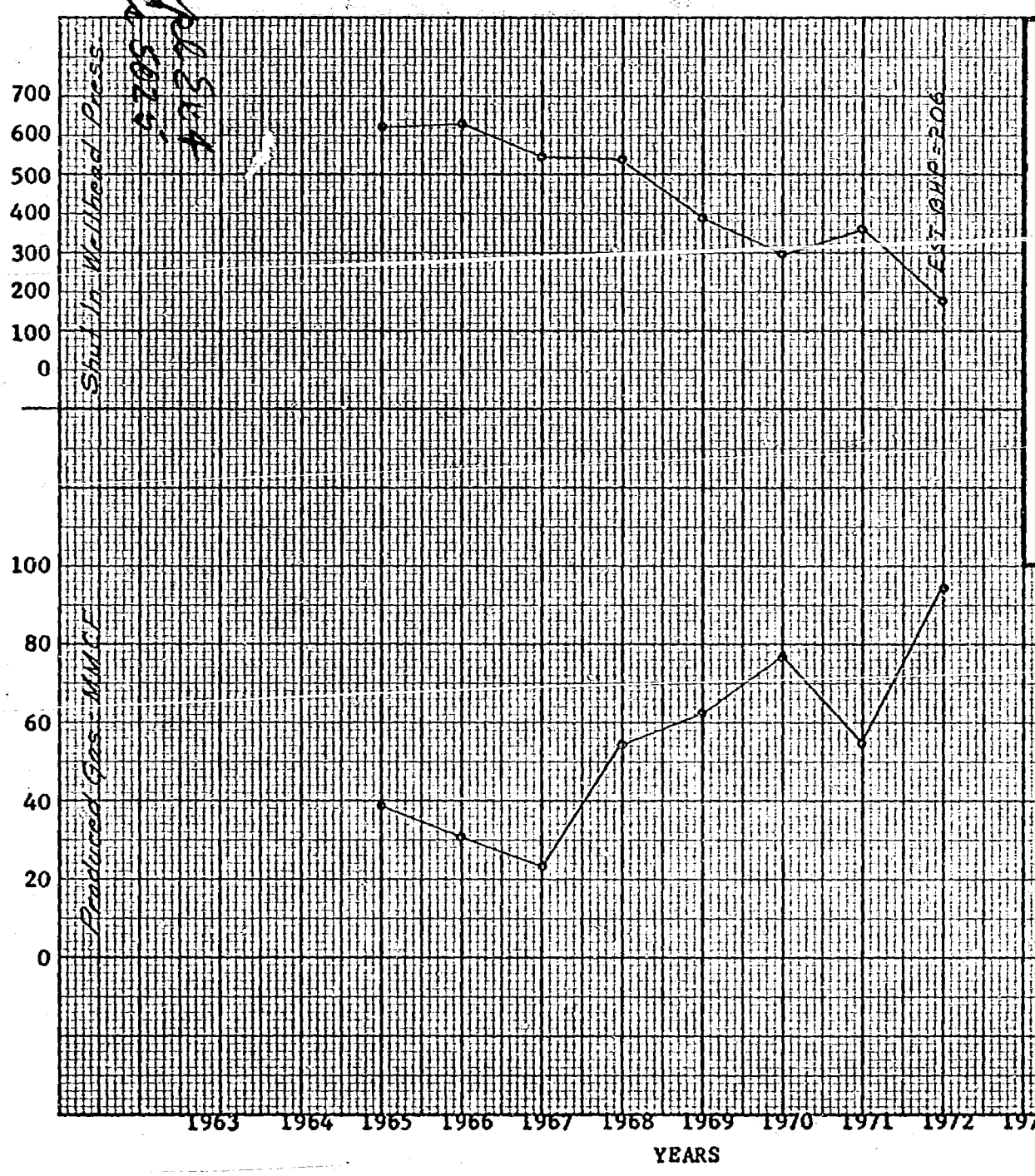
Appl Ex 3
Case 5021



THE SUPERIOR OIL COMPANY
STATE "12" No. 1
EUMONT (OIL & GAS) POOL
1980' FSL & 1980' FWL
SECTION 12, T-12-S, R-35-E
LEA COUNTY, NEW MEXICO

SEVEN RIVERS OIL POOL

YEAR	GAS MCF	OIL BBLS	GOR SCF/BBL	SIP psi
1972	1883	710	2652	435
1971	2373	1284	1848	310
1970	1590	884	1799	340
1969	1174	1127	1042	400
1968	3734	1275	2929	540
1967	3417	1487	2298	470
1966	2758	1652	1669	510
1965	3185	1754	1815	520



THE SUPERIOR OIL COMPANY
STATE "12" No. 1
EUMONT (OIL & GAS) POOL
1980' FSL & 1980' FWL
SECTION 12, T-12-S, R-35-E
LEA COUNTY, NEW MEXICO

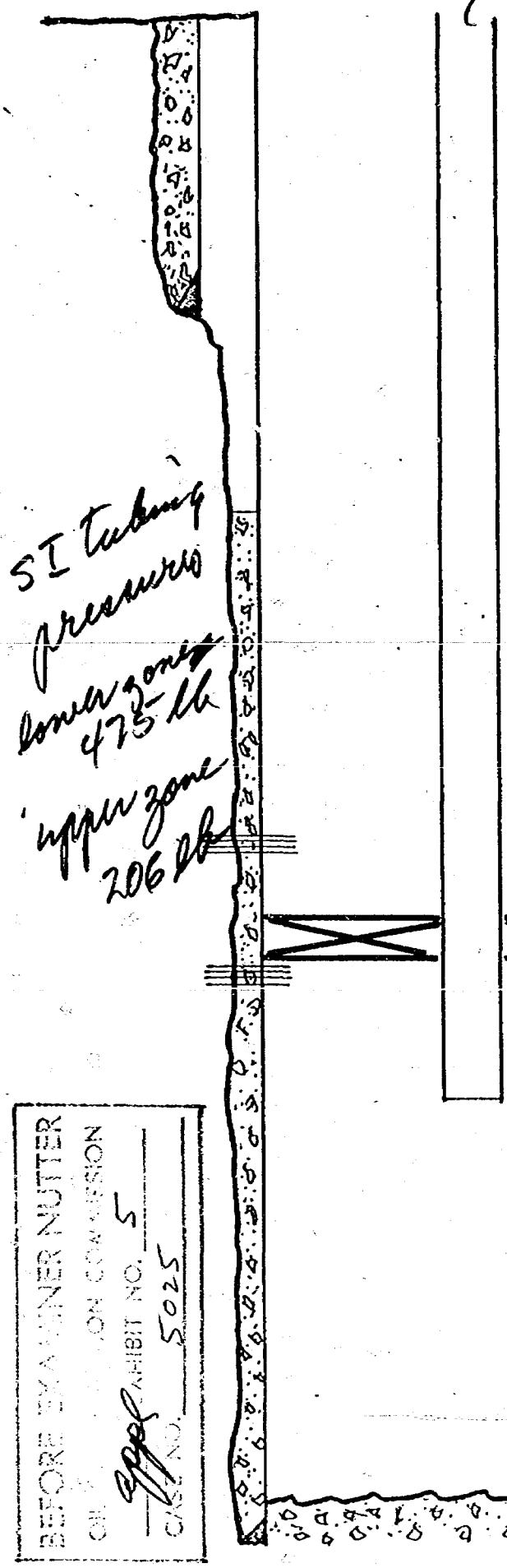
SEVEN RIVERS GAS POOL

YEAR	GAS MCF	OIL BBLS	GOR SCF/BBL	SIP psi
1972	94108			180
1971	54901			360
1970	77800			300
1969	62553			390
1968	54152			540
1967	23663			550
1966	30645			630
1965	39104			620

THE SUPERIOR OIL COMPANY
STATE "12" No. 1
1980' FSL & 1980' FWL
SECTION 12, T-21-S, R-35-E
EUMONT (OIL & GAS) FIELD
LEA COUNTY, NEW MEXICO
Proposed PLUNGER LIFT INSTALLATION

gas to 25 lb low press PLC system +69 gals 5½ csn thru annulus gas.

gas to 90 lb E P line. 12-14¢



SI Tubing pressures lower zone 475 lb upper zone 206 lb

9-5/8", 32# Csg. @ 312' w/250 sx.

Top of Cement @ 2895'

~~Queen~~ Seven River Gas Perfs 3674-90'

Lone Wolf Bkr. PKR. @ 3943

YATES Seven River Oil Perfs 3961-72'

2½" J-55 Tbg set w/tail to 4003'

7", 20# Csg @ 4221' w/300 sx.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 5
CASE NO. 5025

KB: 3593' TD: 4211' PBTD: 4175'
Spudded: 6-8-54
Completed: Oil Zone 7-13-54
Gas Zone 9-12-54
Dual Completion Order No. DC-142

Set for hearing July 11

THE SUPERIOR OIL COMPANY

P. O. BOX 1900
MIDLAND, TEXAS 79701

May 31, 1973

RECEIVED
JUN - 7 1973
OIL CONSERVATION COMM.
Santa Fe

New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico 88240

Case 5025

Re: Request for Exception to Rule 303A
Superior's State "12" No. 1
Unit L, 1980' FSL & 990' FWL
Section 12, T-21S, R-35E
Eumont (Oil & Gas) Field
Lea County, New Mexico

Gentlemen:

In accordance with the rules and regulations as set forth by The New Mexico Oil Conservation Commission, we respectfully request an exception to Rule 303A to permit the down hole commingling of produced fluids from the Seven Rivers oil pool and Seven Rivers gas pool of the above captioned well.

Attached is the necessary information concerning the request of an exception to Rule 303A.

Very truly yours,

THE SUPERIOR OIL COMPANY

James C. Willner

J. C. Willner
Jr. Petroleum Engineer

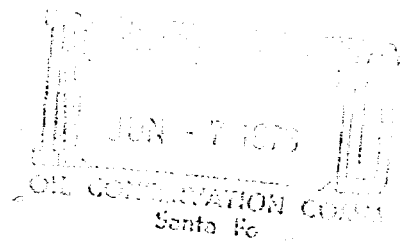
JCW/wc
Attachments

cc: Amerada Hess Corporation
Gulf Oil Company-US
Shell Oil Company

...KET MAILED

Date 6-28-73

THE SUPERIOR OIL COMPANY
STATE "12" NO. 1
UNIT L, 1980' FSL & 990' FWL
SECTION 12, T-21S, R-35E
EUMONT OIL AND GAS FIELD
LEA COUNTY, NEW MEXICO



Basis for exception to Rule 303A to permit down hole commingling of produced fluids of the Eumont-Seven Rivers oil and gas pools. Dual completion Order No. DC-142.

Effective September 12, 1954 the State "12" No. 1 was produced as a dual from the Seven Rivers oil (perfs 3961'-72') and Seven Rivers gas (perfs 3674'-90') pools. In August 1972, beam pumping equipment became inoperative and production has since been from the Seven Rivers gas pool.

To obtain commercial depletion of the Seven Rivers oil pool we wish to install plunger lift equipment and utilize remaining BHP and gas reserves of the Seven Rivers gas pool in maintaining such plunger lift operation.

Based on the attached GOR and packer leakage test, conducted in June 1972, total daily production before commingling does not exceed the 80 barrels of oil per day limit as set forth under Rule 303C. Furthermore, neither zone is capable of producing more water than the combined limit of 80 barrels of oil per day.

Produced fluids from the Seven Rivers gas zone is .678 gravity gas and from the Seven Rivers oil zone is 32.9° API gravity oil and .674 gravity gas. As the water cut from the Seven Rivers gas zone is negligible, produced fluids from each zone are believed to be compatible.

The present purchase price for oil shall not be changed as oil production is from only the Seven Rivers oil zone. The present purchase price for gas shall be decreased by $0.05 to the extent that gas production will be into a low pressure line rather than a high pressure line.

Offset operators shall be notified, as required, by copies of this application.

Case 5025

NEW MEXICO OIL CONSERVATION COMMISSION
GAS – OIL RATIO TESTS

C-116
Revised 1-1-65

Operator: THE SUPERIOR OIL COMPANY | Pool: EUMONT (OIL) | County: LEA

Address: P.O. BOX 1900, MIDLAND, TEXAS 79701 | TYPE OF TEST – (X) | Scheduled [X] | Completion [ ] | Special [ ]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS – OIL RATIO CU.FT/BBL
						1972		64th								
STATE "12"	(1)	L	12	21-S	35-E	6-12	P	--	15	5	24	7	32.9	5	6	1200
STATE "175"	1	I	11	21-S	35-E	6-11	*PL	48	30	3	3	0	33.0	3	55	18,333
STATE "334"	1	A	3	21-S	35-E	6-21	P		20	5	3	1	36.0	3	22	7333
	2	B	3	21-S	35-E	6-22	P		20	2	3	2	36.8	1	4	4000
	3	H	3	21-S	35-E	6-20	P		20	3	3	0	37.9	3	5	1667

*Plunger Lift

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

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

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

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

COPY TO: M. U. BROUSSARD
DATE: E. F. BRANGON
M. L. LEIERER

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

O. V. Sivage
(Signature)
O.V. Sivage

PRODUCTION ENGINEER
(Title)

JUNE 28, 1972
(Date)

Case 5025

(2) NMOCC 6-28-72

This form is not to be used for reporting packer leakage tests in Northwest New Mexico

NEW MEXICO OIL CONSERVATION COMMISSION

SOUTHEAST NEW MEXICO PACKER LEAKAGE TEST

Case 5025

Operator			Lease		Well No.
THE SUPERIOR OIL COMPANY			STATE "12"		1
Location of Well	Unit	Sec	Twp	Rge	County
	L	12	21-S	35-E	LEA

	Name of Reservoir or Pool	Type of Prod (Oil or Gas)	Method of Prod Flow, Art Lift	Prod. Medium (Tbg or Csg)	Choke Size
Upper Compl	EUMONT (GAS)	GAS	FLOW	CASING	-----
Lower Compl	EUMONT (OIL)	OIL	PUMP	TUBING	

FLOW TEST NO. 1

Both zones shut-in at (hour, date): 9:00 AM 6-9-72

	Upper Completion	Lower Completion
Well opened at (hour, date): 9:00 AM 6-10-72		
Indicate by (X) the zone producing	X	
Pressure at beginning of test	150	435
Stabilized? (Yes or No)	YES	YES
Maximum pressure during test	150	435
Minimum pressure during test	120	435
Pressure at conclusion of test	120	435
Pressure change during test (Maximum minus Minimum)	30	0
Was pressure change an increase or a decrease?	DECREASE	SAME

Well closed at (hour, date): 9:00 AM 6-11-72 Total Time On Production 24 HRS.

Oil Production During Test: 0 bbls; Grav. ---- ; Gas Production During Test 3/0 285 MCF; GOR ---------

Remarks

FLOW TEST NO. 2

	Upper Completion	Lower Completion
Well opened at (hour, date): 9:00 AM 6-12-72		
Indicate by (X) the zone producing		X
Pressure at beginning of test	180	30
Stabilized? (Yes or No)	YES	YES
Maximum pressure during test	195	90
Minimum pressure during test	180	5
Pressure at conclusion of test	195	15
Pressure change during test (Maximum minus Minimum)	15	15
Was pressure change an increase or a decrease?	INCREASE	DECREASE

Well closed at (hour, date) 9:00 AM 6-13-72 Total time on Production 24 HRS.

Oil Production During Test: 5 bbls; Grav. 33.0 ; Gas Production During Test 4 MCF; GOR 800

COPY TO: W. N. MOSLEY
J. S. MARTIN
M. L. LEIBER
DATE: (2)
JUL 6 1972

I hereby certify that the information herein contained is true and complete to the best of my knowledge.

Approved JUN 27 1972 19

New Mexico Oil Conservation Commission

Operator THE SUPERIOR OIL COMPANY

By O. V. Sivage O.V. Sivage

DRAFT

dr/

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. 5025

Order No. R-4607

APPLICATION OF THE SUPERIOR OIL
COMPANY FOR DOWN-HOLE COMMINGLING,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on July 11, 1973, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of August, 1973, the Commission, a quorum being present, having considered the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

That the applicant's request for dismissal should be granted.

IT IS THEREFORE ORDERED:

That Case No. 5025 is hereby dismissed.

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