CASE 7131: READ & STEVENS, INC. FOR AN UNORTHODOX GAS WELL LOCATION AND TWO NON-STANDARD GAS PRORATION UNITS, CHAVES COUNTY, NEW MEXICO

CASE NO.

7131

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,

ETC.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

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SANTA FE, NEW MEXICO 87501
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February 13, 1981

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

Re: CASE NO. 7131
ORDER NO. R-6582

Applicant:

Read & Stevens, Inc.

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 Kenneth Bateman

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. 7131
Order No. R-6582

APPLICATION OF READ & STEVENS, INC.
FOR AN UNORTHODOX GAS WELL LOCATION
AND TWO NON-STANDARD GAS PRORATION
UNITS, CHAVES COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on January 14, 1981, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 10th day of February, 1981, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Read & Stevens, Inc., seeks approval of two 160-acre non-standard gas proration units in the Buffalo Valley-Pennsylvanian Gas Pool, the first being the SE/4 of Section 1, Township 15 South, Range 27 East, NMPM, to be dedicated to its Trobough Com. Well No. 1 in Unit J, and the other being the NE/4 of said Section 1 to be dedicated to a well to be drilled at an unorthodox location 1315 feet from the North line and 1315 feet from the East line of the section.

(3) That both of said non-standard proration units may reasonably be presumed productive of gas from the Buffalo Valley-Pennsylvanian Gas Pool and that the entire non-standard gas proration units can be efficiently and economically drained and developed by the respective aforesaid wells.

(4) That approval of the subject application will afford the applicant the opportunity to produce his just and equitable share of the gas in the Buffalo Valley-Pennsylvanian Gas Pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That Read & Stevens, Inc. is hereby granted two 160-acre non-standard gas proration units in the Buffalo Valley-Pennsylvanian Gas Pool, the first comprising the SE/4 of Section 1, Township 15 South, Range 27 East, NMPM, Chaves County, New Mexico, and the second being the NE/4 of said Section 1, said units to be dedicated to the Trobough Com. Well No. 1 in Unit J and a well to be drilled at an unorthodox location, hereby approved, 1315 feet from the North line and 1315 feet from the East line of the section, respectively.

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

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 A L

fd/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
14 January 1981

EXAMINER HEARING

IN THE MATTER OF:

Application of Read & Stevens, Inc., for an unorthodox gas well location and two non-standard gas proration units, Chaves County, New Mexico. CASE 7130

and

Application of Read & Stevens, Inc., for an unorthodox gas well location and two non-standard gas proration units, Chaves County, New Mexico. Case 7131

and

Application of Read & Stevens, Inc., for an unorthodox gas well location and two non-standard gas proration units, Chaves County, New Mexico. CASE 7132

and

Application of Read & Stevens, Inc., for an unorthodox gas well location and two non-standard gas proration units, Chaves County, New Mexico. CASE 7133

and

Application of Read & Stevens, Inc., for an unorthodox gas well location and two non-standard gas proration units, Chaves County, New Mexico. CASE 7134

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.
CAMPBELL, BYRD, & BLACK
Jefferson Place
Santa Fe, New Mexico 87501

For Depco: Ken Bateman, Esq.
WHITE, KOCH, KELLY & McCARTHY
220 Otero Street
Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

E X H I B I T S

MR. STAMETS: We'll call next Case 7130.

MR. PADILLA: Application of Read and Stevens, Inc., for an unorthodox gas well location and two non-standard gas proration units, Chaves County, New Mexico.

MR. CARR: May it please the Examiner, I'm William F. Carr with the law firm Campbell, Byrd, and Black, appearing on behalf of the applicant.

This case and the succeeding cases, through Case 7134, involve the same general area, the same questions, and exhibits are identical in some cases, very similar in others, and therefor I would request that these cases be consolidated.

MR. STAMETS: Is there any objection to consolidation of these cases?

Would you like to enter your appearance before we consolidate these?

MR. BATEMAN: I'm Ken Bateman of White, Koch, Kelly, and McCarthy, Santa Fe, appearing on behalf of Depco, and I have no objection to consolidation of these cases.

MR. STAMETS: You will be appearing in all these cases?

MR. BATEMAN: Yes, sir.

MR. STAMETS: Okay, let's call these

cases, 7131, 32, 33, and 34.

MR. PADILLA: Application of Read & Stevens, Inc., for an unorthodox gas well location and two non-standard gas proration units, Chaves County, New Mexico.

And I believe they're all the same, Mr. Examiner.

MR. STAMETS: Okay, they do all read the same, so the only difference then is in material we don't normally call, so that -- one call should do it all.

And I would like to point out at this time, it appears as though we have an advertising error in Case 7134 with the second non-standard gas proration unit being identified as being in the northeast quarter of Section 12 rather than Section 13, and so we will have to re-advertise in Case 7134 but we will accept testimony today.

MR. BATEMAN: Mr. Examiner, we would like to make a statement of the case before the testimony. We also have one witness, which we would like to reserve the right to put on testimony, as well.

MR. STAMETS: Okay, that would be fine. I'd like all of those who are going to be witnesses or may be witnesses in this case stand and be sworn at this time.

(Witnesses sworn.)

MR. CARR: At this time I would call Mr. Bill Aycock.

WILLIAM P. AYCOCK

being called as a witness and being 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. By Read and Stevens, Inc., in connection with the applications in Cases 7130, 7131, 7132, 7133, and 7134.

Q. Mr. Aycock, have you previously testified before this Commission and had your credentials as an expert witness in petroleum engineering accepted and made a matter of record?

A. Yes, sir, I have.

Q. Are you familiar with each of the applications filed on behalf of Read & Stevens in these consoli-

dated cases?

A. Yes, sir, I am.

Q. Are you familiar with the wells involved in each of these cases?

A. Yes, sir, I am.

MR. CARR: Are the witness' qualifications acceptable?

MR. STAMETS: They are.

Q. Will you briefly state what Read & Stevens, Inc., is seeking with these applications?

A. In each case Read & Stevens, Inc., is seeking an unorthodox gas well location in a 320-acre tract that is presently assigned to a producing gas well. We are seeking the division of the proration units with the assignment of 160 acres to the existing well and 160 acres to the proposed well in each of Cases 7130 through 7134.

Q. Will you briefly summarize the events which have preceded this hearing concerning Read & Stevens applications and plans to develop this area?

A. In excess of one year ago Mr. Stevens contacted me and asked me if I would be in a position to perform a comprehensive study of the Buffalo Valley Field for him, and he asked for an outline of my opinion as to how the study might proceed and what data might be required.

I furnished him an outline of the alternate ways in which I thought the study could proceed and the bases that would be required for the study, and within a relatively short time he commissioned me to proceed and the study took approximately six months and covered an analysis of all of the producing wells -- well, first it covered the accumulation of a copy of all those files in the Artesia District Office that pertained to all of the wells shown on this map, whether dry holes or producing wells, that penetrated the reservoirs that are assigned to the Buffalo Valley Penn Pool.

Then it required a complete analysis of the performance of each of the producing wells with the attempt to determine whether they definitively were or were not producing from common reservoirs and whether the performance appeared to be related either with pressure or production anomalies.

We performed that study and it took about seven months to do, and it was reviewed with Phillips Petroleum in August of 1980, as they are the purchaser of the gas from the Read & Stevens wells in the Buffalo Valley Penn Pool. It was the subject of a morning-long complete staff review with everybody on the staff that would be concerned, both exploration and production professionals in the Odessa office of Phillips Petroleum.

We also proceeded to contact all of the operators in the field and a meeting was set up for December 15th, 1980, which was attended by representatives of all operators with the exception of Husky Oil Company.

The request for attendance was provided each operator, both by telephone and by certified letter, so that there is no question but that everyone had an opportunity to attend, and we have an attendance list signed by each of the attendees, which shows that a representative of each operator was present, with the exception of Husky Oil Company.

At the time of this meeting, Mr. Wambaugh and I -- who will be the other witness on behalf of Read & Stevens -- reviewed the work that had been done by us over this period of time and what our conclusions were and what Read & Stevens' plans were in calling these hearings before the Commission.

I would say that with the exception of Depco, all of the operators evidenced either strong support or mild support for these -- the calling of these hearings and the request for these non-standard -- these unorthodox locations and the assignment of the non-standard proration units, after we had presented the data that we had accumulated and the results of our analyses.

Last week, the week before last, the --

all the operators were furnished in writing by us with certified letters, a reminder that these hearings had been called and would be -- were docketed and would be put on at this time, and we requested that those operators who were so inclined to contact the Commission and either state their support or non-opposition in all cases where they felt inclined to do so.

We had indications from several of the operators that they would be willing to do this. We do not know whether they contacted the Commission or not. We attempted to poll them by telephone and the results of our poll were indeterminant.

We had no opposition other than Depco expressed once again, but the willingness to contact the Commission either expressing support or -- or a lack of opposition to these applications, was not forthcoming.

Q. Mr. Aycock, would you briefly summarize the existing spacing requirements for wells in this area?

A. In the Buffalo Valley Pool rules, under well location and acreage requirements, Rule 2 states, "Each well completed or recompleted in the Buffalo Valley Pennsylvanian Gas Pool shall be located in a northwest quarter or the southeast quarter of the section and shall be located no nearer than 990 feet to the outer boundary of the

quarter section nor nearer than 330-feet to any governmental quarter quarter section line; provided, however, that any well drilling to or completed in said pool on or before October 21st, 1962, is hereby exempted from the requirements of this rule."

Then Rule 5(A) states that, "Each well completed or recompleted in the Buffalo Valley Pennsylvanian Gas Pool shall be located on a standard proration unit consisting of any two contiguous quarter sections of a single governmental section being a legal subdivision (half section) of the United States Public Land Surveys. For purposes of these rules a standard proration unit shall consist of 316 through 324 contiguous surface acres."

Rule 5(C) states that, "The Secretary-Director shall have the authority to grant an exception to -- the previous -- "Rule 5(A) without notice and hearing where an application has been filed in due form and where the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys or where the following facts exist and the following provisions are complied with:

(1) The non-standard unit consists of" a contiguous quarter sections or lots.

The non-standard unit lies wholly within

a single governmental section.

The entire non-standard unit may be reasonably presumed to be productive of gas from the Buffalo Valley Pennsylvanian Gas Pool.

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

And it further provides in lieu of paragraph 4, which is the paragraph immediately preceding, the applicant may furnish proof of the fact that all of the offset operators were notified by registered or certified mail of his intent to form such non-standard unit. The Secretary-Director may approve the application if, after a period of 30 days, no such operator has entered an objection to the formation of such non-standard unit.

Q. Mr. Aycock, will you now refer to Read & Stevens, Inc.'s Exhibit Number One and explain to Mr. Stamets what it is and what it shows?

A. Exhibit Number One is a land plat of the area, the entire Buffalo Valley-Penn Field, which also shows the locations that have been requested in Cases 7130 through 7134 by red dots.

MR. CARR: Mr. Stamets, a copy of this exhibit has been posted on the wall immediately to your left.

A. It also shows initially measured surface and sub-surface pressures with the dates for each of the wells for which such information is available, and I call Mr. Stamets' attention to the fact that there's a legend in the lower righthand corner which points out that immediately below each of the well locations there is drill stem test pressure with the date and the final subsurface pressure indicated, and below it the Form C-122 date with both the surface and subsurface pressures if they are included on the C-122, which in many cases you will note that they have been, so that you're able to ascertain at what dates the wells both immediately adjacent to the proposed locations and throughout the pool area were completed and the pressures that have been reported.

I would call Mr. Stamets' attention to the fact that there is generally a considerable variation in pressures even though in many cases the dates at which the pressures were taken are -- are near chronologically speaking, and converse to that, in some cases far distant, there is no consistent variation which would cause us to conscientiously be able to tell this Commission that we can prove either that there is excellent pressure communication or that there is

a lack of any pressure communication.

This belief will be further substantiated by other exhibits to be presented, and in fact, Mr. Stamets, the reason for the recommendation to Read & Stevens of these locations is because there is, in our opinion, no consistency that would enable one to make a rational decision as to whether any communication, some communication, or no communication actually exists because of the quality and the quantity of the data that are available for analysis.

Q Mr. Aycock will you identify for the record each of the non-standard proration units for which approval is sought in this hearing?

A Well, for Section 1 in Township 15 South Range 27 East, the non-standard proration units requested are the northeast quarter of Section 1 for a proposed well, and the southeast quarter of Section 1 to the existing Read & Stevens State Trobaugh No. 1.

In Section 12, Township 15 South, Range 27 East, the non-standard proration units in the east half are the northeast quarter to be assigned to a proposed well which is the subject of this application, and the southeast quarter, which is to be assigned to the Read & Stevens No. 1-A Trobaugh State Communitized.

In the west half of Section 12, the

non-standard proration units are the northwest quarter to be assigned to the Read & Stevens No. 1 Hurd U.S., and the southwest quarter to be assigned to a proposed well, which is the subject of these applications.

And in Section 13, Township 15 South, Range 27 East, the non-standard proration units are the northeast quarter to be assigned to a proposed well that is the subject of these applications, the southeast quarter, which is -- which -- the request is to be assigned to the Read & Stevens No. 1 Rose Federal, the northwest quarter to be assigned to the Read & Stevens No. 1 Langley, and the southwest quarter to be assigned to a proposed well that is the subject of these applications.

In all there are five locations and ten non-standard proration units encompassing both the requested locations and the acreage to be assigned to the existing wells.

Q. Will you now refer to Read & Stevens Exhibit Number Two and review the data contained thereon?

A. Exhibit Number Two is a graph of subsurface pressure, initially observed subsurface pressure as a function of time for all of the wells in the Buffalo Valley Pool. This is a complete summary of all the data that we were able to extract from the Commission's files.

And I will call Mr. Stamets' attention to the following facts:

Number one, there is a substantial variation for several of those wells, notably being the Buffalo Valley Com No. 2, the Langley Com No. 1, the State Com No. 1, and the Mewbourne State 25 No. 1, which are in the years respectively, 1969, 1973, 1974, 1975, and 1979. The rest of the initially measured pressures, while they are not in close agreement, are within basically the range of between 2600 and 3400 and -- roughly 3500 psi, that has prevailed since the initial pressures were reported to the Commisaion back in 1967.

Our interpretation of this data is that it indicates strongly that there is no systematic, large scale pressure communication throughout the field because of the variation with regard to both time for adjacent wells and the fact that the initially reported pressures have generally been within a narrow range as compared to the total range of pressures that has been reported to the Commission.

Q. Mr. Aycock, will you now refer to Exhibit Number Three and review this for the Examiner?

A. Exhibit Number Three is a graph of measured subsurface pressures as a function of time for only those wells that are located in the vicinity of the sections

in which the proposed locations are to be located, and I think in general the observations that have been referred to in Exhibit Two would apply here with the exception of three pressures. All of the pressures that have been reported for these wells lie between, roughly, 2700 pounds and 3500 pounds with the exception of the two pressures in 1970 that apply to the Clements No. 1 and to the Midwest No. 1, and the two pressures in 1973, the latter part of 1973, you'll notice that there are two pressures applying to the Langley 1, and they're greatly at variance with regard to the date on which they were reported.

I would have to conclude that the -- the pressure down in the range of 2200 pounds probably reflects incomplete buildup since it reflects a drastic change within a period of a month from the previously reported pressure, which is 3250 pounds.

And then there is a low one -- what appears to be an anomalously low pressure for the Federal Gas Com 1-11 in 1973, which is a year later than the previous one, but which is about 700 pounds lower and would appear to probably be an anomalous pressure reflecting either incomplete buildup or the presence of fluid in the wellbore, well, incomplete buildup in this case, since these are measured subsurface pressures.

Q Will you now review Exhibit Four for the Examiner?

A Exhibit Number Four, and you will pardon my drafting, because what I have done is to superimpose upon the lines that connect all the pressures chronologically, colored lines which show the performance of each well. This is not -- this is not on any of the other copies but the one that I've -- that I gave to you, and it was so that you could see the -- what I consider to be the lack of consistency other than the overall trend is down.

You have pressures bouncing around everywhere in there, reflecting a combination of unknown conditions and the only thing I can tell you is that after 1975 these being surface pressures, that the trend is -- the pressures are lower but the amount of decline as a function of time for those pressures is much less than was apparent prior to that time. And I would have to conclude that many of these represent not only incomplete buildup but probably the occurrence of fluid within the wellbores adversely affecting the -- giving lower than actual values of the surface pressure, which would, of course, lead to an erroneous calculation if that were used as a basis for computing the subsurface pressure without a measurement to check it.

Once again, I think any sort of case

that one might care to make almost, within limits, could be made from the pressures that are presented here as present throughout the field.

Other than the fact that from 1973 on the pressures reported are decidedly lower and declining, and prior to that time there was a tremendous amount of variation, but they -- what was reported did not appear to have any consistent trend, would be the only observations that I could make with objectivity.

Once again, this is provided to illustrate to you the apparent degree of disagreement and confusion that results from an attempt to make a reservoir analysis either with the anticipation that the wells are draining common -- or draining a single reservoir with a common source of supply, or that they are effectively isolated from one another, and draining individual reservoirs.

Q. Mr. Aycock, will you now refer to Read & Stevens Exhibit Number Five and review the data contained thereon?

A. Exhibit Number Five, Mr. Stamets, is a tabulation of initially measured pressures as extracted from the Commission's files and in some cases from the completion reports that include the summary of the drill stem tests, and you'll note that we had it summarized by operator by date

so that it can be followed and show that it is the substantiation for the pressure information that has been presented to you.

And if you'll follow that on over, the very last page is a summary of all of the data for all of the wells in the pool, including the location, completion date, completion interval, the date of the Form C-122 test with all the pertinent technical parameters extracted therefrom. It is also by log interpretation, including porosity, connate water, pay thickness, original gas in place in MMCF per acre, estimated effective permeability, as derived from analysis of the C-122 test results, the cumulative production, as of January 1st, 1980, which is wrong, it should be January 1st, 1981, and I apologize for the error. We don't ever seem to be able to get our years straight. And the estimated original gas in place as extracted from the best extrapolations that we were able to make of a graph of the ratio between calculated or measured subsurface pressure with the consistent Z factor as a function of cumulative gas production, and the estimated gas recovery factor, which was arrived at by extrapolation of the performance to an economic limit of 1000 Mcf per month, as compared to the estimated original gas in place from the BHP/Z cum gas graphs.

Q Now, Mr. Aycock, will you briefly sum-

marize the general conclusions you can draw from the data you've seen?

A. The general conclusions that I would draw in an attempt to be objective about the data are that there is probably little doubt that there is some degree of pressure communication between some of the wells, but there is considerable doubt that there is effective or widespread pressure communication between the -- between all of the wells either throughout the field or within the immediate area of the locations that are the subject of these applications.

It is for this reason that Mr. Wambaugh and I recommended these locations,partially. The other reason being that as will be substantiated by his testimony, which is to follow mine, that an attempt at a strict geological correlation of the zones in which the various wells are completed is sometimes possible and is sometimes not objectively possible; therefor, leading to the conclusion that in many cases the -- these are lenticular type sands with a probable limited area of commercial quality, leading us to believe that not only is there -- is there ineffective drainage of the wells or the reservoirs in which the existing wells are completed in many cases, but there is also probably -- there are probably lenticular sands that have not been penetrated and have not been tested and as a consequence are unknown at

this time. And in addition to that fact, as will become apparent, there are numerous zones that have been penetrated by the existing wells in which there either has been no -- no test at all or an indefinitive test and from which there has been no commercial production to date.

For all of these reasons, it was our recommendation to Read & Stevens that infill drilling should be tried because of these -- of the combination of all of these factors, with the thought that there are probably very substantial unknown and commercially undedicated reserves that exist in the Buffalo Valley-Penn Pool.

Q. Mr. Aycock, will granting this application, and development of the Buffalo Valley under greater well density than is presently allowed, will this result in the recovery of additional hydrocarbons that otherwise would be left in the ground?

A. If the suspicions that we have from the attempts that we've made to analyze the existing data are correct, there is no question in my mind that the additional wells will lead to increased gas recovery.

If these suspicions are totally false, then that would not be true. The probabilities are that the suspicions are neither totally true nor totally false, but partially, and to what degree they are, I don't believe that

is determinable from the quality and quantity of data that -- that we have now. I think due to the fact that some of the wells are already effectively drilled on 160-acre spacing, as you will notice, even though 320-acres are assigned to them, the fact that the proration units have been run in both a north/south and east/west direction leads to the fact that we have numerous wells that are already completed on 160-acre spacing, and the same general conclusions apply to the data extracted from those wells completed at locations that are essentially on 160-acre spacing as those that are on 320-acre spacing, I would have to say that this reinforces the conclusion that no definitive determination of what degree of effective drainage is taking place either at specific locations or throughout the field is -- is possible in a definitive fashion. Someone is going to have to take the risk to determine what -- whether these suspicions are true or not.

And I think in addition to that, all of industry's general experience with stratigraphically controlled reservoirs of this type indicates that much denser ultimate drilling is required to adequately and completely deplete the reserves than is resorted to in the initial stages of outlining the productive limits of the pool.

I don't think we know what the productive limits of the pool are in this case, because due to adverse

economics from low gas prices in the past, there were several edge wells that tested gas at what would not be commercial rates that were abandoned at that time because they were -- it was not worth setting pipe on.

So I don't think we know either the extent of the pool or whether or not there is effective drainage taking place within inside the pool, not counting the reservoirs that have not been tested at all or that have been inadequately tested at this point.

All of this -- all of these indeterminates can be largely remedied by an intelligently conducted infill drilling program, such as that as was recommended to Read & Stevens by Mr. Wambaugh and I.

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

A. Yes, sir, I think it will, based upon what we know at the present time.

Q. Were Exhibits One through Five prepared by you?

A. Under my supervision, yes, sir.

Q. And from your own knowledge can you testify as to their accuracy?

A. Yes, sir.

MR. CARR: At this time, Mr. Stamets, we would offer Read & Stevens Exhibits One through Five.

MR. STAMETS: These exhibits will be admitted.

MR. CARR: I have nothing further of Mr. Aycock on direct.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Aycock, why did the applicant choose to go this route, of asking for non-standard units, rather than just simply asking for infill drilling on the proration units?

A. We feel like, Mr. Stamets, for one thing that if this is successful, it's going to lead to either the Commission tacitly recognizing that at least 160-acre development is going to be required, or possibly a modification of the pool rules allowing -- allowing -- making 160 acres the allowable proration unit rather than 320 acres.

As you are also aware, which is not now the subject of this hearing because of a change in the -- what was accepted in the application,we originally had hoped to apply for a prior finding on Section 103, as for necessary infill wells in order to justify the drilling of these wells

economically, and this is not now possible, but that is the reason that the applications proceeded in the way that they have.

Q. Okay.

MR. STAMETS: Any other questions of this witness? He may be excused.

(Thereupon a recess was taken.)

MR. CARR: At this time I would call Mr. Wambaugh.

D. C. WAMBAUGH

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

DIRECT EXAMINATION

BY MR. CARR:

Q. Will you state your full name for the record, please?

A. Donald C. Wambaugh.

Q. Where do you reside?

A. Midland, Texas.

Q. Mr. Wambaugh, by whom are you employed and in what capacity?

A. By Read & Stevens as a consulting geologist.

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

A. Yes, sir.

Q. Are you familiar with the applications of Read & Stevens in these cases?

A. Yes.

Q. Are you familiar with the wells involved in these cases?

A. Yes, sir.

MR. CARR: Are the witness' qualifications acceptable?

MR. STAMETS: They are.

Q. Mr. Wambaugh, will you please refer to what has been marked for identification as Read & Stevens Exhibit Number Six and explain to Mr. Stamets what it is and what it shows?

A. All right. Exhibit Number Six is on the wall at your left there.

It is a structure map on top of the

Atoka formation of Pennsylvanian age.

It shows southeast dip into the basin and it is my opinion and my feeling that structure in this particular case does not have too much to do with the production of the wells.

Q. Will you now refer to Exhibit Number Seven and explain to Mr. Stamets what this shows?

A. Exhibit Number Seven is an index map showing traces of cross sections and also it has on it orange and blue dots, a legend down in the lower righthand corner, and in some cases double dots. This is just an indication of whether the well has been completed in the upper part of the 500-foot interval that produces in the Buffalo-Penn Pool or the lower part. It's merely an indication for convenience.

Q. Mr. Nambaugh, I now direct your attention to your Exhibit Number Eight, which is cross section A-A', which is on the wall, and ask that you review this for Mr. Stamets.

A. This cross section, the trace of which is shown in the lower righthand corner, is an attempt to show the total Pennsylvanian area in zones and the thickness of the producing horizons present in the Atoka Penn Buffalo pay zone. This really does not show much except a subtle thickening of that zone to the southeast and it does show

upon examination that sands have been deposited in this area are non-continuous over a lateral area. Further cross sections will be larger scale and a closer examination. This is more of a general nature. It does have shown producing zones, the drill stem tested zones, cored zones, completion data and some cumulative production data.

Q. In your opinion have all the zones in the Pennsylvanian in the Buffalo Penn Pool been adequately tested as evidenced by these -- this cross section?

A. Not in every well, no, sir.

Q. And this shows that wells have been perforated at various intervals within this --

A. Yes, sir.

Q. -- Pennsylvanian interval.

Will you now refer to your Exhibit Number Nine, which is your Y-Y' cross section, and --

MR. STAMETS: Could I ask a question while we're looking at this?

A. Yes, sir.

MR. STAMETS: Are all of the wells in the Buffalo Valley-Penn completed in what's been identified as the Atoka section on this cross section, or do they cross over in what's called the Strawn?

A. No, they've all been completed in what's

called the Atoka section, yes, sir.

MR. STAMETS: Thank you.

Q. Will you now refer to Exhibit Number Nine?

A. Exhibit Number Nine is the cross section Y-Y', which also has on it the proposed location for Read & Stevens which is located in the northeast quarter of Section 1, 15, 27.

On these cross sections -- on this cross section, I'm sorry, and subsequent cross sections, in the lefthand side of the log where the gamma ray trace is shown, there has been darkened the intervals which have 35 degree -- 35 API units or less indicating clean sandstones. This is an attempt to identify quantitatively those sands that are clean enough and have been produced in many of the wells, for correlation purposes.

On this cross section you'll note that the lefthand log trace has some intervals in there which are marked and do have this sand, whereas the righthand log has no sand which had -- was clean enough to be 35 API units or less, and also this well is a dry hole, the one on the Ard Well, Ard Sinclair No. 1.

Q. Will you now refer to Exhibit Number Ten, the X-X' cross section?

A. The X-X' is a similar cross section east to west showing another of the proposed locations, this one being in the northeast quarter of Section 12, 15, 27.

Q Will you now refer to Exhibit Number Eleven, the W-W' cross section?

A. The W-W' -

MR. STAMETS: On the X-X' it has some dark coloring --

A. Yes, sir.

MR. STAMETS: -- in the righthand well.

A. Yes, sir.

MR. STAMETS: I don't see any on -- maybe a couple spots on the lefthand well.

A. Yes, sir.

MR. STAMETS: The perforated intervals don't seem to match those.

A. Well, this is an interesting point, and there are some operators who have perforated in zones that -- have not perforated, excuse me, have not perforated in zones that I consider to be possible productive because of cleanliness of sand. Occasionally some of these zones are tight. I think that on the case of this well on the righthand side, the Holly Well, that probably indicates a rather tight zone in there may be why they didn't perforate it.

MR. STAMETS: And conversely, the fact that some of these other zones are perforated, indicates that you may have some zones that are less clean than what you've marked here, but are still productive.

A. Yes, sir, that's true.

MR. STAMETS: Okay.

A. But you can't -- the main thing is that you cannot correlate these zones over great lateral distance. This is --

MR. STAMETS: Okay.

Q Now refer to Exhibit Number Eleven.

A. Exhibit Number Eleven is cross section W-W', which crosses the proposed location in the southwest quarter of Section 12, 15, 27, again showing the same general trend of -- of evidence we had previously.

Q Would you now refer to Exhibit Number Twelve, the V-V' cross section?

A. V-V' is a cross section showing the location in the -- the Read & Stevens location, proposed location, in the northeast quarter of Section 13, 15, 27.

Q. And this shows the same sort of structure--

A. Same sort of stratigraphic type indication, yes, sir.

Q. Will you now refer to Exhibit Number

Thirteen, the U-U' cross section?

A. The U-U' cross section includes the proposed location of our Read & Stevens in the southwest quarter of Section 13, 15, 27. And it shows the similar situation where the sands are producing from different intervals, and also the well on the lefthand side is a well that was plugged and abandoned in 1974, compared to the well on the right, which is completed.

Q. Mr. Wambaugh, will you now go to Exhibit Number Fourteen and explain this?

A. Exhibit Number Fourteen is a cross section north/south through three of the locations proposed and wells in between, and again attempts to show on a larger scale the variation in the lateral sequence of sandstones.

Q. Are a number -- several of the wells on this cross section currently plugged?

A. Yes, sir.

Q. And what does that tell you about the general development of the area?

A. It indicates to me that these sandstones which are producing, and Mr. Stamets pointed out some that are not producing, do not occur in what we call a sheet or blanket sands. They're rather lensical in nature and if one were to drill in a certain location you could indicate that

you might have a sand and you could drill in a location a mile away and you would not find this same sand present. You would be kind of wildcatting in this area if you attempted to drill, and it would be - by inference we could say that you might find in between known locations where we have data, you might find an extra sand, stray sand or two present when you encounter it with the drilling.

Q. Mr. Wambaugh, will you now refer to Read & Stevens Exhibit Number Fifteen and explain to Mr. Stamets what it is and what it shows?

A. This is a map, Isopachous map, on the clean sandstone in this interval, which was derived from these logs that you see, and some others, all the logs in the field that were available to me, and shows the thickness of all of the sands in this interval in an attempt to try to find some sort of common trend or some sort of reason, and also it was an attempt to indicate to Read & Stevens where the best locations, or those that would have the most amount of sand, could be proposed.

If you compare this map to Exhibit Six, which is the structure map, you'll see that there is not a whole lot of correlation to it. This map indicates a thick area running north and south through the center part of the map, and the locations are shown in red dots on there, and

these are the recommended locations to Read & Stevens, made by Mr. Aycock and myself.

Q. Mr. Wambaugh, do you believe that the 160-acre units to be dedicated to each of the proposed wells, do you believe that these units can be reasonably presumed to be productive of gas?

A. Yes, sir, based on my work, yes.

Q. Would you briefly summarize what you expect to be the result of Read & Stevens proposed development of this area on the greater -- with a greater density of wells?

A. I would expect, as is the case of other fields that I've studied, that they would find zones of productive sands, some of which we know about and some of which we do not know about.

I would also, through the interpretation of Mr. Aycock's presentation, he pointed out about pressure data, my experience has been in some fields that have gone from 320 to 160-acre spacing, also gone into 80 acre spacing, that pressures nearly according to orginal bottom hole pressures would be encountered, also.

Q. Will approval of this application in your opinion result in the recovery of gas that otherwise would not be recovered?

A. Yes, sir, I do believe that.

Q. Do you believe that this additional development will impair correlative rights?

A. Excuse me?

Q. Do you believe that granting this application will impair correlative rights?

A. No, sir.

Q. In your opinion will granting this application otherwise be in the best interest of conservation and the prevention of waste?

A. Yes, sir.

Q. Were Exhibits Six through Fifteen prepared by you?

A. By me and under my supervision, yes, sir.

Q. And have you reviewed them and can you testify as to their accuracy?

A. Yes, sir.

MR. CARR: At this time, Mr. Stamets, we would offer Read & Stevens Exhibits Six through Fifteen.

MR. STAMETS: These exhibits will be admitted.

MR. CARR: I have nothing further of Mr. Wambaugh on direct.

MR. STAMETS: I'm not certain if this

question should be directed to Mr. Wambaugh or not, but anybody who has the evidence on this can certainly testify.

Will the ownership under each of these new proration units be the same as the ownership under the existing proration unit?

A. I cannot answer that question, sir.

A SPECTATOR: The answer is yes.

MR. STAMETS: Who is that at the back of the room, for the record?

MR. STEVENS: Norman Stevens.

MR. STAMETS: Would you identify yourself for the record, Mr. Stevens?

MR. STEVENS: Vic-President for Read & Stevens, Inc.

MR. STAMETS: Thank you, and the record should show that Mr. Aycock also answered positively to that question.

Any other questions of this witness? He may be excused.

MR. CARR: That concludes our direct presentation, Mr. Stamets.

MR. STAMETS: Mr. Bateman, are you going to put your witness on?

MR. BATEMAN: No, sir, I'd just like to

make a statement, if I may.

MR. STAMETS: You certainly may.

MR. BATEMAN: Mr. Flowers will make a statement.

MR. STAMETS: All right, Mr. Flowers may make a statement.

MR. FLOWERS: I'm Lee Flowers with Depco, Incorporated.

Depco cannot argue the point that this is a complex area geologically and there's obviously a lot of engineering data been presented as to pressures and whether those pressures are built up or not, that's debatable.

Two factors of concern to us, and number one, we would assume an application will be made for new prices after this -- if this application is granted and the wells are drilled.

Should a new well receive a new price, which would be a higher price for its gas, then an inequity could occur because some gas will be drained from an area currently being drained by an old well, and this drained gas will be sold at an increased price.

Depco, Incorporated, does not wish to be obligated to drill additional wells to offset wells on 160 acres to prevent drainage. We believe some of those

locations that are proposed will be uneconomic because each new well will cost approximately $500,000, and the additional reserves found will not be enough to pay out the additional expenditures and will lower the economic return of the already existing wells.

That's all I have.

MR. BATEMAN: I just have one point, if I may.

MR. STAMETS: You certainly may.

MR. BATEMAN: Mr. Aycock's candid remark about the potential for tacit or otherwise -- changing -- tacitly or otherwise changing the pool rules is of great concern to Depco. Depco does not share the enthusiasm of the applicant for infill drilling, as I'm sure you know, and so we would oppose any move toward changing the pool rules based on this application or the evidence given at this time.

MR. STAMETS: Okay, you may be assured that that -- that won't result from this application.

I would also point out for the record that the Buffalo Valley-Pennsylvanian Gas Pool is one of the prorated pools in southeast New Mexico. If memory serves me properly, that's prorated on the basis of surface acres, so each one of these new wells would receive an allowable which would be equivalent to one-half of the allowable which would

be assigned to a well on 320 acres.

Mr. Carr, do you have a closing statement?

MR. CARR: I have no closing statement, Mr. Stamets.

MR. STAMETS: You may proceed with that at this point if there is no one else who has a statement.

MR. CARR: I have no closing statement, Mr. Stamets.

MR. STAMETS: You have none, I'm sorry. I misunderstood you.

If there's nothing further, these cases will be taken under advisement with the one exception of the requirement for re-advertising.

(Hearing concluded.)

C E R T I F I C A T E

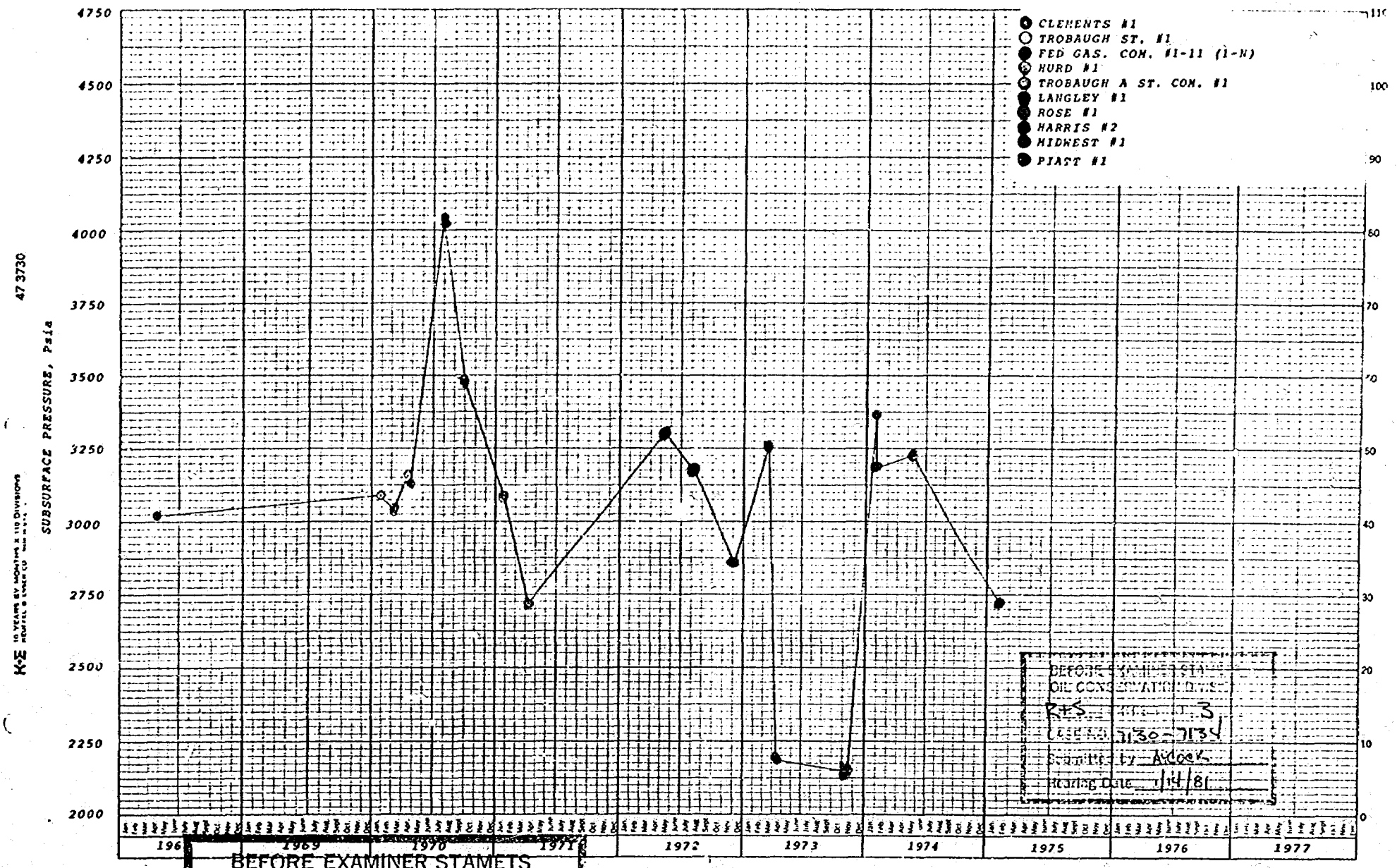
I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.

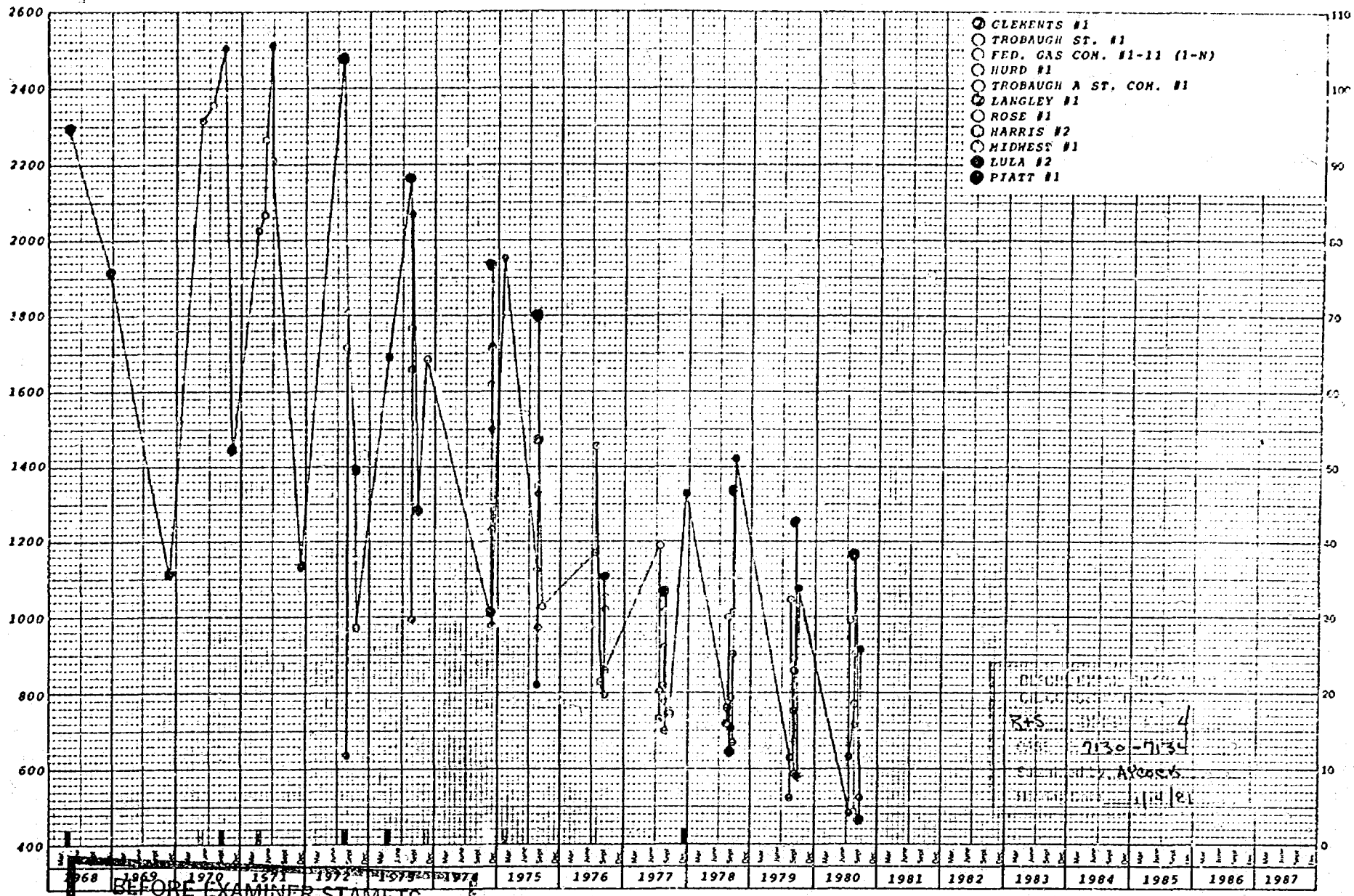
I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. ____, heard by me on _____ 19__.

_____, Examiner
Oil Conservation Division

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



BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
R+S EXHIBIT NO. 3
CASE NO. 7130 - 7134
Submitted by Adcock
Hearing Date 1/14/81



BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
R+S EXHIBIT NO. 4
CASE NO. 7130 - 7134
Submitted by Aycock
Hearing Date 1/14/81

TABULATION OF INITIALLY MEASURED PRESSURES

BUFFALO VALLEY (PENN)

CHAVES COUNTY, NEW MEXICO

DATE	OPERATOR LEASE NAME AND WELL NO.	LOCATION S(U)-T-R	SOURCE	PRESSURE BOMB DEPTH	SUBSURFACE DATUM FEET INTERVAL DEPTH	SUBSEA	SURFACE PRESSURE PSIA MEASURED	CALCULATED	SUBSURFACE PRESSURE PSIA MEASURED	CALCULATED
	Cities Service									
	Beatz A #1	35(N)-14-27	Completed 1-29-62 - No DST or C-122 Available							
	Read & Stevens									
	Buffalo Valley Com #1	2(F)-15-27								
5-14-67			DST	8210	8124-8214	-4696DF	-	-	3295.2/ 3295.2	
6-08-67			C-122		8180-8213	-4683DF*	2432.2		3323.2	
	Energy Reserves									
	Clements Buffalo #1	1(D)-15-27								
4-25-68			C-122		8232-8354	-4760KB*	2294.2		3024.2	
	Read & Stevens									
	Buffalo Valley St Com #2	2(J)-15-27								
4-25-68			C-122		8130-8325	-4716GL*	2323.2		3146.2	
	Amoco									
	Federal C Gas Com #1	11(C)-15-27								
5-17-69			C-122		8232-8257	-4752KB*	2020.2			2657
	Energy Reserves									
	Buffalo Valley Com #2	35(H)-14-27								
11-29-69			C-122		8125-8173	-4621KB*	1283.2			1659
	Read & Stevens									
	Trobaugh #1	1(J)-15-27								
1-29-70			DST	8470	8344-8480	-4941KB	-	-	3057.2/ 3085.2	
4-17-70			C-122		8443-8468	-4927KB*	-	-	3153.2	
	Hurd #1	12(C)-15-27								
3-08-70			DST	8510	8244-8514	-4948DF	-	-	3041.2/ 3036.2	
3-08-70			DST	8508	8244-8514	-4946DF	-	-	3050.2/ 3045.2	
4-25-70			C-122		8484-8515	-4937GL*		-	3127.2	

*Mid-point of Interval

EXHIBIT NO.

DATE	OPERATOR LEASE NAME AND WELL NO.	LOCATION S(U)-T-R	SOURCE	PRESSURE BOMB DEPTH	SUBSURFACE DATUM FEET INTERVAL DEPTH	 SUBSEA	SURFACE PRESSURE PSIA MEASURED	 CALCULATED	SUBSURFACE PRESSURE PSIA MEASURED	 CALCULATED
	Midwest Com #1	6(M)-15-28								
7-31-70			DST	8404	8275-8414	-4868KB	-	-	4063.2/ 4029.2	
7-31-70			DST	8409	8275-8414	-4873KB	-	-	4054.2/ 4045.2	
9-29-70			C-122		8392-8420	-4882GL*	2503.2		3484.2	
	Amoco									
	Midwest State V #1	6(O)-15-28								
2-15-71			DST	N/A	8440-8703	-5024DF*	-	-	3517.2/ 3517.2	
2-24-71			C-122		8459-8475	-4919DF*	-	-	3500.2	
	Read & Stevens									
	Trobaugh "A" St Com #1	12(J)-15-27								
1-25-71			DST	N/A	8270-8556	-4843GL*	-	-	3180.2/ 3088.2	
4-07-71			C-122		8516-8645	-5011GL*	2022.2		2722.2	
	Piatt State Com #1	18(D)-15-28								
5-12-72			DST	8514	8536-8842	-4942GL	-	-	2717.2/ 3256.2	
5-12-72			DST	8837	8536-8842	-5265GL	-	-	2882.2/ 3303.2	
8-09-72			C-122		8626-8656	-5069KB*	2474.2			3177
	Langley Com #1	13(C)-15-27								
3-15-73			DST	8604	8276-8608	-4991KB	-	-	3302.2/ 3280.2	
4-13-73			C-122		8626-8646	-5035GL*	1688.2		2186.2	
	Enfield									
	Federal 1-11	11(A)-15-27								
12-02-72			DST	N/A	8170-8483	-4780GL*	-	-	2672.2/ 2855.2	
			No Initial C-122 Available							
11-15-73		Annual	C-122		8441-8474	-4925KB*	1683.2		2149.2	
	Read & Stevens									
	Rose #1	13(J)-15-27								
5-17-74			DST	8701	8320-8710	-5083GL	-	-	3215.2/ 3228.2	
1-18-75			C-122		8627-8702	-5035KB*	2238.2		2995.2	
	Harris Fed Com #2	24(C)-15-27								
1-29-74			DST	8962	8475-8966	-5357GL	-	-	3065.2/ 3362.2	
1-29-74			DST	8455	8475-8966	-4850GL	-	-	2847.2/ 3182.2	
2-01-75			C-122		8566-8807	-5070KB*	1954.2		2721.2	

*Mid-Point of Interval

DATE	OPERATOR LEASE NAME AND WELL NO.	LOCATION S(U)-T-R	SOURCE	PRESSURE BOMB DEPTH	SUBSURFACE DATUM FEET INTERVAL DEPTH	 SUBSEA	SURFACE PRESSURE PSIA MEASURED	 CALCULATED	SUBSURFACE PRESSURE PSIA MEASURED	 CALCULATED
	Depco									
	Derrick #1	3(G)-15-27								
2-04-75			DST	N/A	7840-7975	-4500GL*	-	-	3268.2/ 3242.2	
3-04-75			C-122		7962-7970	-4558GL*	2521.2		3089.2	
	Mountain States Petroleum									
	State Com #1	36(M)-14-27								
10-17-74			DST	8120	8120-8394	-4595GL	-	-	1382.2/ 1400.2	
8-06-75			C-122		8230-8306	-4744GL*	980.2			1206
	Depco									
	Bogle State #1	8(J)-15-28								
9-15-76			DST	8839	8760-8843	-5293KB	-	-	3314.2/ 3303.2	
11-27-76			C-122		8834-8842	-5303GL*	2193.2		3194.2	
	Holly Energy									
	Lula #2	7(D)-15-28								
5-04-77			C-122		8495-8505	-4809GL*	2392.2			3074
	Mountain States Petroleum									
	Hondo State Com #1	36(F)-14-27								
1- -69			DST		8169-8358	-4794GL*	-	-	2771.2/ 3047.2	
	1969 P&A, 1977 Well Was Reentered									
7-19-77			C-122		8155-8345	-4780GL*	1963.2		2445.7	
	Amoco									
	State ET #1	36(C)-15-27								
1-26-78			DST		8820-8945	-5292GL*	-	-	3124.2/ 3287.2	
7-13-78			C-104		8918-8922	-5329GL*	2613.2			3304
	Read & Stevens									
	Lula #3	7(I)-15-28								
7-25-78			DST		8345-8985	-5125KB*	-	-	3451.2/ 3486.2	
10-12-78			C-122		8542-8616	-5039KB*	2260.2		3248.2	
	Mewbourne Oil Co.									
	Mewbourne St 25 #1	25(N)-14-27								
11-03-79			C-122		8252-8268	-4786GL*	1719.2		2166.2	

*Mid-point of Interval

SUMMARY OF RESERVOIR AND PRODUCTION INFORMATION FOR BUFFALO VALLEY PENN. WELLS

CHAVES COUNTY, NEW MEXICO

	AMOCO			CITIES SERVICE	DEPCO		ROBERT ENFIELD	ENERGY RESERVES		HOLLY	MEWBOURNE OIL	MTN STATES PETROL.			
	FEDERAL C GAS COM #1	MIDWEST ST V GAS COM #1	STATE ST #1	BEATZ A #1	BOGLE STATE #1	DERRICK COM #1	FEDERAL 11-1	BUFFALO VAL COM #2	CLEMENTS BUFFALO VAL 1	LULA #2	MEWBOURNE 25 #1	HONDO ST COM	STATE COM #1	BUFFALO VAL COM #1	BUFFALO VA COM #2
Location	11C-15-27	60-15-28	36C-15-27	35N-14-27	8J-15-28	3G-15-27	31A-15-27	35H-14-27	1D-15-27	7D-15-28	25N-11-27	36F-14-27	36M-14-27	2F-15-27	2J-15-27
Completion Date and Interval	11-07-68 8232-8257	2-24-71 8412-8475	3-02-78 8918-8922	1-29-62 8182-8270	11-27-76 8834-3842	2-19-75 7962-7970	12-18-72 8411-8474	9-14-69 8125-8173	1-18-68 8232-8354	5-04-77 8495-8505	11-02-79 8252-8268	2-14-72 8155-8345	4-11-75 8230-8306	5-23-67 8180-8213	2-23-68 8130-832
NMOCD C-122 Test:															
Date	5-17-69	2-24-71	7-13-78*	N/A	11-27-76	3-04-75	11-15-73**	11-29-69	4-25-68	5-04-77	11-3-79	7-19-77**	8-6-75	6-8-67	4-25-68
Measured Pressures, psia															
Wellhead	2020.2	N/A	2613.4	-	2193.2	2521.2	1683.2	1283.2	2294.2	2392.2	1719.2	1963.2	980.2	2432.2	2323.2
Subsurface	2657.0	3500.2	3304.0	-	3194.2	3089.2	2149.2	1659.0	3024.2	3074.0	2166.2	2445.7	1206.0	3323.2	3146.2
Subsurface Datum, feet	-4752	-4919	-5329	-	-5303	-4558	-4925	-4621	-4760	-4809	-4786	-4780	-4744	-4683	-4716
Gas-Liquid HC Ratio MCF/bbl.	44.03	20	-	-	-	Trace	90.322	62.5	32.204	-	-	-	TSTM	55.862	31.57
API Gravity of Liquid H.C.	64.7	61.5	-	-	-	62.7	60.8	63.5	60.5	-	-	-	-	60.6	63.0
Sp. Grav. Sep. Gas	0.670	0.6872	0.647	-	0.6996	0.6801	0.644	0.680	0.680	0.691	0.691	0.656	0.653	0.684	0.672
Sp. Grav. Flowing Fluid	0.731	0.810	-	-	-	-	0.675	0.720	0.759	-	-	-	-	0.734	0.751
AOF MCF/day @ S.C.	5610	10,048	457	N/A	1066	2071	4636**	1120	4675	431	1090	673**	867	6400	10,591
Calc. Perm-Thickness md-ft.	61.88	7.94	4.92	N/A	10.37	20.60	89.40	24.30	49.30	8.72	32.4	8.7	17.46	83.5	151.6
Est. Skin Factor		-6.77	-	-	-1.75	-	-	-	-	-	-	-	-4.21	-	-
Radius of Investigation, ft.	201.5	90.6	55.3	N/A	123	123.1	137.1	119.9	109.6	81.7	118.6	55.2	55.0	115.2	311.7
Log Interpretation:															
Mean Porosity fcn Bulk Vol.	0.091	0.066	0.109	0.081	0.115	0.090	0.093	0.189	0.123	0.140	0.108	0.129	0.126	0.142	0.085
Mean Con. Wtr. Sat. fcn NEPS	0.244	0.433	0.288	0.130	0.170	0.240	0.220	0.130	0.20	0.140	0.078	0.141	0.200	0.134	0.220
Pay Thickness, net feet	17	20	12	16	5	12	26	6	28	8	10	15	19	29	34
Original Gas-in-place MMCF/ac.	10.13	6.99	8.44	N/A	4.53	7.77	11.92	5.34	28.14	9.07	6.10	11.63	9.93	34.2	21.18
Est. Eff. Permiability, md	3.64	0.397	0.41	N/A	2.07	1.70	3.44	4.05	1.76	1.09	3.24	0.58	0.919	2.88	4.46
Cum. Production @ 1-1-80:															
Liquid, bbl.	13,263	42,413	2395	27,021	4964	4159	11,389	2106	68,729	2946	0	6149	997	57,853	67,295
Gas, MMCF	1,609,402	3,646,002	311,803	4,914,023	377,367	386,729	2,847,205	698,336	5,910,206	196,740	0	780,889	84,559	6,010,105	5,388,574
Est. Ultimate Recovery:															
Gas, MMCF	2391.5	4056.0	1183.9	4914.0	484.4	402.1	4246.8	824.3	7530.5	298.9	N/A	1608	1064.3	6719.8	6297.4
Est. OGIP, MMCF	2660	4250	1235	8635	616	460	5699	1220	10,000	779	N/A	2397	1130	8100	7600
Est. Gas R.F. from OGIP	0.899	0.954	0.959	0.569	0.786	0.874	0.745	0.676	0.753	0.384	N/A	0.671	0.942	0.830	0.829

*From C-104
**From Annual C-122 - INITIAL NOT AVAILABLE

READ & STEVENS

HARRIS FED COM #2	HURD #1	LANGLEY COM #1	LINA #5	MIDWEST #1	PIATT STATE COM #1	ROSE #1	TROBAUGH #1	TROBAUGH ST A #1
24C-15-27	12C-15-27	13C-15-27	7I-15-28	6N-15-28	18D-15-28	13J-15-27	1J-15-27	12J-15-27
2-01-75	3-22-70	3-31-73	10-12-78	9-10-70	7-31-72	1-18-75	3-18-70	3-14-71
8566-8807	8484-8515	8626-8646	8542-8616	8392-8420	8625-8656	8626-8707	8143-8468	8516-8645
2-1-75	4-25-70	4-13-73	10-12-78	9-29-70	8-09-72	1-18-75	4-17-70	4-07-71
1954.2	N/A	1888.2	2260.2	2503.2	2474.2	2238.2	N/A	2022.2
2721.2	3127.2	2186.2	3248.2	3484.2	3177.0	2995.2	3153.2	2722.2
-5070	-4937	-5035	-5039	-4882	-5069	-5035	-4927	-5011
51.098	55.556	133.33	TSTM	17.550	66.0	96.944	99.033	47.06
63.0	61.0	63.0	-	63.0	63.0	63.0	61.0	63.0
0.625	0.68	0.625	N/A	0.670	0.650	0.625	0.68	0.673
0.671	0.726	0.645	-	0.821	0.692	0.654	0.711	0.731
6300	4000	4800	474	8100	1040	680	9700	2051
99	35.6	76.6	3.34	75.3	1.73	5.78	107	22.3
-	-	-	-	-	-5.02	-	-	-
119.4	111.7	138.7	50.2	117.8	31.7	69.0	223.9	132.3
0.136	0.164	0.152	0.144	0.182	0.112	0.071	0.122	0.082
0.102	0.186	0.530	0.120	0.084	0.286	0.253	0.242	0.390
33	20	20	8	31	17	19	25	35
31.67	25.2	8.66	9.40	55.9	12.44	8.78	21.79	14.24
30	1.78	3.83	0.418	2.43	0.102	0.304	4.28	1.06
2279	52,403	7377	5222	27,210	21,306	6559	54,760	11,316
296,522	7,591,850	2,090,187	266,334	2,557,363	2,179,231	622,115	7,754,663	1,499,571
458.5	9105.9	2475	1511.5	2713.8	4116.8	1571.2	11,268.2	2403.9
540	15,150	2750	N/A	3801	4517	2333	12,400	3200
0.849	0.601	0.900	N/A	0.714	0.917	0.673	0.909	0.751

EXHIBIT NO.

INER STAMETS
TION DIVISION
IT NO. 5
-7134
Yoder
14 81

CASE 7125: Application of Western Oil Producers Inc. for the amendment of Order No. R-5399, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Division Order No. R-5399 to include production from all of the Pennsylvanian formations in its Amoco State Well No. 1 at an unorthodox location in Unit M of Section 28, Township 16 South, Range 33 East.

CASE 7126: Application of Franks Petroleum, Inc. for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox location 1980 feet from the North line and 1315 feet from the West line, Section 3, Township 21 South, Range 32 East, Hat Mesa-Morrow Gas Pool, the N/2 of said Section 3 to be dedicated to the well.

CASE 7127: Application of Ellwade Corporation for amendment of Order No. R-6399, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-6399 which approved a 129.52-acre non-standard gas proration unit comprising the W/2 of Section 33, Township 26 South, Range 30 East, for the Wolfcamp formation in the Ross Draw Area. Applicant seeks to have said order also apply to all formations of Pennsylvanian age.

CASE 6670: (Reopened and Readvertised)

In the matter of Case 6670 being reopened and pursuant to the provisions of Order No. R-6183 which order promulgated temporary special rules and regulations for the Red Hills-Devonian Gas Pool in Lea County, New Mexico, including a provision for 640-acre spacing units. Operators in said pool may appear and show cause why the pool should not be developed on 320-acre spacing units.

CASE 7128: Application of HNG Oil Company for pool creation, special pool rules, assignment of a discovery allowable, and dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks creation of a new Wolfcamp oil pool for its San Simon 6 State Comm. Well No. 1 located 1980 feet from the North line and 660 feet from the East line of Section 6, Township 22 South, Range 35 East, with special rules therefor, including provisions for 160-acre spacing. Applicant further seeks a discovery allowable for said well and approval for its dual completion to produce oil from the Wolfcamp and gas from an undesignated Morrow pool thru parallel strings of tubing.

CASE 7129: Application of Koch Exploration Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Dakota formation underlying the N/2 of Section 28, Township 28 North, Range 8 West, 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, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 7130: Application of Read & Stevens, Inc. for an unorthodox gas well location and two non-standard gas proration units, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of two 160-acre non-standard proration units in the Buffalo Valley-Pennsylvanian Gas Pool, the first being the SE/4 of Section 12, Township 15 South, Range 27 East, to be dedicated to its Trobough "A" State Com. Well No. 1 in Unit J, and the other being the NE/4 of said Section 12 to be dedicated to a well to be drilled at an unorthodox location 1315 feet from the North and East lines of the section.

CASE 7131: Application of Read & Stevens, Inc. for an unorthodox gas well location and two non-standard gas proration units, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of two 160-acre non-standard proration units in the Buffalo Valley-Pennsylvanian Gas Pool, the first being the SE/4 of Section 1, Township 15 South, Range 27 East, to be dedicated to its Trobough Com. Well No. 1 in Unit J, and the other being the NE/4 of said Section 1 to be dedicated to a well to be drilled at an unorthodox location 1315 feet from the North and East lines of the section.

CASE 7132: Application of Read & Stevens, Inc. for an unorthodox gas well location and two non-standard gas proration units, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of two 160-acre non-standard proration units in the Buffalo Valley-Pennsylvanian Gas Pool, the first being the SE/4 of Section 13, Township 15 South, Range 27 East, to be dedicated to its Rose Well No. 1 located in Unit J, and the other being the SW/4 of said Section 13 to be dedicated to a well to be drilled at an unorthodox location 1315 feet from the South and West lines of the section.

CAMPBELL AND BLACK, P.A.
LAWYERS

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

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

December 22, 1980

DEC 22 1980
OIL CONSERVATION DIVISION
SANTA FE

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

Case 7131

Re: Application of Read & Stevens, Inc. for Approval of an Unorthodox Well Location, Two Non-Standard Proration Units and Approval of Infill Drilling, Chaves County, New Mexico

Dear Mr. Ramey:

Enclosed in triplicate is the application of Read & Stevens, Inc. 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 January 14, 1981.

Very truly yours,

William F. Carr

WFC:lr

Enclosures

cc: Mr. William P. Aycock

BEFORE THE

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

DEC 22 1980
OIL CONSERVATION DIVISION
SANTA FE

APPLICATION OF READ & STEVENS, INC. FOR APPROVAL OF AN UNORTHODOX WELL LOCATION, TWO NON-STANDARD PRORATION UNITS AND APPROVAL OF INFILL DRILLING, CHAVES COUNTY, NEW MEXICO.

Case 7131

APPLICATION

Comes now READ & STEVENS, INC., by its undersigned attorneys, and applies to the New Mexico Oil Conservation Division for approval of an unorthodox well location and two non-standard gas proration units, Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico, and for infill findings and in support of its application states:

1. Read & Stevens, Inc. is the operator of the E/2 of Section 1, Township 15 South, Range 27 East, N.M.P.M., Chaves County, New Mexico, which is dedicated to its Trobough Well No. 1 located in Unit J of said Section 1.

2. Applicant seeks the establishment of two non-standard gas proration units in the Buffalo Valley-Pennsylvanian Gas Pool; one comprising the SE/4 of said Section 1 as a new 160-acre proration unit to be dedicated to the Trobough Well No. 1 and the other comprising the NE/4 of said Section 1 as a new 160-acre proration unit to be dedicated to a well applicant proposes to drill at an unorthodox location.

3. The proposed well will be drilled into the same proration and spacing unit dedicated to the Trobough Well No. 1.

4. That Special Pool Rules for the Buffalo Valley-Pennsylvanian Gas Pool were promulgated by Oil Conservation Division Order R-1670-H on March 4, 1969, which established special requirements for the location of wells in this pool.

5. That applicant seeks an exception to the Special Pool Rules to enable it to locate its proposed well 1320 feet from the North and East lines of the Section.

6. Applicant seeks a determination pursuant to the F.E.R.C. Rules, Part 271.305 that the proposed Trobough Well No. 1 is necessary to effectively and efficiently drain a portion of the Buffalo Valley-Pennsylvanian 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

DEC 22 1980
OIL CONSERVATION DIVISION
SANTA FE

APPLICATION OF READ & STEVENS, INC. FOR APPROVAL OF AN UNORTHODOX WELL LOCATION, TWO NON-STANDARD PRORATION UNITS AND APPROVAL OF INFILL DRILLING, CHAVES COUNTY, NEW MEXICO.

Case 7131

APPLICATION

Comes now READ & STEVENS, INC., by its undersigned attorneys, and applies to the New Mexico Oil Conservation Division for approval of an unorthodox well location and two non-standard gas proration units, Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico, and for infill findings and in support of its application states:

1. Read & Stevens, Inc. is the operator of the E/2 of Section 1, Township 15 South, Range 27 East, N.M.P.M., Chaves County, New Mexico, which is dedicated to its Trobough Well No. 1 located in Unit J of said Section 1.

2. Applicant seeks the establishment of two non-standard gas proration units in the Buffalo Valley-Pennsylvanian Gas Pool; one comprising the SE/4 of said Section 1 as a new 160-acre proration unit to be dedicated to the Trobough Well No. 1 and the other comprising the NE/4 of said Section 1 as a new 160-acre proration unit to be dedicated to a well applicant proposes to drill at an unorthodox location.

3. The proposed well will be drilled into the same proration and spacing unit dedicated to the Trobough Well No. 1.

4. That Special Pool Rules for the Buffalo Valley-Pennsylvanian Gas Pool were promulgated by Oil Conservation Division Order R-1670-H on March 4, 1969, which established special requirements for the location of wells in this pool.

5. That applicant seeks an exception to the Special Pool Rules to enable it to locate its proposed well 1320 feet from the North and East lines of the Section.

6. Applicant seeks a determination pursuant to the F.E.R.C. Rules, Part 271.305 that the proposed Trobough Well No. 1 is necessary to effectively and efficiently drain a portion of the Buffalo Valley-Pennsylvanian 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

BEFORE THE

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

RECEIVED
DEC 22 1980
OIL CONSERVATION DIVISION

APPLICATION OF READ & STEVENS, INC. FOR APPROVAL OF AN UNORTHODOX WELL LOCATION, TWO NON-STANDARD PRORATION UNITS AND APPROVAL OF INFILL DRILLING, CHAVES COUNTY, NEW MEXICO.

Case 7131

APPLICATION

Comes now READ & STEVENS, INC., by its undersigned attorneys, and applies to the New Mexico Oil Conservation Division for approval of an unorthodox well location and two non-standard gas proration units, Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico, and for infill findings and in support of its application states:

1. Read & Stevens, Inc. is the operator of the E/2 of Section 1, Township 15 South, Range 27 East, N.M.P.M., Chaves County, New Mexico, which is dedicated to its Trobough Well No. 1 located in Unit J of said Section 1.

2. Applicant seeks the establishment of two non-standard gas proration units in the Buffalo Valley-Pennsylvanian Gas Pool; one comprising the SE/4 of said Section 1 as a new 160-acre proration unit to be dedicated to the Trobough Well No. 1 and the other comprising the NE/4 of said Section 1 as a new 160-acre proration unit to be dedicated to a well applicant proposes to drill at an unorthodox location.

3. The proposed well will be drilled into the same proration and spacing unit dedicated to the Trobough Well No. 1.

4. That Special Pool Rules for the Buffalo Valley-Pennsylvanian Gas Pool were promulgated by Oil Conservation Division Order R-1670-H on March 4, 1969, which established special requirements for the location of wells in this pool.

5. That applicant seeks an exception to the Special Pool Rules to enable it to locate its proposed well 1320 feet from the North and East lines of the Section.

6. Applicant seeks a determination pursuant to the F.E.R.C. Rules, Part 271.305 that the proposed Trobough Well No. 1 is necessary to effectively and efficiently drain a portion of the Buffalo Valley-Pennsylvanian 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

Case _____

Application of Read & Stevens, Inc.
for an Unorthodox Well Location,
Two Non-standard Proration Units and
Approval of Infill Drilling, Chaves
County, New Mexico.

Applicant in the above-styled cause, seeks approval of two 160-acre non-standard proration units, one comprising the SE/4 of Section 1, Township 15 South, Range 27 East, Buffalo Valley-Pennsylvanian Gas Pool, to be dedicated to its Trobough Com. Unit J Well No. 1, and also a non-standard proration unit comprising the NE/4 of said Section 1 to be dedicated to a well to be drilled at an unorthodox location 1320 feet from the North and East lines of the section; applicant further seeks a waiver of existing well spacing requirements and a finding that the drilling of said well is necessary to effectively and efficiently drain that portion of an existing proration unit which cannot be so drained the the existing well.

DRAFT

dr/

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. 7131

Order No. R- 6582

APPLICATION OF READ & STEVENS, INC.
FOR AN UNORTHODOX GAS WELL LOCATION AND TWO
~~FOR A NON-STANDARD PRORATION UNIT~~, GAS PRORATION UNITS,
CHAVES
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on January 14, 19 81, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this day of January, 19 81, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Read & Stevens, Inc., seeks approval of a two 160-acre non-standard gas proration units ~~xxxcomprising~~ in the Buffalo Valley-Pennsylvanian Gas Pool, the first being the SE/4 of Section 1, Township 15 South, Range 27 East, NMPM, to be dedicated to its Trobough Com. Well No. 1 in Unit J, and the other being ~~xxxxx~~ the NE/4 of said Section 1 to be dedicated ~~xxlocated xxx~~ to a well to be drilled at an unorthodox location 1315 feet from the North ~~xxUnitxxxxxxxxxxxxofxsaidxSectionxxx~~ line and 1315 feet from the East line of the section.

(3) That ~~the entire~~ both of said non-standard proration units may reasonably be presumed productive of gas from the Buffalo Valley-Pennsylvanian Gas Pool and that the entire non-standard gas proration unit can be efficiently and economically drained and developed by the ~~aforesaid~~ wells

(4) That approval of the subject application will afford the applicant the opportunity to produce his just and equitable share of the gas in the Buffalo Valley-Pennsylvanian Gas Pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED: (1) That Reed and Stevens, Inc. is hereby granted

~~(1) That a~~ two 160-acre non-standard gas proration units in the Buffalo Valley-Pennsylvanian Gas Pool, the first comprising the SE/4 of Section 1, Township 15 South, Range 27 East, NMPM, Chaves County, New Mexico, (and the second being the NE/4 of said Section 1,) ~~are is hereby established and~~ said units to be dedicated to ~~its~~ the Trobough Com Well No. 1 in Unit J and a well to be drilled at an unorthodox location, hereby approved, ~~located in Unit of said~~ 1315 feet from the North line and 1315 feet from the East line of the Section, respectively.

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

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