CASE 6767: ALPHA TWENTY-ONE PRODUCTION COMPANY FOR TWO NON-STANDARD GAS PRORATION UNITS, UNORTHODOX WELL LOCATION, AND APPROVAL OF INFILL DRILLING, LEA COUNTY, NEW MEXICO

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Cont to 4-3-82
4-16-82
4-23-82
2-27-82

CASE NO.

6767

APPLICATION,

TRANSCRIPTS,

SMALL EXHIBITS,

ETC.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
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March 24, 1980

Mr. William F. Carr
Campbell and Black
Attorneys at Law
Post Office Box 2208
Santa Fe, New Mexico

Re: CASE NO. 6767
ORDER NO. R-6288

Applicant:

Alpha Twenty-One Production Company

Alpha Twenty-One Production Company

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 6767
Order No. R-6288

APPLICATION OF ALPHA TWENTY-ONE PRODUCTION COMPANY FOR TWO NON-STANDARD GAS PRORATION UNITS, UNORTHODOX WELL LOCATION, AND APPROVAL OF INFILL DRILLING, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on February 27, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 19th day of March, 1980, the Division Director, 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. 6767 is hereby dismissed.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

S E
fd/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
27 February 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico. CASE 6767

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: William F. Carr, Esq.
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I N D E X

WILLIAM P. AYCOCK

E X H I B I T S

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MR. STAMETS: Call next Case 6767.

MR. PADILLA: Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

MR. STAMETS: Call for appearances in this case.

MR. CARR: May it please the Examiner, I'm William F. Carr, Campbell and Black, P. A., Santa Fe, appearing on behalf of the applicant.

I have one witness who needs to be sworn.

(Witness sworn.)

MR. CARR: Initially, Mr. Examiner, I would like to point out that when we filed this application we were requesting a non-standard proration unit that included the south half of the northeast quarter of Section 27.

We've been in contact with the USGS and they have expressed concern about breaking up an existing unit, and have requested that we file an application and dedicate only the northwest quarter of Section 27, and we propose to do that.

It appears that the case will have to be

readvertised, and we would like, however, to go ahead and present our case as it relates to the 160-acre nonstandard proration unit, being comprised of the northwest quarter of this section, and also for the well location and the infill findings.

MR. STAMETS: I will tell you, Mr. Carr, that the 160-acre unit, being the northwest quarter of Section 27, is an existing proration unit in this pool.

MR. CARR: Yes, sir, it is.

MR. STAMETS: And so what we're looking at here would be an infill well on an existing proration unit.

MR. CARR: That is correct.

MR. STAMETS: Okay, we'll go ahead and hear your testimony on this today, and readvertise this case and get it on as quickly as possible.

MR. CARR: Okay.

WILLIAM P. AYCOCK

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. CARR:

Q Will you state your name and place of

residence?

A. William P. Aycock, Midland, Texas.

Q. By whom are you employed and in what capacity?

A. I'm a consultant, employed by Radtke, Aycock, and Associates. In this connection I am employed by Alpha Twenty-One Production Corporation.

Q. Have you previously testified before this Commission and had your credentials as an engineer accepted and made a matter of record?

A. Yes, sir, I have.

Q. Are you familiar with the application in this case?

A. Yes, sir, I am.

MR. CARR: Are the qualifications of this witness acceptable?

MR. STAMETS: They are.

Q. Will you state briefly what Alpha Twenty-One seeks with this application?

A. Alpha Twenty-One's amended application will involve the -- a non-standard proration unit, comprising the northwest quarter of Section 27, Township 25 South, Range 37 East, to be dedicated to -- will actually contain two proration units, the El Paso Harrison Federal 2, which is the existing well in the northwest quarter of

the northwest quarter and the proposed well, which will be in the southwest quarter of the northwest quarter, at a proposed location of 1980 feet from the north line and 560 feet from the west line of Section 27.

MR. STAMETS: How far from the west?

A. 560 feet.

Further, Applicant, Alpha Twenty-One Production Corporation, seeks a finding that the drilling of this proposed well is necessary to effectively and efficiently drain that portion of the existing proration unit which cannot be so drained by the existing well.

Q. Mr. Aycock, will you please refer to what has been marked Alpha Twenty-One's Exhibit Number One, and review the information contained thereon for Mr. Stamets?

MR. STAMETS: Before we get to that, I heard something and it certainly wasn't clear, as to how this proration unit is going to be operated.

Did you indicate that you contemplate two different operators on the same --

A. No, sir, we contemplate two wells but a single operator. It's not been determined whether Alpha Twenty-One or El Paso will be the operator at this time. One of the two will be.

MR. STAMETS: Okay. And the readver-

tisement should clarify that.

MR. CARR: Mr. Stamets, in the last -- well, today we've been talking to representatives of El Paso, and we will be able to notify you within the next couple of days which of the two companies will in fact be serving as operator.

MR. STAMETS: Okay.

Q. Now, Mr. Aycock, will you please refer to Exhibit Number One and summarize the information contained thereon?

A. Exhibit Number One is a land plat of the area that includes the proposed 160-acre proration unit, showing the wells on interest, both those that are Jalmat, classified as Jalmat, and those that are in the Langlie-Mattix Field, and it shows the traces of two cross sections, which will be presented in subsequent testimony.

Q. Would you now summarize the information contained on Applicant's Exhibit Number Two?

A. Exhibit Number Two is a structure map drawn on top of the Yates formation, which covers the identical area to that shown on Exhibit One, that is the section containing the proration unit and the eight surrounding sections, a total of a nine-section block.

Q. Will you now refer to your A-A' cross section, which has been marked Applicant's Exhibit Number

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Three, and review the information contained thereon?

A. A-A' is a north/south cross section, the trace of which is indicated on both Exhibits One and Two, which proceeds through the area which will be developed by the proposed well. The proposed well location will be located between the second well from the left and the third well from the left, which are the El Paso No. 2 Harrison Federal and the El Paso No. 1 Harrison Federal.

The original filings for these as operator were in the name of Olson and the properties were later acquired by El Paso, but the original filings in the Commission's files reflect the operator's name as Olson, and that's why it's so indicated on this cross section.

You can see from a perusal of the cross section that as has been the case in the past, most of the wells are completed in the Yates formation. Several of them are also completed in a portion of the Seven Rivers formation, which is included in the Jalmat pool designation.

We would anticipate on this one that probably the primary pay would be the Yates, but likely that portion of the Seven Rivers which is included in the Jalmat would be prospectively productive, also.

Q. Will you now summarize the information contained on Applicant's Exhibit Number Four?

A. Exhibit Number Four is cross section

B-B', the trace of which is indicated both on the Exhibits One and Two and on the index map that is in the lower right-hand corner of Exhibit Four, and it is an east/west cross section through the well to the immediate south of the proposed location, the El Paso Harrison Federal 1, which you will note is the third well from the lefthand side of this exhibit.

Once again it shows the -- what the formation -- character of the formations are and what have been the practice of the operators in completing wells in this field, and basically the Yates is the major pay zone with consideration being given to that portion of the Seven Rivers that's included within the Jalmat pool designation, once again.

As expected, the -- all of the prospective formations are quite consistent and are found in an expected place throughout the area. There are no particular geologic anomalies.

Q. Mr. Aycock, will you refer to your letter, which has been marked Applicant's Exhibit Number Five, and review the information contained therein in detail for the Examiner?

A. Exhibit Number Five is the letter from -- directed from me to Alpha Twenty-One Production Company, in care of Mr. Phipps, which sets out the charge that I was

given in performing the study for Alpha Twenty-One, which was first of all to determine whether or not the proposed well would be expected to recover gas otherwise unrecoverable. Second of all, to estimate the amount of such additional anticipated gas recovery. Third of all, to assess the risk associated with drilling of the proposed well. And fourth, to advise Alpha Twenty-One as to the effect of the proposed well on the prevention of waste and protection of correlative rights.

I might add in this connection that we will subsequently -- it specifically mentioned in the letter, but it is without an infill finding which allows the new gas price under the Natural Gas Policy Act. It would be an economically imprudent decision, in my opinion, to drill this well. We will subsequently show why in the -- throughout this letter, where the physical reservoir data is presented that will, I hope, document that position.

I have summarized it here on the first page and have asserted that I believe the preponderance of evidence indicates that the proposed well will recover gas otherwise unrecoverable, and I have based this both on the fact that certain of the wells in the immediate vicinity of the proposed proration unit exhibit abnormally low gas recovery factors, and others exhibit -- those wells, a portion of those wells also indicate 1978 shut-in wellhead

pressures, which would be considered high for the Jalmat Field at this stage of depletion.

I believe both of those in a qualitative sense indicate that there is gas that would otherwise be unrecoverable.

The gas recovery being less, is probably due to the fact that, as has been experienced throughout the Jalmat Field, when the reservoir pressure gets extremely low, even though I don't anticipate that there is an effective water drive in the sense of maintaining pressure, water production problems are experienced and this generally results in a loss of gas productive capacity that's precipitous and abnormal at the time that the water production becomes a problem and generally results in a well being prematurely abandoned as compared with what would have been the case had the production decline trend continued along the -- that trend that was established prior to the time that water production was experienced.

There is also quite a variation in shut-in wellhead pressure and because many of these wells were completed in the '40s and '50s and experienced extremely high potentials and very great productivity, I don't think that the difference in -- I would not anticipate with the long shut-in times that are required by this Commission in submitting the periodic shut-in wellhead pressures, I would

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not anticipate with thathigh permeability that we would have abnormally low pressures due to incomplete buildup. I think it's more likely that there is fluid in the hole or that there has been simply depletion of certain areas of the field to the point that the static pressure is an adequate representation as -- as measured, of what the individual well drainage areas are.

If that is correct, then that would also say that there is gas that cannot otherwise be recovered except by the drilling of additional wells in this area.

In addition, as I will further discuss, I have compared the effective calculated drainage areas for all of the wells that were considered in this sample, and as you will note, there is an extreme variation from a minimum of 14 acres to a maximum of 300 acres with a statistical median of 108 acres -- I mean a mean of 108 acres, and a median of 62 acres, with a standard deviation of 92 acres, indicating once again that it's not a normal frequency distribution and that the variation is quite large, indicating that portions of the reservoir are not being adequately drained by the existing wells.

To summarize at this point, I think that the preponderance of technical and reservoir information available indicates that the proposed well will likely recover gas that would otherwise be unrecoverable. Further,

in an attempt to estimate the amount of additional gas recovery that's anticipated from the proposed well, I took a twofold method of estimate.

One is relying completely upon the blind method of analogy and comparing what statistical experience has been, which I expect would prove to be optimistic because much of that experience was accumulated at reservoir pressures much higher than likely prevails in the vicinity of the proposed well at this time.

Nevertheless, it also illustrates quite a large variation from a minimum of 16-million to a maximum of 6.4-billion, with a statistical mean of about 1.6-billion cubic feet per well, and a statistical median of about 1-billion per well, with a standard deviation of about 1.7-billion per well. Once again, being very large, indicating that the spectrum of data available in the immediate vicinity do not comprise a normal statistical distribution and therefor do not -- probably do not represent data points that have -- that belong to single populations but multiple populations.

In a further attempt to provide a basis for estimating what the recovery could be, I've taken a statistical approach once again, but that statistical approach was applied to the volumetric parameters that are necessary in making a volumetric calculation. The wells from which those were extracted are indicated. The parameters themselves

and their values that were used in this calculation are indicated; porosity 22 percent above volume; connate water saturation 21.3 percent of net effective pore space; net effective pay 74 feet; estimated drainage area of 74-1/2 acres; and shut-in wellhead pressure, 123 psia.

Using this data the indicated ultimate recovery for the well is only 48-million cubic feet, which is much nearer the minimum that was derived from a statistical comparison of all the available experience in the area than it is to any of the other parameters, i.e. maximum or the median or mean, pardon me.

So I would have to conclude from this that, as has been my experience throughout the Jalmat Field, in the studies that I have made, that the expectations, the spectrum of possibilities is quite large, ranging from an obviously unattractive reserve figure, no matter what the price, to one that could be quite attractive, depending upon the experience. I would expect that the probabilities are that it would range closer to the minimum than it would to the maximum, which certainly does not provide a precise measure of it, and for the purposes of this letter, I have assumed that the most probable recovery for the well would be halfway between the minimum and halfway between the mean statistical comparison of all wells, which would be about 680 MMCF.

That likely will not be the result from drilling this well, but as in all cases where unusual variations in data have to be considered, which is most of the cases that I've looked at in twenty-five years, an operator has to have some basis for making a decision as to whether to drill or not to drill.

Obviously, in this case Mr. Phipps and Alpha Twenty-One Production Company believe that they have a chance of achieving a reserve that is attractive or we would not be here. If they really thought that we were going to get numbers on the size of the minimum or the fact that results from the statistically derived volumetric calculation, we would not be here.

In any event, the risk is considerable of not achieving an economic well, simply because of the experience that is available in the immediate area, and it is for that reason that I have indicated previously that I could not recommend in all conscience the drilling of a well without the price incentive which would reduce that risk.

Basically, the rest of the letter is elaboration and summary of the points that I have discussed in some detail and as backup is included a table with all eighteen wells andthe results of the studies that I've been able to make, including all of the data that is available from either the Commission's files or from commercial sources.

that was used as a basis for the numerical results that I've previously presented to you, and that are summarized in the letter.

Q. Mr. Aycock, will you now refer to Applicant's Exhibit Number Six and review this for Mr. Stamets?

A. Exhibit Number Six consists of rate/time curves for those wells that are included within the sample that are still active, and a relationship between cumulative production per well and wellhead shut-in pressure, both included to provide the Conservation Commission with -- with further documentation over and above the table that was attached to the previous exhibit for the conclusions that are drawn therein.

Q. Mr. Aycock, why is Alpha Twenty-One proposing to drill at the proposed location?

A. The geological conditions in the area dictate that the well be drilled in the most westerly location that can be practically achieved on acreage that is available simply to get away from poor reservoir conditions that have been experienced immediately to the east of this proration unit.

Q. And how did Alpha Twenty-One acquire its interest in this proration unit?

A. By a farm-in from El Paso Natural Gas Company.

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Q. Do you believe that the proposed well is necessary to effectively and efficiently drain the proposed proration unit?

A. All of the evidence that is available indicates to me that it is.

Q. In your opinion will drilling the proposed well result in recovery of hydrocarbons that otherwise would not be recovered?

A. Yes, sir, I believe it will.

Q. In your opinion will granting this application be in the interest of conservation, the prevention of waste, and the protection of correlative rights?

A. Once again, I think all of the data that's available indicates that that would be the case.

Q. And how soon does Alpha Twenty-One plan to spud this well?

A. Assuming that the Commission sees fit to grant the application, as soon as the order is received.

Q. And the GS approval is obtained?

A. Yes, and the GS approval is obtained.

Q. Were Exhibits One through Six prepared by you or under your direction and supervision?

A. Yes, they were.

MR. CARR: At this time, Mr. Examiner, we would offer Applicant's Exhibits One through Six.

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MR. STAMETS: These exhibits will be admitted.

MR. CARR: And we have nothing further on direct.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Aycock, I presume you are aware that under the new rules of FERC and the Oil Conservation Division, that you can get infill findings approved after the well has been drilled and completed.

A. Yes, sir.

Q. How much will this well cost?

A. In the neighborhood of $200,000.

Q. And how much production -- well, look at this different. $200,000, how much money would an operator have to receive in order to pay out this well and make a reasonable profit?

A. You mean gross money, including that that will be attributable to the royalty and overriding royalty interests?

Q. Taxes --

A. In the neighborhood of at least $300,000. That would not be an adequate profit but it would provide some margin of profit. $350 to $400,000 would be an amount,

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of gross recovery that would -- would not be something that would be pursued in these times of 16-1/4 percent prime interest rates, but would prevent it from being an economic burden rather than an economic benefit.

Q. Now, what would the price of gas be if this well is not found to be a necessary infill well?

A. I suspect in the neighborhood of eighty cents.

Q. And what would the price be if this is a necessary well?

A. In the neighborhood of $2.00.

Q. You're estimating as best you can 668-million?

A. That's the difference between --

Q. 680-million.

A. Yes, sir.

Q. And how much is that at eighty cents a thousand and $2.00 a thousand?

A. Well, at eighty cents a thousand, that's going to be in the neighborhood of $400,000 and at $2.00 a thousand, it's going to be in excess of a Million Dollars, about a Million Two.

Q. Under those circumstances, then, how can you -- well, why would you say that a $400,000 prospect would not be an economical venture to drill?

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A. Because I don't think that it justifies the inevitable risks that are taken of getting one that's more nearly the minimum type well than the maximum. I think an operator that proceeded along those lines would -- would probably come to economic grief shortly.

Q. Do you foresee any circumstances under which a well could be drilled as an infill well and no proof thereafter that that well resulted in additional gas recovery from the reservoir?

A. I'm -- I'm sorry, Mr. Stamets, I'm not understanding your question. You mean --

Q. Okay.

A. You mean could a case be put on after the fact rather than before?

Q. No. Do you conceive of any -- any instance at all where you couldn't prove after the fact that the well was necessary?

A. Well, I think the problem more than the proof would be the fact that it would be difficult for me to recommend accepting the inherent risks that are involved without being able to have some idea of what the return might be beforehand.

Q. Well, I'm trying to determine if there is any risk.

A. Well, I think there's a significant risk

that you may get a -- you may get a well about like that that exists out there, that's making roughly a million a month.

Q. Well, if you got a well like that, would you have any difficulty in proving that two wells would not produce -- would you have any difficulty proving that two wells on that proration unit with identical conditions would not produce more than one well?

A. No, I'd have a -- I'd have a severe time coming up here before you and trying to convince you that as depleted as it was, that the second well was necessary.

Q. Certainly makes a lot of sense.

A. The experience, as the Commission is well aware, has been that most of the wells that have been drilled under the Natural Gas Policy Act have -- have found reserves that were attractive or the applications would not still be being made, but nevertheless, in each one of them you have to face the fact that we don't know what the data that's available really means in terms of what areas of the reservoir do the data points represent.

The best we can do is infer what they represent through a combination of log analysis and the calculation of the size of the reservoir from the extrapolation of the P/z cum curves, but remember, once again that's a one dimensional model. It's not a two dimensional model.

So we can say how big it is but we don't know in what directions it runs, and very likely it's quite irregular; if it fits all the natural systems with which I'm familiar, it's probably quite irregular in nature.

So if we had some way to -- to have a two dimensional answer, I could agree with you that the situation might be different. Unfortunately, there's -- the data that's available to us does not provide us a two dimensional answer. It only provides us a one dimensional answer.

Q. Would you say that the best data available would be derived after the well is drilled or during the process of drilling?

A. Oh, no question about that.

Q. Can you state that this well will not be drilled if the infill findings are not made?

A. Unequivocally I can state that, yes, sir.

Q. Would you run by me one more time your reasons for that unequivocal statement?

A. Well, an investor at the present time can draw in excess of 10 percent interest rate by putting his money in a risk-free type investment. And even if he's in a high income tax bracket, he will probably get in the vicinity of an insured return of 6 or 7 percent on his money without taking any -- any of the risks that are inherent in this type of project.

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So I think that -- that most people who are professionals in the oil and gas business are not going to undertake a prospect to drill, committing this amount of money, unless they feel like they have a chance to -- to achieve significantly higher returns on that money than would be available to them if they took a risk-free position. And commercial paper has been available at that rate with a prime at 16-1/4. I quite frankly haven't had time to check it, but usually commercial paper will go for several points above what the prime interest rate is for the obvious reason. You don't have a loan -- you don't have a bank loaning the money to one of the Fortune 500, you've got a different type of situation in general, where the -- even greater interest rates are available than that.

I would not be too surprised to see available interest rates on low risk commercial paper be in the range of 20 percent shortly, if they're not already there.

When you start talking about returns of that type with a -- with a comparatively insignificant degree of risk, then it becomes apparent that anybody that has money to invest, there are other ways to alleviate tax burdens besides drilling wells.

I have never been able to recommend that a client drill a well strictly as a way to minimize income

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tax burdens. My feeling is if they are not an economic project that will stand on their own, then they're not a business proposition that's good for the investor or good for the public at large, for that matter, because the resources could be better used elsewhere to provide economic gain that would benefit not only the investor but society as a whole.

So I believe that extraordinary returns, particularly when we're talking about a degree of risk which could be compared to a low -- a low risk type wildcat, is about what you're taking here. You know the formation's there. You know that at one time it contained gas in commercial quantities. You know that if you find gas the likelihood is it will be available to you in commercial rates. What you do not know for sure is, is it going to contain enough gas to pay for the well or are you going to find that the water encroachment, from whatever source, whether from above, below, or from some remote area, has reached the point that you're not able to -- either not able to maintain commercial rates of production, or you simply drill into a depleted reservoir in which there is -- there is insufficient gas to pay for the well, however the rate at which it's recovered.

So I don't -- I could not recommend, and I don't think -- as you know, Mr. Phipps and I've been

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working together for ten years, and I hope he relies on my judgment after all this time to some degree, and I unequivocally could not recommend the well with -- with the types of risk that we're talking around here, without the incentive of having the price.

Q. And the basis for this recommendation is totally related to the investment risk.

A. Yes, sir. I think the physical risks, other than what the reserves and deliverability are going to be, are modest because of the depth of the wells that we're talking about, and certainly we're drilling in a trend.

Now, this well has more risk than the ordinary one because there is no question that we're -- that we're running out of permeability in the Jalmat zone, due to the fact that we -- we have to go north and east of here to find Jalmat wells, and we have two dry Jalmat depth wells located in the same section that were never completed at all because they wouldn't yield gas in commercial quantities.

So I think we have, in addition to the normal risk factor that we have in the Jalmat development, which I've dwelt upon, that is the degree of depletion and whether or not water is going to be found, or whether to the point that you cannot initially achieve and maintain commercial gas flow rates, we've got somewhat of an additional

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problem here. I admit, since we're drilling between two wells that have been completed in it, that it appears that at the location we've requested that risk would be minimized. If we had to drill it at any other location on that 160, I think that risk would be many fold greater than it is at that location. So by the request being phrased as it is, we've attempted to minimize that degree of risk and put it more or less in the context of a normal infill Jalmat location; i.e. one in which it is totally surrounded on all sides by either currently producing or formerly productive Jalmat gas wells.

Q. Alpha Twenty-One has had a number of these cases. Have any of those wells been completed yet?

A. Yes, sir, most of them have been.

Q. Have any of them found the formation drained to the condition of the original well?

A. I can't tell you specifically because all I've done is to discuss them in terms of general parameters. So far the experience has been quite good, but then the wells are still not paid out.

After the money is recovered that went into drilling them, if they're still producing at some kind of reasonable rates, then I can give you a legitimate and conscientiously correct answer to that. Right now I could not, even had I studied them in detail.

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But at the present time the initial rates have been -- have been adequate to indicate that they are probably going to be attractive investments.

Q. Do you know of any wells that have been drilled under these circumstances that would not have been attractive?

A. Well, one of Alpha Twenty-One's is in doubt, even from the first, and it appears that they encountered a zone in which they lost circulation, and the reason for it was that severe depletion had taken place, and that well has not responded as has been typical, and it may be that it never will respond.

MR. STAMETS: Any other questions of this witness?

MR. PADILLA: I have a couple, Mr. Examiner.

CROSS EXAMINATION

BY MR. PADILLA:

Q. Mr. Aycock, it seems to me that Mr. Stamets is somehow coming up with -- or interpreting your conclusions as being solely one of economics, whether this well is a good investment or not. But in referring and looking back at, say, Exhibit Number Two, can you explain

to me why, based on that structure map, why that well as proposed is -- should be located there?

A. Well, you're on the flanks of a local structural anomaly at which the general experience is that whenever you have those, the sand quality is of better character than it is other places, and you'll notice the way we have interpreted the available data, if you get to -- if you were to drill that well to the east, you would be out in an area in which the rate of dip is very flat, there is no structural anomaly associated with it, and the industry experience has been that they haven't been able to successfully complete Jalmat wells in that region for that reason. There's no -- there's no pay quality there. There's no commercial reservoir available to you. On the eastern edge you would have extreme risk of encountering that type of situation.

Q. And in explaining Exhibits Three and Four you said that there were no geologic anomalies in there, and it seems to me then that the well up in the northwest quarter of that section there, and the well down below, which would be, I guess, the El Paso No. 1, would -- would drain that area of any hydrocarbons.

A. Well, they probably did drain it at one time, but you see, the problem with drainage is it's not a

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constant. It depends on the available energy, which is measured by the reservoir pressure, and if depletion takes place, gas can move over a shorter and shorter distance, because there's less energy available to move it at commercial rates.

So it's quite common in gas reservoirs that -- at all depths, that they have to be infill drilled later in the life of them to be able to maintain the rates of withdrawal from the reservoir, and that's simply all we're talking about here.

Q. Then you're saying that neither one of those wells would drain gas from under the area of the proposed location?

A. Not in the time frame that makes any sense in terms of human life, no. They might if you could keep them producing for 100 years, but it would not be something that would have any benefit as far as the resource value to -- to contemporary society, no.

Q. Well, what are you basing that on, porosity, then?

A. I'm not following you.

Q. Well, are you basing your conclusion on porosity or --

A. No, I'm basing my conclusion on the fact that the permeability -- the effective permeability as it

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exists in nature, is a factor, is a physical characteristic of the rock as modified by the amount of conate water that it contains.

The amount of gas that can be flowed over any given distance is a function of how much energy is available in the reservoir. That energy is measured by the static pressure. As the static pressure declines commercial flow rates cannot be maintained over the distances that they were during the time when the reservoir pressure was high. Therefor, in order to be able to withdraw, continue to withdraw gas at commercial rates, more wells have to be drilled so the gas doesn't have to move as far from where it exists in the ground to a wellbore where it can be recovered.

Q. Are you then recommending, say, would you recommend 40-acre spacing for this area for financial gas recovery -- for commercial gas recovery?

A. I think it would depend on what happens to the proposed well. If it measures a significantly higher reservoir pressure than either of the two wells that bracket it, both north and south, that could well be a proper conclusion.

Q. In effect your sole basis for -- for saying that this infill well should be allowed is not really

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based on engineering or geological data, but strictly on statistical data.

A. No, that's not correct. The engineering data that I presented has been organized in a statistical form but it's engineering data, and it clearly shows that the -- that the normal experience in the area has been that wells have not drained anything like the spacing on which they're drilled.

MR. PADILLA: I have no further questions.

MR. STAMETS: Any other questions? The witness may be excused.

Anything further in this case?

The case will be taken under advisement.

(Hearing concluded.)

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REPORTER'S CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6767, heard by me on 2-27, 1980.

Richard L. Stamets, Examiner
Oil Conservation Division

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
27 February 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

CASE 6767

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:

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Santa Fe, New Mexico 87501

For the Applicant:

William F. Carr, Esq.
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Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

MR. STAMETS: Call next Case 6767.

MR. PADILLA: Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

MR. STAMETS: Call for appearances in this case.

MR. CARR: May it please the Examiner, I'm William F. Carr, Campbell and Black, P. A., Santa Fe, appearing on behalf of the applicant.

I have one witness who needs to be sworn.

(Witness sworn.)

MR. CARR: Initially, Mr. Examiner, I would like to point out that when we filed this application we were requesting a non-standard proration unit that included the south half of the northeast quarter of Section 27.

We've been in contact with the USGS and they have expressed concern about breaking up an existing unit, and have requested that we file an application and dedicate only the northwest quarter of Section 27, and we propose to do that.

It appears that the case will have to be

readvertised, and we would like, however, to go ahead and present our case as it relates to the 160-acre nonstandard proration unit, being comprised of the northwest quarter of this section, and also for the well location and the infill findings.

MR. STAMETS: I will tell you, Mr. Carr, that the 160-acre unit, being the northwest quarter of Section 27, is an existing proration unit in this pool.

MR. CARR: Yes, sir, it is.

MR. STAMETS: And so what we're looking at here would be an infill well on an existing proration unit.

MR. CARR: That is correct.

MR. STAMETS: Okay, we'll go ahead and hear your testimony on this today, and readvertise this case and get it on as quickly as possible.

MR. CARR: Okay.

WILLIAM P. AYCOCK

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. CARR:

Q Will you state your name and place of

residence?

A. William P. Aycock, Midland, Texas.

Q. By whom are you employed and in what capacity?

A. I'm a consultant, employed by Radtke, Aycock, and Associates. In this connection I am employed by Alpha Twenty-One Production Corporation.

Q. Have you previously testified before this Commission and had your credentials as an engineer accepted and made a matter of record?

A. Yes, sir, I have.

Q. Are you familiar with the application in this case?

A. Yes, sir, I am.

MR. CARR: Are the qualifications of this witness acceptable?

MR. STAMETS: They are.

Q. Will you state briefly what Alpha Twenty-One seeks with this application?

A. Alpha Twenty-One's amended application will involve the -- a non-standard proration unit, comprising the northwest quarter of Section 27, Township 25 South, Range 37 East, to be dedicated to -- will actually contain two proration units, the El Paso Harrison Federal 2, which is the existing well in the northwest quarter of

the northwest quarter and the proposed well, which will be in the southwest quarter of the northwest quarter, at a proposed location of 1980 feet from the north line and 560 feet from the west line of Section 27.

MR. STAMETS: How far from the west?

A. 560 feet.

Further, Applicant, Alpha Twenty-One Production Corporation, seeks a finding that the drilling of this proposed well is necessary to effectively and efficiently drain that portion of the existing proration unit which cannot be so drained by the existing well.

Q. Mr. Aycock, will you please refer to what has been marked Alpha Twenty-One's Exhibit Number One, and review the information contained thereon for Mr. Stamets?

MR. STAMETS: Before we get to that, I heard something and it certainly wasn't clear, as to how this proration unit is going to be operated.

Did you indicate that you contemplate two different operators on the same --

A. No, sir, we contemplate two wells but a single operator. It's not been determined whether Alpha Twenty-One or El Paso will be the operator at this time. One of the two will be.

MR. STAMETS: Okay. And the readver-

tisement should clarify that.

MR. CARR: Mr. Stamets, in the last -- well, today we've been talking to representatives of El Paso, and we will be able to notify you within the next couple of days which of the two companies will in fact be serving as operator.

MR. STAMETS: Okay.

Q. Now, Mr. Aycock, will you please refer to Exhibit Number One and summarize the information contained thereon?

A. Exhibit Number One is a land plat of the area that includes the proposed 160-acre proration unit, showing the wells on interest, both those that are Jalmat, classified as Jalmat, and those that are in the Langlie-Mattix Field, and it shows the traces of two cross sections, which will be presented in subsequent testimony.

Q. Would you now summarize the information contained on Applicant's Exhibit Number Two?

A. Exhibit Number Two is a structure map drawn on top of the Yates formation, which covers the identical area to that shown on Exhibit One, that is the section containing the proration unit and the eight surrounding sections, a total of a nine-section block.

Q. Will you now refer to your A-A' cross section, which has been marked Applicant's Exhibit Number

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Three, and review the information contained thereon?

A A-A' is a north/south cross section, the trace of which is indicated on both Exhibits One and Two, which proceeds through the area which will be developed by the proposed well. The proposed well location will be located between the second well from the left and the third well from the left, which are the El Paso No. 2 Harrison Federal and the El Paso No. 1 Harrison Federal.

The original filings for these as operator were in the name of Olson and the properties were later acquired by El Paso, but the original filings in the Commission's files reflect the operator's name as Olson, and that's why it's so indicated on this cross section.

You can see from a perusal of the cross section that as has been the case in the past, most of the wells are completed in the Yates formation. Several of them are also completed in a portion of the Seven Rivers formation, which is included in the Jalmat pool designation.

We would anticipate on this one that probably the primary pay would be the Yates, but likely that portion of the Seven Rivers which is included in the Jalmat would be prospectively productive, also.

Q Will you now summarize the information contained on Applicant's Exhibit Number Four?

A Exhibit Number Four is cross section

B-B', the trace of which is indicated both on the Exhibits One and Two and on the index map that is in the lower right-hand corner of Exhibit Four, and it is an east/west cross section through the well to the immediate south of the proposed location, the El Paso Harrison Federal 1, which you will note is the third well from the lefthand side of this exhibit.

Once again it shows the -- what the formation -- character of the formations are and what have been the practice of the operators in completing wells in this field, and basically the Yates is the major pay zone with consideration being given to that portion of the Seven Rivers that's included within the Jalmat pool designation, once again.

As expected, the -- all of the prospective formations are quite consistent and are found in an expected place throughout the area. There are no particular geologic anomalies.

Q. Mr. Aycock, will you refer to your letter, which has been marked Applicant's Exhibit Number Five, and review the information contained therein in detail for the Examiner?

A. Exhibit Number Five is the letter from -- directed from me to Alpha Twenty-One Production Company, in care of Mr. Phipps, which sets out the charge that I was

given in performing the study for Alpha Twenty-One, which was first of all to determine whether or not the proposed well would be expected to recover gas otherwise unrecoverable. Second of all, to estimate the amount of such additional anticipated gas recovery. Third of all, to assess the risk associated with drilling of the proposed well. And fourth, to advise Alpha Twenty-One as to the effect of the proposed well on the prevention of waste and protection of correlative rights.

I might add in this connection that we will subsequently -- it specifically mentioned in the letter, but it is without an infill finding which allows the new gas price under the Natural Gas Policy Act. It would be an economically imprudent decision, in my opinion, to drill this well. We will subsequently show why in the -- throughout this letter, where the physical reservoir data is presented that will, I hope, document that position.

I have summarized it here on the first page and have asserted that I believe the preponderance of evidence indicates that the proposed well will recover gas otherwise unrecoverable, and I have based this both on the fact that certain of the wells in the immediate vicinity of the proposed proration unit exhibit abnormally low gas recovery factors, and others exhibit -- those wells, a portion of those wells also indicate 1978 shut-in wellhead

pressures, which would be considered high for the Jalmat Field at this stage of depletion.

I believe both of those in a qualitative sense indicate that there is gas that would otherwise be unrecoverable.

The gas recovery being less, is probably due to the fact that, as has been experienced throughout the Jalmat Field, when the reservoir pressure gets extremely low, even though I don't anticipate that there is an effective water drive in the sense of maintaining pressure, water production problems are experienced and this generally results in a loss of gas productive capacity that's precipitous and abnormal at the time that the water production becomes a problem and generally results in a well being prematurely abandoned as compared with what would have been the case had the production decline trend continued along the -- that trend that was established prior to the time that water production was experienced.

There is also quite a variation in shut-in wellhead pressure and because many of these wells were completed in the '40s and '50s and experienced extremely high potentials and very great productivity, I don't think that the difference in -- I would not anticipate with the long shut-in times that are required by this Commission in submitting the periodic shut-in wellhead pressures, I would

not anticipate with that high permeability that we would have abnormally low pressures due to incomplete buildup. I think it's more likely that there is fluid in the hole or that there has been simply depletion of certain areas of the field to the point that the static pressure is an adequate representation as -- as measured, of what the individual well drainage areas are.

If that is correct, then that would also say that there is gas that cannot otherwise be recovered except by the drilling of additional wells in this area.

In addition, as I will further discuss, I have compared the effective calculated drainage areas for all of the wells that were considered in this sample, and as you will note, there is an extreme variation from a minimum of 14 acres to a maximum of 300 acres with a statistical median of 108 acres -- I mean a mean of 108 acres, and a median of 62 acres, with a standard deviation of 92 acres, indicating once again that it's not a normal frequency distribution and that the variation is quite large, indicating that portions of the reservoir are not being adequately drained by the existing wells.

To summarize at this point, I think that the preponderance of technical and reservoir information available indicates that the proposed well will likely recover gas that would otherwise be unrecoverable. Further,

in an attempt to estimate the amount of additional gas recovery that's anticipated from the proposed well, I took a twofold method of estimate.

One is relying completely upon the blind method of analogy and comparing what statistical experience has been, which I expect would prove to be optimistic because much of that experience was accumulated at reservoir pressures much higher than likely prevails in the vicinity of the proposed well at this time.

Nevertheless, it also illustrates quite a large variation from a minimum of 16-million to a maximum of 6.4-billion, with a statistical mean of about 1.6-billion cubic feet per well, and a statistical median of about 1-billion per well, with a standard deviation of about 1.7-billion per well. Once again, being very large, indicating that the spectrum of data available in the immediate vicinity do not comprise a normal statistical distribution and therefor do not -- probably do not represent data points that have -- that belong to single populations but multiple populations.

In a further attempt to provide a basis for estimating what the recovery could be, I've taken a statistical approach once again, but that statistical approach was applied to the volumetric parameters that are necessary in making a volumetric calculation. The wells from which those were extracted are indicated. The parameters themselves

and their values that were used in this calculation are indicated; porosity 22 percent above volume; connate water saturation 21.3 percent of net effective pore space; net effective pay 74 feet; estimated drainage area of 74-1/2 acres; and shut-in wellhead pressure, 123 psia.

Using this data the indicated ultimate recovery for the well is only 48-million cubic feet, which is much nearer the minimum that was derived from a statistical comparison of all the available experience in the area than it is to any of the other parameters, i.e. maximum or the median or mean, pardon me.

So I would have to conclude from this that, as has been my experience throughout the Jalmat Field, in the studies that I have made, that the expectations, the spectrum of possibilities is quite large, ranging from an obviously unattractive reserve figure, no matter what the price, to one that could be quite attractive, depending upon the experience. I would expect that the probabilities are that it would range closer to the minimum than it would to the maximum, which certainly does not provide a precise measure of it, and for the purposes of this letter, I have assumed that the most probable recovery for the well would be halfway between the minimum and halfway between the mean statistical comparison of all wells, which would be about 680 MMCF.

that likely will not be the result from drilling this well, but as in all cases where unusual variations in data have to be considered, which is most of the cases that I've looked at in twenty-five years, an operator has to have some basis for making a decision as to whether to drill or not to drill.

Obviously, in this case Mr. Phipps and Alpha Twenty-One Production Company believe that they have a chance of achieving a reserve that is attractive or we would not be here. If they really thought that we were going to get numbers on the size of the minimum or the fact that results from the statistically derived volumetric calculation, we would not be here.

In any event, the risk is considerable of not achieving an economic well, simply because of the experience that is available in the immediate area, and it is for that reason that I have indicated previously that I could not recommend in all conscience the drilling of a well without the price incentive which would reduce that risk.

Basically, the rest of the letter is elaboration and summary of the points that I have discussed in some detail and as backup is included a table with all eighteen wells andthe results of the studies that I've been able to make, including all of the data that is available from either the Commission's files or from commercial sources

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that was used as a basis for the numerical results that I've previously presented to you, and that are summarized in the letter.

Q. Mr. Aycock, will you now refer to Applicant's Exhibit Number Six and review this for Mr. Stamets?

A. Exhibit Number Six consists of rate/time curves for those wells that are included within the sample that are still active, and a relationship between cumulative production per well and wellhead shut-in pressure, both included to provide the Conservation Commission with -- with further documentation over and above the table that was attached to the previous exhibit for the conclusions that are drawn therein.

Q. Mr. Aycock, why is Alpha Twenty-One proposing to drill at the proposed location?

A. The geological conditions in the area dictate that the well be drilled in the most westerly location that can be practically achieved on acreage that is available simply to get away from poor reservoir conditions that have been experienced immediately to the east of this proration unit.

Q. And how did Alpha Twenty-One acquire its interest in this proration unit?

A. By a farm-in from El Paso Natural Gas Company.

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Q. Do you believe that the proposed well is necessary to effectively and efficiently drain the proposed proration unit?

A. All of the evidence that is available indicates to me that it is.

Q. In your opinion will drilling the proposed well result in recovery of hydrocarbons that otherwise would not be recovered?

A. Yes, sir, I believe it will.

Q. In your opinion will granting this application be in the interest of conservation, the prevention of waste, and the protection of correlative rights?

A. Once again, I think all of the data that's available indicates that that would be the case.

Q. And how soon does Alpha Twenty-One plan to spud this well?

A. Assuming that the Commission sees fit to grant the application, as soon as the order is received.

Q. And the GS approval is obtained?

A. Yes, and the GS approval is obtained.

Q. Were Exhibits One through Six prepared by you or under your direction and supervision?

A. Yes, they were.

MR. CARR: At this time, Mr. Examiner, we would offer Applicant's Exhibits One through Six.

MR. STAMETS: These exhibits will be admitted.

MR. CARR: And we have nothing further on direct.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Aycock, I presume you are aware that under the new rules of FERC and the Oil Conservation Division that you can get infill findings approved after the well has been drilled and completed.

A. Yes, sir.

Q. How much will this well cost?

A. In the neighborhood of $200,000.

Q. And how much production -- well, look at this different. $200,000, how much money would an operator have to receive in order to pay out this well and make a reasonable profit?

A. You mean gross money, including that that will be attributable to the royalty and overriding royalty interests?

Q. Taxes --

A. In the neighborhood of at least $300,000. That would not be an adequate profit but it would provide some margin of profit. $350 to $400,000 would be an amount,

of gross recovery that would -- would not be something that would be pursued in these times of 16-1/4 percent prime interest rates, but would prevent it from being an economic burden rather than an economic benefit.

Q. Now, what would the price of gas be if this well is not found to be a necessary infill well?

A. I suspect in the neighborhood of eighty cents.

Q. And what would the price be if this is a necessary well?

A. In the neighborhood of $2.00.

Q. You're estimating as best you can 668-million?

A. That's the difference between --

Q. 680-million.

A. Yes, sir.

Q. And how much is that at eighty cents a thousand and $2.00 a thousand?

A. Well, at eighty cents a thousand, that's going to be in the neighborhood of $400,000 and at $2.00 a thousand, it's going to be in excess of a Million Dollars, about a Million Two.

Q. Under those circumstances, then, how can you -- well, why would you say that a $400,000 prospect would not be an economical venture to drill?

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A. Because I don't think that it justifies the inevitable risks that are taken of getting one that's more nearly the minimum type well than the maximum. I think an operator that proceeded along these lines would -- would probably come to economic grief shortly.

Q. Do you foresee any circumstances under which a well could be drilled as an infill well and no proof thereafter that that well resulted in additional gas recovery from the reservoir?

A. I'm -- I'm sorry, Mr. Stamets, I'm not understanding your question. You mean --

Q. Okay.

A. You mean could a case be put on after the fact rather than before?

Q. No. Do you conceive of any -- any instance at all where you couldn't prove after the fact that the well was necessary?

A. Well, I think the problem more than the proof would be the fact that it would be difficult for me to recommend accepting the inherent risks that are involved without being able to have some idea of what the return might be beforehand.

Q. Well, I'm trying to determine if there is any risk.

A. Well, I think there's a significant risk

that you may get a -- you may get a well about like that that exists out there, that's making roughly a million a month.

Q. Well, if you got a well like that, would you have any difficulty in proving that two wells would not produce -- would you have any difficulty proving that two wells on that proration unit with identical conditions would not produce more than one well?

A. No, I'd have a -- I'd have a severe time coming up here before you and trying to convince you that as depleted as it was, that the second well was necessary.

Q. Certainly makes a lot of sense.

A. The experience, as the Commission is well aware, has been that most of the wells that have been drilled under the Natural Gas Policy Act have -- have found reserves that were attractive or the applications would not still be being made, but nevertheless, in each one of them you have to face the fact that we don't know what the data that's available really means in terms of what areas of the reservoir do the data points represent.

The best we can do is infer what they represent through a combination of log analysis and the calculation of the size of the reservoir from the extrapolation of the P/z cum curves, but remember, once again that's a one dimensional model. It's not a two dimensional model.

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So we can say how big it is but we don't know in what direction it runs, and very likely it's quite irregular; if it fits all the natural systems with which I'm familiar, it's probably quite irregular in nature.

So if we had some way to -- to have a two dimensional answer, I could agree with you that the situation might be different. Unfortunately, there's -- the data that's available to us does not provide us a two dimensional answer. It only provides us a one dimensional answer.

Q. Would you say that the best data available would be derived after the well is drilled or during the process of drilling?

A. Oh, no question about that.

Q. Can you state that this well will not be drilled if the infill findings are not made?

A. Unequivocally I can state that, yes, sir.

Q. Would you run by me one more time your reasons for that unequivocal statement?

A. Well, an investor at the present time can draw in excess of 10 percent interest rate by putting his money in a risk-free type investment. And even if he's in a high income tax bracket, he will probably get in the vicinity of an insured return of 6 or 7 percent on his money without taking any -- any of the risks that are inherent in this type of project.

So I think that -- that most people who are professionals in the oil and gas business are not going to undertake a prospect to drill, committing this amount of money, unless they feel like they have a chance to -- to achieve significantly higher returns on that money than would be available to them if they took a risk-free position. And commercial paper has been available at that rate with a prime at 16-1/4. I quite frankly haven't had time to check it, but usually commercial paper will go for several points above what the prime interest rate is for the obvious reason. You don't have a loan -- you don't have a bank loaning the money to one of the Fortune 500, you've got a different type of situation in general, where the -- even greater interest rates are available than that.

I would not be too surprised to see available interest rates on low risk commercial paper be in the range of 20 percent shortly, if they're not already there.

When you start talking about returns of that type with a -- with a comparatively insignificant degree of risk, then it becomes apparent that anybody that has money to invest, there are other ways to alleviate tax burdens besides drilling wells.

I have never been able to recommend that a client drill a well strictly as a way to minimize income

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tax burdens. My feeling is that we have an economic project that will stand on its own, then there's not a business proposition that's good for the investor or good for the public at large, for that matter, because the resources could be better used elsewhere to provide economic gain that would benefit not only the investor but society as a whole.

So I believe that extraordinary returns, particularly when we're talking about a degree of risk which could be compared to a low -- a low risk type wildcat, is about what you're taking here. You know the formation's there. You know that at one time it contained gas in commercial quantities. You know that if you find gas the likelihood is it will be available to you in commercial rates. What you do not know for sure is, is it going to contain enough gas to pay for the well or are you going to find that the water encroachment, from whatever source, whether from above, below, or from some remote area, has reached the point that you're not able to -- either not able to maintain commercial rates of production, or you simply drill into a depleted reservoir in which there is -- there is insufficient gas to pay for the well, however the rate at which it's recovered.

So I don't -- I could not recommend, and I don't think -- as you know, Mr. Phipps and I've been

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working together for [illegible], and I have to rely on my judgment after all this time to some degree, and I unequivocally could not recommend the well with -- with the types of risk that we're talking around here, without the incentive of having the price.

Q. And the basis for this recommendation is totally related to the investment risk.

A. Yes, sir. I think the physical risks, other than what the reserves and deliverability are going to be, are modest because of the depth of the wells that we're talking about, and certainly we're drilling in a trend.

Now, this well has more risk than the ordinary one because there is no question that we're -- that we're running out of permeability in the Jalmat zone, due to the fact that we -- we have to go north and east of here to find Jalmat wells, and we have two dry Jalmat depth wells located in the same section that were never completed at all because they wouldn't yield gas in commercial quantities.

So I think we have, in addition to the normal risk factor that we have in the Jalmat development, which I've built upon, that is the degree of depletion and whether or not water is going to be found, or whether to the point that you cannot initially achieve and maintain commercial gas flow rates, we've got somewhat of an additional

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problem here. I notice also on the drilling between the wells that have been completed in it, that it appears that at the location we've requested that risk could be minimized. If we had to drill it at any other location on that 160, I think that risk would be many fold greater than it is at that location. So by the request being phrased as it is, we've attempted to minimize that degree of risk and put it more or less in the center of a proved infill Jalmat location; i.e. one in which it is totally surrounded on all sides by either currently producing or formerly productive Jalmat gas wells.

Q. Alpha Twenty-One has had a number of these cases. Have any of those wells been completed yet?

A. Yes, sir, most of them have been.

Q. Have any of them found the formation drained to the condition of the original well?

A. I can't tell you specifically because all I've done is to discuss them in terms of general parameters. So far the experience has been quite good, but then the wells are still not paid out.

After the penalty is recovered that went into drilling them, if they're still producing at some kind of reasonable rates, then I can give you a legitimate and conscientiously correct answer to that. Right now I could not, even had I studied them in detail

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But at the present time the initial rates have been -- have been adequate to indicate that they are probably going to be attractive investments.

Q. Do you know of any wells that have been drilled under these circumstances that would not have been attractive?

A. Well, one of Alpha Twenty-One's is in doubt, even from the first, and it appears that they encountered a zone in which they lost circulation, and the reason for it was that severe depletion had taken place, and that well has not responded as has been typical, and it may be that it never will respond.

MR. STAMETS: Any other questions of this witness?

MR. PADILLA: I have a couple, Mr. Examiner.

CROSS EXAMINATION

BY MR. PADILLA:

Q. Mr. Aycock, it seems to me that Mr. Stamets is somehow coming up with -- or interpreting your conclusions as being solely one of economics, whether this well is a good investment or not. But in referring and looking back at, say, Exhibit Number Two, can you explain

to me why, based on that structure map, why that well as proposed is -- should be located there?

A. Well, you're on the flanks of a local structural anomaly at which the general experience is that whenever you have those, the sand quality is of better character than it is other places, and you'll notice the way we have interpreted the available data, if you got to -- if you were to drill that well to the east, you would be out in an area in which the rate of dip is very flat, there is no structural anomaly associated with it, and the industry experience has been that they haven't been able to successfully complete Jalmat wells in that region for that reason. There's no -- there's no pay quality there. There's no commercial reservoir available to you. On the eastern edge you would have extreme risk of encountering that type of situation.

Q. And in explaining Exhibits Three and Four you said that there were no geologic anomalies in there, and it seems to me then that the well up in the northwest quarter of that section there, and the well down below, which would be, I guess, the El Paso No. 1, would -- would drain that area of any hydrocarbons.

A. Well, they probably did drain it at one time, but you see, the problem with drainage is it's not a

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constant. It depends on the available energy, which is measured by the reservoir pressure, and if depletion takes place, gas can move over a shorter and shorter distance, because there's less energy available to move it at commercial rates.

So it's quite common in gas reservoirs that -- at all depths, that they have to be infill drilled later in the life of them to be able to maintain the rates of withdrawal from the reservoir, and that's simply all we're talking about here.

Q. Then you're saying that neither one of those wells would drain gas from under the area of the proposed location?

A. Not in the time frame that makes any sense in terms of human life, no. They might if you could keep them producing for 100 years, but it would not be something that would have any benefit as far as the resource value to -- to contemporary society, no.

Q. Well, what are you basing that on, porosity, then?

A. I'm not following you.

Q. Well, are you basing your conclusion on porosity or --

A. No, I'm basing my conclusion on the fact that the permeability -- the effective permeability as it

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exists in nature, is a factor, is a physical characteristic of the rock as modified by the amount of connate water that it contains.

The amount of gas that can be flowed over any given distance is a function of how much energy is available in the reservoir. That energy is measured by the static pressure. As the static pressure declines commercial flow rates cannot be maintained over the distances that they were during the time when the reservoir pressure was high. Therefor, in order to be able to withdraw, continue to withdraw gas at commercial rates, more wells have to be drilled so the gas doesn't have to move as far from where it exists in the ground to a wellbore where it can be recovered.

Q. Are you then recommending, say, would you recommend 40-acre spacing for this area for financial gas recovery -- for commercial gas recovery?

A. I think it would depend on what happens to the proposed well. If it measures a significantly higher reservoir pressure than either of the two wells that bracket it, both north and south, that could well be a proper conclusion.

Q. In effect your sole basis for -- for saying that this infill well should be allowed is not really

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based on engineering or geological data, but strictly on statistical data.

A. No, that's not correct. The engineering data that I presented has been organized in a statistical form but it's engineering data, and it clearly shows that the -- that the normal experience in the area has been that wells have not drained anything like the spacing on which they're drilled.

MR. PADILLA: I have no further questions.

MR. STAMETS: Any other questions? The witness may be excused.

Anything further in this case?

The case will be taken under advisement.

(Hearing concluded.)

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REPORTER'S CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

_____

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____, heard by me on _____ 19____.

_____, Examiner
Oil Conservation Division

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
13 February 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

CASE ~~6805~~ 6767

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

MR. NUTTER: Call Case Number 6767.

MR. PADILLA: Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

Mr. Examiner, the applicant in this case has requested that it be continued to the February 27, 1980, hearing.

MR. NUTTER: Case Number 6767 will be continued to the hearing that's scheduled to be held at this same place at 9:00 o'clock a. m. February 27, 1980.

(Hearing concluded.)

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Sally W. Boyd C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6767 heard by me on 2/13 19 80.

Examiner
Oil Conservation Division

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
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SANTA FE, NEW MEXICO
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Examiner
Oil Conservation Division

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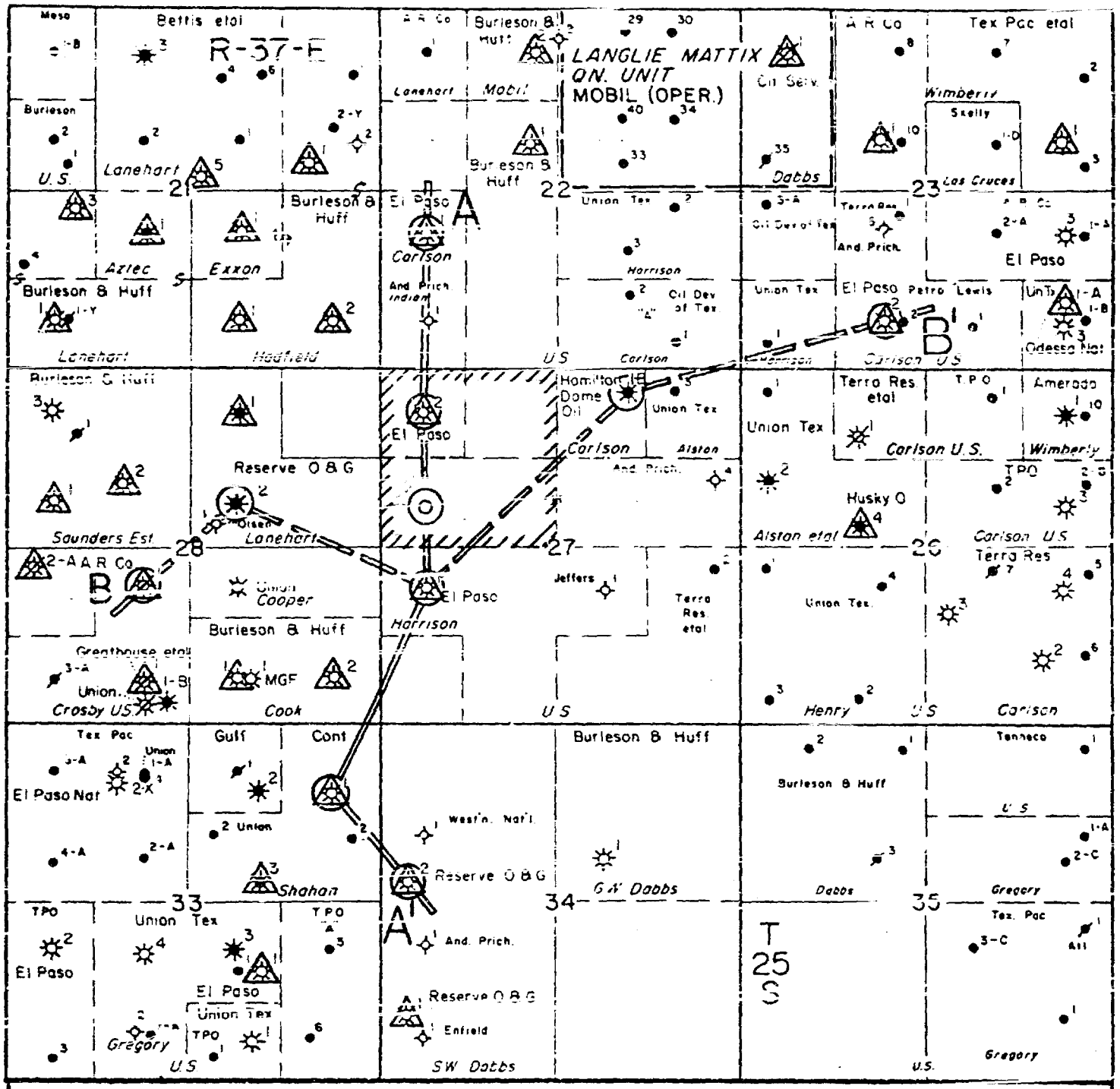
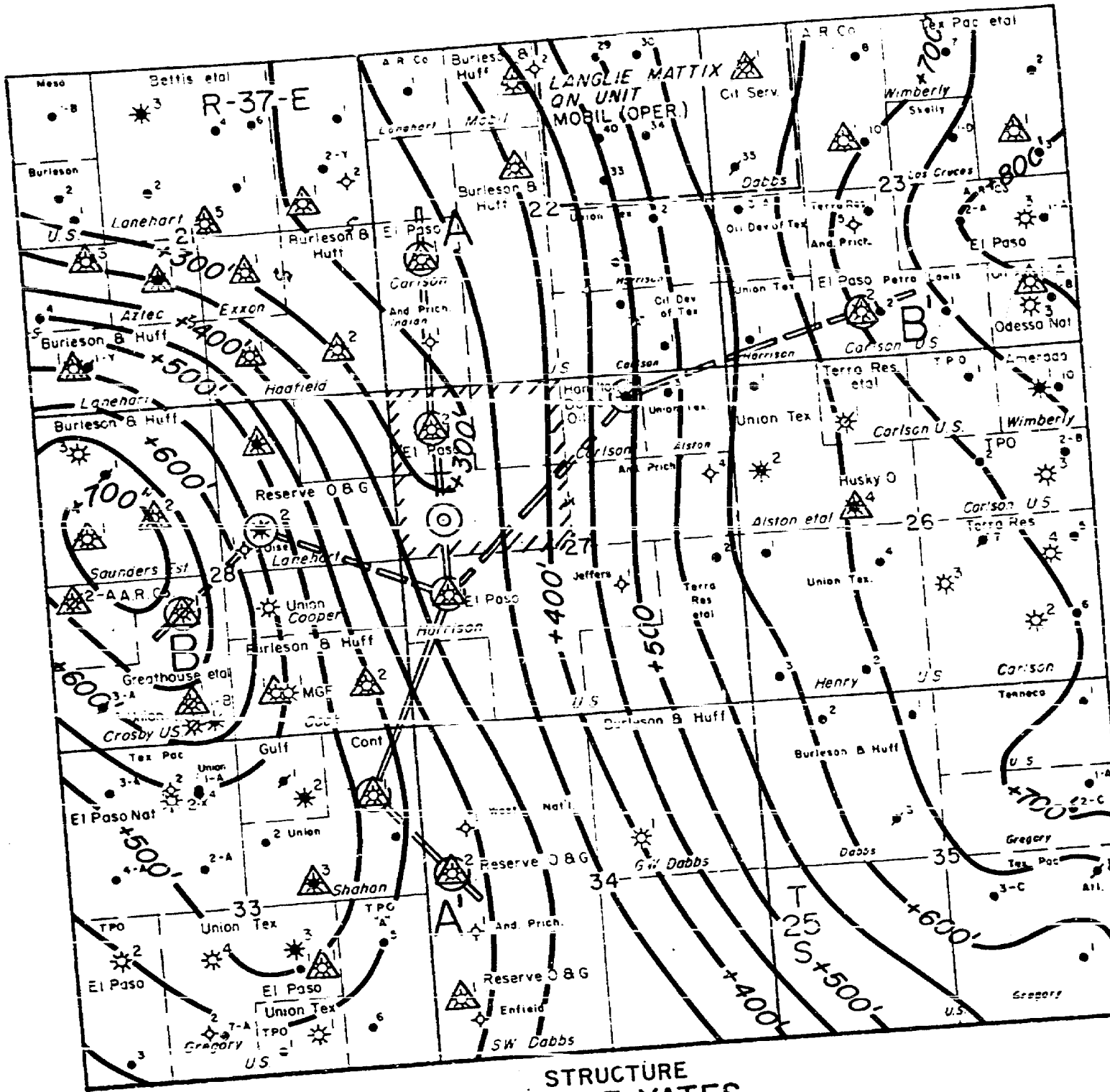


LAND MAP
JALMAT (YATES) FIELD

A¹ - JALMAT Prod.

Field JALMAT		County LEA	State N. MEX.
Engineer W. P. A.	Drwn. By H's	Date 11-20-79	File ALPHA 21 CORP.
RADTKE, AYCOCK, & ASSOC., INC.		Ref. No.	EXHIBIT NO.
310 WALL TOWERS WEST	MIDLAND, TEXAS		



STRUCTURE
TOP OF YATES
C.I. = 50'

1 - JALMAT Prod.		County LEA	State N. MEX.
Field JALMAT		Date 11-20-79	File ALPHA 21 CORP.
Engineer W. P. A.	Drwn. By H's	Ref No.	EXHIBIT NO.

RADTKE, AYCOCK & ASSOC., INC.
310 WALL TOWERS WEST MIDLAND, TEXAS

RADTKE, AYCOCK, & ASSOCIATES, INC.
Petroleum Engineering Consultants
310 WALL TOWERS WEST
MIDLAND, TEXAS 79701
TELEPHONE 915/684-6044

February 25, 1979

Alpha 21 Production Co.
2100 First National Bank Tower
Midland, Texas 79701

Attention Mr. Tom Phipps

Subject: Proposed Jalmat Pool Infill
Gas Development Well, To Be
Located at 660' FWL and 1980' FNL
Section 27, Twp. 25 S, Range 37 E
Lea County, New Mexico

Gentlemen:

You have requested us to make an engineering analysis of both the active and formerly active Jalmat Pool gas producing wells that are located in the vicinity of the proposed well location. The purposes of this effort were as follows:

1. To determine whether or not the proposed well would be expected to recover gas otherwise unrecoverable.
2. To estimate the amount of such anticipated additional gas recovery.
3. To assess the risk associated with drilling the proposed well.
4. To advise you as to the effect of the proposed well upon the prevention of waste and protection of correlative rights.

We believe that the preponderance of evidence indicates that the proposed well will recover gas otherwise unrecoverable. This assertion results from perusal of both the anticipated gas recovery factors for 10 of the 18 wells listed on the attachment which were successfully produced and the reported 1978 shut-in wellhead pressures reported for eight of the 18 listed wells for the year 1978. The results of a qualitative statistical analysis of these parameters is as follows:

Statistical Comparison Parameter	Gas Recovery Factor, %	1978 S.I.W.H.P., psia
Mean	64.2	181.6
Median	61.4	173.2
Maximum	94.9	333.2
Minimum	18.3	74.2
Standard Deviation	26.1	89.1

The mean gas recovery factor is less than expected for pressure depletion gas reservoirs, and the deviation gas recovery factor, whether expressed by either the difference in maximum and minimum recovery factors or the standard deviation, is larger than usually expected. Both of these observations indicate that some of the nearby wells were or are being operating by pressure depletion, while others of the nearby wells were or are being depleted by pressure depletion in combination with water influx.

The observed variation in 1978 S.I.W.H.P. is greater than would be anticipated for the high permeability Jalmat reservoirs. The pressure variation is probably partly apparent, as some wells probably had fluid standing within the wellbore, resulting in an abnormally low S.I.W.H.P. for such wells. Past experience indicates that the inter-well net effective reservoir continuity is excellent, so that the observed pressure variations are not likely to result from poor or non-existent net effective reservoir continuity. The most probable explanation for the observed pressure differences is the variable effect of water influx upon the pressures observed from the various wells included in the study sample.

An inference of whether or not the proposed well will recover otherwise unrecoverable gas can also be derived from perusal and qualitative statiscal analysis of the calculated effective drainage areas for seven of the 18 wells included in the study sample:

Statistical Comparison Parameter	Effective Drainage Area, Acres
Mean	108
Median	62
Maximum	300
Minimum	14
Standard Deviation	92

The observed variation is substantial, and the mean and median drainage areas indicate that the Jalmat Pool reservoirs in the vicinity of the proposed well location should be developed to at least 80 acres per well density, in order to recover a reasonable portion of the original gas-in-place.

In summary, all available technical reservoir and well performance data indicate that the ultimate gas recovery from the proposed well will consist in substantial part at least of gas otherwise unrecoverable.

In order to estimate the amount of additional gas recovery expected from the proposed well, analogy with existing wells must be used as a method, and a qualitative statistical analysis can be used to analyze the individual well ultimate gas recoveries from the 17 of the 18-well study sample that produced gas as follows:

Statistical Comparison Parameter	Estimated Additional Gas Recovery, MMCF
Mean	1598
Median	1013
Maximum	6370
Minimum	16
Standard Deviation	1681

These estimates, using the method of analogy as their predicate, have a variation that is quite large. In an effort to reduce the degree of uncertainty thus indicated, a volumetric estimate of recovery, deriving the basic data from a statistical analysis of such data from the five wells nearest the proposed location for which all of the necessary data was available, of 47.6 MMCF was made. This value is near the minimum value of the above statistical analysis and will probably prove to be conservative if a well capable of producing this allowable results. The wells used for derivation of the data were.

Operator, Lease and Well No.	Location
El Paso Natural Gas Co. Harrison 1	27(L)-25S-37E
El Paso Natural Gas Co. Harrison 2	27(D)-25S-37E
Burleson & Huff Hadfield 1	21(O)-25S-37E
Burleson & Huff Cook 1	28(O)-25S-37E
El Paso Natural Gas Co. Carlson Fed. 1	27(L)-25S-37E

The values of the volumetric reservoir and pressure parameters used in this calculation were as follows:

Parameter	Value
Porosity, % Bulk Volume	22.0
Connate Water Saturation, % N.E.P.S.	21.3
Net Effective Pay, feet	74.0
Drainage Area, acres	74.5
S.I.W.H.P., psia	122.9

In summary, the available data indicate that the proposed well will probably recover from 48 MMCF to 1600 MMCF, with a most probable additional recovery of about 680 MMCF.

The risk associated with drilling the proposed well is primarily that water influx will adversely affect the gas production rate prior to achieving pressure depletion. Five wells of the 18 used in the sample appear to have experienced such a situation:

Operator, Lease and Well No.	Location
Burleson & Huff Hadfield 2	21(P)-25S-37E
Conoco, Inc. Shahan "33" - 1	33(A)-25S-37E
Burleson & Huff ARCO 2-Y	21(H)-25S-37E
Shermerhorn Dabbs 1	34(G)-25S-37E
Mobil Oil Corp. Stuart Tr. 6, No. 1	22(G)-25S-37E

Based upon this experience, the probability of completing the proposed well and experiencing water induced production problems of sufficient gravity not to allow substantial pressure depletion throughout the effective drainage area is about 28 percent. The remaining risks that foreseeably could result in an economically unfavorable result from the proposed well are mechanical in nature and associated with drilling and completion operations. Due to the facts that you are a systematically careful operator and the anticipated depth is about 3000 feet, the mechanical risks should be minimized. Therefore, the probability is apparently high that drilling the proposed well will yield an economically satisfactory result if your N.G.P.A. infill application is approved, resulting in an acceptable gas sale price.

We believe that correlative rights will be protected and waste prevented, since, without the proposed well, both the mineral and working interest owners of the acreage to be assigned to the proposed well will not recover their reasonable share of the Jalmat Pool gas in place beneath the acreage. Also, the public will be denied the use of the gas, for which there is apparently a ready market, that is produced by the proposed well.

In final summary, we submit the following:

1. The proposed well is expected to recover gas substantially otherwise not recoverable.

2. The most probable value for the amount of such additional recovery is about 680 MMCF.

3. The economic risk associated with drilling the proposed well is acceptable, assuming a successful N.G.P.A. Infill Application for the well.

4. The proposed well is expected to both protect correlative rights and avoid waste.

We trust that this report is sufficient to answer your questions. Please advise if we can serve you further in this connection.

Very truly yours,

Wm. P. Aycock, P. E.

WPA/bw

Attachment

DIVIDUAL WELL INFORMATION FOR ALPHA 21 PRODUCTION CO.

IN THE VICINITY OF THE PROPOSED WELL LOCATION

. & 1980' FNL, SECTION 27, TOWNSHIP 25S, RANGE 37E

JALMAT (TANSILL-YATES-7 RIVERS) POOL

LEA COUNTY, NEW MEXICO

1	Burleson & Huff W.M. Cook 1	El Paso N.G. Carlson Fed. 1	Conoco, Inc. Shahan "33" 1	Reserve Oil Dabbs 2	Burleson & Huff ARCO 2Y	ARCO Lanehart 1	Shermerhorn Dabbs 1	Mobil Oil Stuart Tr. 6 1	Conoco, Inc. Shahan "33" 3	El Paso N.G. Carlson Fed. 2	ARCO W.K.Wimberly 1	Cities Svc. Dabbs 1
'E	28O-25S-37E	22L-25S-37E	33A-25S-37E	34E-25S-37E	21H-25S-37E	21H-25S-37E	34G-25S-37E	22G-25S-37E	33G-25S-37E	23N-25S-37E	23F-25S-37E	23D-25S-37E
f	4500' SW	3900' N	4500' SSW	5600' S	5600' NNW	5200' NNW	3800' SW	-	6000' SSW	7000' ENE	8300' NE	8300' NNE
)	9-10-73	9-2-55	4-2-77	9-4-52	1-6-76	12-31-36	4-15-58	-	10-25-53	12-8-55	3-29-43	12-4-36
	1166	220	180	908	36	7500	360	-	500	320	2500	37,000
)	2506-2552	2822-2940	2562-2809	2745-2828	3009-3048	3025-3075	2675-2995	-	2512-2532	2350-2668	3044-3220	3162-3212
)	537,417	4,396,673	31,809	708,908	4160	2,583,881	-	172,249	1,172,093	899,875	3,282,371	6,370,101
	25.9	19.2	23.7	22.6	17.3	-	18.7	-	19.6	-	-	-
	20.	23.	20.	21.	55.	-	24.	-	23.	-	-	-
	13.	37.	78.	53.	15.	-	70.	-	17.	-	-	-
	8.0	37.9	16.2	28.0	3.45	-	29.6	-	7.6	-	-	-
	1293	4713	235	-	-	-	-	-	2282	6615	7149	-
	832	4476	74	854	16	2584	-	172	1172	1209	3458	6370
	64.3	94.9	31.5	-	-	-	-	-	51.4	18.3	48.3	-
	162	124	14	-	-	-	-	-	300	-	-	-
	225.2	74.2	333.2	-	-	-	-	-	-	-	-	-

SUMMARY OF INDIVIDUAL WELL INFORMATION FOR ALPHA 21 PRODUCTION CO.
WELLS IN THE VICINITY OF THE PROPOSED WELL LOCATION
660' FWL & 1980' FNL, SECTION 27, TOWNSHIP 25S, RANGE 37E
JALMAT (TANSILL-YATES-7 RIVERS) POOL
LEA COUNTY, NEW MEXICO

	El Paso N.G. Harrison 1	El Paso N.G. Harrison 2	Burleson & Huff Hadfield 2	Burleson & Huff W.M. Cook 2	Reserve Oil C.J.Lanehart 1	Burleson & Huff Hadfield 1	Burleson & Huff W.M. Cook 1	El Paso N.G. Carlson Fed. 1	Conoco, Inc. Shahan "33" 1	Reserve Oil Dabbs 2	Burleson & Huff ARCO 2Y	ARCO Lanehart 1	Shermerhorn Dabbs 1	Mobil Oil Stuart Tr. 6 1	Conoco, Shahan 3
Location of Well	27L-25S-37E	27D-25S-37E	21P-25S-37E	28P-25S-37E	28B-25S-37E	21O-25S-37E	28O-25S-37E	22L-25S-37E	33A-25S-37E	34E-25S-37E	21H-25S-37E	21M-25S-37E	34G-25S-37E	22G-25S-37E	33G-25S-3
Distance and Direction From Proposed Well	1250' N	1300' S	2900' NNW	2850' SW	2900' WNW	3700' NW	4500' SW	3900' N	4500' SSW	5600' S	5600' NNW	5200' NNW	5800' SW	-	6000' S
Completion Date	12-7-55	6-8-56	5-12-77	2-6-69	11-10-53	2-23-47	9-10-73	9-2-55	4-2-77	9-4-52	1-6-76	12-31-36	4-15-58	-	10-25-5
Init. CAOFP, MCF/day	-	5000	40	2099	810	3250	1166	220	180	908	36	7500	360	-	500
Completion Interval	2838-2930	2880-3040	2878-2924	2567-2752	2715-2900	2650-3024	2506-2552	2822-2940	2562-2809	2745-2828	3009-3048	3025-3075	2675-2995	-	2512-25
Cum. Gas Production, MCF @ 6-1-79	945,105	2,067,974	84,938	565,404	550-422	3,059,160	537,417	4,396,673	31,809	708,908	4160	2,583,881	-	172,249	1,172,0
Volumetric Analysis Results:															
Mean Eff. Porosity, % Bulk Vol.	18.7	25.4	-	-	-	21.8	25.9	19.2	23.7	22.6	17.3	-	18.7	-	19.6
Mean Con. Wtr. Stn., % HEPS	24.	20.	-	-	-	21.	20.	23.	20.	21.	55.	-	24.	-	23.
Net Effective Pay, feet	66.	78.	-	-	-	106.	13.	87.	78.	53.	15.	-	70.	-	17.
Orig. Gas-in-place, MMCF/acre	27.8	47.1	-	-	-	53.8	8.9	37.9	16.2	28.0	3.45	-	29.6	-	7.6
Est'mated OGIP, MMCF	1075	2437	-	1167	-	3321	1293	4713	235	-	-	-	-	-	2282
Est. Ult. Gas Recovery, MMCF	1023	2129	90	684	550	3076	832	4476	74	354	16	2584	-	172	1172
Est. Gas Rec. Factor, % OGIP	95.4	87.4	-	58.6	-	92.6	64.3	94.9	31.5	-	-	-	-	-	51.4
Est. Eff. Drainage Area, acres	39	52	-	-	-	62	162	124	14	-	-	-	-	-	300
1979 Shut-in Wellhead Pressure, psia	121.2	123.2	273.2	223.2	-	81.2	223.2	76.2	333.2	-	-	-	-	-	-

SUMMARY OF INDIVIDUAL WELL INFORMATION FOR ALPHA 21 PRODUCTION CO.
WELLS IN THE VICINITY OF THE PROPOSED WELL LOCATION
660' FWL & 1980' FNL, SECTION 27, TOWNSHIP 25S, RANGE 37E
JALMAT (TANSILL-YATES-7 RIVERS) POOL
LEA COUNTY, NEW MEXICO

Paso N.G. arrison 2	Burleson & Huff Hadfield 2	Burleson & Huff W.M. Cook 2	Reserve Oil C.J.Lanehart 1	Burleson & Huff Hadfield 1	Burleson & Huff W.M. Cook 1	El Paso N.G. Carlson Fed. 1	Conoco, Inc. Shahan "33" 1	Reserve Oil Dabbs 2	Burleson & Huff ARCO 2Y	ARCO Lanehart 1	Shermerhorn Dabbs 1	Mobil Oil Stuart Tr. 6 1	Conoco, Inc. Shahan "33" 3	El Paso N.G. Carlson Fed. 2	ARCO W.N.Wimberly 1	Cities Svc. Dabbs 1
D-25S-37E	21P-25S-37E	28P-25S-37E	28B-25S-37E	21O-25S-37E	28O-25S-37E	22L-25S-37E	33A-25S-37E	34E-25S-37E	21H-25S-37E	21H-25S-37E	34G-25S-37E	22G-25S-37E	33G-25S-37E	27M-25S-37E	23F-25S-37E	23D-25S-37E
1309' S	2900' NNW	2850' SW	2900' WNW	3700' NW	4500' SW	3900' N	4500' SSW	5600' S	5600' NNW	5200' NNW	5800' SW	-	6000' SSW	7900' ENE	8300' NE	8300' NNE
6-8-56	5-12-77	2-6-69	11-10-53	2-23-47	9-10-73	9-2-55	4-2-77	9-4-52	1-6-76	12-31-36	4-15-58	-	10-25-53	12-8-55	3-29-43	12-4-36
5000	40	2099	810	3250	1166	220	180	908	36	7500	360	-	500	320	2500	37,000
880-3046	2878-2924	2567-2752	2715-2900	2650-3024	2506-2552	2822-2940	2562-2809	2745-2828	3009-3048	3025-3075	2675-2995	-	2512-2552	2550-2668	2944-3220	3100-3222
067,974	84,938	565,404	550-422	3,059,160	537,417	4,396,673	31,609	720,000	4160	2.583.881	-	172,249	1,172,093	899,875	3,282,371	6,370,101
25.4	-	-	-	21.8	25.9	19.2	23.7	22.6	17.3	-	18.7	-	19.6	-	-	-
20.	-	-	-	21.	20.	23.	20.	21.	55.	-	24.	-	25.	-	-	-
78.	-	-	-	106.	13.	87.	78.	53.	15.	-	70.	-	17.	-	-	-
47.1	-	-	-	53.8	8.0	37.9	16.2	28.0	3.45	-	29.6	-	7.6	-	-	-
2437	-	1167	-	3321	1293	4713	235	-	-	-	-	-	2282	6615	7149	-
2129	90	684	550	3076	832	4476	74	854	16	2584	-	172	1172	1209	3458	6370
87.4	-	58.6	-	92.6	64.3	94.9	31.5	-	-	-	-	-	51.4	18.3	48.3	-
52	-	-	-	62	162	124	14	-	-	-	-	-	300	-	-	-
23.2	275.2	223.2	-	81.2	223.2	74.2	333.2	-	-	-	-	-	-	-	-	-

EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS
EL PASO NATURAL GAS NO. 1
HARRISON
27L-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

1971 1972 1973 1974 1975 1976 1977 1978 1979

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
Adm 21 EXHIBIT NO. 6
CASE NO. 6767
Submitted by: AYcock
Hearing Date 2/27/80

EXHIBIT NO

JALMAT TANSILL YATES 7-RIVERS
EL PASO NATURAL GAS NO. 2
HARRISON
27D-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO

10,000
1000
100
10

1971 1972 1973 1974 1975 1976 1977 1978 1979 19 19 19 19 19 19 19 19 19 19

EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS
BURLESON & HUFF NO. 2
HADFIELD
21P-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

No prod

1976 1977 1978 1979 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19

EXHIBIT NO. ____

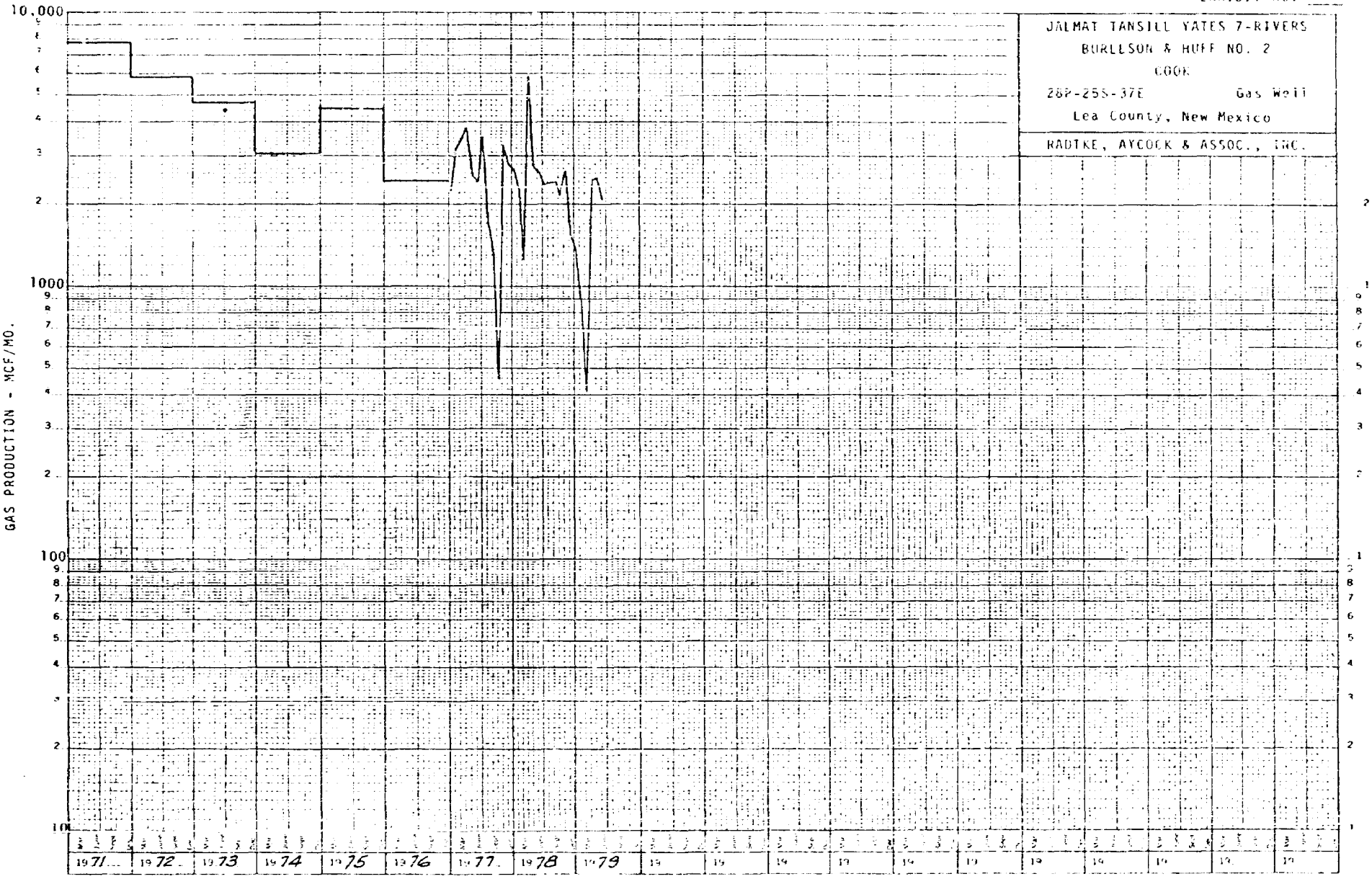

JALMAT TANSILL YATES 7-RIVERS
BURLESON & HUFF NO. 2
COOK
28P-25S-37E Gas Well
Lea County, New Mexico
RADTKE, AYCOCK & ASSOC., INC.
GAS PRODUCTION - MCF/MO.
10,000
1000
100
10
1971
1972
1973
1974
1975
1976
1977
1978
1979

EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS
BURLESON & HUFF NO. 1
COOK
280 25'-32E Gas Well
Lea County, New Mexico
RAUTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

1973 1974 1975 1976 1977 1978 1979 19 19 19 19 19 19 19 19 19 19 19 19

EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS
BURLESON & HUFF NO. 1
HADFIELD
210-25S-37E Gas Well
Lea County, New Mexico
RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

1971 1972 1973 1974 1975 1976 1977 1978 1979

EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS
EL PASO NATURAL GAS NO. 1
CARLSON FEDERAL
22L-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

47 6840

GAS PRODUCTION - MCF/MO.

100,000
10,000
1000
100

'71 '72 '73 '74 '75 '76 '77 '78 '79

EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS
CONTINENTAL OIL CO. NO. 1
SHAHAN "33"
33A-25S-37E Gas Well
Lea County, New Mexico
RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

1977 1978 1979 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19

EXHIBIT NO.

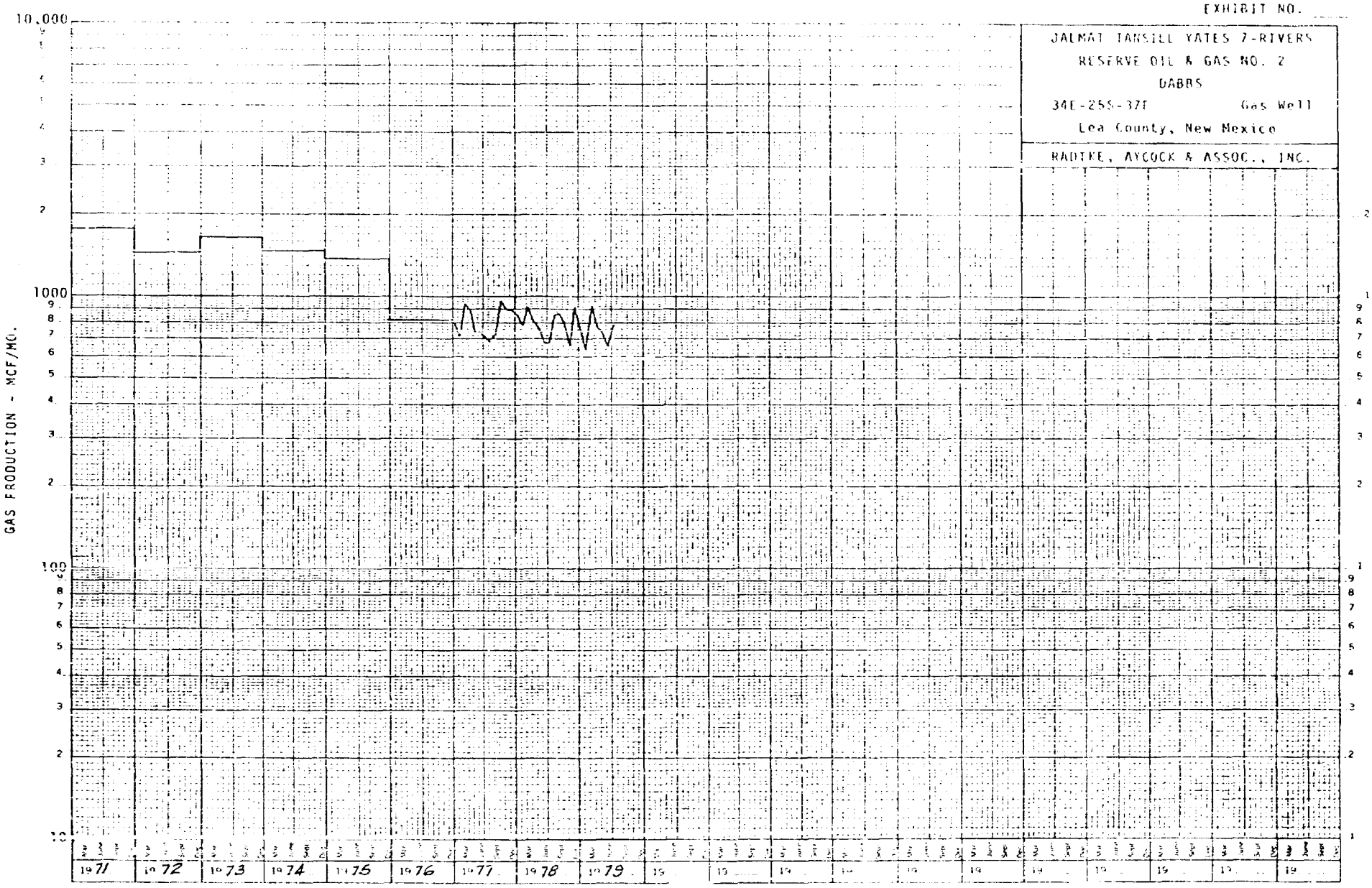

JALMAT TANSILL YATES 7-RIVERS
RESERVE OIL & GAS NO. 2
DABBS
34E-25S-37E Gas Well
Lea County, New Mexico
RADTKE, AYCOCK & ASSOC., INC.
GAS PRODUCTION - MCF/MO.
10,000
1000
100
10
1971
1972
1973
1974
1975
1976
1977
1978
1979

EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS

BURLESON & HUFF NO. 2-Y

ARCO

21H-25S-37E Gas Well

Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

1976 1977 1978 1979 19 19 19 19 19 19 19 19 19 19 19 19 19 19

EXHIBIT NO.

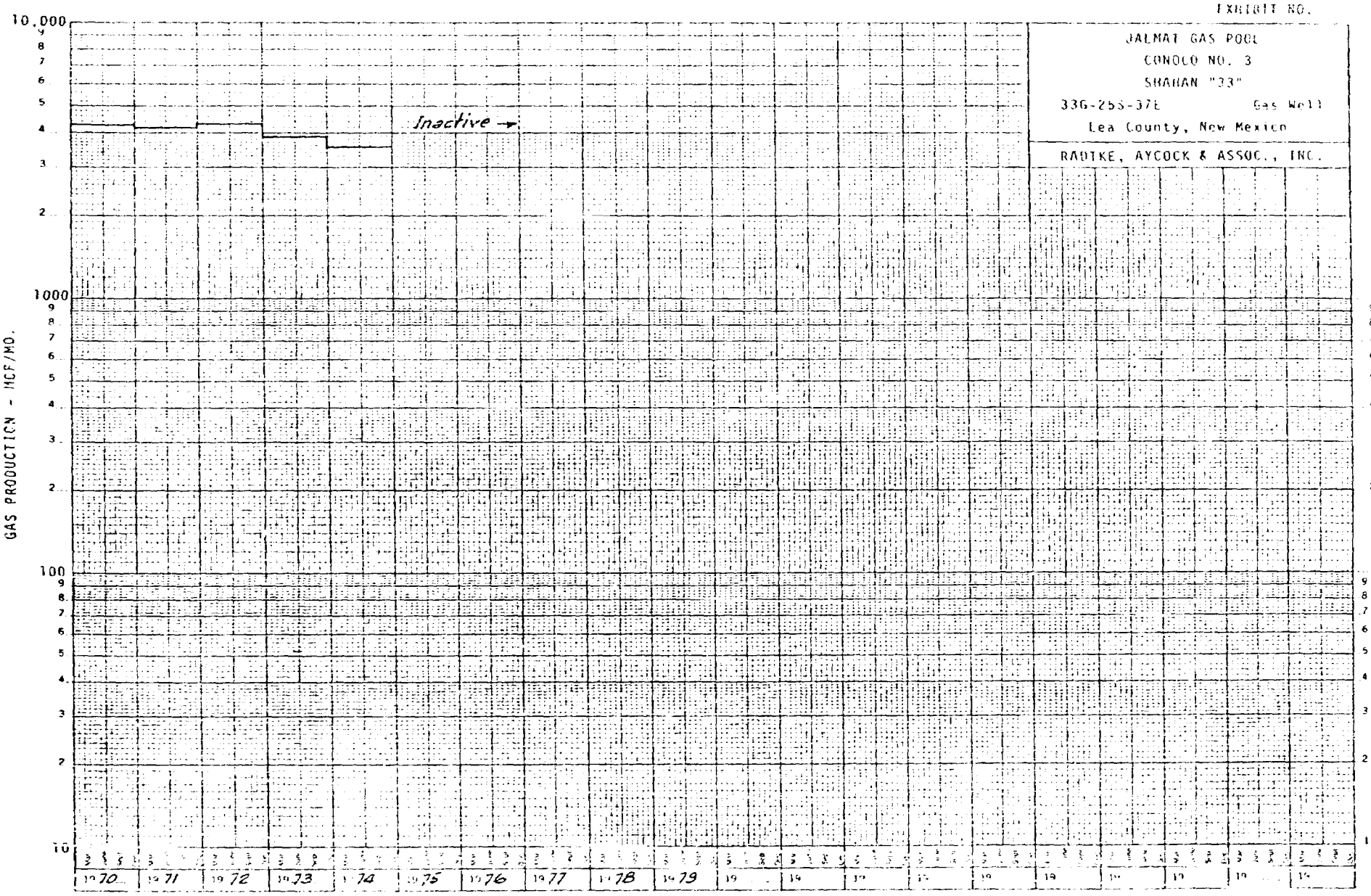

JALMAT GAS POOL
CONOCO NO. 3
SHAHAN "33"
33G-25S-37E Gas Well
Lea County, New Mexico
RADTKE, AYCOCK & ASSOC., INC.
GAS PRODUCTION - MCF/MO.
10,000
1000
100
10
Inactive
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979

EXHIBIT NO.

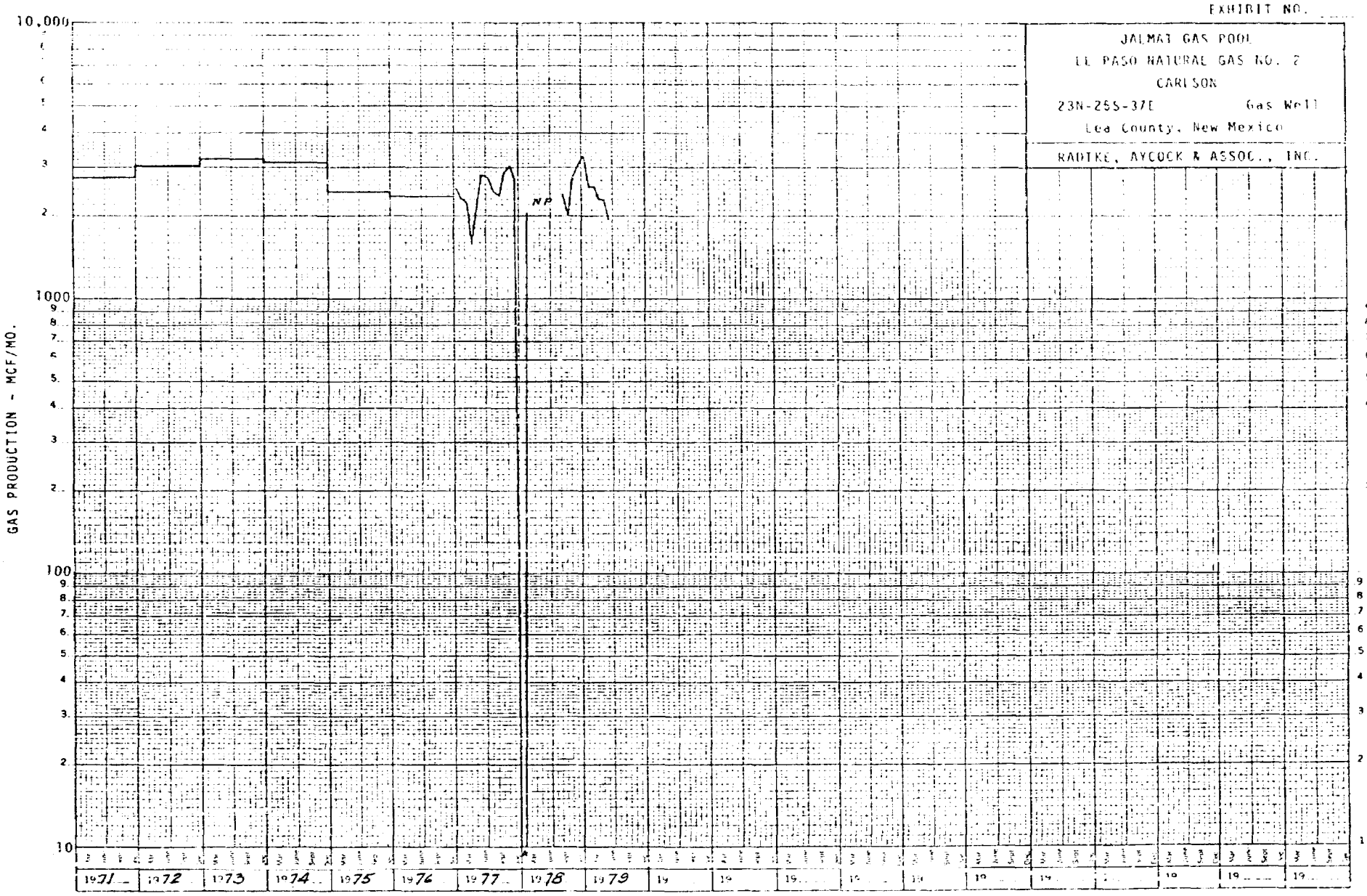

JALMAT GAS POOL
EL PASO NATURAL GAS NO. 2
CARLSON
23N-25S-37E Gas Well
Lea County, New Mexico
RADTKE, AYCOCK & ASSOC., INC.
GAS PRODUCTION - MCF/MO.
10,000
1000
100
10
NP
1971
1972
1973
1974
1975
1976
1977
1978
1979

EXHIBIT NO. ___

JALMAT GAS POOL
ARCO NO. 1
WIMBERLY "WN"
23E-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

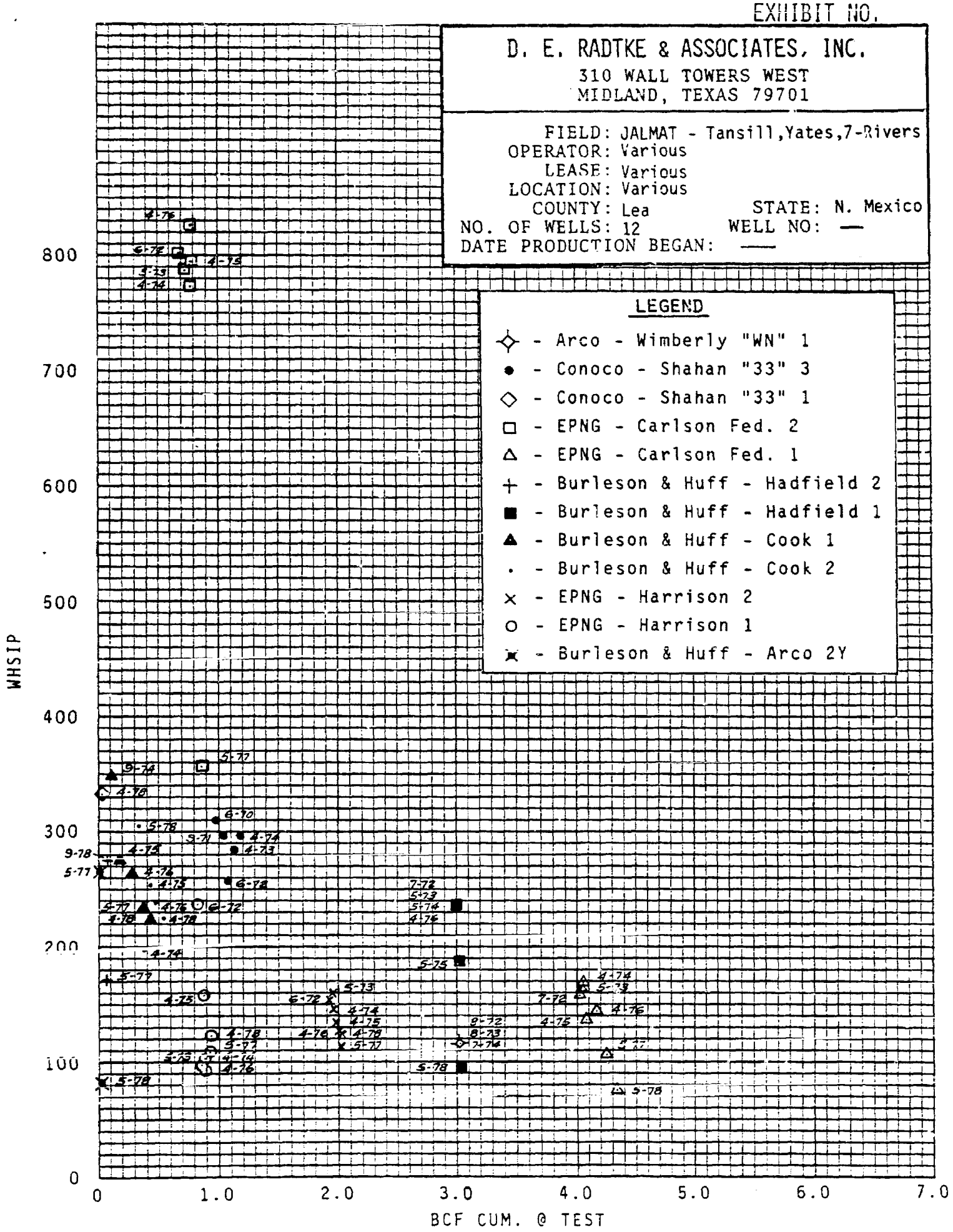
10,000
1000
100
10

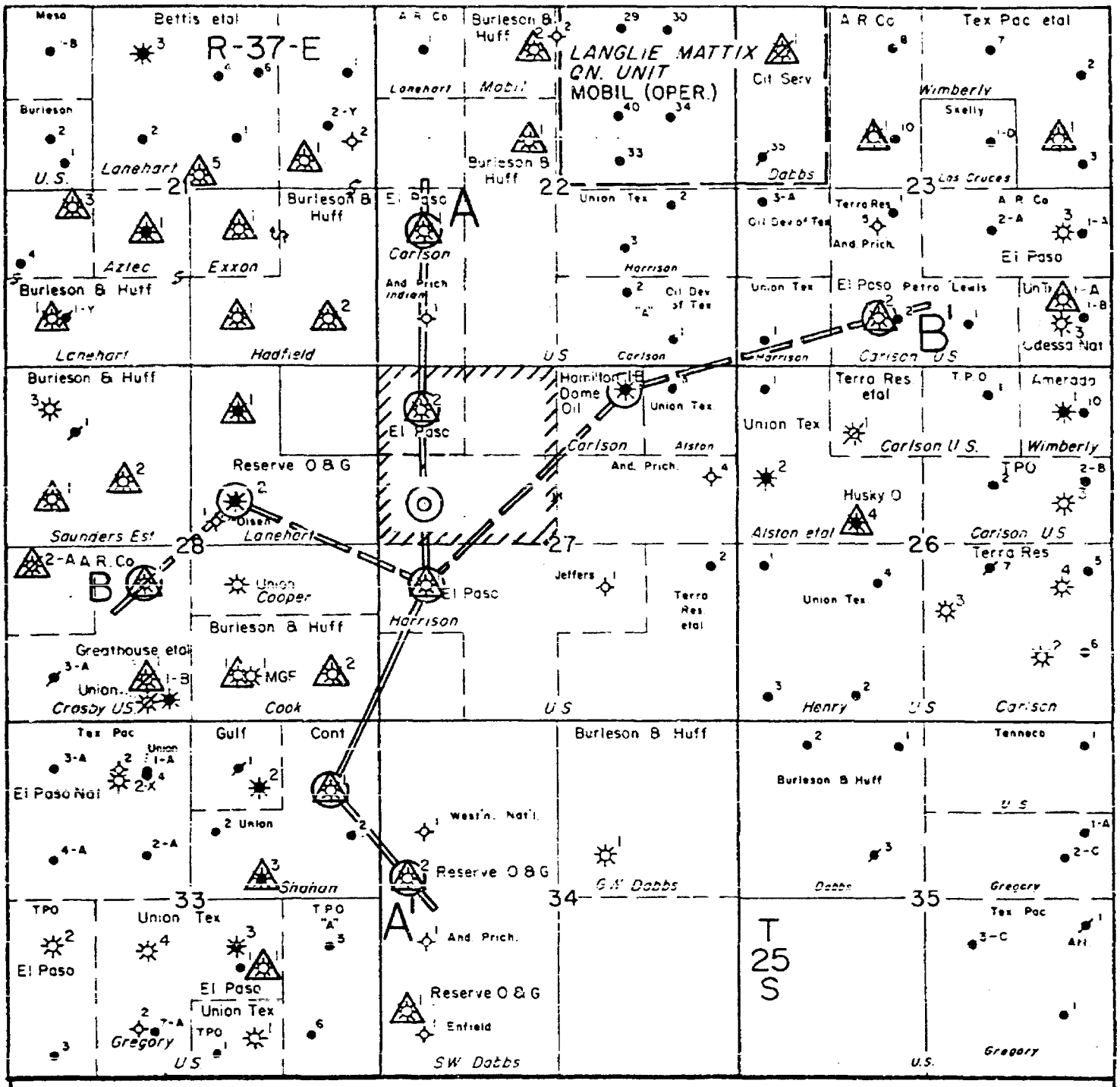
1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 19__ | 19__ | 19__ | 19__ | 19__ | 19__ | 19__ | 19__ | 19__ | 19__ | 19__

EXHIBIT NO.

D. E. RADTKE & ASSOCIATES, INC.
310 WALL TOWERS WEST
MIDLAND, TEXAS 79701

FIELD: JALMAT - Tansill,Yates,7-Rivers
OPERATOR: Various
LEASE: Various
LOCATION: Various
COUNTY: Lea STATE: N. Mexico
NO. OF WELLS: 12 WELL NO: —
DATE PRODUCTION BEGAN: ——

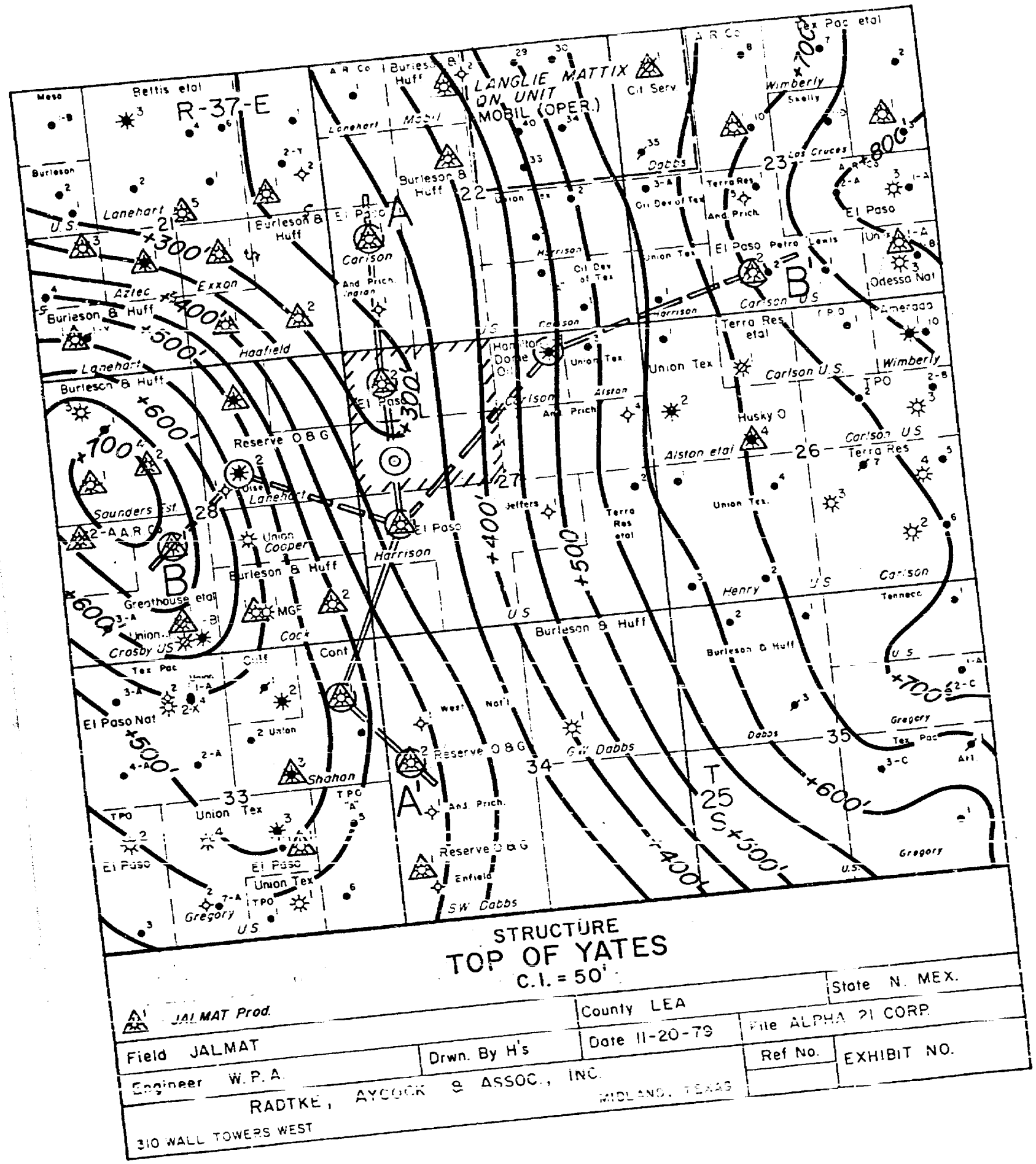




LAND MAP
JALMAT (YATES) FIELD

A' - JALMAT Prod.

Field JALMAT		County LEA	State N. MEX.
Engineer W. P. A.	Drwn. By H's	Date 11-20-79	File ALPHA 21 CORP.
RADTKE, AYCOCK, & ASSOC., INC.		Ref. No.	EXHIBIT NO.
310 WALL TOWERS WEST	MIDLAND, TEXAS		



STRUCTURE
TOP OF YATES
C.I. = 50'

JAL MAT Prod.		County LEA	State N. MEX.
Field JALMAT	Drwn. By H's	Date 11-20-79	File ALPHA 21 CORP
Engineer W.P.A.			Ref No. / EXHIBIT NO.

RADTKE, AYCOCK & ASSOC., INC.
310 WALL TOWERS WEST — MIDLAND, TEXAS

RADTKE, AYCOCK, & ASSOCIATES, INC.
Petroleum Engineering Consultants
310 WALL TOWERS WEST
MIDLAND, TEXAS 79701
TELEPHONE 915/684-8044

EXAMINER STAMETS
OIL CONSERVATION DIVISION
ALPHA 21 EXHIBIT NO. 5
CASE NO. 6767
Submitted by Aycock
Hearing Date 2/27/80

February 25, 1979

Alpha 21 Production Co.
2100 First National Bank Tower
Midland, Texas 79701

Attention Mr. Tom Phipps

Subject: Proposed Jalmat Pool Infill
Gas Development Well, To Be
Located at 660' FWL and 1980' FNL
Section 27, Twp. 25 S, Range 37 E
Lea County, New Mexico

Gentlemen:

You have requested us to make an engineering analysis of both the active and formerly active Jalmat Pool gas producing wells that are located in the vicinity of the proposed well location. The purposes of this effort were as follows:

1. To determine whether or not the proposed well would be expected to recover gas otherwise unrecoverable.

2. To estimate the amount of such anticipated additional gas recovery.

3. To assess the risk associated with drilling the proposed well.

4. To advise you as to the effect of the proposed well upon the prevention of waste and protection of correlative rights.

We believe that the preponderance of evidence indicates that the proposed well will recover gas otherwise unrecoverable. This assertion results from perusal of both the anticipated gas recovery factors for 10 of the 18 wells listed on the attachment which were successfully produced and the reported 1978 shut-in wellhead pressures reported for eight of the 18 listed wells for the year 1978. The results of a qualitative statistical analysis of these parameters is as follows:

Statistical Comparison Parameter	Gas Recovery Factor, %	1978 S.I.W.H.P., psia
Mean	64.2	181.6
Median	61.4	173.2
Maximum	94.9	333.2
Minimum	18.3	74.2
Standard Deviation	26.1	89.1

The mean gas recovery factor is less than expected for pressure depletion gas reservoirs, and the deviation gas recovery factor, whether expressed by either the difference in maximum and minimum recovery factors or the standard deviation, is larger than usually expected. Both of these observations indicate that some of the nearby wells were or are being operating by pressure depletion, while others of the nearby wells were or are being depleted by pressure depletion in combination with water influx.

The observed variation in 1978 S.I.W.H.P. is greater than would be anticipated for the high permeability Jalmat reservoirs. The pressure variation is probably partly apparent, as some wells probably had fluid standing within the wellbore, resulting in an abnormally low S.I.W.H.P. for such wells. Past experience indicates that the inter-well net effective reservoir continuity is excellent, so that the observed pressure variations are not likely to result from poor or non-existent net effective reservoir continuity. The most probable explanation for the observed pressure differences is the variable effect of water influx upon the pressures observed from the various wells included in the study sample.

An inference of whether or not the proposed well will recover otherwise unrecoverable gas can also be derived from perusal and qualitative statiscal analysis of the calculated effective drainage areas for seven of the 18 wells included in the study sample:

Statistical Comparison Parameter	Effective Drainage Area, Acres
Mean	108
Median	62
Maximum	300
Minimum	14
Standard Deviation	92

The observed variation is substantial, and the mean and median drainage areas indicate that the Jalmat Pool reservoirs in the vicinity of the proposed well location should be developed to at least 80 acres per well density, in order to recover a reasonable portion of the original gas-in-place.

In summary, all available technical reservoir and well performance data indicate that the ultimate gas recovery from the proposed well will consist in substantial part at least of gas otherwise unrecoverable.

In order to estimate the amount of additional gas recovery expected from the proposed well, analogy with existing wells must be used as a method, and a qualitative statistical analysis can be used to analyze the individual well ultimate gas recoveries from the 17 of the 18-well study sample that produced gas as follows:

Statistical Comparison Parameter	Estimated Additional Gas Recovery, MMCF
Mean	1598
Median	1013
Maximum	6370
Minimum	16
Standard Deviation	1681

These estimates, using the method of analogy as their predicate, have a variation that is quite large. In an effort to reduce the degree of uncertainty thus indicated, a volumetric estimate of recovery, deriving the basic data from a statistical analysis of such data from the five wells nearest the proposed location for which all of the necessary data was available, of 47.6 MMCF was made. This value is near the minimum value of the above statistical analysis and will probably prove to be conservative if a well capable of producing this allowable results. The wells used for derivation of the data were:

Operator, Lease and Well No.	Location
El Paso Natural Gas Co. Harrison 1	27(L)-25S-37E
El Paso Natural Gas Co. Harrison 2	27(D)-25S-37E
Burleson & Huff Hadfield 1	21(O)-25S-37E
Burleson & Huff Cook 1	28(O)-25S-37E
El Paso Natural Gas Co. Carlson Fed. 1	27(L)-25S-37E

The values of the volumetric reservoir and pressure parameters used in this calculation were as follows:

Parameter	Value
Porosity, % Bulk Volume	22.0
Connate Water Saturation, % N.E.P.S.	21.3
Net Effective Pay, feet	74.0
Drainage Area, acres	74.5
S.I.W.H.P., psia	122.9

In summary, the available data indicate that the proposed well will probably recover from 48 MMCF to 1600 MMCF, with a most probable additional recovery of about 680 MMCF.

The risk associated with drilling the proposed well is primarily that water influx will adversely affect the gas production rate prior to achieving pressure depletion. Five wells of the 18 used in the sample appear to have experienced such a situation:

Operator, Lease and Well No.	Location
Burleson & Huff Hadfield 2	21(P)-25S-37E
Conoco, Inc. Shahan "33" - 1	33(A)-25S-37E
Burleson & Huff ARCO 2-Y	21(H)-25S-37E
Shermerhorn Dabbs 1	34(G)-25S-37E
Mobil Oil Corp. Stuart Tr. 6, No. 1	22(G)-25S-37E

Based upon this experience, the probability of completing the proposed well and experiencing water induced production problems of sufficient gravity not to allow substantial pressure depletion throughout the effective drainage area is about 28 percent. The remaining risks that foreseeably could result in an economically unfavorable result from the proposed well are mechanical in nature and associated with drilling and completion operations. Due to the facts that you are a systematically careful operator and the anticipated depth is about 3000 feet, the mechanical risks should be minimized. Therefore, the probability is apparently high that drilling the proposed well will yield an economically satisfactory result if your N.G.P.A. infill application is approved, resulting in an acceptable gas sale price.

We believe that correlative rights will be protected and waste prevented, since, without the proposed well, both the mineral and working interest owners of the acreage to be assigned to the proposed well will not recover their reasonable share of the Jalmat Pool gas in place beneath the acreage. Also, the public will be denied the use of the gas, for which there is apparently a ready market, that is produced by the proposed well.

In final summary, we submit the following:

1. The proposed well is expected to recover gas substantially otherwise not recoverable.

2. The most probable value for the amount of such additional recovery is about 680 MMCF.

3. The economic risk associated with drilling the proposed well is acceptable, assuming a successful N.G.P.A. Infill Application for the well.

4. The proposed well is expected to both protect correlative rights and avoid waste.

We trust that this report is sufficient to answer your questions. Please advise if we can serve you further in this connection.

Very truly yours,

Wm. P. Aycock, P. E.

WPA/bw

Attachment

SUMMARY OF INDIVIDUAL WELL INFORMATION FOR ALPHA 21 PRODUCTION CO.
WELLS IN THE VICINITY OF THE PROPOSED WELL LOCATION
660' FWL & 1980' FNL, SECTION 27, TOWNSHIP 25S, RANGE 37E
JALMAT (TANSILL-YATES-7 RIVERS) POOL
LEA COUNTY, NEW MEXICO

	El Paso N.G. Harrison 1	El Paso N.G. Harrison 2	Burleson & Huff Hadfield 2	Burleson & Huff W.M. Cook 2	Reserve Oil C.J. Lanehart 1	Burleson & Huff Hadfield 1	Burleson & Huff W.M. Cook 1	El Paso N.G. Carlson Fed. 1	Conoco, Inc. Shahan "33" 1	Reserve Oil Dabbs 2	Burleson & Huff ARCO 2Y	ARCO Lanehart 1	Shermerhorn Dabbs 1	Mobil Oil Stuart Tr. 6 1	Conoco, Inc. Shahan "33" 3
Location of Well	27L-25S-37E	27D-25S-37E	21P-25S-37E	28P-25S-37E	28B-25S-37E	21O-25S-37E	28O-25S-37E	22L-25S-37E	33A-25S-37E	34E-25S-37E	21H-25S-37E	21H-25S-37E	34G-25S-37E	22G-25S-37E	33G-25S-37E
Distance and Direction From Proposed Well	1250' N	1300' S	2900' NNW	2850' SW	2900' WNW	3700' NW	4500' SW	3900' N	4500' SSW	5600' S	5600' NNW	5200' NNW	5800' SW	-	6000' SSW
Completion Date	12-7-55	6-8-56	5-12-77	2-6-69	11-10-55	2-23-47	9-10-73	9-2-55	4-2-77	9-4-52	1-6-76	12-31-36	4-15-58	-	10-25-53
Init. CAOFP, MCF/day	-	5000	40	2099	810	3250	1166	220	180	908	36	7500	360	-	500
Completion Interval	2838-2930	2880-3040	2878-2924	2567-2752	2715-2900	2650-3024	2506-2552	2822-2940	2562-2809	2745-2828	3009-3048	3025-3075	2675-2995	-	2512-2532
Cum. Gas Production, MCF @ 6-1-79	945,105	2,067,974	84,938	565,404	550-422	3,059,160	537,417	1,396,673	31,809	708,908	4160	2,583,881	-	172,249	1,172,093
Volumetric Analysis Results:															
Mean Eff. Porosity, % Bulk Vol.	18.7	25.4	-	-	-	21.8	25.9	19.2	23.7	22.6	17.3	-	18.7	-	19.6
Mean Con. Wtr. Stn., % HEPS	24.	20.	-	-	-	21.	20.	23.	20.	21.	55.	-	24.	-	23.
Net Effective Pay, feet	66.	78.	-	-	-	106.	13.	87.	78.	53.	15.	-	70.	-	17.
Orig. Gas-in-place, MMCF/acre	27.8	47.1	-	-	-	53.8	8.0	37.9	16.2	28.0	3.45	-	29.6	-	7.6
Estimated OGIP, MMCF	1075	2437	-	1167	-	3321	1295	4715	235	-	-	-	-	-	2282
Est. Ult. Gas Recovery, MMCF	1015	2129	90	684	550	3076	832	4476	74	854	16	2584	-	172	1172
Est. Gas Rec. Factor, % OGIP	94.4	87.4	-	58.6	-	92.6	64.3	94.9	31.5	-	-	-	-	-	51.4
Est. Eff. Drainage Area, acres	39	52	-	-	-	62	162	124	14	-	-	-	-	-	500
1978 Shut-in Wellhead Pressure, psia	121.2	123.2	273.2	223.2	-	81.2	223.2	74.2	333.2	-	-	-	-	-	-

SUMMARY OF INDIVIDUAL WELL INFORMATION FOR ALPHA 21 PRODUCTION CO.
WELLS IN THE VICINITY OF THE PROPOSED WELL LOCATION
660' FWL & 1980' FNL, SECTION 27, TOWNSHIP 25S, RANGE 37E
JALMAT (TANSILL-YATES-7 RIVERS) POOL
LEA COUNTY, NEW MEXICO

	Burleson & Huff Hadfield 2	Burleson & Huff W.M. Cook 2	Reserve Oil C.J.Lanehart 1	Burleson & Huff Hadfield 1	Burleson & Huff W.M. Cook 1	El Paso N.G. Carlson Fed. 1	Conoco, Inc. Shahan "33" 1	Reserve Oil Dabbs 2	Burleson & Huff ARCO 2Y	ARCO Lanehart 1	Shermerhorn Dabbs 1	Mobil Oil Stuart Tr. 6 1	Conoco, Inc. Shahan "33" 3	El Paso N.G. Carlson Fed. 2	ARCO W.M.Wimberly 1	Cities Svc. Dabbs 1
37E	21P-25S-37E	28P-25S-37E	28B-25S-37E	21O-25S-37E	28C-25S-37E	22L-25S-37E	33A-25S-37E	34E-25S-37E	21H-25S-37E	21H-25S-37E	33G-25S-37E	22G-25S-37E	33C-25S-37E	23N-25S-37E	23F-25S-37E	23D-25S-37E
	2900' NNW	2850' SW	2900' WNW	3700' NW	4500' SW	3900' N	4500' SSW	5600' S	5000' NNW	5200' NNW	5800' SW	-	6000' SSW	7000' ENE	8300' NE	8300' NNE
	5-12-77	2-6-69	11-10-53	2-23-47	9-10-75	9-2-55	4-2-77	9-4-52	1-6-76	12-31-36	4-15-58	-	10-25-53	12-8-55	3-29-43	12-4-36
	40	2099	810	3250	1166	220	180	908	38	7500	360	-	500	320	2500	37,000
940	2878-2924	2567-2752	2715-2900	2650-3024	2506-2552	2822-2940	2562-2809	2745-2828	3009-3046	3025-3075	2675-2935	-	2512-2532	2350-2668	3044-3220	3162-3212
974	84,958	565,404	550-422	3,059,160	537,417	4,396,673	31,809	708,908	4160	2,583,881	-	172,249	1,172,095	899,875	5,282,371	6,370,101
	-	-	-	21.8	25.9	19.2	23.7	22.6	17.3	-	18.7	-	19.6	-	-	-
	-	-	-	21.	20.	23.	20.	21.	55.	-	24.	-	23.	-	-	-
	-	-	-	106.	13.	87.	78.	53.	15.	-	70.	-	17.	-	-	-
	-	-	-	53.8	8.0	37.9	16.2	28.0	3.45	-	29.6	-	7.6	-	-	-
37	-	1167	-	3321	1293	4713	235	-	-	-	-	-	2282	6615	7149	-
29	90	684	550	3076	832	4476	74	854	16	2584	-	172	1172	1209	3459	6370
4	-	58.6	-	92.6	64.3	94.9	31.5	-	-	-	-	-	51.4	18.3	48.3	-
2	-	-	-	67	162	221	14	-	-	-	-	-	300	-	-	-
.2	271.2	225.2	-	81.2	223.2	74.2	333.2	-	-	-	-	-	-	-	-	-

EXHIBIT NO. ____

JALMAT TANSILL YATES 7-RIVERS
EL PASO NATURAL GAS NO. 1
HARRISON
27L-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

1971 1972 1973 1974 1975 1976 1977 1978 1979

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
CASE NO. 6767
SUBMITTED BY Aycock
HEARING DATE 5/29/80

EXHIBIT NO. ___

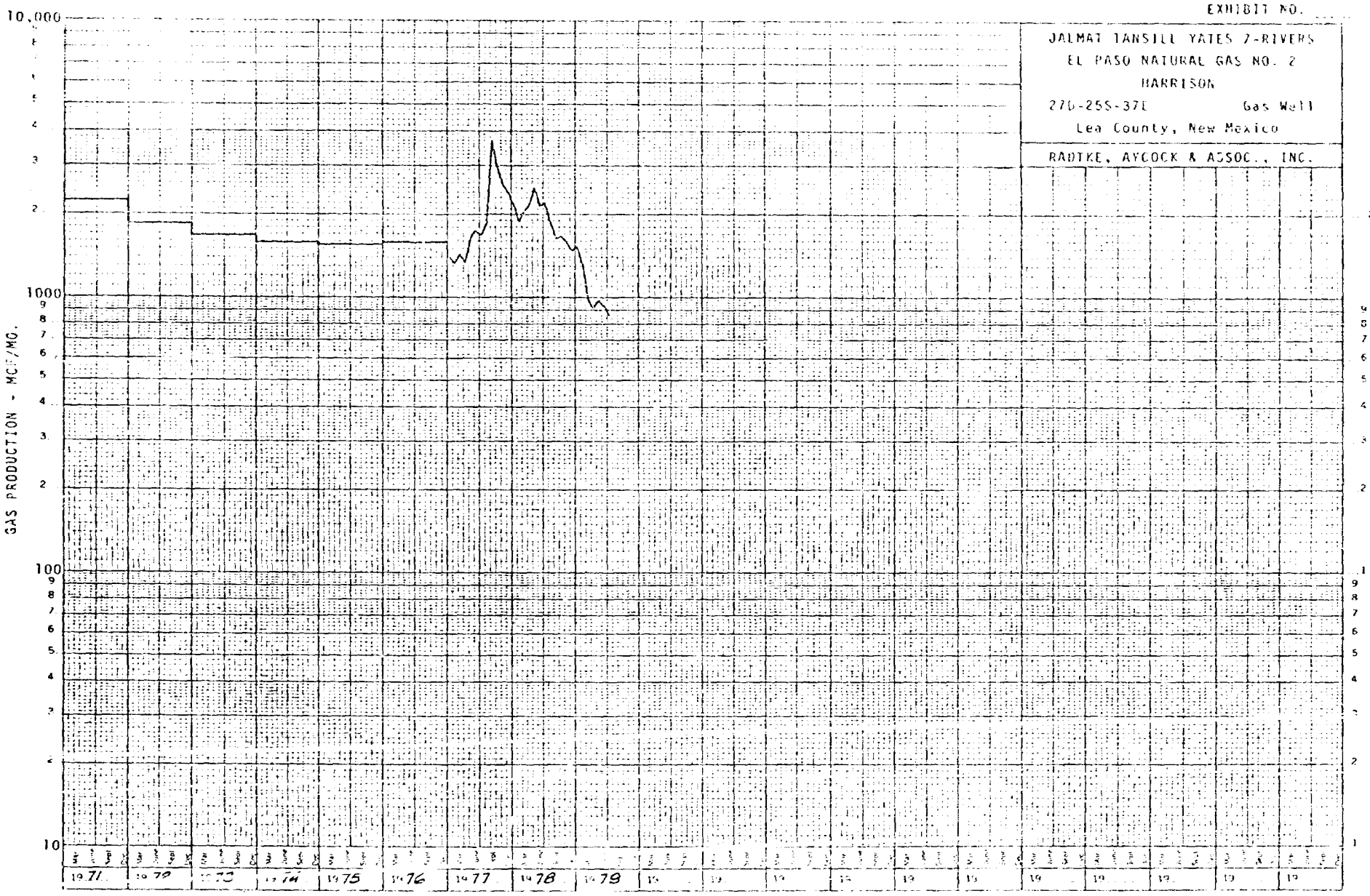

JALMAT TANSILL YATES 7-RIVERS
EL PASO NATURAL GAS NO. 2
HARRISON
27S-25S-37E Gas Well
Lea County, New Mexico
RADTKE, AYCOCK & ASSOC., INC.
GAS PRODUCTION - MCF/MO.
10,000
1000
100
10
1971
1972
1973
1974
1975
1976
1977
1978
1979

EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS
BURLESON & HUFF NO. 2
HADFIELD
21P-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

No prod

1976 1977 1978 1979 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19

EXHIBIT NO.

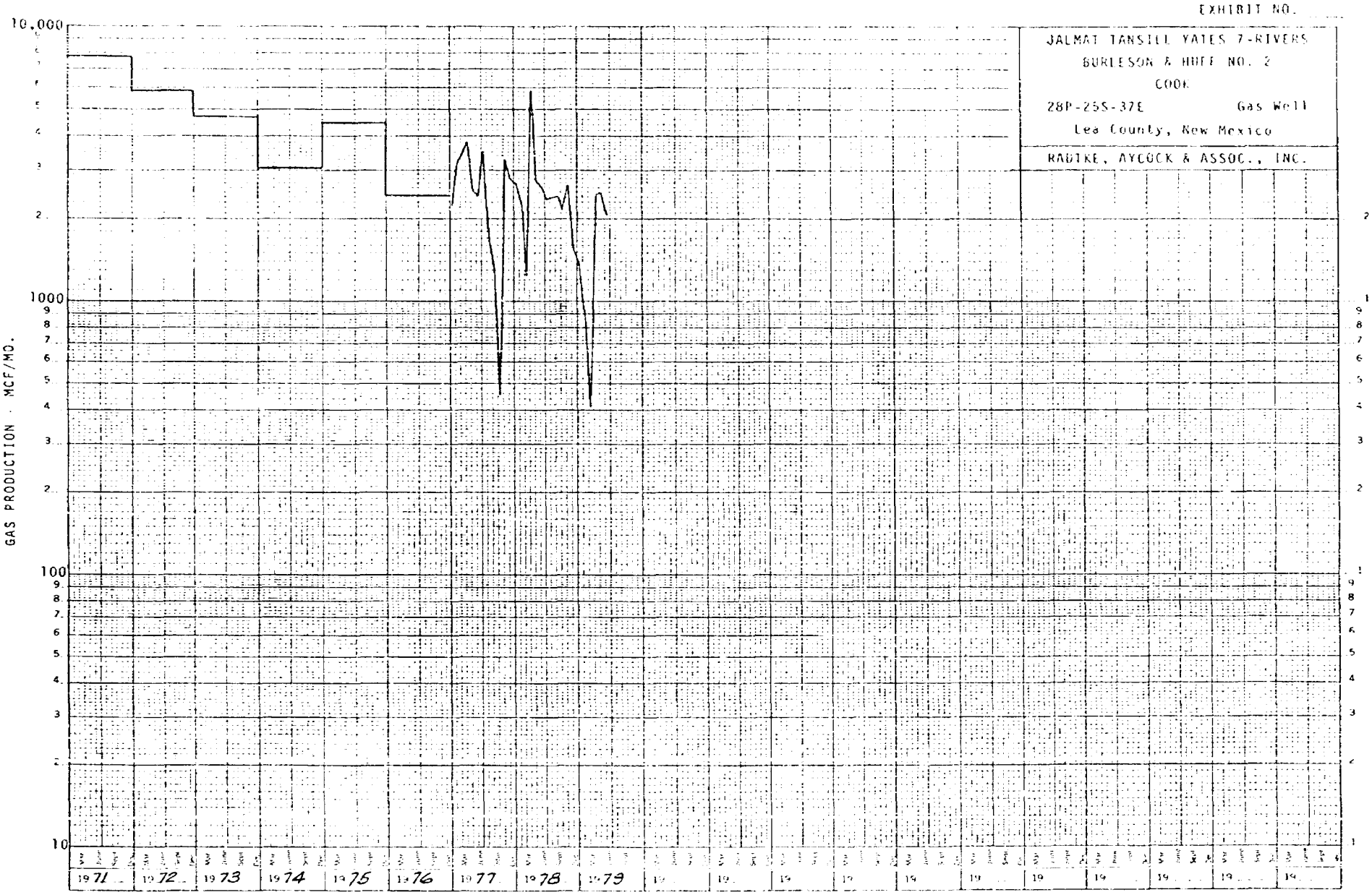

JALMAT TANSILL YATES 7-RIVERS
BURLESON & HUFF NO. 2
COOK
28P-25S-37E Gas Well
Lea County, New Mexico
RADTKE, AYCOCK & ASSOC., INC.
GAS PRODUCTION - MCF/MO.
10,000
1000
100
10
1971
1972
1973
1974
1975
1976
1977
1978
1979

EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS

[illegible] & HUFF NO. 1

HADFIELD

210-25S-37E Gas Well

Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

1971 1972 1973 1974 1975 1976 1977 1978 1979 19 19 19 19 19 19 19 19 19 19

EXHIBIT NO. ____

JALMAT TANSILL YATES 7-RIVERS

BURLESON & HUFF NO. 3

COOP

280-25S-37E Gas Well

Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

1973 1974 1975 1976 1977 1978 1979 19 19 19 19 19 19 19 19 19 19 19 19

EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS
EL PASO NATURAL GAS NO. 1
CARLSON FEDERAL
22L-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

47 6840

GAS PRODUCTION - MCF/MO.

100,000
10,000
1000
100

1971 1972 1973 1974 1975 1976 1977 1978 1979 19 19 19 19 19 19 19 19 19

EXHIBIT NO. ___

JALMAT TANSILL YATES 7-RIVERS
CONTINENTAL OIL CO. NO. 1
SHAHAN "33"
33A-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

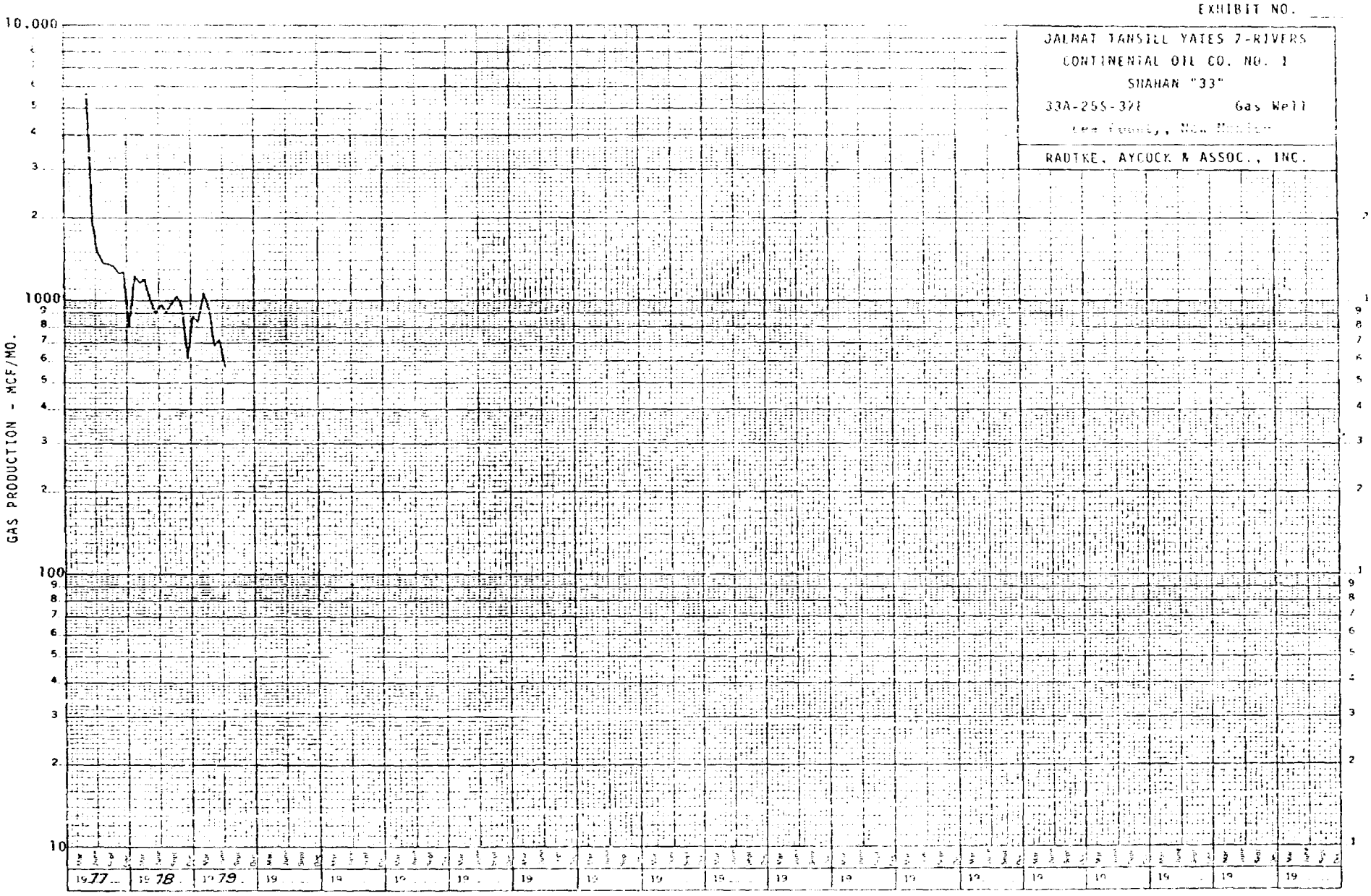


EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS
RESERVE OIL & GAS NO. 2
DABBS
34E-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

1971 1972 1973 1974 1975 1976 1977 1978 1979 19__ 19__ 19__ 19__ 19__ 19__ 19__ 19__ 19__ 19__ 19__

EXHIBIT NO.

JALMAT TANSILL YATES 7-RIVERS
BURLESON & HUFF NO. 2-Y
ARCO
21H-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

1976 1977 1978 1979 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19

EXHIBIT NO.

JALMAT GAS POOL
CONOCO NO. 3
SHAHAN "33"
33G-25S-37E Gas Well
Lea County, New Mexico

RADTKE, AYCOCK & ASSOC., INC.

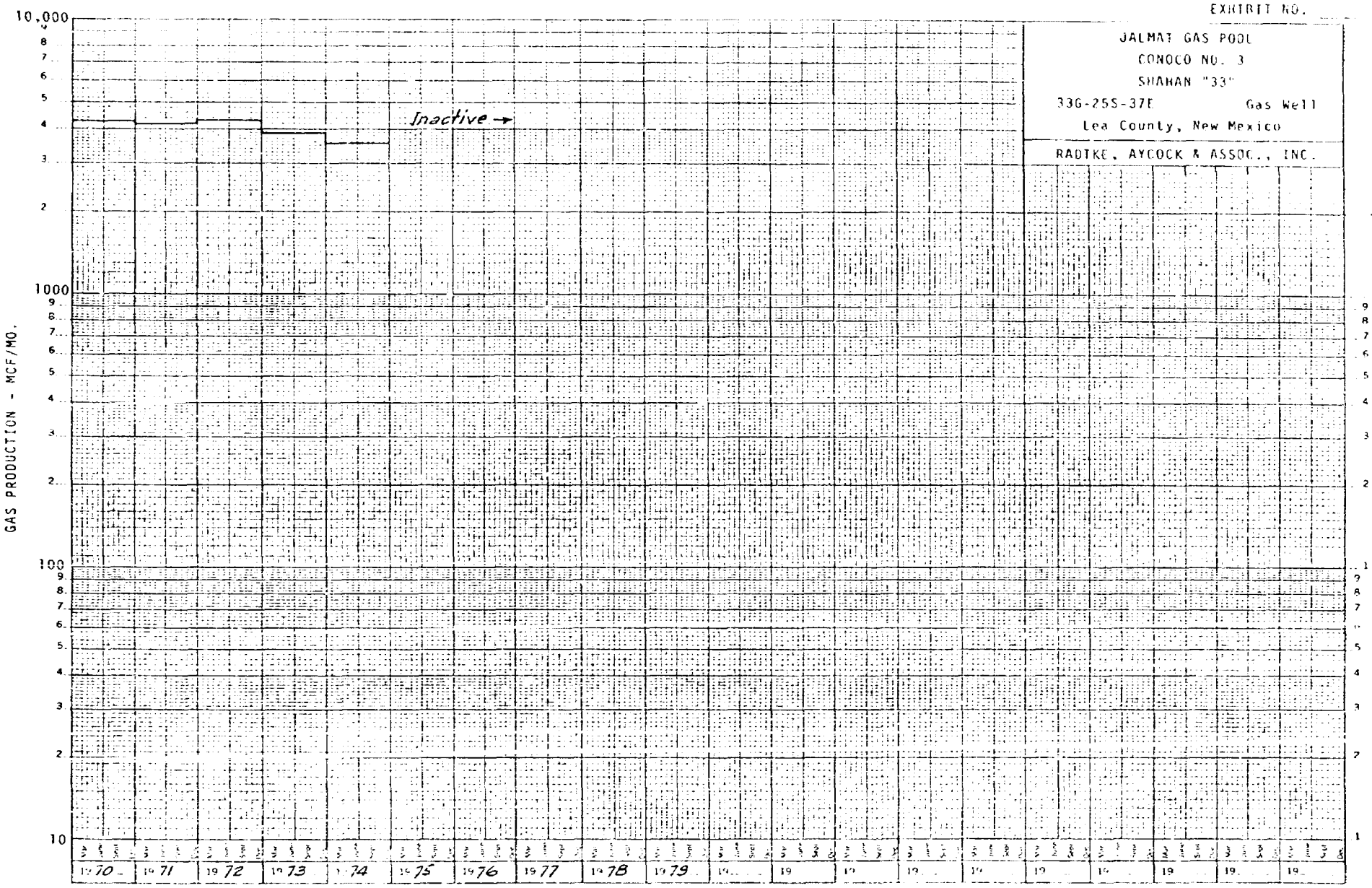


EXHIBIT NO.

JALMAT GAS POOL
EL PASO NATURAL GAS NO. 2
CARLSON
23N-25S-37E Gas Well
Lea County, New Mexico
RADTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

NP

1971 1972 1973 1974 1975 1976 1977 1978 1979 19 19 19 19 19 19 19 19 19 19

EXHIBIT NO.

JALMAT GAS POOL
ARCO NO. 1
WIMBERLY "WN"
23F-25S-37E Gas Well
Lea County, New Mexico

RAOTKE, AYCOCK & ASSOC., INC.

GAS PRODUCTION - MCF/MO.

10,000
1000
100
10

1971 1972 1973 1974 1975 1976 1977 1978 1979 19 19 19 19 19 19 19 19 19 19 19

EXHIBIT NO.

D. E. RADTKE & ASSOCIATES, INC.
310 WALL TOWERS WEST
MIDLAND, TEXAS 79701

FIELD: JALMAT - Tansill,Yates,7-Rivers
OPERATOR: Various
LEASE: Various
LOCATION: Various
COUNTY: Lea STATE: N. Mexico
NO. OF WELLS: 12 WELL NO: —
DATE PRODUCTION BEGAN: ——

LEGEND

- Arco - Wimberly "WN" 1
- ● - Conoco - Shahan "33" 3
- ◇ - Conoco - Shahan "33" 1
- □ - EPNG - Carlson Fed. 2
- △ - EPNG - Carlson Fed. 1
- \+ - Burleson & Huff - Hadfield 2
- ■ - Burleson & Huff - Hadfield 1
- ▲ - Burleson & Huff - Cook 1
- · - Burleson & Huff - Cook 2
- × - EPNG - Harrison 2
- ○ - EPNG - Harrison 1
- ✖ - Burleson & Huff - Arco 2Y

WHSIP

800
700
600
500
400
300
200
100
0

0 1.0 2.0 3.0 4.0 5.0 6.0 7.0

BCF CUM. @ TEST

CAMPBELL AND BLACK, P.A.
LAWYERS

JACK M. CAMPBELL
BRUCE D. BLACK
MICHAEL B. CAMPBELL
WILLIAM F. CARR
PAUL R. CALDWELL

POST OFFICE BOX 2208
JEFFERSON PLACE
SANTA FE, NEW MEXICO 87501
TELEPHONE (505) 988-4421

February 29, 1980

Mr. Joe D. Ramey
Division Director
Oil Conservation Division
New Mexico Department of Energy
& Minerals
Post Office Box 2088
Santa Fe, New Mexico 87501

Re: Oil Conservation Division Case 6767:
Application of Alpha Twenty-One Production Company for Two Non-Standard Gas Proration Units, Unorthodox Well Location and Approval of Infill Drilling, Lea County, New Mexico

Dear Mr. Ramey:

Following the hearing on February 27, 1980, and my meetings with you and your staff of February 28 and 29, Alpha Twenty-One has decided to request that you dismiss the above-referenced application.

Very truly yours,

William F. Carr

WFC:lr

cc: Mr. Tommy Phipps

Dockets Nos. 6-80 and 7-80 are tentatively set for March 12 and 26, 1980. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 27, 1980

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

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 6787: (Continued from February 13, 1980, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion to consider the approval of 12 non-standard proration units ranging in size from 261.51 acres to 334.24 acres for 320-acre spaced pools, and 19 non-standard proration units ranging in size from 162.65 acres to 207.57 acres for 160-acre spaced pools, all of the aforesaid units being in and resulting from the irregular size and shape of Sections 1 thru 7 and 18, 19, 30, and 31, along the North and West sides of Township 28 North, Range 3 West, Rio Arriba County.

CASE 6811: Application of Laguna Petroleum Company for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the San Andres formation underlying the SE/4 NE/4 of Section 13, Township 8 South, Range 32 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6812: Application of Maralo Inc. to amend Order No. R-5816, Lea County, New Mexico. Applicant, in the above-styled cause, seeks to amend Order No. R-5816 to permit the seven waterflood injection wells authorized to be drilled at unorthodox locations by said order to be produced until May 1, 1980, or until depleted, prior to being placed on water injection.

CASE 6813: Application of Petroleum Development Corporation to amend Order No. R-6196, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks to amend Order No. R-6196 which authorized re-entry of a well at an unorthodox location in the Lusk-Morrow Gas Pool to be dedicated to the N/2 of Section 13, Township 19 South, Range 31 East. Applicant now seeks approval for a new revised location 750 feet from the North line and 660 feet from the West line of said Section 13.

CASE 6814: Application of Harvey E. Yates Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Betenbough Unit Area, comprising 1921 acres, more or less, of State and fee lands in Township 13 South, Range 36 East.

CASE 6797: (Continued from January 30, 1980, 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 in the Wolfcamp-Penn formations underlying the N/2 of Section 28, Township 18 South, Range 29 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6815: Application of Florida Exploration Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Ross Draw Unit Well No. 8, a Wolfcamp gas well 1650 feet from the North and East lines of Section 27, Township 26 South, Range 30 East, the N/2 of said Section 27 being dedicated to the well.

CASE 6816: Application of Hanson Oil Corporation for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the Penrose Grayburg formation in the perforated interval from 3404 feet to 3633 feet in its Creek Well No. 1 located in Unit G of Section 35, Township 18 South, Range 30 East, Shugart Pool.

CASE 6817: Application of Mewbourne Oil Company to amend Order No. R-6100, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks to amend Order No. R-6100 whereby the unorthodox Morrow location approved by said order would instead be applicable to the Wolfcamp and Bone Springs formations.

CASE 6818: Application of Tenneco Oil Company for an NGPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination for its State HL 11 Well No. 1 located in Unit N of Section 11, Township 19 South, Range 29 East.

CASE 6819: Application of V-F Petroleum, Inc. for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the McKee or Devonian formations, or both, underlying four 40-acre units, being the SE/4 SE/4, NE/4 SE/4, NW/4 SE/4, and SW/4 SE/4 of Section 21, Township 23 South, Range 37 East, North Teague Field, each to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said wells and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the wells and a charge for risk involved in drilling said wells.

CASE 6373: (Reopened and Readvertised) (Continued from January 30, 1980, Examiner Hearing)

In the matter of Case 6373 being reopened pursuant to the provisions of Order No. R-5875 which order created the East High Hope-Abo Gas Pool with temporary special rules therefor providing for 320-acre spacing. All interested parties may appear and show cause why the East High Hope-Abo Gas Pool should not be developed on 160-acre spacing units.

CASE 6820: Application of Boyd Operating Co. for a dual completion and unorthodox well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Blakemore Federal Well No. 1 at an unorthodox Wolfcamp location in the center of Unit A of Section 20, Township 9 South, Range 26 East, to produce gas from the Wolfcamp and Abo formations.

CASE 6821: Application of Shell Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blinebry and Drinkard production in the wellbore of its Andrews Well No. 1 located in Unit F of Section 14, Township 21 South, Range 37 East.

CASE 6822: Application of Mesa Petroleum Co. for a gas well classification and unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the classification of its Jog State Well No. 1 as a retrograde gas condensate well with 320-acre spacing; applicant further seeks approval for the unorthodox location of said well in the center of Unit L of Section 2, Township 24 South, Range 32 East, the S/2 of said Section 2 to be dedicated to the well.

CASE 6767: (Continued from February 13, 1980, Examiner Hearing)

Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 40-acre non-standard proration unit comprising the NW/4 NW/4 of Section 27, Township 25 South, Range 37 East, Jalmat Gas Pool, to be dedicated to El Paso Natural Gas Company's Harrison Well No. 2, and also a 200-acre unit comprising the S/2 N/2 and NE/4 NW/4 of said Section 27 to be dedicated to a well to be drilled at an unorthodox location 1980 feet from the North line and 560 feet from the West line of Section 27. Applicant further seeks a finding that the drilling of the latter well is necessary to effectively and efficiently drain that portion of an existing proration unit which cannot be so drained by the existing well.

CAMPBELL AND BLACK, P.A.
LAWYERS

JACK M. CAMPBELL
BRUCE D. BLACK
MICHAEL B. CAMPBELL
WILLIAM F. CARR
PAUL R. CALDWELL

POST OFFICE BOX 2208
JEFFERSON PLACE
SANTA FE, NEW MEXICO 87501
TELEPHONE (505) 988-4421

January 24, 1980

Mr. Joe D. Ramey
Director
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

BLS

Re: Oil Conservation Division Case 6767:
Application of Alpha Twenty-One Production Company for Two Non-Standard Gas Proration Units, Unorthodox Well Location and Approval of Infill Drilling, Lea County, New Mexico

Dear Mr. Ramey:

Alpha Twenty-One Production Company has discovered that the non-standard location proposed in the above-referenced case will place the well directly over an El Paso gas line. We, therefore, ask that you treat this letter as our request to amend this application to drill the proposed well at an unorthodox location 1980 feet from the north line and 660 feet from the west line.

This case was continued from the January 16, 1980 examiner hearing to the examiner hearing scheduled for February 13. We request that this case be readvertised and included on the docket scheduled for February 27, 1980.

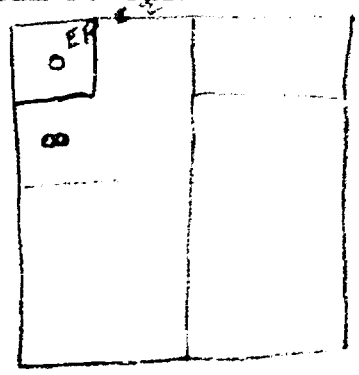
Your attention to this request is appreciated.

Very truly yours,

William F. Carr

WFC:lr

cc: Mr. Tommy Phipps



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
16 January 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Alpha Twenty-One Production company for a non-standard proration unit, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

CASE 6767

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: William F. Carr, Esq.
CAMPBELL & BLACK P. A.
Jefferson Place
Santa Fe, New Mexico 87501

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 435-7409

MR. NUTTER: Call next Case Number 6767.

MR. PADILLA: Application of Alpha Twenty-One Production Company for a non-standard gas proration unit, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

MR. CARR: Mr. Examiner, Alpha Twenty-One Production Company requests that this case be continued to the Examiner Hearing scheduled to be held February 13.

MR. NUTTER: Case Number 6767 will be continued to the Examiner Hearing scheduled to be held at this same place at 9:00 o'clock a. m. February 13th, 1980.

(Hearing concluded.)

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a Certified Shorthand Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.
Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6787, heard by me on 9/16 1980.

Examiner
Oil Conservation Division

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
16 January 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Alpha Twenty-One Production company for a non-standard proration unit, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

CASE 6767

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: William F. Carr, Esq.
CAMPBELL & BLACK P. A.
Jefferson Place
Santa Fe, New Mexico 87501

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

MR. NUTTER: Call next Case Number 6767.

MR. PADILLA: Application of Alpha Twenty-One Production Company for a non-standard gas proration unit, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

MR. CARR: Mr. Examiner, Alpha Twenty-One Production Company requests that this case be continued to the Examiner Hearing scheduled to be held February 13.

MR. NUTTER: Case Number 6767 will be continued to the Examiner Hearing scheduled to be held at this same place at 9:00 o'clock a. m. February 13th, 1980.

(Hearing concluded.)

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a Certified Shorthand Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6767, heard by me on 11/6 1980.

, Examiner
Oil Conservation Division

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

Dockets Nos. 5-80 and 6-80 are tentatively set for February 27 and March 12, 1980. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 13, 1980

9 A.M. - OIL CONSERVATION DIVISION 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 March, 1980, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.

(2) Consideration of the allowable production of gas for March, 1980, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

(3) Consideration of purchaser's nominations for the one year period beginning April 1, 1980, for both of the above areas.

CASE 6005: In the matter of the hearing called by the Oil Conservation Division on its own motion to permit EPROC Associates, Hartford Accident and Indemnity Company, and all other interested parties to appear and show cause why its Monsanto State H Well No. 1 located in Unit E of Section 2, Township 30 North, Range 16 West, San Juan County, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 6787: (Continued from January 16, 1980, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion to consider the approval of 12 non-standard proration units ranging in size from 261.51 acres to 334.24 acres for 320-acre spaced pools, and 19 non-standard proration units ranging in size from 162.65 acres to 207.57 acres for 160-acre spaced pools, all of the aforesaid units being in and resulting from the irregular size and shape of Sections 1 thru 7 and 18, 19, 30, and 31, along the North and West sides of Township 28 North, Range 3 West, Rio Arriba County.

CASE 6487: (Continued from January 3, 1980, Examiner Hearing)

Application of El Paso Natural Gas Company for approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its Shell E State Com Well No. 2 located in Unit N of Section 6, Township 21 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6804: Application of The Superior Oil Company for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Bondurant Federal Com Well No. , a Morrow test to be drilled 1980 feet from the South line and 660 feet from the East line of Section 1, Township 19 South, Range 32 East, the S/2 of said Section 1 to be dedicated to the well.

CASE 6767: (Continued from January 16, 1980, Examiner Hearing)

Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 40-acre non-standard proration unit comprising the NW/4 NW/4 of Section 27, Township 25 South, Range 37 East, Jalmat Gas Pool, to be dedicated to El Paso Natural Gas Company's Harrison Well No. 2, and also a 200-acre unit comprising the S/2 N/2 and NE/4 NW/4 of said Section 27 to be dedicated to a well to be drilled at an unorthodox location 1980 feet from the North line and 560 feet from the West line of Section 27. Applicant further seeks a finding that the drilling of the latter well is necessary to effectively and efficiently drain that portion of an existing proration unit which cannot be so drained by the existing well.

CASE 6805: Application of Hondo Oil and Gas Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Federal 10 Well No. 1, a Wolfcamp-Pennsylvanian test to be drilled 1550 feet from the North line and 660 feet from the West line of Section 10, Township 18 South, Range 28 East, the W/2 of said Section 10 to be dedicated to the well.

CASE 6806: Application of Westall, Mask and Jennings for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221 to permit disposal of produced brine into unlined surface pits adjacent to tank batteries in Sections 23, 24, 25, 26, 27, 34 and 35, Township 18 South, Range 31 East.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
3 January 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

CASE 6767

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:

Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

MR. STAMETS: Call next Case 6767.

MR. PADILLA: Application of Alpha Twenty-one Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

MR. STAMETS: At the request of the Applicant, this case will be continued to the January 16th Examiner Hearing.

(Hearing continued.)

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a Certified Shorthand Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability from my notes taken at the time of the hearing.

Sally W. Boyd C.S.R.
Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6762 heard by me on 1-3 1980.

Richard L. Stamets, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
3 January 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

CASE 6767

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:

Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

MR. [illegible]: Next Case 5767.

MR. [illegible]: Application of Alpha Twenty-one Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

MR. STAMETS: At the request of the Applicant, this case will be continued to the January 16th Examiner Hearing.

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Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____, heard by me on _____ 19__.

_____, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
12 December 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

CASE 6767

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: W. F. Carr, Esq.
CAMPBELL & BLACK P. A.
Jefferson Place
Santa Fe, New Mexico 87501

MR. NUTTER: We'll call next Case Number 6767.

MR. PADILLA: Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

MR. CARR: Mr. Examiner, Alpha Twenty-One requests that this case be continued to the Examiner Hearing scheduled for January 3rd, 1980.

MR. NUTTER: And I believe we have to make a correction to the advertisement in this case, don't we?

MR. CARR: I believe the first case is correctly advertised.

There is an error in the next one.

MR. NUTTER: Okay. Case Number 6767 will be continued to the Examiner Hearing scheduled to be held at this same place at 9:00 o'clock a. m. January 3, 1980.

(Hearing concluded.)

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a Certified Shorthand Reporter DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.
Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6767 heard by me on 12/12 1979.

Oil Conservation Division Examiner

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
12 December 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

CASE 6767

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: W. F. Carr, Esq.
CAMPBELL & BLACK P. A.
Jefferson Place
Santa Fe, New Mexico 87501

MR. NUTTER: We'll call next Case Number 6767.

MR. PADILLA: Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico.

MR. CARR: Mr. Examiner, Alpha Twenty-One requests that this case be continued to the Examiner Hearing scheduled for January 3rd, 1980.

MR. NUTTER: And I believe we have to make a correction to the advertisement in this case, don't we?

MR. CARR: I believe the first case is correctly advertised.

There is an error in the next one.

MR. NUTTER: Okay. Case Number 6767 will be continued to the Examiner Hearing scheduled to be held at this same place at 9:00 o'clock a. m. January 3, 1980.

(Hearing concluded.)

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a Certified Shorthand Reporter DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6767 heard by me on 12/12 19 79.

Examiner
Oil Conservation Division

CASE 6795: Application of Torreon Oil Company for a waterflood project, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the San Luis-Mesaverde Oil Pool by the injection of water into the Menafee formation through its San Luis Fed. Wells Nos. 1 and 2, located in Unit K of Section 21, Township 18 South, Range 3 East. Applicant further seeks an administrative procedure for approval of additional producing and injection wells at unorthodox locations in said project.

CASE 6608: (Reopened and Readvertised)

In the matter of Case 6608 being reopened pursuant to the provisions of Order No. R-6088 which order created the Grama Ridge-Wolfcamp Pool with temporary special rules and regulations with provisions for 160-acre spacing. All interested parties may appear and show cause whether the Grama Ridge-Wolfcamp Pool is in fact an oil reservoir or a gas reservoir, and if it is an oil reservoir, show cause why the Grama Ridge-Wolfcamp Pool should not be developed on less than 160-acre spacing units.

CASE 6771: (Continued from January 3, 1980, Examiner Hearing)

Application of Getty Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 160-acre non-standard gas proration unit comprising the E/2 SW/4 of Section 31, Township 24 South, Range 37 East, and the NW/4 NE/4 and NE/4 NW/4 of Section 6, Township 25 South, Range 37 East, Jalmat Gas Pool, to be dedicated to a well to be drilled at a standard location thereon.

CASE 6767: (Continued from January 3, 1980, Examiner Hearing)

Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 40-acre non-standard proration unit comprising the NW/4 NW/4 of Section 27, Township 25 South, Range 37 East, Jalmat Gas Pool, to be dedicated to El Paso Natural Gas Company's Harrison Well No. 2, and also a 200-acre unit comprising the S/2 N/2 and NE/4 NW/4 of said Section 27 to be dedicated to a well to be drilled at an unorthodox location 1980 feet from the North line and 560 feet from the West line of Section 27. Applicant further seeks a finding that the drilling of the latter well is necessary to effectively and efficiently drain that portion of an existing proration unit which cannot be so drained by the existing well.

CASE 6766: Application of Supron Energy Corporation for two non-standard gas proration units, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of two non-standard gas proration units, the first being 192.97 acres comprising the W/2 of Section 7, Township 28 North, Range 10 West, and the E/2 E/2 of Section 12, Township 28 North, Range 11 West, for the Fruitland, Pictured Cliffs and Chacra formations, and the second being 190.89 acres comprising the W/2 and W/2 E/2 of said Section 12 for the Fruitland formation only, both units to be dedicated to wells to be drilled at standard locations thereon.

CASE 6700: (Reopened and Readvertised)

Application of Doyle Hartman to reopen Case No. 6700, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the reopening of Case No. 6700, heard October 17, 1979, to amend the original unorthodox well location 2310 feet from the North line and 330 feet from the West line of Section 29, Township 25 South, Range 37 East, to a new unorthodox location 1870 feet from the North line and 280 feet from the West line of said Section 29. All other aspects of Case No. 6700 would remain the same.

CASE 6767: Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 40-acre non-standard proration unit comprising the NW/4 NW/4 of Section 27, Township 25 South, Range 37 East, Jalmat Gas Pool, to be dedicated to El Paso Natural Gas Company's Harrison Well No. 2, and also a 200-acre unit comprising the S/2 N/2 and NE/4 NW/4 of said Section 27 to be dedicated to a well to be drilled at an unorthodox location 1980 feet from the North line and 560 feet from the West line of Section 27. Applicant further seeks a finding that the drilling of the latter well is necessary to effectively and efficiently drain that portion of an existing proration unit which cannot be so drained by the existing well.

CASE 6768: Application of Alpha Twenty-One Production Company for two non-standard gas proration units, compulsory pooling, unorthodox well location, and approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 40-acre non-standard gas proration unit comprising the SW/4 SW/4 of Section 21, Township 24 South, Range 37 East, Jalmat Gas Pool, to be dedicated to the El Paso Natural Gas Company Shell Black Well No. 2. Applicant also seeks an order pooling all mineral interests in the Jalmat Gas Pool underlying the E/2 SW/4 and NW/4 SE/4 of said Section 21 to form a 120-acre non-standard gas proration unit to be dedicated to a well to be drilled at an unorthodox location 990 feet from the South line and 1650 feet from the West line of said Section 21. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well. Applicant further seeks a finding that the drilling of said well is necessary to effectively and efficiently drain that portion of the existing proration unit which cannot be so drained by the existing well.

CASE 6656: (Continued from October 2, 1979, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Energy Oil & Gas Corp., The Travelers Indemnity Co., and all other interested parties to appear and show cause why the Sadler Well No. 1 located in Unit I of Section 3, Township 24 North, Range 29 East, Union County, New Mexico, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 6769: In the matter of the hearing called by the Oil Conservation Division on its own motion for an order creating, reclassifying, and extending certain pools in Chaves, Eddy, Lea, and Roosevelt Counties, New Mexico:

(a) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for Morrow production and designated as the West Double X-Morrow Gas Pool. The discovery well is Union Oil Company of California Paduca Federal Well No. 1 located in Unit G of Section 30, Township 24 South, Range 32 East, NMPM. Said pool would comprise:

TOWNSHIP 24 SOUTH, RANGE 32 EAST, NMPM
Section 30: E/2

(b) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Atoka production and designated as the Dublin Ranch-Atoka Gas Pool. The discovery well is J. C. Barnes Little Squaw Com Well No. 2 located in Unit N of Section 27, Township 22 South, Range 28 East, NMPM. Said pool would comprise:

TOWNSHIP 22 SOUTH, RANGE 28 EAST, NMPM
Section 27: S/2

CAMPBELL AND BLACK, P.A.
LAWYERS

JACK M. CAMPBELL
BRUCE D. BLACK
MICHAEL B. CAMPBELL
WILLIAM F. CARR
PAUL R. CALDWELL

POST OFFICE BOX 2208
JEFFERSON PLACE
SANTA FE, NEW MEXICO 87501
TELEPHONE (505) 988-4421

November 21, 1979

Mr. Joe D. Ramey
Division Director
Oil Conservation Division
New Mexico Department of Energy & Minerals
Post Office Box 2088
Santa Fe, New Mexico 87501

Re: Application of Alpha Twenty One Production Company for Approval of an Unorthodox Gas Well Location, Two Non-Standard Proration Units and Approval of Infill Drilling, Lea County, New Mexico

Dear Mr. Ramey:

Enclosed in triplicate is the application of Alpha Twenty One Production Company in the above-referenced matter.

The applicant requests that this matter be included on the docket for the examiner hearing scheduled to be held on December 12, 1979.

Very truly yours,

William F. Carr

WFC:lr

Enclosures

cc: Mr. Tom Phipps

BEFORE THE

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

IN THE MATTER OF THE APPLICATION OF ALPHA TWENTY ONE PRODUCTION COMPANY FOR APPROVAL OF AN UNORTHODOX GAS WELL LOCATION, TWO NON-STANDARD PRORATION UNITS AND APPROVAL OF INFILL DRILLING, LEA COUNTY, NEW MEXICO.

CASE 6262

APPLICATION

Comes now, ALPHA TWENTY ONE PRODUCTION COMPANY, by and through its undersigned attorneys, and applies to the New Mexico Oil Conservation Division for approval of an unorthodox gas well location, two non-standard gas proration units, and for approval of infill drilling, Jalmat Gas Pool, Lea County, New Mexico, and in support of its application states:

1. El Paso Natural Gas Company is the operator of the NW/4 of Section 27, Township 25 South, Range 37 East, N.M.P.M., Lea County, New Mexico, which is dedicated to its Harrison No. 2 Well located in the NW/4 NW/4 of said Section 27.

2. Applicant has received a farmout from El Paso Natural Gas Company of the NE/4 NW/4 and the S/2 N/2 of said Section 27.

3. Applicant seeks the establishment of two non-standard gas proration units in the Jalmat Gas Pool; one comprising the NW/4 NW/4 of said Section 27 as a new forty acre proration unit to be dedicated to El Paso Natural Gas Company's Harrison No. 2 Well and the other comprising

the NE/4 NW/4 and the S/2 N/2 of said Section 27 as a new two hundred acre proration unit to be dedicated to the El Paso Beverly Federal No. 1 Well to be drilled by applicant at an unorthodox location 1980 feet from the North line and 560 feet from the West line of said Section 27.

4. The proposed well will be drilled into the same proration and spacing unit presently dedicated to the Harrison No. 2 Well.

5. Applicant seeks a determination pursuant to the F.E.R.C. Rules, Part 271.305 that the proposed well is necessary to effectively and efficiently drain a portion of the Jalmat Gas Pool covered by the proposed proration units which cannot be effectively and efficiently drained by any existing well within the proration unit and will offer evidence in support of that determination.

WHEREFORE, applicant respectfully requests that this matter be set for hearing before the Commission or one of the Division's duly appointed examiners and that after notice and hearing as required by law, the Division enter its order approving the application.

Respectfully submitted,

CAMPBELL AND BLACK, P.A.

By William F. Carr

William F. Carr
Post Office Box 2208
Santa Fe, New Mexico 87501
Attorneys for Applicant

BEFORE THE

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

IN THE MATTER OF THE APPLICATION OF ALPHA TWENTY ONE PRODUCTION COMPANY FOR APPROVAL OF AN UNORTHODOX GAS WELL LOCATION, TWO NON-STANDARD PRORATION UNITS AND APPROVAL OF INFILL DRILLING, LEA COUNTY, NEW MEXICO.

CASE 6262

APPLICATION

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1. El Paso Natural Gas Company is the operator of the NW/4 of Section 27, Township 25 South, Range 37 East, N.M.P.M., Lea County, New Mexico, which is dedicated to its Harrison No. 2 Well located in the NW/4 NW/4 of said Section 27.

2. Applicant has received a farmout from El Paso Natural Gas Company of the NE/4 NW/4 and the S/2 N/2 of said Section 27.

3. Applicant seeks the establishment of two non-standard gas proration units in the Jalmat Gas Pool; one comprising the NW/4 NW/4 of said Section 27 as a new forty acre proration unit to be dedicated to El Paso Natural Gas Company's Harrison No. 2 Well and the other comprising

the NE/4 NW/4 and the S/2 N/2 of said Section 27 as a new two hundred acre proration unit to be dedicated to the El Paso Beverly Federal No. 1 Well to be drilled by applicant at an unorthodox location 1980 feet from the North line and 560 feet from the West line of said Section 27.

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Respectfully submitted,

CAMPBELL AND BLACK, P.A.

By William F. Carr

William F. Carr
Post Office Box 2208
Santa Fe, New Mexico 87501
Attorneys for Applicant

BEFORE THE

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

IN THE MATTER OF THE APPLICATION OF ALPHA TWENTY ONE PRODUCTION COMPANY FOR APPROVAL OF AN UNORTHODOX GAS WELL LOCATION, TWO NON-STANDARD PRORATION UNITS AND APPROVAL OF INFILL DRILLING, LEA COUNTY, NEW MEXICO.

CASE 6262

APPLICATION

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2. Applicant has received a farmout from El Paso Natural Gas Company of the NE/4 NW/4 and the S/2 N/2 of said Section 27.

3. Applicant seeks the establishment of two non-standard gas proration units in the Jalmat Gas Pool; one comprising the NW/4 NW/4 of said Section 27 as a new forty acre proration unit to be dedicated to El Paso Natural Gas Company's Harrison No. 2 Well and the other comprising

the NE/4 NW/4 and the S/2 N/2 of said Section 27 as a new two hundred acre proration unit to be dedicated to the El Paso Beverly Federal No. 1 Well to be drilled by applicant at an unorthodox location 1980 feet from the North line and 560 feet from the West line of said Section 27.

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5. Applicant seeks a determination pursuant to the F.E.R.C. Rules, Part 271.305 that the proposed well is necessary to effectively and efficiently drain a portion of the Jalmat Gas Pool covered by the proposed proration units which cannot be effectively and efficiently drained by any existing well within the proration unit and will offer evidence in support of that determination.

WHEREFORE, applicant respectfully requests that this matter be set for hearing before the Commission or one of the Division's duly appointed examiners and that after notice and hearing as required by law, the Division enter its order approving the application.

Respectfully submitted,

CAMPBELL AND BLACK, P.A.

By _____
William F. Carr
Post Office Box 2208
Santa Fe, New Mexico 87501
Attorneys for Applicant

Memo

From

FLORENE DAVIDSON
ADMINISTRATIVE SECRETARY

To Called in by Bill Carr
November 16, 1959

Alpha Twenty-One Production Co.

Two Non-Standard Gas Proration Units, Unorthodox Well Location, and Infill Findings

Jalmat Gas Pool
Section 27, T-25S, R-37E

40-acre NW/4 NW/4 of Sec. 27 to be dedicated to the existing El Paso Natural Gas Harrison #2

200-acre S/2 N/2 and NE/4 NW/4 to be dedicated to unorthodox location 1980/N & 560/W

OIL CONSERVATION COMMISSION-SANTA FE

(Bill isn't sure infill drilling is necessary in this case.)

DRAFT

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 6767

Order No. R- 6288

APPLICATION OF ALPHA TWENTY-ONE PRODUCTION COMPANY FOR TWO NON-STANDARD GAS PRORATION UNITS, UNORTHODOX WELL LOCATION, AND APPROVAL OF INFILL DRILLING, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on February 27, 19 80, at Santa Fe, New Mexico, before Examiner Richard L. Stamets

NOW, on this _____ day of March, 19 80, the Division Director, 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. 6767 is hereby dismissed.

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