CASE 3311: Application of MARTIN YATES III & S.P.YATES for creation of new oil pool and pool rules.

CASE NO. 3311

Application,
Transcripts,
Small Exhibits
ETC.

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. 3211
Order No. R-2979
NOMENCLATURE

APPLICATION OF MARTIN YATES III
& S. P. YATES FOR THE CREATION OF
AN OIL POOL 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 September 22, 1965, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 4th day of October, 1965, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, 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 applicants, Martin Yates III and S. P. Yates, seek the creation of a new oil pool for Seven Rivers production in the SW/4 of Section 12, Township 20 South, Range 26 East, NMPM, Eddy County, New Mexico.

(3) That the Seven Rivers formation underlying the SW/4 of Section 12, Township 20 South, Range 26 East, NMPM, Eddy County, New Mexico, constitutes a separate common source of supply which should be designated the West McMillan-Seven Rivers Oil Pool.

(4) That the applicants also seek the promulgation of special rules and regulations governing said pool, including a provision authorizing less than 40-acre spacing and a provision

authorizing well locations no nearer than 10 feet to a quarter-quarter section line and no nearer than 20 feet to a well producing from the pool.

(5) That adoption of the proposed well locations might afford some operators the opportunity to produce more than their just and equitable share of the oil in the pool, thereby violating correlative rights.

(6) That the adoption of special rules and regulations authorizing less than 40-acre spacing and authorizing well locations no nearer than 25 feet to a quarter-quarter section line and no nearer than 50 feet to a well capable of producing from the pool will prevent waste and protect correlative rights, provided a 40-acre proration unit does not receive more than a 40-acre top unit allowable for wells in the 0-5000 foot depth range in Southeast New Mexico, regardless of the number of wells on the 40-acre unit.

IT IS THEREFORE ORDERED:

(1) That a new pool in Eddy County, New Mexico, classified as an oil pool for Seven Rivers production, is hereby created and designated the West McMillan-Seven Rivers Oil Pool, with vertical limits comprising the Seven Rivers formation and horizontal limits comprising the SW/4 of Section 12, Township 20 South, Range 26 East, NMPM, Eddy County, New Mexico.

(2) That Special Rules and Regulations for the West McMillan-Seven Rivers Oil Pool are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
WEST McMILLAN-SEVEN RIVERS OIL POOL

RULE 1. Each well completed or recompleted in the West McMillan-Seven Rivers Oil Pool or in the Seven Rivers formation within one mile thereof, and not nearer to or within the limits of another designated Seven Rivers oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located no nearer than 25 feet to a quarter-quarter section line and no nearer than 50 feet to any other well capable of producing from the pool.

RULE 3. A 40-acre proration unit shall not produce in excess of the 40-acre top unit allowable for wells in the 0-5000 foot depth range in Southeast New Mexico, regardless of the number of wells on the unit.

IT IS FURTHER ORDERED:

(1) That any well presently drilling to or completed in the Seven Rivers formation within the West McMillan-Seven Rivers Oil Pool or within one mile of said pool that will not comply with the well location requirements of Rule 2 is hereby granted an exception to the requirements of said rule.

(2) 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
JACK M. CAMPBELL, Chairman

Guyton B. Hays
GUYTON B. HAYS, Member

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

esr/

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

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

P. O. BOX 2088
SANTA FE

October 4, 1965

Mr. A. J. Losee
Losee & Stewart
Attorneys at Law
Box 239
Artesia, New Mexico

Re: Case No. 3311
Order No. R-2979
Applicant:
Martin Yates III & S.P. Yates

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 _____

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 9/29/65

HEARING DATE 9 am 9/22/65
DSN • SF

CASE NO. 3311

My recommendations for an order in the above numbered case(s) are as follows:

Enter an order creating the West McMillan Seven Rivers ~~Queen~~ Oil Pool comprising the SE/4 of Sec 12 T20S R26E. Set up special pool rules for said pool permitting the drilling of any number of wells ~~any where~~ on a 40-acre tract, provided that no well shall be closer than 25 feet to the outer boundary of the 40-acre tract nor closer than 50 feet to another well capable of producing from the Seven Rivers formation. Provide further that the 40-acre allowable assigned to wells in the 0-5000 depth bracket may be produced in any proportion from any wells on the 40 acre tract.

Staff Member

LAW OFFICES
LOSEE AND STEWART
CARPER BUILDING - P. O. DRAWER 239
ARTESIA, NEW MEXICO

A. J. LOSEE
EDWARD B. STEWART

AREA CODE 505
746-3508

SEP 7 - 1965

3 September 1965

Case 3311

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

Dear Mr. Porter:

Enclosed herewith are three copies of the application of Martin Yates, III and S. P. Yates for the creation of a new oil pool, Eddy County, New Mexico, and for special rules and regulations governing well locations and spacing units within the pool.

It is my understanding that this application has been set for hearing on September 22, 1965.

Very truly yours,

A. J. Losee

Enclosures
AJL:rh

cc: Messrs. Martin Yates, III
and S. P. Yates

DOCKET MAILED
Date 9-10-65

Case file

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

P. O. DRAWER DD
ARTESIA, NEW MEXICO

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

September 7, 1965

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

Attention: Jim Durrett

Re: Case 3311

Dear Jim:

Referring to Case 3311, an application for the creation of a pool and for special pool rules by Martin and S. P. Yates, the wells involved are completed in the upper Seven Rivers at a depth of about 80 feet. They are the S. P. Yates, Galvin No. 2Y unit M, and No.7 unit N, Section 12-20-26. These wells are located immediately east of the West McMillan-Seven Rivers-Queen Pool which has the south east quarter of Section 11-20-26 for its horizontal limits. An extension of this pool to take in these wells is on the nomenclature advertisement for the October 1965, regular Commission Hearing. If you feel that this proposed extension should be dropped from the regular nomenclature case, please let Jim Kapteina and me know.

Very truly yours,

Oil Conservation Commission

R. L. Stamets

R. L. Stamets

RLS/jw

BEFORE THE OIL CONSERVATION COMMISSION

OF THE STATE OF NEW MEXICO

SEP 7 - 1955

IN THE MATTER OF THE APPLICATION OF MARTIN YATES, III AND S. P. YATES FOR THE CREATION OF A NEW OIL POOL, EDDY COUNTY, NEW MEXICO, AND FOR SPECIAL RULES AND REGULATIONS GOVERNING WELL LOCATIONS AND SPACING UNITS WITHIN THE POOL	:	NO. 331

APPLICATION

COME MARTIN YATES, III and S. P. YATES by their attorneys, Losee and Stewart, and state:

1. That a common source of supply of oil was discovered by applicants in the following described wells, located in Township 20 South, Range 26 East, N.M.P.M., in Eddy County, New Mexico:

a) Galvin 2-Y, located 910 feet from the south line and 1025 feet from the west line of Section 12.

b) Galvin 7, located 990 feet from the south line and 1650 feet from the west line of Section 12.

amended to delete Queen formation

2. That the common source of supply of oil discovered by the above mentioned wells in the Seven Rivers ~~Queen~~ formation should be designated as the West McMillan Seven Rivers ~~Queen~~ Oil Pool and should at least include the S/2 SW/4 of Section 12, Township 20 South, Range 26 East, N.M.P.M., Eddy County, New Mexico.

3. That the geological and engineering data known to applicants indicates that this common source of supply can only be efficiently drained on 2-1/2 acre oil spacing units,

but for allowable purposes the 40-acre proportional factor for pools from 0 to 5,000 feet shall apply to the West McMillan Seven Rivers Queen Pool.

4. The applicants request the promulgation of special rules and regulations for the West McMillan Seven Rivers Queen Oil Pool and a copy of such proposed rules and regulations is attached hereto and by reference made a part hereof.

5. The names and addresses of all operators directly or diagonally offsetting the proposed West McMillan Seven Rivers Queen Oil Pool are as follows:

Hondo Oil & Gas Company	P. O. Box 1000 Roswell, New Mexico
Gulf Oil Corporation	P. O. Box 669 Roswell, New Mexico.

6. That the creation of this new oil pool and the establishment of 2-1/2 acre spacing units for this common source of oil supply will be in the interest of conservation, will prevent waste and correlative rights will be protected.

WHEREFORE, applicants pray the order of the Commission as follows:

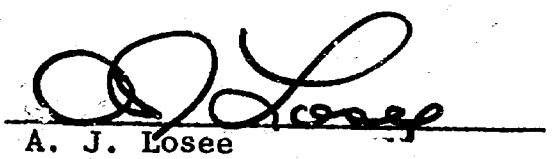
1. That this matter be set for hearing before an examiner duly appointed by the Commission and that due notice be given thereof as required by law.

2. That after such hearing an order be entered creating the West McMillan Seven Rivers Queen Oil Pool, establishing 2-1/2 acre spacing units with the 40-acre proportional factor for pools from 0 to 5,000 feet and promulgating special rules and regulations for the West McMillan Seven Rivers Queen Oil Pool, Eddy County, New Mexico.

3. And for such other relief as may be just in the premises.

MARTIN YATES, III

S. P. YATES

By 

A. J. Losee
Losee and Stewart
Attorneys at Law
P. O. Drawer 239
Artesia, New Mexico

Attorneys for Applicants

SPECIAL RULES AND REGULATIONS FOR THE
WEST McMILLAN SEVEN RIVERS QUEEN OIL POOL

SEP 7 - 1955

RULE 1. Each well completed or recompleted in the West McMillan Seven Rivers Queen Oil Pool or in the Seven Rivers sand of the Queen formation within one mile of the West McMillan Seven Rivers Queen Oil Pool and not nearer to or within the limits of another designated Seven Rivers - Queen pool, shall be spaced, drilled, operated and prorated in accordance with the special rules and regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the West McMillan Seven Rivers Queen Oil Pool shall be located not closer than 10 feet to the outer boundary of the quarter-quarter section and not closer than 20 feet to the nearest well producing from the same common source of supply, provided, however, that any well drilled to or completed in said pool as of the date of this order is hereby excepted from the requirements of this rule.

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 an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified as 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 operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

RULE 4. Each well completed or recompleted in the West McMillan Seven Rivers Queen Oil Pool shall be located on a standard spacing unit consisting of a single 1/16th-1/16th section (2-1/2 acres), provided, however, the 40-acre proportional allowable factor for pools from 0 to 5,000 feet shall govern the allowable of the wells in the West McMillan Seven Rivers Queen Oil Pool.

RULE 5. The Secretary-Director shall have authority to grant an exception to Rule 4 without notice and hearing where an application has been filed in due form and where the unorthodox size or shape of the unit is necessitated by a variance 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 lies wholly within a 1/16th-1/16th section (2-1/2 acres) and contains less acreage than a standard unit.

b) 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.

c) In lieu of paragraph (b) 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.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 22, 1965

EXAMINER HEARING

IN THE MATTER OF:

Application of Martin Yates III & S. P. Yates for the creation of an oil pool and for special pool rules, Eddy County, New Mexico.

Case No. 3311

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case 3311.

MR. DURRETT: Application of Martin Yates III and S. P. Yates for the creation of an oil pool and for special pool rules, Eddy County, New Mexico.

MR. LOSEE: Mr. Examiner, A. J. Losee, Losee and Stewart, Artesia, appearing for the Applicant. I have one witness, Mr. Norman.

(Witness sworn.)

(Whereupon, Applicant's Exhibits Nos. 1 and 2 marked for identification.)

MR. LOSEE: The application, I think makes it applicable to the Seven Rivers-Queen, I believe that's the legal area, and it's probably applicable to the Seven Rivers dolomite, which I think is probably in line with the published notice, causing us to suggest that the testimony, rather than being Seven Rivers-Queen, be West McMillan-Seven Rivers Oil Pool. In the application we have attached special rules and regulations. I would like to point out the factors that differ from normal pool rules.

We have requested two and a half acre spacing units, but provided that these spacing units would be entitled to their proportionate part of a 40-acre allowable for wells from zero to 5,000 feet, so that the allowable would be divided among the number of wells within each quarter quarter section.

We have asked for spacing anywhere within the two and a half acre tracts, except that the wells would not be located nearer than twenty feet to any well producing from the same horizon, nor nearer than ten feet to any well producing from the outer boundary of the quarter quarter section.

Now it's conceivable, after the Commission hears our testimony, that they might want to feel that if our application is well grounded, that there would be necessitated certain modifications of that ten and twenty foot area. Otherwise I think the pool rules provide for the normal exceptions.

RICHARD C. NORMAN

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

DIRECT EXAMINATION

BY MR. LOSEE:

Q State your name, please.

A Richard C. Norman.

Q Where do you live, Mr. Norman?

A Artesia, New Mexico.

Q What's your occupation?

A Petroleum geologist for Yates Petroleum Corporation.

Q Have you previously testified before the Oil Conservation Commission and had your qualifications accepted as a geologist?

A Yes, I have.

MR. LOSEE: Are Mr. Norman's qualifications acceptable?

MR. NUTTER: Yes, sir.

Q (By Mr. Losee) Mr. Norman, please refer to what has been marked as Exhibit 1 and explain, if you will, what is shown by this exhibit?

A This is a map of the area we're going to discuss, the West McMillan Field, and it shows the ownership in the area, the lease numbers, and the wells that have been drilled. It also shows the structure contour map on top of the Seven Rivers dolomite. This is with a ten-foot contour interval.

Q Mr. Norman, will you tell the Examiner how this pool was discovered?

A In November, 1964, there was a shooting crew in the area, and in several of the shot holes drilled they had free oil blown to the surface by the air drilling rig. We found out about it and later on, this last July, we drilled some wells near these shot holes that had the free oil to the surface, which led to the discovery well, the S. P. Yates Galvin No. 7, located 990 from the South line and 1650 from the West line of Section 12 of 20 South, 26 East. This was completed for eighteen barrels of oil and thirty barrels of water per day.

Q What was the total depth of this well?

A Total depth of this well was eighty feet.

Q At what depth is the well producing?

A The pay zone is approximately seventy-five feet.

Q From the surface?

A From the surface.

Q How thick is the pay zone?

A The pay zone is approximately five feet. This is probably effective pay. We're not sure. There is staining above this point of seventy-five feet which didn't contribute much oil; we don't know how much, it may actually be contributing some above seventy-five feet.

Q What is the pipe program for this well?

A This particular well, I believe we ran approximately seventy-two feet of pipe in there. We ran a four-inch line pipe and cemented the line pipe and then drilled out and put it on the pump.

Q From what zone is this well producing?

A This is producing from the Seven Rivers dolomite.

Q How have you determined that this is the Seven Rivers dolomite?

A May I bring up a point here?

Q Yes, sure.

A In answer to a previous question as to how much pipe we ran in this Galvan No. 7, we ran fifteen feet of line pipe in that particular well. The other wells we have run

approximately seventy feet of pipe. I would like to correct my previous testimony. I didn't have it readily handy here. Now would you repeat your question?

Q Now my question was, how do you know or how did you determine that this is Seven Rivers dolomite formation or zone from which you are producing these wells?

A We caught samples on all these wells we drilled in here, and determined with some cross sections that this is a Seven Rivers dolomite. The outcrop that we're drilling in here is mapped as Yates, and we penetrated twenty or thirty feet of Yates in this area and go into the Seven Rivers dolomite. The dolomite, Seven Rivers dolomite outcrops to the west of us just less than a half a mile, and we are downdip from that contact between the Seven Rivers dolomite and the Yates formation.

Q So that actually the dolomite is visible on the surface half a mile to the west?

A Yes.

Q In your opinion, is the oil that you are recovering indigenous to this zone?

A In my opinion it is indigenous to this zone.

Q What facts do you have from which you can base this opinion?

A We've drawn cross sections in the area and done some geologic work that indicates a dolomite thick trend running

northeast-southwest through this producing area, and our opinion is that this was originally probably a much larger field than what we probably had to date.

Along this trend of dolomite approximately where we're drilling these wells, it changes from a tight dolomite facies on the northeast to a very porous vuggy dolomite to the southwest. This is probably one of the factors that has entered into creating this pool. Well, originally, the area where we are and to the southwest probably was a larger oil field that has been bisected by the old Pecos River and most of the oil originally in place has probably been carried on out and leaked out into the river.

Another factor is that this zone actually has shown quite often to the northeast in the tighter section of rock and also this oil we have here is twenty-two gravity oil and we don't know, there's no production in the area of any similar gravity. The production in the closest area of production is around thirty-two gravity oil, which is -- this is the McMillan Pool which lies a mile and a quarter to the northeast from this area.

Q Where is the closest Seven Rivers production to this pool?

A The closest production is about three miles northeast.

Q Is that coming from the Magnolia New Mexico "A" No. 2

Well located in Section 32, Township 19 South, Range 27 East?

A Yes, it is.

Q Do you know what the gravity of that oil is?

A Well, it was reported on the completion cards as 33.5, I believe.

Q Referring you back to your Exhibit 1, what is the location of the Pecos River from this pool, and how far distant is it from the other area?

A The Pecos River lies a little over a mile to the west of us and this zone it produces here makes the outcrops along the river there. This trend actually runs on down southwest and is cut by the river to the southwest, too, so it's cut on the west and southwest, as I said, by the river, this dolomite trend in the Seven Rivers.

Q Now, what is the condition of the reservoir to the northeast and southeast of your pool, if you know, from other wells in the area?

A The condition of this reservoir is that of a tight one. It's, for instance, to the northeast there's -- you'll notice on Exhibit 1 there's two wells, actually, well, two wells in the Northeast Quarter there numbered 1 and 2, and the Number 2 Well was drilled with cable tools and did not give up any oil in this zone. There was some oil staining, however, and in the Number 1 we drilled it with air and it had some

staining but did not give up any free oil or any fluid in the zone equivalent to our producing section.

I might add there has been some holes drilled off to the southwest or southeast, pardon me, southeast, that have penetrated portions of the section; and these are core holes drilled by the Bureau of Reclamation, and they had staining in them and the section looks fairly tight down there, but not completely so.

Q What has been the development of the wells in this pool?

A There has been ten wells drilled in this program and out of those we have had two commercial wells. An additional two wells were completed but the oil cut was too low for them to be considered as commercial.

Q Did the --

A Excuse me, Jerry.

Q Go ahead.

A All the dry holes you see on this Exhibit No. 1 in this local area here of the southwestern part of the Section 12, southwestern quarter of Section 12, had some staining in the producing section, but some of them were, didn't have sufficient permeability to give us free oil.

Q Is it, based on your drilling of these wells, is it possible that there may be some further inside wells if

unorthodox spacing is permitted?

A Yes, I believe we can drill some additional commercial wells inside these dry holes, actually, and probably some very close to some of the present dry holes. We've learned a little more about how to complete them, and we're very dependent upon permeability variations in here for the commercial production because of very low bottom hole pressure. There's probably five to ten pounds of pressure, based on water levels in the area.

Q Let me ask you to refer to what has been marked as Exhibit No. 2 and entitled "Lake McMillan Area - Well Control", and explain what is shown by this exhibit and elaborate on any portions thereof that you may think necessary.

A Well, this exhibit lists the wells that are shown on Exhibit No. 1, and it shows the total depths of the wells, the elevations, ground elevations, the locations, footage locations, and the status of the wells.

I could elaborate on each well in here.

Q Let me ask you, there are two wells, I believe you previously testified to, that you consider commercial producers. Would you elaborate on those two--

A Yes.

Q -- as to the present status of them?

A All right. The 2-Y there which is located 910 from

the South line and 1025 from the West line is presently being pumped for about an hour and a half a day, and we're experimenting with it on production, how to produce this well; we are making a maximum of oil with a minimum of water. It will make in an hour and a half a barrel of oil and three barrels of water; and the Number 7, located 990 from the South line and 1650 from the West line, is currently making about -- and we're producing this all day, I mean twenty-four hour period, a rate of seven barrels of oil and eighty barrels of water, twenty-two gravity oil.

MR. IRBY: What are the numbers, please?

A Seven barrels of oil and eighty barrels of water.

MR. IRBY: This is which well?

A This is Galvin No. 7.

MR. IRBY: Thank you.

Q (By Mr. Losee) Does this tabulation also include the same information for these wells listed as the 1 and 2 up in the Southeast Quarter of the Northeast Quarter of Section 12 and the Riggs Federal No. 1 located in the Northeast of the Southeast of Section 12?

A Yes, it does.

Q I believe you previously said that shows of the Seven Rivers with staining are encountered in this dolomite section?

A Yes. And the S. P. Yates Federal No. 1 and the Yates Drilling Company - Pecos River Deep Unit No. 2, there is staining indicated in the Seven Rivers dolomite. I will add that in the Pecos River Unit No. 2 as shown on the Exhibit No. 2, this well, we did not have samples from the exact producing interval. These are a correlative unit with these wells to the southwest; that isn't too wide, but we did get shows immediately below that section and we're considering that this is all one reservoir, actually. I mean we have called it all one reservoir.

Q From the data listed on this well control, and from the locations which are shown on this map of the area, is there any conclusion we can arrive at as to the productivity of the entire area in the Seven Rivers dolomite?

A Do you mean the area of productivity?

Q Yes.

A I believe we could say there are areas yet probably to be produced from this zone that we are producing presently, because of the number of shows that have been found in the zone; and it will just take additional drilling to get in the area where the permeabilities are highest and so that we can come up with some commercial wells.

Q From the wells drilled and your studies of the area, have you formed an opinion as to how oil accumulated in this

pool?

A Well, as I discussed earlier, we are on a dolomite build-up trend running northeast-southwest, and we believe that there was an original oil accumulation of sizable amount here in this porous section of the Seven Rivers dolomite, and this original large oil pool has been bisected by the river, and actually a lot of the oil has been washed on down the river, you might say, just escaped.

The entrapment features here are a combination of stratigraphic that is permeability variations in this Seven Rivers dolomite with structure, that is the nosing you see here, this southwest plunging nose. We have an east-northeast trending permeability barrier here north of the producing areas and this updip barrier has kept some of this oil in here. It has helped retain some of the oil. I might add also that there may be, inasmuch as there is tight section downdip in this zone that has shows, there appears to be a situation where there's oil coming out of this tighter section and possibly migrating and still feeding this oil pool.

Q The trap components of this pool, then, you would say, are structural nosing, permeability variation, and hydrodynamics?

A Yes, I would say that. The latter component, it's a little difficult to be sure of that, but I think there is

a possibility it has helped some.

Q What has been the total production to September 20th of this year of the two wells you have in the field?

A Up till September 20th we have produced 687 barrels of oil.

MR. NUTTER: What was that figure again, please?

A 687 barrels of oil.

Q (By Mr. Losee) Are you producing these wells at their capacity?

A No, we are not. As I spoke earlier, we have the Galvin on too short a pumping time a day, and it's making a barrel of oil and three barrels of water during that time; and the Number 7 is making eighty barrels of water and seven barrels of oil. I might add that the oil is twenty-two gravity and has very little gas associated with it, so we believe that we're dealing with a gravity drainage producing mechanism here. That's the dominant energy source for getting the oil into the hole, and there may be a little bit of water drive there but that's difficult to decide, what percentage it would have.

Q Why are you not producing the wells at their maximum capacity?

A Well, on the 2-Y, the Galvin 2-Y, we are experimenting with it right now to see how much, how we can get the maximum oil with the minimum amount of water.

Q How much oil did that produce, the 2-Y, when it was completed, on the first day it was pumped?

A On the first day it was pumped it produced eighty barrels of oil in twenty-four hours. As you can see, why, our water cut has increased quite a bit since then and with the information that we have, it looks like it has leveled out; right now it's a pretty flat curve on the percent oil.

Q Will you explain to the Examiner how you drilled these wells and completed them?

A The wells have been drilled with a Mayhew 1000 rig using air, and what we have done is drill a 4-3/4 inch hole down to our oil pay, and at that point we slowed the drilling operations down and tested with bail test to see if it looks like a commercial well, and once we believed we had a commercial well, why, we go ahead and ream the hole with a 7-3/8 inch bit and 4-inch line pipe into the hole, oh, about, just a few feet above the pay zone, which is generally around seven feet deep. We have to be careful not to go too deep into the reservoir else we get into a very high water cut, and once there's a high water cut, why, it's proven out that we just can't make a commercial well with a high water cut.

Q You cement this pipe in the hole?

A Yes, this pipe is cemented with four sacks.

Q What's the cost of drilling a dry hole in this pool?

A Oh, the costs have been around $250.00. It takes about three hours to find out what you have got.

Q What does it cost to drill and complete a producer?

A $1,000.00.

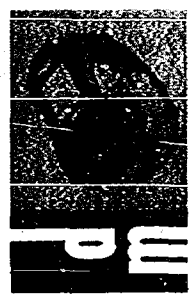
MR. NUTTER: That's including the pumping equipment?

A This is including the pumping equipment.

Q (By Mr. Losee) In your opinion, what factors are necessary in this pool to obtain a commercial well?

A I think the most important factor is to have very high permeabilities. Secondly, you have to have -- you have to be above the oil-water contact, which takes structure; in other words, you have to be high structurally and have very high permeabilities. We cut one core on the first well. This was the Galvin No. 2, and it was while we were coring it we made oil to the surface, free oil, and we got the core out, why, it was just all broken up, it was highly fractured and some few vugs. We believe that there's some large open fractures down there and big vugs, which we have seen in samples, also some core hole information that we've gained from the Bureau of Reclamation.

So with the big vugs and the big fractures and high enough on the structure, that is, above the oil-water contact, why, we believe that we can make commercial wells or we can make commercial wells under the circumstances of very low



bottom hole pressure.

Q What is the bottom hole pressure, approximately?

A Well, based on the water levels we have found in the area, it probably varies from five to ten pounds pressure, so you can see you are going to really have some holes down there to get that oil in commercially.

Q Is this commercial permeability present throughout all these wells that you have drilled in the area?

A No, it isn't. You can look at the Exhibit No. 1 and many of those outlying dry holes there were in -- had low permeability and they gave up some fluid but generally speaking, it gave up minor amounts of water with a slight oil scum. For instance, the Galvin No. 3 there, which is 330 from the South and 990 from the West line, it looks like it's fairly high structurally and tight, maybe in a little closure. Originally we got about fifty percent oil cut on the bail test in that well and tried to complete it, and we never could make a commercial completion of it because the water cuts were too high, and we believe that high water cut is in response to the low permeabilities in it. It was one of the tighter wells, actually.

Q Actually, then, this is a pool in which there is, as to the wells that you have drilled, there is no direct correlation between one location and the next one as to the

permeability that you'll find in the hole, the porosity and permeability?

A Yes, it's pretty hard to predict your porosities and permeabilities. There is a general area here of favorable permeabilities, but even within that area, it's difficult to predict the magnitude of permeability that you need to get commercial wells. Also the structure is another thing that's important here, and that's not altogether easy to predict.

Q Is that the reason that you are requesting authority from the Commission to drill these wells on two and a half acre spacing?

A Yes, this is the reason, because of the unpredictability of the porosity and the permeability along with the structure.

Q Go ahead.

A Another reason, too, is the fact that with such low bottom hole pressures, it's going to be difficult to get that oil out. We are not going to have too wide of a drainage area.

Q So that actually your lateral drainage is also limited by this low bottom hole pressure?

A We believe it is.

Q Do you have an opinion under optimum porosity and permeability conditions as to the area that can be drained with one well in this pool?

A Well, this will depend. As you know, we haven't had much producing time on these wells, and we don't have all the reservoir information we would like to have. This is just an opinion. We think that the lateral radius of drainage that could be reasonably expected would be maybe fifty to one hundred feet.

Q Mr. Norman, do you think that the rules that you have proposed to the Commission will protect the correlative rights of the royalty owners within your acreage and offsetting correlative rights, as well as preventing waste of natural resources?

A Yes, we believe that,

Q Did you prepare Exhibits No. 1 and 2?

A Yes, I did.

MR. LOSEE: We will offer Exhibits 1 and 2 in evidence.

MR. NUTTER: Applicant's Exhibits 1 and 2 are admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1 and 2 offered and admitted in evidence.)

MR. LOSEE: That's our direct examination, Mr. Examiner.

MR. NUTTER: Are there any questions of the witness?

MR. PORTER: I have one or two.

MR. NUTTER: Mr. Porter.

CROSS EXAMINATION

BY MR. PORTER:

Q Mr. Norman, do you think that the productive acreage here may be confined to this Southwest Quarter of Section 12?

A I don't really think, Mr. Porter, that we have enough information to say that it will be confined to that. There's a possibility we could go on to the northeast from the present production there. Of course, the productive trend would have to narrow considerably to get through those dry holes there.

Q And you say the Seven Rivers actually outcrops how far west of this?

A Well, actually half a mile, really.

Q About a half a mile?

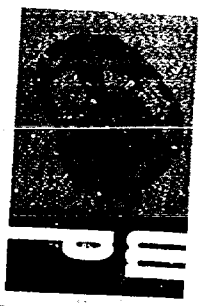
A West, the river is about a mile over there.

Q And then there's some Seven Rivers production, as I recall, over in the McMillan area?

A Yes, there is.

Q How deep is that Seven Rivers production over there in that McMillan area?

A As far as the present production there's -- which we mentioned earlier, was this Magnolia well which is now Bob Lannin, under the name of Lannin Berger as the operator. That



well in Section 32 there produced oil from just around 350 feet. I might add that where they are producing from is lower in the stratigraphic section than we're producing from.

Q From the Yates formation -- not the Yates formation but the operator. Also, what kind of water are you producing? Is it fresh water, salt water?

A The water is very fresh.

Q Fresh water?

A Yes, sir.

Q What are you doing with it at the present time?

A We're putting it into pits, sumps, if you will.

MR. PORTER: I believe that's all I have.

MR. NUTTER: Mr. Durrett.

BY MR. DURRETT:

Q Mr. Norman, how many years too late do you think you got there to find a big pool?

A I don't know when that Pecos River cut down into this big large oil pool; one time or another, I couldn't really tell you.

Q Do you think that oil pool is down in Texas now?

A Well, I don't know. I can't answer that.

Q I believe you stated on direct examination that it was your opinion that the maximum radial drainage from the well would be about 150 feet, right?

A I believe I said between fifty and maybe a hundred feet.

Q Fifty and one hundred?

A That would be the radial drainage.

Q Well, that's not two and a half acres, is it?

A No, it isn't.

Q What would you say it would be, something like two?

MR. IRBY: One.

A It would be one, really.

Q (By Mr. Durrett) Then you would feel in order to drain all the oil that would be under this, or you contemplate being in this reservoir, you would have to space them something like one acre spacing, right?

A Yes, it would have to get down to be that, really.

MR. DURRETT: Thank you.

BY MR. NUTTER:

Q Well, now, Mr. Norman -- or maybe this question is more properly directed to Mr. Losee.

MR. NUTTER: Now at the outset, Mr. Losee, you stated that the Queen should not be included in the proposed rules?

MR. LOSEE: That's correct.

MR. NUTTER: We can go ahead and strike the word "Queen" throughout?

MR. LOSEE: Yes.

MR. NUTTER: I think I understand what Rule 4 means, but I am not sure. Where you say: "Provided, however, the 40-acre proportional allowable factor for pools from zero to 5,000 feet shall govern the allowable of the wells in the West McMillan-Seven Rivers-Queen Oil Pool," in other words, one 40-acre allowable would be assigned to a 40-acre tract and be divided among the wells on that tract?

MR. LOSEE: Yes.

MR. NUTTER: In any proportion that the operator chooses?

MR. LOSEE: Yes, that's what I intended by the draftmanship. I used your Shiprock order on two and a half acre spacing as a proportional guide to that language.

MR. NUTTER: Now Rule 5, you are contemplating non-standard units. Would you propose that actually a little tract of two and a half acres be dedicated to a well and a plat of two and a half acres filed, or just a 40-acre tract with the wells located on the 40-acre tract?

MR. LOSEE: I'd prefer the latter. I'm sure my client would prefer the latter.

MR. NUTTER: I think this actually has been the practice on cases where we had development on closer than 40-acre spacing. Actually, the only restriction that you run into is the location of the wells to the outer boundary of the 40, or the location of the wells with respect to another producing well, they can't be closer than 660. So if those

two requirements are waived and some requirement, say twenty feet to the outer boundary of the 40, then any number of wells could be drilled anywhere on the 40-acre plat?

MR. LOSEE: As long as I am being partially questioned, from my standpoint as a lawyer, I think you have pointed out the only two cruxes. The two and a half acre feature really doesn't seem proper if our application is justified, and if it takes a well every hundred feet, as Mr. Norman says, and if that's what the Commission finds, that we are not going to affect correlative rights on the exterior, then we ought to be able to drill them all the way across even though they might be on one-acre spacing in the permeable sections of the 40.

MR. NUTTER: So far all the producing wells belong to Yates. However, the lease immediately northeast belongs to Wills and Riggs. Have you contacted them with respect to this application?

MR. LOSEE: I may be wrong, but I believe to the north and east, that Yates have purchased this. Mr. Norman, maybe you can help us.

A We have the shallow rights. Are you referring to the Northeast Quarter?

Q (By Mr. Nutter) On your Exhibit No. 2, you mentioned the Wills and Riggs Galvin No. 1, which is the dry hole there.

A Yes. That well there we did lease shallow rights,

and the deep rights also were bought. This is in the Northeast of the Southeast. This is the Riggs then.

Q (By Mr. Nutter) Yes.

A This lease was purchased by S. P. Yates, Fair Oil and Gulf Oil Corporation from Wills and Riggs, and so that particular lease, that is actually owned by -- excuse me, let me correct myself, I am on the wrong well here. This particular well, the Wills and Riggs, that's on a lease that is owned now by Martin Yates and S. P. Yates.

Q So as far as you know and as far as productive limits are concerned at the present time, all of the working interest ownership is the same throughout the entire area?

A That is correct. The North Half of the Southeast of 12 and the South Half of the Southwest of 12 are owned by the same people. Now in the North Half of the Southwest Quarter, this is a different ownership there, as you can see, it's owned by S. P. Yates, Fair Oil Company, and Gulf Oil Corporation.

Q Now the lease name is different, that's the Riggs Lease, whereas the South Half of the Southwest is the Galvin Lease, so is there a variation in royalty ownership here?

A Yes, there is two leases. Galvin Lease, which most of the producing wells are on, and the Riggs Lease, which has had two wells drilled on it in this drilling operation.

Q Now, Mr. Norman, we have a letter from Mr. Stamètz of our Artesia office, in which he states that these wells are located immediately east of the West McMillan-Seven Rivers-Queen Pool, which has the Southeast Quarter of Section 11, 20, 26 for its horizontal limits. So that would mean there's a pool right here immediately to the west of you?

A No, -- Oh, this is -- Oh, this is a well that has been, this was originally a pool there, a one well pool drilled into the Queen formation around 550 feet, completed around 550 feet, and this well has been dismantled, actually there's no pump or anything.

Q It's an old abandoned pool?

A It's an old abandoned pool.

Q What he was thinking of was extending that pool to take this acreage in.

A It wouldn't be in the same pay zone.

Q They're not in the same pay zone?

A No, that's the Queen. This is four or five hundred feet above that.

MR. PORTER: You say the other production was in the Queen?

A Yes, sir.

Q (By Mr. Nutter) I guess he figured you had Seven Rivers here and I guess he was going to reactivate the old pool

and take in your acreage.

A No.

Q It's abandoned?

A Yes.

MR. PORTER: Initially there was some possibility that there was some Seven Rivers production, but in another part of the pool rather than in this area?

A Well, the McMillan Pool off to the northeast here, I said a mile and a quarter, I meant a mile and a half, in Section 25 and 6 of 27, had one well originally that did make some oil out of the Seven Rivers, and that well -- well, it was one of these flashy wells and then it went, I guess the water came in on it, and that was it; and they plugged that off, I believe. That's the status of that. Is that what you are referring to, Mr. Porter?

MR. PORTER: Yes.

MR. DURRETT: I would like to ask Mr. Losee a question, if possible.

MR. LOSEE: Go ahead.

MR. DURRETT: Mr. Losee, since your witness has testified that one well in this pool would drain approximately one acre, what would you think of the proposition of assigning to each well as it's completed in the pool one-fortieth of a normal unit allowable?

MR. LOSEE: I'll testify. We don't want that.

MR. NUTTER: You might get a ten barrel well.

MR. LOSEE: Well, I think the evidence has shown that right offsetting a dry hole they obtained a producer, and the only difference between the two wells is permeability is present here and it's not present here; and if they were reduced to one-fortieth of the allowable, then they're not going to, their economics, even as minimal as it is to drill a well, it would take too long to pay it out.

THE WITNESS: It would be producing less than a barrel a day on the well.

MR. DURRETT: It sounds good in theory, doesn't it, Mr. Losee?

MR. LOSEE: Well, if you can drain the whole area completely with one well, but I don't think our experience shows that's possible.

MR. PORTER: If I may interject a thought here. As I understood Mr. Nutter's -- we're kind of having a seminar here or round table discussion, it seems as I understood Mr. Nutter's suggestion, it was that possibly all you need here is to waive the rule that requires that a well be a certain distance from the unit line, and the one that requires a well to be a certain distance from another well producing from the same formation. With that in mind, then you could just assign the

allowable to a 40-acre unit and allow the wells to produce in any proportion that they might, or are able to, up to the 40-acre allowable, the maximum for that. Let's go off the record.

(Whereupon, a discussion off the record was held.)

MR. NUTTER: Does anyone have anything further to ask the witness?

MR. IRBY: Yes, sir.

MR. NUTTER: Mr. Irby.

BY MR. IRBY:

Q I'll first say that I appreciate Mr. Losee going into this as well as he has, but I still have a few questions more on my desire for information than anything else. You have only two wells that have produced, is that correct?

A We have two commercial producers at this moment. I stated earlier in my testimony there were two that were completed, actually, there are three that have been completed and the pump has been pulled off because they were non-commercial, so you might say we have had five producers and three of them are uncommercial, and we have two commercial producers at this stage.

Q In your 2-Y, you had an oil-water ratio of one to three, and in your Number 7 the ratio of seven to eight, which is approximtely one to eleven?

A Yes.

Q Do you think this is going to be typical of your ratio?

A Of future wells, of any wells drilled?

Q Yes, production for the pool.

A I think it could be typical. However, we may still find bigger holes and actually get higher on structure; in fact, this is one reason we want to drill some closer spaced wells. If we can get a very optimum condition, good structure or high structure, and extremely good permeability, we may complete a well that's -- well, you know, after a producing period of a month it may have ten percent water or twenty. That's what we're seeking here so I believe there's still a chance of us improving over these, but we really don't know at this stage.

Q Well --

A I'm not sure.

Q Yes. Have you determined the oil-water contact?

A We have a rough approximation. It's around 3190.

Q Since you made one of your other statements, I am assuming that this contact is at the same sea level datum throughout the area you've drilled?

A I don't believe it is. I'm talking about strictly where the producing wells are, it appears to be right around

3190 there. I think possibly as you go laterally and in some of the -- even within this middle area of present production, the oil-water contact could jump up and down due to changes in your pore geometry; that is, the finer pore, you may have a higher oil-water contact, and this is,maybe in some of these wells that we have dry holes in, this may have been one of the problems.

Q You mentioned these cores of the Bureau of Reclamation?

A Yes, sir.

Q Did you examine these yourself?

A Yes. S. P. Yates and I went to where they were stored and looked at two of the wells in this area, the cores, and observed them.

Q Are you in general agreement with Mr. Cox on his analysis of the cores with respect to the oil show?

A Mr. Cox?

Q Mr. Cox being the Geological Survey geologist who examined these cores fo the Bureau of Reclamation.

A Well, I have not examined that report.

Q And you haven't discussed this with him?

A No, sir, I sure haven't.

Q Okay. Would you hazard a guess as to the water production potential?

A It might be a hazard. I really don't --

Q I'm sure it would.

A You mean for the present two wells that are pumping, or for any future?

Q I know I am getting you further out on a limb, but I would like to know for as large an extent as you are willing to tell me.

A Well, I just don't really know whether I could answer that question, that would really make good sense. I think you can take the two wells that are producing now, I mean it's possible that you could take them and they were making what, eighty barrels of water on the one, 7, and, oh, let's say maybe seventy if we had a twenty-four hour potential on the 2, we might be making sixty or seventy. I would hate to give you a comment on that, but I think particularly in view of the fact that we may end up with some better wells, this is the only reason we want to drill more wells is to get better than we have, really.

Of course, I believe the two we have got producing now are going to be commercial, but we believe that we can also improve our position, improve our water-oil ratio in future wells.

Q In each of these wells that you've drilled where you've found oil, you have also found water beneath?

A Yes, there's generally been water beneath the oil

staining.

Q What formation do you go through before you get into this Seven Rivers dolomite? Is there any other alluvium above it?

A In the center of this development here there's a lot of alluvium which grades down -- at the surface, which grades down into some shales and sands that seem to be decomposed but in place, and that's considered Yates at that point, I mean through that section, and then we hit this dolomite which is the top of the Seven Rivers formation which outcrops, as I said, half a mile to the west, north here.

Q What geologic age is the Seven Rivers dolomite?

A It's Permian.

Q And at what time did the river cut this section?

A You mean in years or geologic time?

Q Geologic time.

A Well, all I can say is recent, Quaternary. I believe there's even a later age than that, and I can't give you the name for it. I doubt if it is even within historic times. It's been quite a while ago in year . Do you care if I comment a little?

Q Not at all.

A The Seven Rivers dolomite interval here is, or Seven Rivers formation is around 500 feet thick in this area. There's

just oil staining it throughout it. We have broken it down into four different units and each unit has staining in it, and I think each unit has given up free oil at one time or another in the area because this has been noticed because of the large number of cable tool holes that have been drilled in there, and it is our belief that really there's going to be more of these small oil pools found in the other sections of the Seven Rivers, and what we may want to -- we may be faced with the same situation here again in the future. It's unfortunate that we can't get some ruling on other areas that may have the same potential as this within this general area.

Q Was any artificial means of stimulation used on either or on any of these wells?

A No, sir. The pressures are so low that I don't believe we could help it any. I imagine the permeabilities are measured in darcies in this Seven Rivers dolomite, and if we had to use any stimulation it would probably cause the water to come in at excessive cuts.

Q Is this all of the area that has been structurally mapped that's shown on your Exhibit 1?

A We have a map on a different horizon that covers a larger area, but this is all that we have mapped right in here on this particular horizon.

Q What is the other horizon that you mapped?

A It's the Queen sand horizon.

Q But this is all the structural mapping that has been done on the Seven Rivers dolomite?

A Well, we have a little, I chose a marker below the one that is shown here that's mapped on EXhibit No. 1, and mapped it over a little larger area. It was a little more of a consistent marker, and I was able to carry it on just a little farther than this. But you are limited in areas thatyou can map on the Seven Rivers dolomite because the facies change in there, that's what is causing this permeability in here, because of the facies changes. It is hard to pick, especially in the lower Seven Rivers.

Q These four digit figures adjacent to each well are your pick of the top of the dolomite?

A Yes.

Q Now you mentioned once in your testimony a section, a cross section.

A Yes.

Q Do you have that in illustrative form--

A I have ---

Q -- a copy here?

A Yes, we have a cross section in this area showing correlation of your dolomite, Seven Rivers formation.

MR. IRBY: I believe that's all I have.

BY MR. NUTTER:

Q Mr. Norman, I have a couple of questions here. Did you say that the Number 7 has fifteen feet of four-inch line pipe?

A Yes, it has fifteen feet.

Q Then what do you have, a string of tubing down in there also?

A Yes, we have tubing.

Q So you are pumping through tubing?

A Yes, sir.

Q And then the 2-Y, I presume it is, is the one that has seventy feet of line pipe?

A Yes, approximately seventy feet but I don't know -- I have it in my files here; I don't know the exact footage.

Q What is your proposal in the future wells,to run about seventy feet of pipe?

A That's correct. Let me say this, on the 2-Y, if my memory serves me correctly, we ran sixty-seven feet of four-inch line pipe in that well.

Q Then that is cemented in, is that correct?

A Yes, sir, it is.

Q How many sacks do you use?

A Four sacks.

Q And that will be the method of completion in the

future wells?

A Yes, sir. This is the way we will do it.

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

BY MR. PORTER:

Q What size tubing is that, Mr. Norman?

A Well, they did have two and a half earlier. I think they put two-inch tubing in.

Q Two-inch and then you would move that around from one well to another?

A Yes. We've got really two pumping on it, pumping jack and tubing for two wells out there at this moment.

MR. NUTTER: Are there any other questions? The witness may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Losee?

MR. LOSEE: No, sir.

MR. NUTTER: Does anyone have anything further they wish to offer in Case 3311? We will take the case under advisement.

* * * * *

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter - Notary Public, 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.

WITNESS my Hand and Seal this 5th day of November, 1965.

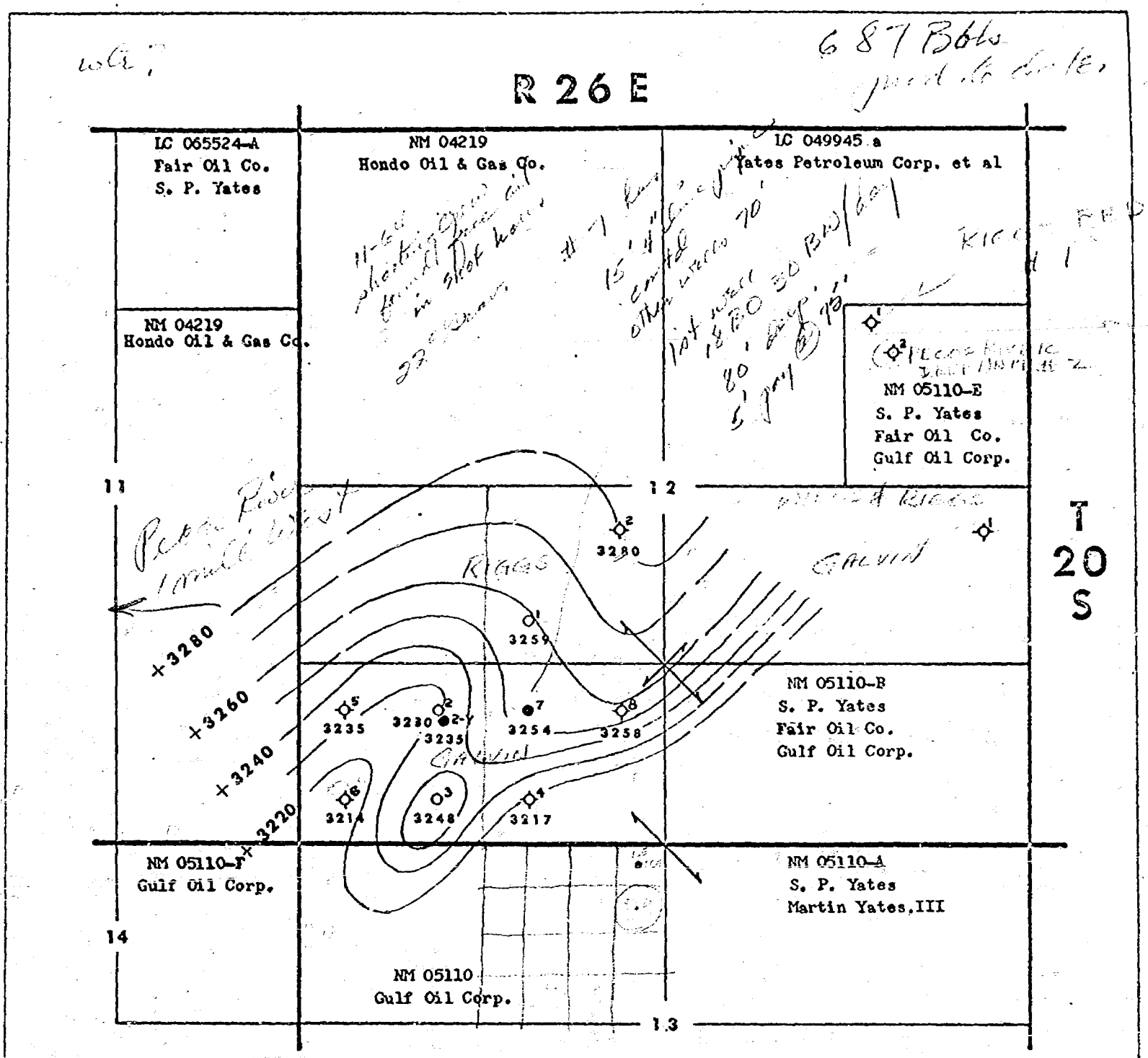
Ada Dearnley
Court Reporter - Notary Public

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3311, heard by me on 9/22, 1965.

, Examiner
New Mexico Oil Conservation Commission



LAKE MC MILLAN AREA

STRUCTURE ON TOP OF SEVEN RIVERS DOLOMITE

CONTOUR INTERVAL = 10 FT

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 7
CASE NO. 3811

EXHIBIT NO 1

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 3311

EXHIBIT NO. 2

LAKE MC MILLAN AREA - WELL CONTROL

S. P. YATES GALVIN NO. 2 — Section 12-20S-26E
T. D. 87' (Seven Rivers Fm.) GL Elev. 3270' — 990' FSL & 990' FWL
Status Pump tested at a rate of 10 BWPH with a scum of oil. The pump has been removed and a decision has not been made regarding the disposition of this well.

S. P. YATES GALVIN NO. 2-Y — Section 12-20S-26E
T. D. 74' (Seven Rivers Fm.) GL Elev. 3270' — 910' FSL & 1025' FWL
Status Completed on pump for a rate of 24 BO & 2 BWPD, 8/11/65.

180 on 1½ hrs each day

S. P. YATES GALVIN NO. 3 — Section 12-20S-26E
T. D. 79' (Seven Rivers Fm.) GL Elev. 3269' — 330' FSL & 990' FWL
Status Attempted completion as oil well and produced about 2½ BWPH with traces of oil on a casing swab test. A decision has not been made regarding disposition of this well

S. P. YATES GALVIN NO. 4 — Section 12-20S-26E
T. D. 100' (Seven Rivers Fm.) GL Elev. 3273' — 330' FSL & 1650' FWL
Status Bail tested at a rate of 3 BWPH with scum of oil. P & A 7/27/65.

S. P. YATES GALVIN NO. 5 — Section 12-20S-26E
T. D. 100' (Seven Rivers Fm.) GL Elev. 3270' — 990' FSL & 330' FWL
Status Bail tested at a rate of 3 BWPH with scum of oil. P & A 7/28/65.

S. P. YATES GALVIN NO. 6 — Section 12-20S-26E
T. D. 100' (Seven Rivers Fm.) GL Elev. 3266' — 330' FSL & 330' FWL
Status No bail test, slight oil shows in samples. P & A 7/28/65.

S. P. YATES GALVIN NO. 7 — Section 12-20S-26E
T. D. 80' (Seven Rivers Fm.) GL Elev. 3274' — 990' FSL & 1650' FWL
Status Completed on pump for a rate of 18 BOPD and 30 BWPD, 7/31/65.

180 80 BW in 24 hrs.

S. P. YATES GALVIN NO. 8 — Section 12-20S-26E
T. D. 100' (Seven Rivers Fm.) GL Elev. 3282' — 990' FSL & 2310' FWL
Status Bail tested at a rate of 1 BWPH with slight oil scum. P & A 8/2/65.

S. P. YATES RIGGS NO. 1 — Section 12-20S-26E
T. D. 82' (Seven Rivers Fm.) GL Elev. 3283' — 1650' FSL & 1650' FWL
Status Attempted completion as oil well. Pumped 24 BWPD and 2 BOPD initially, but water cut increased considerably so that well was taken off pump. A decision has not been made regarding the disposition of this well.

S. P. YATES RIGGS NO. 2 — Section 12-20S-26E
T. D. 130' (Seven Rivers Fm.) GL Elev. 3294' — 2310' FSL & 2310' FWL
Status Seven Rivers productive interval had fair oil show in samples, but did not give up any significant amount of formation fluid. P & A 8/2/65.

WILLS & RIGGS GALVIN NO. 1 — Section 12-20S-26E
T. D. 610' (Queen Fm.) GL Elev. 3311' — 2310' FSL & 330' FEL
Status No show of oil or water reported in the Seven Rivers Formation. P & A 11/29/49.

YATES DRILLING COMPANY - PECOS RIVER DEEP UNIT NO. 2 — Section 12-20S-26E
T. D. 1947' (San Andres Fm.) GL Elev. 3332' — 1650' FNL & 990' FEL
Status No samples from section equivalent to Seven Rivers pay in Galvin wells, however no fluid was reported while drilling this section with cable tools. P & A 12/6/63.

S. P. YATES RIGGS FEDERAL NO. 1 — Section 12-20S-26E
T. D. 665' (Queen Fm.) GL Elev. 3351' — 1435' FNL & 1155' FEL
Status Slight oil staining in samples from section equivalent to Seven Rivers oil pay in Galvin wells. No fluid observed while drilling this section with air. P & A 9/16/63.