CASE 5961: D.L. HANNIFIN FOR AMENDMENT OF ORDER NO. R-4432, EDDY COUNTY, NEW MEXICO

Case Number 5961

Application

Transcripts.

Small Exhibits

ETC.

NEW MEXICO OIL CONSERVATION COMMISSION

COMMISSION HEARING

SANTA FE, NEW MEXICO

Hearing Date OCTOBER 19, 1977 Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION
D.L. Hannifin	Self	Roswell, N. M.
N. Ranyon of Santa Fe	consulted for [illegible]	Albuquerque
[illegible]	[illegible]	Albuquerque
George H. Hunker Jr.	D. L. Hannifin	Roswell, N. M.
C.P. Kendrick	El Paso Natural Gas Co.	El Paso, Tx.
Irvin Kaufer	M. P. Grace II	Albuquerque
Arlene Hulen	Bob Hulen	Santa Fe

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 19, 1977

COMMISSION HEARING

IN THE MATTER OF:

Application of D. L. Hannifin for amendment of Order No. R-4432, Eddy County, New Mexico.

CASE 5961

BEFORE: Joe D. Ramey, Secretary-Director
Phil Lucero, Member
Emery Arnold, Member

Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: Lynn Teschendorf, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

For D. L. Hannifin: George H. Hunker, Jr., Esq.
Don M. Fredric, Esq.
HUNKER, FREDRIC, P.A.
Attorneys at Law
P. O. Box 1837
Roswell, New Mexico

For Michael P. Grace: Elvin Kanter, Esq.
KANTER & CARMODY, P.A.
Attorneys at Law
200 Lomas Boulevard, N.W.
Albuquerque, New Mexico

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MR. RAMEY: The hearing will come to order. We have one case on the docket this morning and that is Case 5961.

MS. TESCHENDORF: Case 5961, application of D. L. Hannifin for amendment of Order No. R-4432, Eddy County, New Mexico. Applicant in the above styled cause seeks the amendment of Order No. R-4432 to remove the present operator of the pooled proration unit comprising the south half of Section 24, Township 22 South, Range 26 East, South Carlsbad Morrow Gas Pool, Eddy County, New Mexico, and to designate applicant as operator of said unit.

The case is here before the Commission on a re-hearing.

MR. RAMEY: I'll ask for appearances at this time.

MR. HUNKER: Good morning -- George H. Hunker, Junior, Hunker & Fredric, Roswell, New Mexico, appearing on behalf of D. L. Hannifin and I would like to present to the Commission my partner, Don L. Fredric, who will assist me in connection with this case. We have two witnesses.

MR. KANTER: My name is Elvin Kanter and I am an attorney of the firm of Kanter and Carmody, Albuquerque, and we represent Michael P. Grace, II, and we have two witnesses.

MR. RAMEY: We have a subpoena for Greg Backstrom and is he here?

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MR. KANTER: I will represent to and have represented to Ms. Teschendorf that we will guarantee his appearance here today.

MR. RAMEY: Okay. All right, Mr. Hunker, you may proceed and will all the witnesses stand and be sworn?

(THEREUPON, the witnesses were sworn.)

M. RAYMOND LAMB

was called as a witness by the applicant, and having been first duly sworn, testified upon his oath as follows, to-wit:

DIRECT EXAMINATION

BY MR. HUNKER:

Q. Would you identify yourself, please?

A. I am M. Raymond Lamb, a geological engineering consultant from Artesia, New Mexico.

Q. Have you testified before the Commission previously?

A. I have.

Q. And have your qualifications as a Petroleum Engineer been established and accepted by the Commission?

A. They have.

MR. HUNKER: If it please the Commissioner, we would ask that Mr. Lamb be regarded as an expert in connection with Petroleum Engineering matters.

MR. RAMEY: I feel that Mr. Lamb is qualified.

Q (Mr. Hunker continuing.) Have you prepared an exhibit, Mr. Lamb, showing the land involved in the Grace-Atlantic lease and some of the surrounding leases?

A. Yes. This map is prepared to present a general idea of the layout of this particular Morrow reservoir.

You will note in Section 24 the two key wells. One, is the Grace-Atlantic and the other is the GoPoGo 2, those wells being thirteen hundred and twenty feet apart and on adjacent proration units. The proration being the south half for the Grace-Atlantic and the north half for the GoPoGo 2.

These two wells have produced, now, in the vicinity of nine point one billion cubic feet of gas, for the GoPoGo 2, and nine point two billion for the Grace-Atlantic.

The remaining wells in the outlying area have not produced anywhere near this amount. The well in the south half of 25 which is called the City of Carlsbad 1 has produced six billion.

The remaining wells have produced less than three and a half billion, each.

The well to the north in Section 13, the Texas Oil and Gas has only produced a quarter of a billion cubic feet of gas todate.

Q. Is this your exhibit one and did you color the Grace-Atlantic forced pooled tract in yellow?

A. Yes.

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Q. Turning to your Exhibit Number Two, will you explain to the Commission what this is and what it shows?

A. This an acoustilog done by Dresser-Atlas and it is purely presented at this time to give a comparison of the pay zones of the two wells.

Q. Which two wells are you talking about?

A. The GoPoGo 2 which would be on the left and the Grace-Atlantic on the right.

Q. Are the zones of production comparable in these two wells?

A. The major zones in each well -- let me say that there are four zones perforated in the GoPoGo 2 -- the three lower zones are contributing zones but not significant.

There is only one zone perforated in the Grace-Atlantic which is comparable to the main zone in the GoPoGo 2, and it points out that the two main sources of gas in these two wells are, in my opinion, are identical.

In the Grace-Atlantic No. 1, there are a couple of other zones that might be productive but I would suggest that they not be pursued until after this major zone has been depleted.

Q. Have you made a study of the Commission records with regards to the types of completions of these two wells, the GoPoGo 2 as compared to the Grace-Atlantic?

A. Yes. I have pursued the completion of the two wells

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in detail as far as the Oil Commission records are concerned.

Q. What size tubing was used in the GoPoGo 2 well?

A. Well, two and seven-eighths inch tubing was used in it and set pretty close to the pay zone.

I can give you the exact figures if you would like. In the Grace-Atlantic, four and a half inch tubing was set with the base of the tubing in about eleven thousand feet which would be four hundred and twenty feet above the pay zone.

Structurally, the two wells are relatively close. On the marker that I have picked, the base of the Morrow Clastic is a minus eighty-one nineteen in the GoPoGo 2 and a minus eighty-one thirty-five in the Grace-Atlantic. So, structurally, they are comparable.

Q. And they are perforated in the same zones?

A. The zone that is productive in the Grace-Atlantic is perforated. In the GoPoGo 2, three other minor zones in the GoPoGo 2 have been perforated.

Q. Okay. Turning to Exhibit Number Three will you explain to the Commission what that schematic represents?

A. Exhibit Number Three is basically a copy of schematics that have been presented here before and I have verified these figures as to where the four and a half inch tubing is set.

Q. In the Grace-Atlantic No. 1 Well?

A. Yes, in the Grace-Atlantic No. 1. As far as I know

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this represents the situation as far as tubing and casing in that well.

Q. Turning to Exhibit Number Four what does that exhibit show with regard to the Grace-Atlantic No. 1?

A. Exhibit Number Four was actually prepared for our presentation over a month ago, actually August 19th, I believe.

It was my idea as to how to best equip the Michael P. Grace-Atlantic No. 1 with the fact that it was producing some water and that it needed to be drained off or produced out. This, in my opinion, will give an efficient method of production to relieve the water situation which would not be produced in the four and a half inch tubing.

This tubing size is two and three-eighths and I think in my opinion, from my experience, this is the absolute minimum.

I will repeat that the GoPoGo 2 has two and seven-eighths tubing in it.

Q. Turning to Exhibit Four A will you tell the Commission what this document is?

A. This is a document from the Oil Commission files setting out the procedure and the equipment placed in the Grace-Atlantic No. 1 completed somewhere around September 15, 1977.

Q. Is this a re-entry and recompletion?

A. Well, it is a running of an extra string of tubing inside the four and a half which is similar to the plan that

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I have.

However, the only difference between the two has to do with the size of the tubing and this plan has been installed and it is two and a sixteenth and it is set on a packer on the inside of the four and a half inch.

My recommendation would have been not to set the packer but to set a tubing hanger and hang the tubing in the bottom of the four and a half inch instead of setting a packer.

You run into two problems. Number one, you have a more flexible operation with the annulus between two and a half and the four and a half open. There are so many more things that you can do to help produce the well. Number two, it would not be essential to set an inch and a half mandrel in the packer as was the case actually installed in the Grace-Atlantic.

Actually, the inch and a half gives you an additional bottom hole choke to resist the flow in the well. I would not have preferred it.

Q. In the situation that you recommended you wouldn't have killed the well would you?

A. No, I think there is a danger of killing the main pay zone with brine and there is a reasonable chance that it might not have come back. I think the procedure of setting the tubing inside the four and a half was the appropriate way.

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Q. From the Commission's records have you prepared, or from other records, have you prepared Exhibit Numbers Five and Six?

A. Exhibits Five and Six -- Five is a tabulation of the production of the Grace-Atlantic No. 1 from January 1975, and Six is the tabulation of the GoPoGo 2.

These tabulations are made from the Oil Commission's records and from direct supplier sources and they go through September of 1977, which is some eleven days of production since the two and a sixteenth inch tubing was installed.

The amount of production to the end of September was eleven days and amounted to ten million seven hundred and seventy-eight thousand cubic feet of gas with the two and a sixteenth inch tubing in the Grace-Atlantic No. 1.

Q. Exhibit Number Six, what does it show, cumulative production of the GoPoGo 2?

A. It is a tabulation of the same data on the GoPoGo 2. As far as the records are concerned my tabulation gives the Grace-Atlantic No. 1 a cumulative figure to October 1st of nine billion two hundred thirty-two million seven hundred and sixty-two thousand cubic feet of gas as compared to the GoPoGo 2 of nine billion one hundred and nineteen thousand six hundred and nineteen M.C.F.

So, we are in the vicinity of one hundred and thirteen thousand cubic feet of gas of being basically equal.

Q. Turning to Exhibit Number Seven, will you explain to the Commission what this graph represents?

A. Exhibit Number Seven is a graph drawn from the tabulations shown on the previous Exhibits Five and Six and you will note that the green is a graph of the GoPoGo 2 and the red color is the graph of the monthly production of the Grace-Atlantic 1.

The key to the -- these records is the stability of the production in the GoPoGo 2 with a two and seven-eighths tubing since January of 1975. There are some minor fluctuations due to seasonal and the take of the pipeline and so forth. But this is a normal type curve that you find in an efficiently operated well.

The red line shows the graph of the Grace-Atlantic 1 and you will note that it is very erratic. The big shut in period came in about the middle of 1975 and there is another one at the end of 1975, and since that time it has further been erratic and died sometime in about July of 1977.

This is typical of oversized production in the later life of the well. If the well does produce any water, whether it is interstitial or what, carbonate water, this is the type of curve that you get when you are oversized in tubing because the velocity of the gas moving up through the large tubing will not bring the water out to the surface.

Further, in examining the charts of the El Paso Natural

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Gas Company and there were long periods of shut in time and what appeared to be blow-off periods where the gas was blown to the air.

That's only signified to me by the El Paso Natural Gas Company charts which I examined.

The inefficiency of the four and a half is pretty well born out in this curve for the last couple of years.

Q. Mr. Lamb, will you comment on the differences in the size of the tubing that is presently installed in the Grace-Atlantic well as compared to the tubing being used in the GoPoGo well and what is the effect of the differences in sizes?

A. Well, the tubing in the GoPoGo 2 is two and seven-eighths which is the normal tubing used for good sized gas wells in southeast New Mexico.

The size of the tubing for a well in its later stages which is my personal professional opinion, should not be more than two and three-eighths and I would prefer not to have any choking devices down hole because you run into lifting not only the water but also you are running into a friction volume in that eleven thousand four hundred feet of two and a sixteenth inch tubing.

From my experience in the field in southeast New Mexico for the last forty years I feel that the minimum sized tubing that is efficient in a gas well of that depth is two and

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three-eighths.

Q. In your studies of Morrow gas pools you have mentioned from time to time the nature of the pool and you have made a comparison of the gas that is in this reservior to the air that is in a tire. Will you explain this conclusion of yours to the Commission?

A. Well, this type of Morrow reservoir which is a limited reservoir and in this case it takes in several wells. We have limited reservoirs in the Morrow that take in just one well.

But it is -- there is no active water drive and it is the internal expansion of the gas that is the energy and the conservation of that energy is vital. As I have said, it is just like so much air in a tire and you have two or three outlets and the one who has the biggest opening up to a time will capture the largest part of the air out of the tire and the ones who have the smaller size will get less.

However, in this particular case the field went under proration early which stabilized the area as far as heavy withdrawals.

This has been one of the problems with the Grace-Atlantic 1 with a large sized tubing. It had the ability to produce large volumes of gas and it was produced that way. But at the same time when they had fulfilled their allowable requirements the well, then, had to be shut in. Shutting the

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well in doesn't lead to any great efficiency in operating a gas well.

An even, steady, flow as we have seen in the GoPoGo 2 is very efficient as far as producing Morrow gas fields in southeast New Mexico.

Q. As the two wells sit today is the Grace-Atlantic well competitive with the GoPoGo 2 well?

A. No, not at this time. The rate on the eleven days that we have shows the Grace-Atlantic producing about thirty million cubic feet of gas a day and the GoPoGo 2 in the vicinity of fifty million cubic feet of gas a day. We have a discrepancy there of about thirty million cubic feet and I think is what you should expect from the two sizes of the tubing that you have.

Q. You mean thirty million a month, don't you?

A. Thirty million a month, yes, I am sorry.

Q. Okay. Will you explain this again, Raymond, make that comparison again between these two wells as to the loss of gas from one well to the other?

A. Well, as the Grace-Atlantic 1 in the last couple of years has been inefficiently produced because of the production of water with a four and a half inch tubing and the withdrawal from the same reservoir out of the GoPoGo 2 has a great tendency to capture the gas which is not produced in the Grace-Atlantic.

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We do have communication in this type of sands between wells. But at the same time I do not feel that all of the gas under the Grace-Atlantic 1, if it were shut in, should be produced by the GoPoGo 2.

Q. Who owns and operates the GoPoGo 2 Well?

A. Well, it is operated by Corinne Grace. It is a Michael P. Grace well and I really don't remember.

Q. They are members of the same family aren't they?

A. Yes.

Q. Operating out of the same office in Artesia -- I mean Carlsbad?

A. Right. Corrine Grace is GoPoGo 2 and Michael P. Grace and it has a misnomer on these reports, I am sorry.

Q. Mr. Lamb, waste is defined in the New Mexico statutes in addition to its ordinary meaning as including underground waste as those words are generally understood in the oil and gas business and in any event embrace any inefficient improper use of gas energy in the pool so as to reduce or tend to reduce the total quantity of natural gas ultimately recoverable from the pool.

In your opinion has waste occurred by reason of the Michael P. Grace II operation of the Grace-Atlantic well?

A. Some gas will be lost. There is not anyway to avoid it. In my personal opinion the Grace-Atlantic 1 has been abused and also in my opinion I do not feel that the two

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and a sixteenth inch tubing will put it in a position to capture its fair share of the gas in the reservoir.

Q. As defined in the New Mexico Statutes correlative rights means the opportunity afforded to the owners of a property to produce without waste his just and equitable share of the gas in the pool.

Mr. Lamb, in your opinion have correlative rights of owners under the south half of Section 24, Township 22 South, Range 26 East, been violated by the methods of operation of this property by Michael P. Grace?

A. Yes, they have. They have been violated. In the early days you would have assumed that the four and a half inch tubing would have put them in the advantage situation. However this was not the case because it was a prorated field.

The orders of the Commission kept the two in balance. But in the last fourteen months the inefficient operation and the inactive part of the operator in the Grace-Atlantic 1, has put it in an under-production basis of three hundred and fifty million cubic feet of gas.

This gas cannot be further recovered from the Grace-Atlantic No. 1.

Now, with the two and a sixteenth inch tubing we are still behind twenty million a month in the producing capacity as compared to the Grace GoPoGo 2.

There is not anyway in the present setup of the Grace-

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Atlantic 1 to recover the underproduction of three hundred and fifty million cubic feet of gas in that it is now producing twenty million a month less than the GoPoGo 2.

So, it cannot be resolved and it will be aggravated and the discrepancy will increase to the tune of about twenty million per month.

As the two wells decline the volume, itself, will decrease but the percentage will remain about the same.

Q. And this is your conclusion after the well has been reworked, is that correct?

A. That's right.

MR. HUNKER: If the Commission please, we would like to offer into evidence Exhibits One through Seven including Number 4 A, and that concludes our direct testimony by Mr. Lamb and we would like to reserve the right to call him in rebuttal, if necessary.

MR. RAMEY: The exhibits will be admitted. Are there any questions of the witness? Mr. Kanter?

CROSS EXAMINATION

BY MR. KANTER:

Q. If it please the Commission, I have got Mr. Steinhorst who is an oil and gas engineer and he has been before the Commission before, and may be known to the Commissioners, to assist me in examining this witness --

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MR. RAMEY: That will be fine.

Q. (Mr. Kanter continuing.) You have testified, Mr. Lamb, that you would not have recommended two and one-sixteenths inch tubing in this particular reworking. Is it your testimony that the use of two and one-sixteenth inch tubing is an unconventional size to be used?

A. It is not normally used in southeast New Mexico's gas wells.

Q. Is it a conventional size tubing, Mr. Lamb?

A. It is within the standards of the A.I.P. book if that is what you mean. Actually, one and a half is standard. There are smaller tubing.

Q. So, that the decision as to whether to use the two and three-eighths inch that you have recommended or the two and one-sixteenth inch is a matter of opinion as between experts?

A. Well, let me repeat what I said is that I would not have recommended not less than two and three-eighths inch.

Q. But another equally qualified person knowledgeable in oil and gas operations might have recommended two and one-sixteenth and you wouldn't consider that incompetent if it came from a qualified person?

A. Oh, no, but I think the factor there is the producing rate that you now have as compared with the rate of the GoPoGo 2.

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Q. What evidence do you have, if any, that the two and three-eighths inch tubing would have gone through the existing four inch tubing?

A. Well, there is no question in my mind.

Q. On what evidence do you base that opinion, sir?

A. I use a Spang book of clearances on tubing and casing and so forth and they indicated to me that it will go. As a matter of fact as far as the experience is concerned we run two and three-eighths tubing in four and a half inch casing all of the time in southeast New Mexico. There is just no problem scientifically and spacing-wise with me.

Q. Have you done it before?

A. I have done it before.

Q. Now, you have -- in part of your testimony you have stated that there is a water production in the Grace-Atlantic well of some degree. Where do you get that evidence?

A. Well, you reported it on the Oil Commission Report C 115.

Q. What does that show, if you remember?

A. Well, that runs about forty-four barrels a month.

Q. Now, assuming that's correct, does that indicate a large volume of water?

A. Oh, no, that is interstitial or carbonate water. That's not a water drive.

Q. And that's not a very large quantity of water?

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A. Oh, no.

Q. And do you have those reports with you at this time?

A. No, I do not have them.

Q. Now, you have made a comparison in your testimony of the relative ability to produce gas between a large tube and a small tube, in your testimony, but it is true is it not that given a certain quantity of gas in the reservoir that the same total production over the life of the well will be obtained for the large tube as from the small tube, is that correct?

A. Would you repeat that again?

Q. Assuming that you have a given reservoir of gas and assuming that you take that gas out through two different tubes, not at the same time, but, say, in the first instance, let's say, you take a given reservoir and you put in a large tube and you take all of the gas that you can out of the reservoir through that large tube and then in the second hypothetical case you have the same reservoir and you use a smaller diameter tube and you take all of the gas out of the reservoir through the smaller tube would there, assuming no other factors, be any difference in the amount of total production from that reservoir?

A. Probably not. However, there will be an extended period of time with the small tube, of course, that you can't take it out in the same time.

Q. Okay. Now, can you, assuming that you have two

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equal reservoirs operating at the same time and you have -- or, let's say, that you have one single reservoir and you have two wells which are tapping that reservoir and one well has a narrower tubing than the other, can you make a comparison as to the relative production without having taken bottom hole pressures of the two different wells?

A. Could I make a comparison of the two without taking bottom hole pressures?

Q. Yes?

A. You have taken bottom hole pressures on all of the wells down there.

Q. But you, in your testimony today, talked about and compared the GoPoGo well with the Grace-Atlantic well. Have you compared bottom hole pressures in those two wells for your testimony today?

A. Yes, they are relatively close for wells in the Morrow gas field at the present time.

Q. What was the date of the bottom hole pressures you used for the GoPoGo 2?

A. It was about a year ago.

Q. And the one for the Grace-Atlantic No. 1?

A. It was about a year ago. However, you have taken one since.

Q. All right. Do you have those?

A. I know about what they are.

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Q. I see.

A. They are higher than the GoPoGo 2 at this particular time when the well went back on because there had been no drainage around the immediate bore hole.

Q. But you don't know what those bottom hole pressures are?

A. I don't know what they are officially because you haven't filed them.

Q. But do you have them, unofficially?

A. Yes.

Q. And what are they?

A. About seven hundred and fifty pounds.

Q. About, is that an estimate on your part or a guess?

A. No, no, that's a bit of information you pick up in the oil field.

Q. You don't care to disclose exactly what your information is, Mr. Lamb?

A. This is all I have, I am sorry.

Q. So, that you are making a comparison based upon your estimate of the bottom hole pressures?

A. Really, the bottom hole pressures is not the vital concern in this particular case.

Q. Let me restate the question, if I may. Can you compare the relative production of the GoPoGo well and the Grace-Atlantic well without knowing what the bottom hole

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pressures are, and I would like a yes or no answer, if it can be answered yes or no.

A. I happen to know from your own records if they are correct that the bottom hole pressures as of a year ago were practically equal. That's when the wells were on production and on pretty much of a stable basis.

Now, the Grace-Atlantic one has been shut in periodically and has erratic production and an engineer would normally assume the pressure to be higher in the Grace-Atlantic 1 than in now the GoPoGo 2. In reasonable production history they will come basically close.

Q. All right. But that's an assumption as you stated just now. You are making an assumption?

A. On what part?

Q. You just got through stating that you felt, that you made an assumption that since it was closed in that the pressure would have gone up. That is an assumption on your part is it not, Mr. Lamb?

A. I would stand on that, yes.

Q. All right. Now, would you now like to answer my question that I asked you before you made your statement, can you compare the two wells without knowing the bottom hole pressure and I would like a yes or no answer if you can give one.

A. If I don't have them I can't.

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Q. Thank you. Now, you have, I think, by your testimony although I don't think you stated it right out that the Grace-Atlantic well is going to produce less if the GoPoGo well produces more. Is that a fair conclusion from your previous testimony?

A. That's right.

Q. Now, that would mean that there must be some communication between those two wells?

A. I don't have any doubt in my mind about it.

Q. On what evidence do you base that opinion, Mr. Lamb, that there is communication?

A. By comparison of the pay zones and the action of the two wells in production history and the bottom hole pressure reports that Grace has filed.

Q. All right. I would like for you to go in detail, now, and explain that because I think it is very important. What in, and you prepared Exhibit Five and Six, and I presume the Commission has those two exhibits, and will you explain to the Commission and to me from Exhibit Five and Six which are the production records the evidence found in Five and Six of communication, if there is any?

A. I don't believe the evidence is here.

Q. Didn't you just --

A. And I don't believe that I indicated that it was.

Q. Well, I am sorry. I misunderstood you, Mr. Lamb, I

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thought you said the production figures of the two wells was part of the basis on which you deduced a communication between the two wells --

A I believe you are misunderstanding these things. I haven't talked seriously about communication.

Q Well, I would like to know what you have talked seriously about today, sir. You just got through saying that your conclusion was that the higher production from GoPoGo would reduce the production from Grace-Atlantic and you have then stated that that assumes a communication between the two wells and then I asked you for your evidence of such communication and you said part of that evidence comes from the production records of the two wells.

I have asked you to look at your own exhibits stating the production records and now you tell me that they don't supply any evidence to this Commission to determine that there is communication.

A. Well, I think we are bantering a situation and let me go back and explain the situation.

Q. Please do.

A. As of January of 1975, the cumulative production on the two wells were relatively close.

Q. Did you say January of '75?

A. That's right, yeah. In January of '76, they were relatively close. The bottom hole pressures that you reported

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the last time was relatively close.

At the present time they are still relatively close as of September of 1977.

But in my opinion the Grace-Atlantic being shut in for the period it was should have gained additional production. This is typical -- let me tell you this -- this is typical of Morrow reservoirs in southeast New Mexico to follow this same pattern.

I think it is a typical situation and important to the Commission to have established proration over this particular area.

The amount of gas in a reservoir un-prorated is a matter of capture, who can capture the most. But in this particular case they have been prorated so they should be relatively close.

This is a part of the situation and your bottom hole pressures a year ago were relatively close.

Q. You brought up another subject that I will get to in a few minutes. But I would still like for you to answer the question that I put to you a few minutes ago to show us what evidence you can from the production records that there is communication between the two wells? Now, if you can't do it I will appreciate it if you will just frankly tell the Commission you can't do it.

A. You cannot.

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Q. All right, sir.

A. You cannot tell it solely from the production report.

Q. I want to know what evidence there is, if any at all, from the production records to lead anyone to the conclusion that there is communication. Now, I have asked that question three times and you have got the exhibits before you and you prepared them yourself and if you will kindly show to the Commission evidence of communication between the two wells based upon their production I would like for you to do so now.

A. Let me tell it to you this way -- I want to look at you -- there is not anyway that any engineer in southeast New Mexico or in the United States can take production records alone and tell whether or not there is communication in that well and the answer is no.

Q. All right. So, your previous statement when I asked you what evidence you had of communication when you stated that part of your evidence came from the production records was an inaccurate statement that is not true and now I would like to ask you please --

MR. FREDRIC: If the Commission please, I believe the witness testified that part of the evidence came from that but now we are having a different phrasing by counsel because he is saying what he says is wrong and that's not true at all. He said only part and let's go into what else.

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MR. KANTER: That's what I was planning to do before Mr. Fredric interrupted me and I am sorry that I have been misunderstood. Let me --

MR. FREDRIC: Don't misphrase what the witness said.

MR. KANTER: I won't.

Q (Mr. Kanter continuing.) Let me rephrase what I think the witness said and if I am wrong I would like for the witness to correct me.

I asked him the original question that if you are going to compare the two production rates and to draw the conclusion that the smaller tubing of Grace-Atlantic is somehow working to the disadvantage of the owners of Grace-Atlantic then that must be based on a conclusion that there is communication between the two wells. He said that that is true.

Then I said will you please tell me what evidence there is of communication and he said that it is based on several things, one of which is the production records, one of the basis.

So, then I asked him to show me or show the Commission what evidence from the production records there is of communication and he has now admitted that there is no evidence of communication that you can deduce from the production records and I have pointed out, okay, then that part of your evidence, that statement, that part of your evidence

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that it came from the production records just was not true.

I was about to ask him, now, what other basis do you have for proving, or evidence, of communication and I would like him to answer that question unless he wants to correct my statement that I just made.

A. No, let me just clear your question without any problem. The production records, alone, will not give you any evidence of communication.

Q. Now, wait a minute -- I want to interrupt you. The production records, alone, by your own testimony don't show any evidence of communication, period. That's your testimony.

Now, will you tell me what evidence you have, if any, of communication outside of the production records.

MR. FREDRIC: Mr. Commissioner, I disagree, the witness said and he testified the production records, alone, will not tell. That doesn't exclude them. Let's let the witness answer not counsel.

Q. (Mr. Kanter continuing.) If the witness can show, I'll ask it again, I thought that it had been cleared up. If the witness can show the Commission evidence of communication from the production records I ask him to do so now. I think he has told us that he can't and no one else can.

MR. RAMEY: Mr. Lamb, is there any evidence of any communication or any indication of communication from the production records on the GoPoGo and the Grace-Atlantic?

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A. From them alone, no.

MR. RAMEY: You can't look at the production records and see any evidence of communication?

A. From them, alone, Mr. Commissioner. To make the opinion of -- a professional opinion -- you need to put together everything that you have. I am talking about the electric logs, the bottom hole pressures, the production records, the analysis of the logs, the character of the way the reservoir bottom hole pressure has dropped.

Let me say this so we don't drag this out any farther that based on all of this information that we have it is my professional opinion in comparing this reservoir with other similar reservoirs in southeast New Mexico that there is communication between these two wells in that upper zone.

MR. KANTER: I think the record clearly shows that this witness is not able to point to anything in the production records which contributes to his conclusion.

I would like to ask him, now, to go on to what other evidence he may have of communication based upon other factors that he has just named, please Mr. Lamb?

A. I have made my statement, sir.

Q. (Mr. Kanter continuing.) Are you not going to tell us what it is in the bottom hole pressures that lead you to believe that there is communication? You mentioned bottom hole pressures. Now, would you tell us how that proves

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communication, if you know?

A. If you remember my testimony I said that they were relatively equal in the volume of gas recovered. That has been relatively equal.

Q. I would like to examine that statement if you don't mind, Mr. Lamb.

What does relatively equal pressures in wells approximately a half a mile to a mile apart have -- how does that show communication, if you know?

A. Well, when you are drawing gas from a reservoir in the Morrow gas channel as you have here you are going to note an equal production, basically, and relatively equal bottom hole pressure.

If you have an excessive production in one you will find the one with excessive production slightly less.

Q. Even in the same reservoir?

A. That's right.

Q. Even if there is communication?

A. Yes.

Q. Well, I am sorry, you will have to explain to my uneducated mind how that proves communication if you have got the same pressure -- if you have different pressures it would also indicate communication --

A. The exact number is not the situation that you are up against. We are talking about wells thirteen hundred and

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twenty feet apart. There is a certain amount of friction and restriction in that distance and there is not anyway that you can withdraw gas from the GoPoGo 2 and draw the bottom hole pressure down to four hundred pounds and at the same time expect the ones in the Grace-Atlantic one to be two hundred pounds.

Q. So, you could have the same bottom hole pressure with equal production, different bottom hole pressures, with different production and you could have different bottom hole pressures with one producing and the other one not producing and all of that shows communication as far as you are concerned?

A. It will also show you lack of communication sometimes.

Q. And it will also show you lack of communication. Now, how do we determine from the evidence that there is communication since the evidence shows both communication and lack of communication?

A. I am going to repeat what I said a minute ago. I am going to make a suggestion to you --

Q. Thank you.

A. Based on all of the information which has been presented by Mr. Grace to the Oil Commission and in the files and released by him to the public, the electric logs, the production history, in my professional opinion there is

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communication between these two wells.

Now, if you disagree I would suggest that you show us that that is not so.

Q. Now, Mr. Lamb, I appreciate that and I have got an expert witness who will testify later but I am just going to have to put it to you blunt that all I have heard is your continued assertion that there is communication and when you have been asked to submit evidence to the Commission as to the basis of that opinion you haven't been able to show any that is logically sound, it seems to me, and if you wish to do so I am going to ask you to please do so.

For instance, you have mentioned bottom hole pressure and you have mentioned production figures. Now, what other basis do you have for the conclusion that you have drawn?

A. I have none and I know of no communication tests that have been run on the well. I have none and I know of none.

They can be run and they have been run by other companies but I know of none in this particular case.

Q. Are you going to stand on that testimony, Mr. Lamb?

A. That's right.

Q. Then I don't have anything further to ask you about.

A. All right.

Q. Now, in response to Mr. Hunker's questioning

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concerning your definition of waste and your interpretation of the definition of waste in the New Mexico statutes you have come up with an equally irrevocable and unqualified opinion that there has been waste committed at the Grace-Atlantic well and now I would like to know if you will state to the Commission the evidence upon which you base that opinion?

A. The opinion that I have is based on my experience in southeast New Mexico for forty years and if the well is continued to produce with a two and a sixteenth inch tubing gas from this well will migrate to the GoPoGo 2.

In time there will be some gas lost in the reservoir by the operation of the Grace GoPoGo 2.

Q. Now, we are going to get to your reference to proration and tell me how that can happen if there is proration in this field?

A. Well, that's very simple because we are producing under the allowable in both wells.

Q. Say that again?

A. The allowable in the Grace-Atlantic is not affecting it because the well is producing less gas than the allowable granted. That's how it happens.

Q. So, you are saying with the larger tube in the GoPoGo that it is going to siphon off the gas that would ordinarily have been pulled out of the Grace-Atlantic if it would

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have had the same size tube, is that what you are saying?

A. Yes.

Q. Doesn't that assume communication?

A. That's right.

Q. So, we get right back to the fact that you are basing that on your conclusion that there is communication although you say no scientific tests have been run to establish that fact?

I think you can answer that yes or no, can't you Mr. Lamb?

A. With the information that I have I will give you my opinion again that there will be communication between those two wells.

Q. And have you talked about correlative rights being sacrificed in this instance and that testimony, that opinion, is also based upon an assumption on your part that there is communication between these wells?

A. That's right.

Q. Now, you have stated that the difference in production that you project between the Atlantic-Grace and the GoPoGo is twenty million cubic feet per month, is that correct?

A. That was based on the eleven days of production in September.

Q. All right. Now, if they had operated thirty days in September what does the evidence before you indicate their

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production would have been?

A. My statement was, based on eleven days, the production was ten million seven hundred and seventy-eight thousand cubic feet of gas. On a monthly basis, assuming that it stays at that same rate, it will be about thirty million a month.

Q. It would be about thirty-two million a month, wouldn't it, Mr. Lamb?

MR. RAMEY: The Commission will concede that it will be something over thirty-two million.

Q. (Mr. Kanter continuing.) So, your statement that a twenty million cubic feet difference is not quite correct, it is more like seventeen, isn't it?

A. If I could project the production rate based on eleven days for any period of time I could give you a more accurate figure of the discrepancy. But I don't think I can and I don't think anybody else can.

Q. Well, Mr. Lamb, I have to agree with you that you can't do that but I wanted to make it clear to the Commission that you have been testifying as to figures which don't seem to be accurately based on scientific facts and that's what I am trying to establish.

I think you have pointed out yourself, now, that the eleven days' of production does not give you any scientific basis for making the flat statement that there will be a

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twenty million cubic feet difference between these two wells over a long period of time?

A. If you will remember I also said that this volume will decrease as the production in the two wells continues because both volumes will decrease.

Q. All right.

A. And I think it is fair enough to tell the Commission that based on eleven days' of production the estimated production for the month will be somewhere in the vicinity of thirty million cubic feet of gas under those qualifications.

MR. KANTER: If it please the Commission, we have no further questions of this witness but we respectfully request a chance to recross if there is any new information developed in either the further cross examination or redirect by Mr. Hunker.

MR. RAMEY: Mr. Arnold?

CROSS EXAMINATION

BY MR. ARNOLD:

Q. One question I wanted to ask had to do with the statement that you were making as to the production rates depending on whether you have a two and a sixteenth or two and three-eighths tubing --

A. I made no direct comparison but basically the situation will vary to a degree with the square of the diameter

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of the two pipes.

Q. But I understood you were making the point that there would be a considerable amount of production difference in the future if the well is produced through a two and a sixteenth rather than if it had --

A. Two and three-eighths or two and a half, yes, it will be a restrictive difference.

Q. That's just based on the restriction?

A. And friction, yes, in the size of the tubing and the friction.

Q. What's the difference in the I.D.?

A. The two inch is point one nine four nine and the I.D. of the two and a sixteenth is one point seven five. However, there is a one point five oh mandrel at the packer point in the two and a sixteenth.

Q. And the amount of restriction you get out of that is related to the rate of production, also?

A. Yes. Let me say this that this well is floating on the line pressure. In other words, it is producing all it can produce into the El Paso line.

Q. I mean you would reach a point of production on any gas well where the restriction you are talking about actually would no longer be a factor in the production of that well because of the more efficient fluid lifting characteristics in the smaller tubing -- it might even be better off with smaller

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tubing at lower rates?

A. It depends on the amount of water.

MR. ARNOLD: That's all I have.

A. I have a very bit of information on the amount of water. All I recited to you was on the C 115.

MR. RAMEY: Mr. Stamets?

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Lamb, do the logs as shown on your Exhibit Number Two as to the main producing interval show an unusual degree of similarity and continuity between these two wells or is this typical of Morrow formation logs in this area?

A. Well, basically, this is relatively close compared to Morrow wells in southeast New Mexico, the comparison between these two, and the fact that they are thirteen hundred and twenty feet apart. The figure that is the widest variation is the separation of the two gas lines.

Q. Anyhow, the logs indicate to you that this is a strong indication that these two wells are tied together?

A. They are identical sands as far as correlation is concerned.

Q. Now, if I understand the thrust of your testimony it is that past operations of this well are now resulting in violations of the correlative rights of the owners under the

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Grace-Atlantic well and will reduce to some degree the total production from the pool?

A. I would think that the major offense began about fourteen months ago. Prior to that, the production rate of both wells were on an allowable and they produced over a period of time to average that allowable.

Q. You are not speaking, then, to the current operations or the current tubing that is in the well or saying that this will result in violation of correlative rights?

A. Well, with the two and seven-eighths in one well as long as it can efficiently produce it will withdraw a greater volume of gas than the two and a sixteenth so it could aggravate the violation of correlative rights until we get to the time Mr. Arnold was talking about, until the real relatively low volume.

Q. Would it be an economic situation at this time to pull that packer and pull the two and a sixteenth inch tubing out and rerun the two and three eighths?

A. I think we can do that for forty thousand dollars. The discrepancy that we are having is twenty million a month with a decline in that volume and I think it could be justified.

Q. Is there any reason, any other reason, for the Grace-Atlantic's more rapid production decline than the past inefficient production?

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A. I think it is the inefficiency of the four and a half inch tubing to remove the water, the interstitial water, that collects in the well and kills the well.

According to the El Paso charts, they were eight-day charts, and there were numerous times that the well was shut in for two or three days at a time.

I think there is a man here in the room that can give us better information on the actual day-to-day experience.

MR. STAMETS: That's all of the questions I have.

MR. HUNKER: I would like the Commission to take administrative notice of the fact that these two wells are in a prorated gas pool, namely, the South Carlsbad Pool and reference is also made to the order approving that pool.

MR. RAMEY: Okay.

REDIRECT EXAMINATION

BY MR. HUNKER:

Q. Mr. Lamb, what criteria does a Petroleum Engineer use to establish that there is communication between wells?

A. Well, there are a number of things but in this particular case we have a limited bit of information. With it, you take it and compare it with other operations that you have first-hand information about.

From that, if you wanted to definitely establish communication you would need to run tests on the two wells.

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You could shut one well in and record the pressure and produce the other well at a high rate and record the pressure and in some instances you can catch a degree of draw-down in the offset well which is shut in.

If you want to go to an elaborate expense you can attempt to run radioactive material through one or the other.

Q. Would Mr. Grace have any reason to run such a test in these two wells?

A. If they were mine I wouldn't have. I wouldn't have. They are expensive and time consuming and the fact that Mr. Grace and his wife, both, own the two wells; she owns the GoPoGo 2 and Mr. Grace owns half of the Grace-Atlantic --

MR. HUNKER: I have no further questions at this time.

MR. RAMEY: Any other questions of the witness? Mr. Kanter?

MR. KANTER: If I may ask one --

RECROSS EXAMINATION

BY MR. KANTER:

Q. You have, I think, stated that your -- you are basing your conclusion on the waste of correlative rights based upon actions which occurred up to fourteen months ago?

A. For the last fourteen months.

Q. And the evidence for, let's say, the period of time

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prior of that fourteen months, prior to September of this year, was based upon what factors, Mr. Lamb?

A. On the producing days of the well and the production per month.

Q. Well, did you in response to a question say it was the large four and a half inch tubing that was causing the problems?

A. Yes.

Q. All right. Now, from that is what flowed all of the other factors that you are basing your conclusion on of waste?

A. Well, the fact that the well was not produced, it was non-producing.

Q. Well, if it was not producing that meant that the reservoir was being untapped -- the gas is still there, is that correct?

A. That is not true in my opinion.

Q. Where would the gas be going?

A. It would be going to the well of the highest volume of production.

Q. To the GoPoGo well?

A. That's right.

Q. Now, that's based on your conclusion that there is communication?

A. That's right.

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Q. Now, the -- and you are saying that it was imprudent -- rather -- let me restate that --

You are stating that waste occurred because of the larger diameter tubing that was used in this well up to September?

A. That was the basic problem.

Q. All right. Now, how were the correlative rights of the individuals involved affected by this larger tubing prior to September?

A. The fact the well was not producing at its maximum rate or within the allowable rate.

Q. And that was caused by the problems that arose out of the larger tubing?

A. That's right.

Q. Now, as to the future if the four and a half inch tubing is no longer there -- the problems created by it won't apply to the future will they?

A. The four and a half inch tubing is still there but it is not effective because it is restricted by a two and a sixteenth inch tubing and the flow is now up the two and a sixteenth tubing which has an inside diameter of one point seven-five with a one point five-oh mandrel through the packer which further restricts the flow of gas.

So, basically, you have a one and a half inch bottom hole choke.

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Q. I understand what you are saying but I don't think you are answering my question. I am saying as to the future any waste or violation of correlative rights will not be affected by the four and a half inch tubing?

A. That's right.

Q. All right. Now, do you claim to be of the opinion that the operation of this well by Mr. Grace in the future will cause waste?

A. It will cause a violation of correlative rights.

Q. But not waste?

A. I can see no reason why it should cause any serious waste problems.

Q. So, you are saying that as far as your testimony is concerned, or your opinion is concerned, the only thing -- bad thing that will flow from Mr. Grace's continued operation of this well in the future is a violation of correlative rights?

A. That's right.

Q. All right. That is based upon all of this testimony about the fact that this well is going to produce a lesser volume of gas in the future than it would if it had a two and three-eighths inch tubing rather than a two and one-sixteenth?

A. Yes.

Q. And it is further your testimony, I believe, that

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a new operator should go in and pull the two and one-sixteenth inch and replace it with two and three-eighths?

A. You would want to check your economics, now. Your cost of replacing the two and three-eighths tubing to me appears to me to be excessive. But I think you can change the two and a sixteenth to two and three-eighths for about ten thousand dollars.

Q. Is that another one of your opinions that you don't have a specific fact for or do you have a specific fact for this one?

A. Let me say this, I don't think that the engineer who had charge of placing the two and a sixteenth inch tubing in the Grace-Atlantic 1 had any idea that his shut down time and his pulling unit time would have been what it was.

So, anytime you give one of these figures you give your best estimate.

Q. All right. But you haven't sat down and actually plotted out what might be considred an A.F.E. for replacing this tubing have you?

A. In my own mind the tubing would cost about thirty thousand dollars and I think that I can replace it for about ten thousand dollars for the pulling unit services.

Q. But you haven't sat down and written out your estimate in any kind of a detailed fashion -- this is sort of an off-the-cuff opinion, is that correct?

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A. No, it is based on everyday experience.

Q. That's what I mean --

A. Everyday experience.

Q. But no specific calculations -- now, would you at this time advise the operator, whoever he might be, to remove that tubing?

A. At this date?

Q. Today, yes?

A. No, I would watch the production for at least sixty days.

Q. I see.

A. We are only dealing with eleven days and I would not make an engineering judgment on changing the tubing on eleven-days' production history on a well that has just been set up with a two and a sixteenth inch tubing. I would watch the well for sixty days and I might watch it another thirty days.

So, I have no recommendation to you that the two and a sixteenth inch tubing should be removed immediately.

Q. Mr. Lamb, I have to put it to you that that last statement puts your testimony that correlative rights will be violated by the two and a sixteenth tubing in some question.

If you are not now prepared to recommend the removal of the two and a sixteenth inch tubing based upon the knowledge that you have what superior knowledge do you have that the two

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and a sixteenth inch tubing is going to harm the correlative rights of the parties?

A. Because of the discrepancy of the two figures of production at this time.

Q. Which you, yourself, say is not adequate to make any kind of an engineering judgment on?

A. You have it in the well and I think it would be in the best interests of any engineering study to at least find out what the well is going to do over --

Q. Well, that's precisely the point we are going to try to make today, Mr. Lamb, and I appreciate your endorsing it.

REDIRECT EXAMINATION

BY MR. HUNKER:

Q. Mr. Lamb, when would a prudent operator have re-worked this well in your opinion, the Grace-Atlantic well?

A. At the beginning of the time of the water problem in flowing the well through the four and a half.

Q. About how long ago was that?

A. From the production records and the charts that I have seen about fourteen months ago.

Q. How long did it take the Grace people to rework this well?

A. Well, the emergency situation that took place, as far as I know, was just prior to the hearing date of this hearing.

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Q. And when did the operations start on the reworking of the well, approximately?

A. Well, the date is here on their report -- August 30th, move in the rigs and the final report shows to be September 15th.

Q. Do you think that the size of the tubing that was used caused a substantial part of this delay?

A. I can only say from what I understood in the field they had problems getting the proper tools and surface equipment for this and I have no direct observation whatsoever.

Q. You testified earlier in connection with my question pertaining to waste that in your opinion the operator had inefficiently operated this well and that this was one of your basis for determining that waste had occurred. Is this still your testimony that the operation has been inefficient?

A. That's right.

MR. HUNKER: I have no further questions.

MR. RAMEY: Mr. Stamets?

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Lamb, because of the way the well was operated before this smaller diameter tubing was put in is it your testimony that the correlative rights of the owners under the Grace-Atlantic have been violated?

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A. Prior to?

Q. Yes.

A. Prior to the fourteen months ago or so?

Q. Well, --

A. Or from fourteen months forward?

Q. Between the time they started having the water problem and the time that the smaller diameter tubing was set?

A. Yes, that would be the period that I would put my finger on.

Q. Now, is there anything that the operator can do at this time to go back and correct that situation to get back the gas that should have been produced in that well during that period of time?

A. I would not think so because the energy is not in the wells to deliver large volumes.

MR. STAMETS: That's all.

MR. RAMEY: Any other questions of the witness? He may be excused.

(THEREUPON, the witness was excused.)

MR. HUNKER: If the Commission please, I want to call Mr. Backstrom to determine whether or not he has brought the papers that we want to examine. We have not seen these papers and perhaps during the recess we would like to examine these papers if we could.

MR. RAMEY: All right, that will be fine.

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MR. HUNKER: Mr. Backstrom, will you take the witness chair, please -- thank you.

KLENRY BACKSTROM

was called as a witness by the applicant and having been first duly sworn, testified upon his oath as follows, to-wit:

DIRECT EXAMINATION

BY MR. HUNKER:

Q. You have been sworn, Mr. Backstrom, and will you spell your name for the reporter?

A. B-a-c-k-s-t-r-o-m.

Q. And what is your first name?

A. Klenry.

Q. Where do you live, Mr. Backstrom?

A. Carlsbad.

Q. Are you employed as a contract pumper or are you an employee of Mr. Michael P. Grace?

A. I am an employee.

Q. You work regularly for a salary, is that correct?

A. Yes, sir.

Q. How long have you been employed by Mr. Grace as a pumper?

A. On December 15th it will be two years.

Q. You went to work for him in December of 1975, is

that right?

A. Yes, sir.

Q. Do you pump the GoPoGo 2 and the Grace-Atlantic No. 1 wells?

A. Yes, sir.

Q. During the last two years have you had occasion to shut in the Grace-Atlantic well?

A. Yes, sir.

Q. For what reason did you shut the well in?

A. Well --

Q. Or did it shut itself in?

A. It lost its pressure and I shut it in to build up pressure.

Q. In order to build up the pressure what did you do?

A. Shut the valve.

Q. Had a blewey line been installed at the time that you went to work for Mr. Grace?

A. The flare line was already installed when I came to work.

Q. What would you do to restore the pressure in addition to shutting the well in?

A. Occasionally, I had instructions to flare the well.

Q. Did you keep a record of the times that you flared the well, say, from January 1976 down to the present time?

A. Yes, sir.

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Q Do you have those records with you?

A Yes -- not all of them.

Q Not all of them. What records don't you have?

A The days I went on vacation and the days I had off and days that I did other work.

MR. HUNKER: If the Commission please, we would like to examine -- ask the witness to produce these records and we would like to examine them during the recess.

MR. RAMEY: How long do you think it will take to examine the records?

MR. HUNKER: I don't think it will take more than fifteen or twenty minutes. I don't know, though, I have never seen them or I have never talked to this witness before.

MR. RAMEY: Let's take a recess of twenty minutes at this time.

(THEREUPON, the hearing was in recess.)

MR. RAMEY: The hearing will come to order, please. Mr. Hunker you may proceed.

MR. HUNKER: Mr. Fredric is going to take over. My voice failed me.

MR. FREDRIC: I am Don Fredric, if it please the Commission.

Q (Mr. Fredric continuing.) Mr. Backstrom, what I recall of what you initially said you have been working for

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Mr. Grace for about the past two years?

A. Yes, sir.

Q. What experience have you had as a pumper prior to that time?

A. None.

Q. What did you do prior to that time?

A. I was a hair dresser.

Q. And you have had no previous oil and gas experience prior to that time?

A. No, sir.

Q. Who hired you?

A. Mr. Grace.

Q. Mr. Grace, personally, hired you?

A. Yes.

Q. Did he instruct you in what you were to do and your pumping duties?

A. Yes, sir, and there was an engineer that went around and explained to me for approximately two or three weeks.

Q. Who was the engineer?

A. I think it was Donald Borg.

Q. Is he still with Mr. Grace's company?

A. I don't know.

Q. Is he still around? Have you seen him around in your oil field work?

A. I believe he is in Lafayette, Louisiana.

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Q. But he is not around assisting you now or giving you any guidance?

A. No, sir.

Q. In connection with the subpoena which we requested in this matter, we requested that you bring various documents with you and you have produced a rather substantial stack about two inches high of reports.

I assume those reports are well reports which you have made out on the various wells where you have pumped, is that correct?

A. Yes, sir.

Q. And those are reports for what months and what years?

A. January 1, 1977, to as of yesterday.

Q. So, that's all of 1977?

A. Yes, sir.

Q. You didn't bring anything for 1976?

A. No, sir, I wasn't there then.

Q. You were involved in being the pumper for the Grace-Atlantic well in December of '75, to the present time, is that correct?

A. Yes, sir.

Q. And you are also the pumper on several other wells?

A. Yes, sir.

Q. These reports that you have produced are the type of a report that you make out on a daily basis, is that correct?

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A. Yes, sir.

Q. Let me refer you to the first set of reports which are indicated are from January 1977, and you have a number of different reports in this group and I assume these are dated for each day of each production month, is that correct?

A. Every day except for my days off and the days I didn't pump the well.

Q. Okay. You have a number of names going vertically down the left-hand side of the report and these are well names, is that correct?

A. Yes, sir.

Q. So, the first item is GoPoGo No. 1, and then it goes on down until it reaches a point here where it is the Grace-Atlantic No. 1?

A. Yes, sir.

Q. That's the well that we are here concerned with and you are the pumper for that well, is that correct?

A. Yes, sir.

Q. Okay. Going across horizontally on the paper you have various columns and the first column says CK, what does that mean?

A. I don't know, sir.

Q. You don't know what that means?

A. No. The only columns that I am associated with are the second, fourth and fifth.

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Q. Okay. Let's go to the next column. This is T Press P.S.I.G., what does that mean?

A. That is the pressure on the top of the tree.

Q. That is the tubing pressure, is that correct?

A. Yes, sir.

Q. On each well?

A. That's correct.

Q. And you check that at a meter?

A. There is a gauge --

Q. On top of the tree -- when you say a tree that's on the gas well, right?

A. Yes.

Q. The next column says CK what does that mean?

A. I don't know.

Q. You still don't know what that is, either?

A. No.

Q. The next column is static. What does that mean?

A. Static is the line pressure for like El Paso's line pressure.

Q. So, this the the pressure of the line that you are trying to get into when you sell the gas?

A. Yes, sir.

Q. And the next column D.I.F.F., what is that?

A. Differential and that's how much pressure we are going above the static --

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Q. You don't know?

A. There is two graphs in there. One, is the low line pressure and the other needle indicates what we are selling.

Q. Now, you fill out these reports. What else do you do?

A. Maintain the trees.

Q. What do you do in connection with that?

A. Whatever happens to the tree. If the pilot light goes out or if it freezes up or whatever I take care of it.

Q. Without trying to belabor all of this I think you have testified earlier that these reports covered all of the dates where you checked the well except those dates where you might not have checked the well because you were doing something else, is that right?

A. Yes.

Q. On the front of this packet for January, you say January 1977, missing, and then you list six days?

A. Yes.

Q. Does that indicate that there are six reports missing?

A. Yes, sir.

Q. No one else checked the well?

A. Not since January 1 of 1977.

Q. So, when you say missing that means no one checked the well, is that right?

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A. Yes.

Q. It wasn't another person going out and doing your work?

A. No.

Q. I have tried -- rather than trying to go through all of that material which is very extensive, I took January, for example, and I notice from some of the notations that you had in these columns -- let me pick a date --

Let's pick January 4, 1976, if you look vertically down the line you will come to the Grace-Atlantic No. 1 --

MR. RAMEY: Do you mean '77?

Q. (Mr. Fredric continuing.) Excuse me, '77, it actually says '76, but it should be '77 -- and you go vertically down the line and to the Grace-Atlantic No. 1 and it says flaring, is that correct?

A. Yes, sir.

Q. What does that mean?

A. I opened the well up to the atmosphere and lit it on fire.

Q. Okay. Why did you do that?

A. To relieve the pressure to bring up the water if there was any.

Q. How did you know to do that?

A. I was instructed to do that.

Q. Was it Mr. Grace who instructed you to do that?

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A. Mr. Grace or Mrs. Grace, I believe.

Q. Personally, they have instructed you to do this?

A. Through Mrs. Wildberger.

Q. Who is Mrs. Wildberger?

A. She is the agent.

Q. Which agent is this?

A. For the Graces.

Q. So, it wouldn't be Mr. or Mrs. Grace who instructed you to do this, it would be those who they designate that instruct you, is that correct?

A. I believe it comes down the chain of command.

Q. They didn't physically come and instruct you to do this, she did, isn't that correct?

A. Yes, sir.

Q. How did they know how to do it? Did they have some information given to them?

A. I can't answer that question.

Q. Did you ever go in and say, "Mr. Grace, the well isn't producing and so we have got to flare it"?

A. No, I have never stated what had to be done to it.

Q. You have never given any opinion as a pumper that there was something wrong or something needed to be done, is that correct?

A. No, sir, I just have given them the report and tell them what I do.

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Q. In looking through those for January I notice that your reports lists four days and it says flaring and you had four days shut in and you have six days missing, is that right?

A. Yes, sir.

Q. At least eight of the thirty-one days there is no production because when you are flaring you are not producing, right?

A. No, you are not producing.

Q. And when it is shut in you are not producing and so you have eight of the thirty-one days you did not produce is not that correct? Assuming what I am figuring is correct?

A. On the dates that are missing it could have been producing.

Q. On those dates nobody knows whether it was producing or not, isn't that right?

A. Well, usually, it was shut in the day before or the day after that I was off it was shut in but if it was flowing the day before and the day after it was usually flowing.

Q. But if it shut itself in by water buildup then no one checked I assume and nobody would know whether it was flowing or not, is that right?

A. Yes, I guess so.

Q. And it did that, didn't it, it actually shut itself in? The reason you have to go out there and flare it is that

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you have to get out there to check the gauges and nothing is happening, is that right?

A. Yes.

Q. And this would occur because the water would build up and to get the water out of the formation you would go out and you would blow it off through a blewey line, isn't that correct?

A. Yes.

Q. And when you flared it did you always light this gas or did you just vent it into the atmosphere?

A. I would light the fire.

Q. You always lit it?

A. Yes.

Q. Again, trying not to get into the varied details of the reports because there are so many but I also took an example in the month of March of 1977, and I noticed in there that we had four days of flaring and eight days of shut in and eight days are missing.

So, again, out of that month we had twelve days of no production and we had eight days we don't know of exactly what happened, isn't that correct?

A. Yes.

Q. I went further one more step and I took June of 1977, and this is the month, by the way, when the hearing was originally held and this is a rehearing on that matter and

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during the month before it, April type production information, and I didn't have June -- and I notice in looking at June -- and you might turn to June if you would and let's just make sure that I am not wrong in what I see there.

The well only produced two days in June, June 29th and 30th, if I am correct --

A. Yes, sir.

Q. Okay. That also shows eight days missing but since the first production is the 29th or the 30th, right at the end of the month, I would assume that you would agree that it is reasonable to assume that during those eight days in the middle there you probably didn't produce those days, either, and that it was shut in before and after each of those days missing?

A. I imagine.

Q. Why was it shut in all of that period of time without flaring or anything else?

A. We had orders from the Commission not to flare the well.

Q. This is all of June of 1977?

A. Those were, I believe, through June and up to the time it was reworked.

Q. Did you ever talk to anybody in the Grace organization about this flaring, about whether you had permission from the Commission to flare?

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A. No, sir.

Q. Did anyone ever tell you or advise you that there was no problem with flaring because the Commission said it was okay?

A. I don't know of any laws stating that you can or not flare a well.

Q. Now, you are a pumper in the oil and gas fields in New Mexico and you are not aware of whether or not there are any laws or regulations regarding flaring, is that correct?

A. No, sir. All of my experience is from on the job.

Q. No one ever advised you on this point?

A. No, sir.

Q. And you never asked anyone when they told you to flare, "Do we have permission from the O.C.C. to do so?"

A. No, sir.

Q. You only have the records for '77 and you were flaring back in '76, weren't you?

A. I imagine I had in '76, also.

Q. And these dates that I picked out -- I picked out January and March and June just as examples -- you flared and shut in this well every month in 1977, isn't that correct?

A. Yes.

Q. Were you ever advised that your employer, the Graces, made an application on June 1, 1977, to flare the well for

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the first time?

A. No, they didn't.

Q. No one ever told you that?

A. I am not really sure. I am not in the office that much to know what is going on.

Q. Okay. Did anyone advise you at any time during that month that you had to shut that well in?

A. Yes, sir.

Q. When did they advise you of this?

A. Approximately the first of June or so.

Q. Now, the Commission's order in connection with this was rendered June 27, to shut in and change the tubing, did anyone ever talk to you about that?

A. Not that -- I don't recall.

Q. When you say you flared the gas you would go out there I assume and you would turn the value on the blewey line?

A. Yes.

Q. And what would occur when that happened, basically?

A. First of all, I would just crack it and then I would go light it and then I would open it and release the pressure to where the water would come up.

Q. Okay. I assume that you would have a pretty good-sized flame come out?

A. Yes, sir.

Q. Any idea of how much gas you burned when you did

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that?

A. No, sir, sure don't.

Q. How long would you flare it for, how many hours?

A. Approximately six to eight hours.

Q. Six to eight hours you would flare that gas?

A. Uh-huh.

Q. And you say when you flared you never did have Mr. Grace come out and tell you to flare it. This came through some other employee, is that correct?

A. Yes, sir.

Q. And you never made any recommendation to anyone in the organization, as I understand it, to try to do something to correct the well? You could see as a pumper that the well was choking up and filling up and it was not being produced efficiently, you could tell that couldn't you?

A. Yes, sir.

Q. And you never made any recommendations to correct that?

A. It is not my responsibility.

Q. And this goes back to 1976, when this was happening?

A. Yes, sir.

Q. The well actually died on its own and it died because of water buildup, isn't that correct?

A. I really don't know the nature of the well. I am not an engineer and I am not sure the real reason for it. I am

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under the impression that it was the water build up.

Q. And to get it back flowing again, though, when you blew that stuff off it started again?

A. Yes, after I closed the gate.

Q. Did you ever sit down and talk to Mr. Grace about the problem?

A. No, sir.

Q. Do you know where Mr. Grace is?

A. No, sir.

MR. FREDRIC: That's all of the questions I have.

MR. RAMEY: Any other questions of the witness? Mr. Kanter?

CROSS EXAMINATION

BY MR. KANTER:

Q. Have you ever attempted to communicate with Mr. Grace?

A. Indirectly.

Q. Have you ever failed to complete that communication when you tried to?

A. No, sir.

Q. So, is it fair to say that every time you tried to communicate with Mr. Grace you have been successful in doing so?

A. Yes, sir.

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Q. If you were to sit down and talk to Mr. Grace about this well what would you be able to tell him other than the pressures which you have observed?

A. Nothing more than what my reports have to say.

Q. Other things sometimes happen around the wells like cows dying and stuff like that. Do you report those things?

A. They knew about it before I did.

Q. Now, do you know any other pumpers in that area?

A. Yes, I do.

Q. Who are they?

A. I have a friend, Johnny Grey, Junior, who has a pumping business in the southeastern New Mexico area.

Q. Did you ever ask him to let you go around with him so that you can learn what he is doing?

A. Yes, sir.

Q. What did he say when you asked him?

A. He said that he couldn't show me much more than I already know.

MR. KANTER: I have no further questions.

CROSS EXAMINATION

BY MR. RAMEY:

Q. Mr. Backstrom, is it also your job to keep leases clean and orderly -- in an orderly manner?

A. Yes, sir, I believe it is.

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Q. Would your job include, say, cut weeds and such as that from around the well?

A. I guess I have the responsibility to have it done.

MR. RAMEY: Thank you.

MR. FREDRIC: Nothing further.

RECROSS EXAMINATION

BY MR. KANTER:

Q. When you have flared the Grace-Atlantic well have you stood there and watched what happened?

A. Yes, sir.

Q. Did you see any indication of water coming out through the blewey line or the flare line?

A. Yes, sir.

Q. Would you describe it, what you saw to the -- first of all, a blewey line and a flare line are both the same thing, aren't they?

A. Yes, sir.

Q. Would you tell the Commission what you saw when the well was flared?

A. Yes, sir. In approximately an average of about four hours after the pressure had died down the water would start lifting out of the well and would come out as a fine mist and would continue for a few hours and it would cease and I would turn the well in.

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MR. KANTER: No further questions.

MR. RAMEY: The witness may be excused.

(THEREUPON, the witness was excused.)

MR. FREDRIC: For the petitioner we ask that the Commission take notice of the letter in the Commission's files of Juanita Jones on behalf of Michael P. Grace dated June 1, 1977, I guess it is from Michael P. Grace and Corinne Grace, asking for permission to flare three wells, one of which is the Grace-Atlantic. This is dated June 1, 1977, and to further take note of the Commission's records and the testimony of the last witness that Mr. Grace has flared this well without the Commission's permission prior to this time.

Also to take notice of June 27, 1977, letter from the Commission under the signature of Mr. Ramey directing that the well is not to be flared but the tubing is to be changed out.

We would also request that the Commission note from its records the several extensions and requests made by Mr. Grace to comply with the order and simply take note of those dates and the various times given.

Since this matter deals with an operator which was appointed by the Commission and since appointing this operator the Commission is concerned with the operator's qualifications and the question of qualification was asked when the operator was initially appointed back in 1972, and we feel that the

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Commission should at least note other records pertaining to this well -- other matters pertaining to this well -- in the Commission's records and I call the Commission's particular attention to the prorationing challenge by Mr. Grace involving this well in Oil Conservation Commission Cases 4693 and 4694 and the subsequent district court case and Supreme Court case in the same matter and an Oil Conservation Commission Case 4795, pool contraction and creation of two new pools, again, involving this same property.

Shut in of well for over-produced status and this was Santa Fe District Court Case Number 46933, and this is in the Commission's records indicating over-production of the well of ten times the allowable.

A motion to exempt the well from prorationing in Oil Conservation Commission Case 5095, again, involving this well and another related matter which was Santa Fe District Court Cause 47406, an action to prohibit drilling a well on a offsetting location which was within the same drilling block.

All of these matters involved the Commission and the Commission should have knowledge of these matters and I think they bear on a pattern of conduct and a method of operation in connection with the operations and I ask the Commission to take notice of those and the petitioner rests.

MR. KANTER: I would first like to object to the Commission taking any notice of other proceedings not having

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to do with this petition unless the petitioner can show to the Commission that there is some relevance as to the qualifications of the operator from those prior proceedings.

If he can show how those proceedings bear upon the present qualifications of Michael P. Grace II to be the operator of this well then I submit that he has born his duty of showing relevance.

If he does not do that then the consideration of those matters by the Commission would be, if I might state it with respect, I am not accusing, but it is known in the law as being arbitrary and capricious, and therefore would be improper and I ask the Commission, therefore, not to consider any matter unless Mr. Fredric can show that they are relevant to the issues raised by this petition.

MR. FREDRIC: We submit that the Commission has the judgment to determine relevance on the basis of this being an appointed operator.

The Commission is well qualified to determine whether it is relevant or not and should decide this.

MR. KANTER: That is precisely my point, the Commission can decide relevance. I do not question its ability to decide relevance. But I ask that it do so based on evidence or tendered proof by Mr. Fredric to show what the relevance is. Until he does that there is no way that I can possibly address myself to the issue of relevance which I think I have

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a right to do -- to point out to the Commission.

I think it has to go on a step by step basis so we can hear what Mr. Fredric says shows the relevance and then if I feel that it is irrelevant then I can, at least, address myself to it so that the Commission can decide the issue of relevance.

I don't question the Commission's ability to decide for itself what is relevant and what is not relevant. But I think it has to be done in an orderly fashion and according to the rules of procedure which this Commission has adopted which says that it will to the extent it can follow courtroom rules of evidentiary procedures unless justice requires a relaxation thereof.

I don't see any reason to relax the normal procedure of, at least, showing what the relevance is of these things.

MR. RAMEY: I tend to agree with both of you on this.

I think the matters should only be introduced pertaining to this well.

However, there again, I am sure the Commission, or at least a portion of the Commission, are familiar with all of the cases brought to light by Mr. Fredric.

So, I think that I will sustain the objection on a portion and those matters which pertain to this well should be considered, the letters and such.

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MR. KANTER: The letters, I have no question about those. I am just talking about the prior proceedings that were referred to, court proceedings, where the letters, themselves, have been pointed out and I have seen them and I see that they are relevant and I have no objection to them.

If it please the Commission, I would like at this time to do what is normally done in a trial, sometimes without good cause, and that is to move for a directed verdict on the basis that they have simply not born their burden of proving their case.

Again, as I read the rules of procedure of this Commission you follow the normal courtroom procedures obtaining in New Mexico and therefore the moving party, that is the petitioner, has the burden of, at least, establishing a prima facie case of imprudence on the part of Mr. Grace.

I submit that they have not proved a prima facie case. Let's review what they have done.

I'll point out that there has been no countervailing evidence submitted at this point. Their main witness has been Mr. Lamb, who is a well qualified engineer, and there is no question about his capability.

He has stated to you that, one, he could not at this time based on his expertise and skill recommend that any change be made in the current condition of that well. That

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if a new operator was appointed, or if this same operator continued as the operator, that he would not as an engineer recommend that the present tubing be removed and be replaced by any other size tubing or hung in a different way because he needed at least sixty days and then maybe another thirty before he could make such a determination.

Now, until this Commission knows of what alternative actions would be prudent I don't see how it can come to the conclusion that Mr. Grace, himself, is imprudent.

Now, there has been a great deal of testimony concerning the way this well was operated for the last fourteen months prior to the time the new tubing was placed in the well.

But, I wish to point out to this Commission something that it is familiar with far better than I am and that is that all during that period of time the tubing in the well was pursuant to an order of this Commission. That this Commission, itself, ordered the four and a half inch tubing and that the tubing was there in compliance with an order of the Commission.

That that fact, alone, establishes that it was not imprudent for it to be there. I wish to point out to the Commission that Mr. Lamb's testimony was that all of his statements of opinion, and I won't go into the validity of his opinion, but he says in his opinion that there was waste and that there was a violation of correlative rights which

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was based primarily on the existence of the four and a half inch tubing.

I think I have demonstrated that was there by order of the Commission and therefore, I think presumptively, prudent.

He further testified that even if the current tubing which he would not have put in remained in that there would be no waste.

In other words, if no change whatsoever was made, that in the future, from this date on, there would be no waste.

He said that it was his opinion that there would be correlative rights violated but then when asked would you change the tubing at this time and he said no, so, I submit to you that that opinion has been effectively rescinded by Mr. Lamb's testimony, itself.

Now, I could, in fact, I think that I should go down the supplemental petition to point out the claims made by the petitioner and show you that they have not been proved.

Now, I refer to the supplement to the application for hearing and submit that paragraphs one, two, and three really have no bearing on the petition. They are merely a statement of procedure that has preceded this particular hearing.

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They stated in 4 a that the error made by the Commission was that it was not contested and no adverse entry of appearance was made which means that at a prior hearing this Commission felt that even when uncontested the evidence submitted by Mr. Hannifan did not justify a finding of imprudence on the part of Mr. Grace.

B, that Hannifan made a good and sufficient showing to show cause for the requested amendment to its Order R 4432. I submit that that is a self-serving statement and has not been proved.

C, that the whereabouts of Michael P. Grace II are unknown and reasonable search and inquiry fails to reveal his personal place of business or residence -- taking that first sentence --

I would like to refer the Commission to the transcript of these proceedings in June. Unless I am challenged to do so, which I will do, I will merely state what I note to be in that record and that is that Mr. Hannifan was asked twice by the only people here, his own attorney, Mr. McCormick, "Have you tried to locate Mr. Grace," and each time he answered, "No, I haven't."

Now, that statement disproves the first sentence of 4 c, it is disproved by the prior testimony of Mr. Hannifan, himself.

Secondly, in the second sentence, that others

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interested in the prevention of drainage of wells offsetting said well and the protection of correlative rights are unable to personally communicate with the designated operator, Grace.

That's simply untrue. But more to the point, there has been no evidence of that presented to this Commission.

D, that the designated operator has not operated said well in a prudent manner.

I think I have gone over that in detail as to what evidence we have of that statement and I think I have demonstrated that the petitioner just hasn't proved his case. He hasn't given any proof on it.

He may have given opinions that there was imprudence in the past but that does not justify the replacement of an operator for imprudence when you can't show that he going to be imprudent in the future and, in fact, the evidence is just to the contrary -- that he is doing exactly what he ought to be doing and exactly what he should be doing by their own evidence as to the future.

As to the financial capability of Michael P. Grace II, there has been no evidence of that except that certain liens were submitted in the prior hearing.

I don't know whether the petitioner is relying on that prior hearing or not but it is submitted that that is not a factor going to the prudence or imprudence of an operator based upon the memorandums submitted earlier by Ms.

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Teschendorf.

Paragraph g, I think, is just not prudent, either. The fact is that the production did reduce but that was mainly because the Commission had refused to allow them to continue to flare and not because of the failure to put in the new tubing.

Paragraph five merely states who the witnesses will be.

For those reasons, if it please the Commission, I would move at this time for a finding that the petitioner has not established a prima facie case and therefore their petition should be denied.

MR. RAMEY: We are going to recess the hearing at this time until one-fifteen and we will rule on your motion.

MR. KANTER: Mr. Commissioner, I do have witnesses if the Commission decides to --

MR. RAMEY: Don't release your witnesses.

MR. FREDRIC: I am prepared to respond.

MR. RAMEY: Okay, I think we should hear your response.

MR. FREDRIC: The Commission is interested by statute in two principal things, the prevention of waste and the protection of correlative rights.

We have established a substantial prima facie case in these two regards. Mr. Lamb has testified that waste

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has occurred and three hundred and fifty million cubic feet of waste in connection with correlative rights because three hundred and fifty million cubic feet of gas is no longer there for the owners of this property to acquire.

That gas has been taken by the GoPoGo No. 2 where the Graces are one hundred percent owners.

We have established that the flaring of gas is a waste. This comes from Mr. Lamb and from the previous hearing and we are simply building on the previous hearing, so, everything introduced at that time should be taken into consideration at this point.

This is not a situation where parties can sit down and between themselves agree on who should be the operator. They have not voluntarily agreed on what should be done and they have come in as adversaries and said, "Commission, this is our differing positions and we want you to choose who is to be the operator."

The Commission has to consider who is going to be appointed and appoint that person from various pieces of information and the Commission says, "Look, for this person to operate in a prudent fashion" --

We have had testimony from Mr. Lamb who has said that the imprudent operation started when that well fourteen months ago started to water up. That is when the rework should have been done. That is when the complaint should have been

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started.

That Commission approval of that four and a half inch as the Commission knows that the operator simply applies as to what he is going to do and the Commission approves it.

It is not like the Commission says this is what you are going to do. The Commission approves standard practices even though they may vary in the oil field.

In this particular instance the four and a half was fine up to a point but when the four and a half started becoming an inefficient and imprudent method of operating this well the operator, the reasonable prudent operator goes in and corrects it.

He doesn't in this case. He doesn't talk to his pumper and he doesn't, apparently, go out and check on the well. He doesn't do anything but flare gas in violation of the Commission's order. He doesn't do anything in this matter until the Commission forces him to do so.

Now, it is incumbent upon the Commission to do justice to the owners of this property and the owners include the other working interest owners, the royalty owners, and the overriding royalty owners. These people have rights in this production, too.

To do justice, the Commission who has appointed an operator must demand of the operator to operate prudently.

I think when you make a showing to show that waste

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occurred, surface waste, by flaring and when you show that subterranean waste has occurred because gas can no longer be removed because you did not prudently go back in and rework that well when you should have and when you have evidence of even the fact that when they went in and reworked they ended up by not using a standard or usual size of tubing which is used in this part of the country and it chokes down so small that it appears continued damage to correlative rights is going to occur because of instead of fifty million cubic feet a month they are only going to get around thirty.

If you want to pull it into this exact figure you could talk about thirty-two and you only have eighteen difference instead of twenty.

But we are talking about a substantial amount of gas and we are talking about substantial damage of correlative rights.

When Mr. Lamb said that he wouldn't necessarily pull that tubing right now he wasn't doing anything but being prudent. He is saying that a lot of money has been spent to go in right now and that we just watch it a little bit more and if it is going to continue in the fashion that it appears to be continuing, then, very likely, as he said, you may have to pull that and put in the proper tubing because economics may dictate it.

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I can tell you that from the past actions of Mr. Grace that it is not going to dictate it to him and why should it if this gas is being lost to this well and is going to his well, the GoPoGo No. 2.

He has no reason to want and let true economics to the interest of the owners of the property --- what are you going to do?

He is not going to operate prudently. He hasn't in the past and he is not going to operate prudently in the future.

The Commission has to look at this matter on the question of doing justice to protect against waste and correlative rights.

I don't think there is any question whatsoever that we have established a prima facie case and we have shifted the burden of proof to these people.

If they can come in and disprove something it appears to me counsel's argument that he says that there is no correlation between these two wells -- I don't know why the Commission prorated the field if there isn't -- but he says they are not producing from the same formation and have him come in and show to the Commission that this is not so.

Let's hear some testimony from his witnesses which show what prudent operations are doing and let's find out if they can show prudent operations because the Commission has

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heard imprudent operations testimony.

I think, clearly, the matter should continue so the Commission could get a full and complete picture of what has taken place in this matter.

I think the operations of Mr. Grace in this matter are blatant. I think they are a sorry display of operations. I think they are an embarrassment to most operators in the oil and gas patch in southeast New Mexico.

I think the Commission owes it to the rest of the industry to listen to all of the evidence relating to his operations and so I oppose it.

MR. KANTER: If it please the Commission, I don't mean to monopolize this but I think I do need to point out just a minimal statement that I have reviewed the transcript of the hearing on June 21st, and Mr. McCormick at that time made a statement concerning -- at the end of the hearing -- concerning the statutory basis of the power of the Commission to substitute an operator.

I wish to point out, as the Commission knows far better than I do, that there is nothing in the statutes or the regulations issued by the Commission that says that the Commission has that power.

It just doesn't expressly state that the Commission has the power, having once designated an operator, to designate a new one.

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And the mere statement in the statute, which is in the statute, in Section 65-3-14 (c), that in a pooling order and at the hearing of the pooling order the Commission has the right to designate an operator. It does not logically flow on the basis of statutory interpretation -- in other words the standards of statutory interpretation utilized by the courts of this state and every other state in the union -- it does not flow from that, logically, that you have the right to substitute a new one just because you have the right to establish the first one.

On that basis and on the further basis of the fact that contracts between parties may not be changed by the government which goes back the the Dartmouth College case, I would respectfully submit to this Commission that in addition to the fact that we submit that they have not presented a prima facie case based on their interpretation of the law that, in addition, even if they have that this Commission is without statutory authority to do what the petitioner asks it to do.

MR. FREDRIC: The statute states that the Commission has the authority to do whatever is reasonably necessary to protect the rights of owners under the property.

It is ridiculous to think that the Commission can appoint an operator and couldn't go in and remove him for cause. That simply is a specious argument. That's all I'll

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say.

MR. RAMEY: The hearing is recessed until one-thirty.

(THEREUPON, the hearing was in recess.)

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MR. RAMEY: The hearing will come to order, please. Before I rule on the motion I wanted to ask the reporter to strike from the record Ms. Teschendorf's opening statement, if you would, please.

Mr. Kanter, the Commission will overrule your motion. We think it would be proper to hear everything that could be heard.

MR. KANTER: If it please the Commission, I do not think that it is necessary for me to make an opening statement because the case that we present pretty much is epitomized by the argument that I made on my motion that there has been no proof of imprudence. Absolutely no effort to prove waste in the future and no evidence whatsoever of future waste and no evidence, I don't think adequate proof, of a violation of the rights of the -- the correlative rights in the future.

Failing the proof of imprudence and waste or violation of correlative rights I think there is no basis on which the Commission could find a reason or basis for removing Mr. Grace as the operator of the well.

If it please the Commission, at this time I would like to ask a question concerning procedure and that is whether the, a, Mr. Hunker and Mr. Fredric are requesting the Commission to consider the testimony taken on June 21st as part of their determination, as the evidence on which their decision today will be met, made, and if so whether the Commission is going to grant

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that request.

Would it be improper for me to ask that at this time and receive an answer?

MR. LUCERO: I might say, Mr. Kanter, it is kind of presumptuous because we don't know what these two gentlemen are going to do or if they are going to make such a request.

MR. KANTER: I thought that was a request made in the closing argument by Mr. Fredric but I am not sure of that and that is the reason I am directing my question to the Commission. Prehaps Mr. Fredric will answer -- I don't know --

MR. FREDRIC: I'll be happy to -- we do request and have requested, as I understand it -- a rehearing on what has gone before and we are offering the prior transcript to be considered by the Commission in addition to the evidence given today that we feel has amplified on the evidence to show that the original order of the Commission was erroneous for not taking in completely all of the aspects of waste and the damage of correlative rights which we think we show by the evidence today.

So, yes, last June 21 testimony and the evidence there is a concern and should be considered by the Commission.

MR. RAMEY: Does that answer your question?

MR. KANTER: The first part of my question was do they request it and apparently the answer is, yes, they do request it.

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Now, the next part of my question is the Commission going to grant the request? Are you going to consider the evidence evinced on June 21st in making your decision today? On today's hearing?

MR. RAMEY: Mr. Kanter, let me ask you a question. Are you objecting to the material from the previous hearing?

MR. KANTER: No, I just want to know what I have to refute, Mr. Commissioner. If I don't know what their case is I don't know what I need to do to refute it and if this is part of their case I'll have to --

MR. LUCERO: I think, Mr. Kanter, it is kind of hard for the Commission to be sitting here anymore than a judge in a court of law and presume what one adversary is going to present and what the other adversary is going to present --

MR. KANTER: I have that same problem.

MR. LUCERO: Well, your case is your case and theirs is theirs and as you may well know there have been times when they have offered something like a transcript or a piece of evidence or something like that right before the closing argument and --

MR. KANTER: Well, it seems --

MR. LUCERO: And you are asking the Commission to require -- of course, if they are offering it at this time and you are asking the Commission to consider it and you are objecting to it and we want to listen to your argument as to

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that objection.

MR. KANTER: I am not making an objection. I just want to know whether that is a part of their case and whether the Commission is going to accept it as a part of their case. I have no objection.

MR. FREDRIC: It is intended to be a part of our case. The petitioner could have filed simply a new petition and we could have gone through all of this again. We could have brought out the material that was brought out in the last hearing. But there is no point in doing that. That is wasting the Commission's time. We have a record and we are asking for a rehearing on the same matters that came before the Commission then.

There have been some things that have changed since that time and that needs to be brought out to amplify on what went before.

We feel that the Commission has to consider it, what went before and we request that you do so.

MR. LUCERO: Are you formally objecting to that, Mr. Kanter, they have just told you what they intend to present to the Commission, for us to rule on --

MR. KANTER: I would just like to get the ruling, that's all. I just want to know whether you are going to use it or not.

MR. RAMEY: We will consider the previous hearing.

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MR. KANTER: In view of that fact, then, I will call as my first witness Mr. D. L. Hannifan. I don't believe that this witness has been sworn --

(THEREUPON, the witness was sworn.)

D. L. HANNIFAN

was called as a witness by the protestant, and having been first duly sworn, testified upon his oath as follows, to-wit:

DIRECT EXAMINATION

BY MR. KANTER:

Q. Sir, would you please state your full name?

A. Daniel L. Hannifan.

Q. Are you the petitioner in this cause?

A. I am.

Q. And you were the petitioner in the hearing that was held on June 21st?

A. I was.

Q. Now, do you recall that earlier today that a request was made through your attorney for a copy of your operating agreement with Mr. Grace. Do you have that with you now?

A. I do not.

Q. Do you have it anyplace in your possession? Do you have it in your possession?

A. Yes, in my office in Roswell, New Mexico, in my

files.

Q. If your attorney approves would you make a copy of that available?

A. Well, the operator has a copy of that operating agreement and why should I have to furnish one when he has one? Why should I do that? Why don't you furnish one?

Q. Well, if you have a copy and we don't and we ask --

A. If you pay for it I will furnish you a copy -- in cash or a cashier's check -- not my own money.

Q. All right. Thank you very much. Now, --

A. When you come and get it you have to bring the cash.

Q. All right. Now, in the last hearing your attorney, Mr. McCormick, made some reference to the fact that the Graces were not, Mr. Grace, was not being particularly fair or moral. Do you agree with that? Do you think he is an immoral man?

A. Would you define the word "immoral" to me?

Q. Well, do you think he is a bad person?

A. I don't think I know the man that well to say that he is a bad person. I don't socialize with the gentleman.

Q. Do you think anything that he has done with respect to the operation of this well shows that he is a bad person?

A. Do you mean in his operations as far as being prudent or reasonable or what?

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Q. I didn't ask that. I asked do you think he is a bad person, an immoral person?

A. I am afraid that I am not a preacher and I am not a judge on that.

Q. So, you don't claim that he is immoral?

A. Certainly not, I know nothing about his religious or sexual life or anything else -- I don't know his behavior habits well enough to know whether he is moral or immoral.

Q. That was Mr. McCormick's statement that as a matter of good morals and a matter of public policy you should not allow a man to be an operator of a well -- you don't agree with that statement made by your attorney last time?

A. I don't disagree with it, either. That's his opinion and I don't disagree or agree with him.

Q. You have no opinion whatsoever?

A. On his moral character?

Q. Yeah, for instance, how about the payment of royalties, do you think that it is immoral -- that that shows immorality like your attorney does?

A. Well, I don't know if it shows immorality -- is the correct word -- but it certainly does not show utmost good faith.

Q. So, if a man doesn't pay his bills you feel he isn't qualified to operate a well?

A. Who said that -- oh, you said that, I didn't.

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Q. I asked you a question, do you believe that or not?

A. State the question again?

Q. Do you believe that a man who doesn't pay his bills is not qualified by that fact to operate a well?

A. If he does not pay the bills that are due and owing and if there is no controversy over it, then, I would have to consider it under that light.

Q. Then, you know what I am driving at don't you, Mr. Hannifan?

A. No.

Q. Mr. Hannifan, have you been billed for certain operating expenses incurred since the year 1973, by the Graces which you have not paid?

A. Some yes, and some no.

Q. What didn't you pay?

A. All I feel due and owing I paid.

Q. What do you feel is due and owing?

A. The ones that I determined were due and owing.

Q. Would you tell the Commission what those are?

A. As soon as I get my file out I will be glad to.

Q. All right.

A. Through May of 1977, what I felt was due and owing was seventeen hundred seven dollars and seven cents.

Q. What was that comprised of if you know?

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A. That's comprised of the fixed operating costs from September 1973, it was paid already up through September, and our settlement that we did was in November of '73.

September of '73, for the blewey line which was installed in March -- it was billed then -- and in March of '75, a pit for the blewey line and in June of '75, that is all besides the fixed operating costs at thirty-seven fifty per month times forty-one months plus the thirty-one fifty-nine for the blewey line and twenty-five forty-eight for the pit and then the ensuing months from February through May of 1977.

I tendered the check and do you have that down or do I have that -- I think you have that -- my check numbered -- and it has not been cashed as of September 30, 1977.

Do you have that check when it was dated -- yes, 6/17/76 -- that's correct, now what was your question, sir?

Q. Now, does this check in any way tell what it pays for?

A. One, for the fixed costs on the Grace-Atlantic well -- one quarter of the fixed operating costs of the Grace-Atlantic well, September 1973, through May 1977.

I didn't put on there also -- it is in the check and I didn't have room there to put the thirty-one dollars and fifty-nine cents which was my fourth of the cost of the blewey line and my twenty-five dollars and forty-eight cents that was the pit for the blewey line.

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Q. And when did you submit the check, sir?

A. The check is dated 6/17/77.

Q. Did you write anything on the back?

A. I certainly did.

Q. What did you write on the back?

A. I wrote acceptance of this check constitutes payment in full of the fixed operating costs from September 1973 through May of 1977, for D. L. Hannifan's one fourth working interest in the M. P. Grace Atlantic No. 1 Well, South Carlsbad Morrow field.

Q. Why did you write that on the back of the check?

A. Well, quite simply if he accepted this that resolved our argument over the other charges that he put on there that I didn't agree with.

Q. All right. So, you do acknowledge that this cashing of this check would have deprived Mr. Grace of collecting anything further from you?

A. I really don't know. I wrote it on there myself and I am not an attorney.

Q. That was the intent of writing it, wasn't it?

A. Uh-huh.

Q. That is what your intent was?

A. Yes.

Q. So, this also implies does it not that you knew that he was billing you for expenses in excess of seventeen hundred

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and seven dollars?

A. Yes.

Q. All right. When did you get a bill for that, Mr. Hannifan?

A. A bill for?

Q. For the extra charges?

A. Well, I'll have to look back through the file and I will have to see when the first time was. You will have to wait awhile --

It appears to be February 28, 1974, is when part of it shows up.

Q. In other words you were billed for part of these extra charges in February of '74?

A. In February, February 28, 1974, that is correct.

Q. Did you at the time you received that bill say anything to Mr. Grace about the charge or make any objection to it?

A. I certainly did. I saw him and we were drilling the Maryland well and then in the courthouse when he shut us down on drilling the well and objected both to his fence and his security guards.

Q. Did you pay your prorata charge, part, of the supervision charges that are provided for in the operating agreement in '74?

A. Not as long as he kept including the other costs

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on that same billing.

Q. So, what changed your mind on June 17 of this year and caused you to pay those costs?

A. The advice of my attorneys.

Q. Wasn't that a few days before you were to appear before this Commission in an attempt to have yourself substituted as operator and wasn't that attempt supported in part by a claim that Mr. Grace didn't pay his bills?

A. You mean his operating bills or which bills, he didn't pay his supervision bills or his royalties?

Q. His bills, his royalties?

A. His royalties and construction bills or any other types, okay.

Q. So, the real reason you tendered this check in June of '77, was so that you would look good before this Commission?

A. On the advice of my attorneys is why I did it.

Q. Now, you have, through your attorneys, made the allegation in your petition that Mr. Grace cannot be reached, that you can't communicate with Mr. Grace, is that true?

A. We have always been able to communicate whenever he got to the courthouse.

Q. Would you like to give me a straight-foward answer to my questions? Have you had difficulty in communicating with Mr. Grace?

A. I don't know. He is the operator and he is supposed

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to communicate with the non-operators. Don't you have that backwards? The operator contacts when something is needed the non-operators. He has the control and he does the contacting. It is not the non-operator or the royalty owner that asks him what he is doing or what he proposes to do. Aren't you reversed there on whose responsibility it is?

Q. Mr. Hannifan --

A. I have had no contact with Mr. Grace. Anytime I have talked I have talked to his office manager.

Q. Have you ever attempted to contact Mr. Grace and been unable to do so?

A. Not that I know of.

Q. Then, what is the basis of the allegation in your petition that Mr. Grace cannot be reached? Would you like for me to read the allegation?

A. No, I presume my attorney did that, that allegation, that wasn't a quote from me, was it sir?

Q. Well, it says that this application was made by you through your attorneys and signed by your attorneys and wasn't he authorized to make that statement?

A. May I ask you a question? Everything you say here does Mr. Grace authorize you word by word what you say here?

Now, you are putting words in my mouth of what my attorney says during my testimony.

Q. Is your answer, then, that you did not authorize

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your attorneys to make that allegation?

A. My answer is that my attorney represented me and said what he wanted to say in representing me. I hired him to represent me and I am not a lawyer and I have to rely on him to make whatever allegation he does. He may have reference to my not only contacting him but other people not contacting him.

Q. Now, you just don't want to answer my question do you?

A. I can't answer it. I don't know how to answer what another man says.

Q. Well, did you or did you not authorize your attorney to make the allegation that you couldn't get in touch with Mr. Grace?

A. I did not say to my attorney that, "I cannot get in touch with Mr. Grace."

Q. Did you authorize him to make that statement on your behalf?

A. I don't recall authorizing him to make this statement on my behalf.

Q. All right. Do you now retract that allegation as a part of your basis for your petition today?

A. Well, I think my attorney would have to retract it. I did not say it. How can I retract what I did not say. I think you are picking on something that I cannot refute --

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I cannot refute what somebody else says. I cannot withdraw his words.

Q. Now, tell me if you can what economic loss you have suffered because of the method of operation of the Grace-Atlantic No. 1 Well by Mr. Grace?

A. I would be glad to. We discussed earlier in the testimony of the pumper and of the flaring of the gas for a six or eight-hour period of time to get the well back on.

Who did that gas belong to that was vented or flared? Whose gas was that? Is that all Mr. Grace's gas? Didn't some of that belong to me and Mr. Cook as the royalty owners, the overriding royalty owners, the State of New Mexico for their taxes, all of those.

Mr. Grace had no venting order. He had no permission to do that until the first day of June. He requested one and all of this period of time he did this -- whose was that and who did it belong to and whose money was it that he blew to the air?

That's starts the first one.

Q. Were those questions meant to be an answer?

A. That was an answer. That was some of my gas, also, besides the gas of all of the other people plus the State of New Mexico's gas that was burnt each time you flared that well illegally.

Q. All right. Go ahead, what else did you lose?

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A. Let's see, they first drilled this well and put it on production and Mr. Cook and we lost the suit, Cook and I lost the suit to be the operator and it was to be Michael P. Grace.

At that time he was to get one hundred and twenty-five percent of the cost of the well before we came back in for our part, which was in -- I can't remember exactly but I think it was about June the 23rd -- the well was completed in April and by June 23rd it paid out. It took me until November to get the money.

The attorney fees to chase Mr. Grace around to get the money due and owing me was over twenty thousand dollars. Ten thousand being my part and ten thousand being Mr. Cook's part. That's for starts.

We went to drill our little Delaware well on our lease. The well was drilled on a lease owned by Mr. Cook and I, not by Mr. Grace, which was approved by the Commission, it was on our lease, not his. It was our Maryland well and it was on forty acre spacing and with the Morrow it is three twenty and we owned half of the Morrow and we was forced pooled in the Morrow and not the Delaware.

He got an injunction against us and shut us down and made us come to district court which we won and he had to forfeit the bond for shutting us down.

The bond was about three thousand dollars and the

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cost of it was nine. That's another six thousand. In the rework of this well, which was later, it was slightly over forty thousand, supposed to be, and the cost was over sixty-three thousand.

The reason being the two and a sixteenth which is an odd sized tubing and no supply house right around there carried all of the equipment that was needed to go with that two and a sixteenth and they do with two and three-eighths.

The difference between brand new two and three-eighths and that two and a sixteenth, used, was slightly over forty-five hundred dollars.

The cost of the installation of using that two and a sixteenth was approximately twenty thousand more than what it would have been with two and three-eighths. That's another quarter of that difference.

Q. Now, do I have to go any further. That seems like a sufficient amount over that period of time.

Q. Have you got anything else?

A. That's sufficient.

Q. You have nothing else to add to that?

A. Oh, I might have later on if I think of it. That's all I can think of at this time.

Q. All right. Now, it seems to me, then, that your complaint is about lawsuits rather than you are complaining about operations?

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A. Oh, no, the gas being vented was not a lawsuit. This is operation.

Q. So, the gas vented had to do with something to do with operations but what did the lawsuits have to do with the operation of the Grace-Atlantic?

A. I think they read up here that has to do with most good faith of an operator and in a prudent manner and a fiduciary-trust relationship -- that doesn't sound like anybody in a fiduciary-trust relationship or not utmost good faith, either, does it?

Do you consider that a bad person who would do that or the utmost good faith -- do you consider Mr. Grace a bad person?

Q. Is that your answer to my question?

A. I am asking you since you wanted to make an honest answer --

MR. HUNKER: Mr. Hannifan --

MR. LUCERO: I would like to interrupt -- we are not in a criminal hearing or anything like that -- I think all of the attorneys will have their chance to ask questions and it would be better if it were less argumentative.

A. I apologize to the Commission and to the attorney.

Q. (Mr. Kanter continuing.) Let me explain to you, Mr. Hannifan, I am just asking questions and all I want are answers and I will be perfectly happy if you will just do

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that.

A. I'll try to.

Q. So, to clarify you do consider the litigation over another well to be a part of the operation of the Grace-Atlantic well?

A. This is the same well -- this is the same well we are talking about all of the way through. The tubing was on the Grace-Atlantic and all of these were on the Grace-Atlantic.

Q. Now, other than the venting and flaring of the well was there any other element of wastage of reserves or gas that you know of?

A. Not except for the engineering testimony that I am not qualified to state on.

I would like to make one point that maybe I didn't make clear of and on the rework of this well it isn't the loss of gas or anything but it is the operational costs that is caused by the operation. It isn't a legal thing, that rework wasn't.

Q. Now, given the condition that exists at the Grace-Atlantic well today what action would you take if you were appointed operator of the well from this time forward? What would you do?

A. I would first look at the economics of what the well is producing and of what the cost change-out of the two and

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a sixteenth is going to be through a cost and possibly, I would have to talk to my partners, both Mr. Grace and Mr. Cook, and see if they were willing to bear the cost of changing that over to two and three-eighths.

As an operator, I would be obligated to talk to my working interest partners to see if they were willing to bear their part of the expenses of changing out that two and a sixteenth tubing and putting two and three-eighths in there to raise the well to a higher level -- comparable to your GoPoGo No. 2.

Now, I would take the advice of an engineer as far as looking at it and not just eleven days but maybe another thirty days to see if it would stabilize and what it was going to stabilize at and I think the indications now it looks like -- and there is testimony now that it looks like it might do that.

But you certainly would take a look-see at it first and then get an A.F.E. on what your cost of changing that out is and submit it to your partners, first, not the last day and give them their thirty days and to go standard and give them a chance to advise you and give them the complete program that you recommend to change it out for their consideration and also the other guy might have a good idea that would save you some money and works better.

You never know if you don't ask him.

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Q. Well, I think maybe you misunderstood my question. I am asking you what you would do with regard to the well, not the way you go about getting consent for it, what change would you recommend to your partners at this time?

A. Well, that is what I just said that I would look at the cost on it and get an A.F.E. and submit it to them with a recommendation of changing out the two and a sixteenths to two and three-eighths.

Q. In other words, what you are saying is that you would investigate the economic feasibility of substituting a different gauge tube?

A. That's right.

Q. Why would you do that?

A. To increase your take of gas to put you on an equivalent basis of the GoPoGo 2 well that was testified to in the previous engineering testimony by Mr. Lamb.

Q. Does this mean, then, that you believe that you would get a greater amount of production from the Grace-Atlantic No. 1 from two and three-eighths tubing rather than two and one sixteenth inch?

A. Yes, sir.

Q. Why do you say that, Mr. Hannifin?

A. From the engineering testimony and it not only has a two and a sixteenth it also has a one and a half inch cross-over in there which is effectively a choke in there and so --

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and so what you have in there is just a one and a half inch in there. The smallest thing you have in there is what you are choked to.

Q. Well, did you not in June object to the operation of this well with even a larger bore tubing? Didn't you claim that larger bore tubing was imprudent in June?

A. No. Indeed, in June, if you will read the testimony and the gentleman who had the chart, shows that the rate of flow -- what the rate of flow it takes to move fluid on a different size of tubing until you get down to two and three-eighths.

If you go below that, as Mr. Lamb has already testified, you increase the friction and you reduce it down to where you only handle half the volume -- you reduce it down to where you produce half the volume you could have produced at a certain point there.

You create a problem with too big a tubing and you go over to the other side and have created another problem with too small.

Q. And that is your allegation, isn't it?

A. Yes, sir.

Q. Let me ask you a hypothetical question. If you had been appointed the operator of this well in June what would you have done to the well up to now?

A. Replaced the two and a sixteenths.

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Q. Did you discuss a program for doing this with a Mr. Natour?

A. No, not this program, a separate program that also envisions going down and perforating a lower zone at the same time. In that case you would have to remove the four and a half inch tubing and perforate the lower zone and at the same time run the tubing and pack off the two zones so that the lower -- so that the lower one would be at a possible virgin pressure and would not bleed into the upper one and produce them separately.

It was a completely different type of program at that time.

Q. Do you recall being asked by your attorney, Mr. McCormick, --

MR. FREDRIC: What page, please?

Q. (Mr. Kanter continuing.) On page eleven -- "Have you been in discussion with Mr. I. J. Natour about this particular work he proposed to recommend," and do you recall saying "Yes, I have," to that question?

A. Yes.

Q. And do you recall being asked by Mr. Ramey on page thirteen that "What do you have in mind, some kind of work-over for the well?"

The answer, "Yes, I have a recommendation for removing the four and a half inch tubing in the well and replacing it

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with two and three-eighths."

And the question, "Do you think the two and three-eighths tubing will more efficiently lift the water than the four and a half?"

And do you remember answering, "Yes, sir, I would really prefer that Mr. Natour do that in his engineering testimony because he has the engineering information and differences of flow rates you need to lift the water off through the four and half and through the two and three-eighths inch tubing."

Do you remember making those questions and those answers?

A. Yes, I do.

Q. So, it's true, isn't it, and do you recall being asked later on if you had prepared an A.F.E.?

A. Yes, sir.

Q. And had you prepared an A.F.E.?

A. Yes, sir.

Q. And was that A.F.E. based upon the recommendations of Mr. Natour?

A. Yes.

Q. Was it, then, your intention to follow the recommendation of Mr. Natour?

A. At that time and that doesn't mean you go do it the next day. You also consult other people, everybody always does.

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Q So, you had made up your mind to a course of action in June?

A No, I recommended -- I had not made up my mind, I had recommended a course of action for both the consideration of Mr. Grace and the Commission, but that was my recommendation from the information that I had at that time.

Q And it was your intent to do just that if you were made operator, wasr't it?

A No, it was my intent to look at that recommendation if I was made operator. You don't do one and then stay solidly and not able to deviate from it at all.

Q Now, if you stated in your testimony in June that you had received the recommendation and in reply to Mr. Ramey's questions you said that you were going to follow that recommendation and as part of your case you had submitted an A.F.E. which indicates that you had even gone so far as to produce the estimated costs of effecting that recommendation and you never said one word about changing your mind at that time, are you now saying that you did all of those things and made all of those statements and yet you had a reservation in your mind as to the feasibility of it?

A The feasibility of it is still fine if you are going to perforate those lower zones and do it at the same time.

If you are not going to you can do it another way. If you are going to, at that time, going to do that at the same

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time -- there is nothing wrong with that, with that method.

Q. All right.

A. Mr. Natour is an expert witness and testified to that and nobody objected to his testimony as far as being an expert or his mechanical process of accomplishing that, I think, I am trying to say.

Q. Yes, sir. Well, the fact is is it not that the recommendation on which you tried to sell this Commission the idea of replacing Mr. Grace in June and has now been repudiated by Mr. Lamb?

A. No.

Q. Not true?

A. Not true.

Q. Thank you very much.

A. It is something entirely different. I haven't repudiated it, the other zone is still there, sir.

Q. Well, let's just clarify this so that you won't have any misunderstanding about what you are saying right now.

A. The other zone is still there. This is just doing it from one zone rather than --

Q. I am going to ask the Commission to ask you to please let me ask the questions and --

A. I thought I was just following your answers --

Q. I think you know what you were doing, Mr. Hannifin, and I want to make clear what your answer is --

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You are saying that you do not believe that Mr. Lamb's plan repudiated Mr. Natour's plan?

A. No, I don't.

Q. Do you understand that Mr. Natour's plan called for pulling out the four and a half inch tubing?

A. Uh-huh.

Q. Do you understand that in order to do that that you must plug up the well generally by hydrostatic means and that results in what is known as killing the well?

A. Yes, I know that.

Q. And do you understand that Mr. Lamb's recommendation was not to pull the four and a half inch tubing but to insert two and three-eighths tubing in the existing four and a half inch tubing?

A. Yes.

Q. And you are saying that Mr. Lamb's recommendation does not repudiate Mr. Natour's recommendations?

A. That is correct.

Q. Now, do you recall -- let me ask you this -- was Mr. Natour your witness at the last hearing?

A. Yes, but he was really furnished by Atlantic-Richfield Oil Company.

Q. But your attorney introduced him as your witness, right?

A. He was mine but furnished by Atlantic-Richfield, that

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is correct.

Q. Do you recall on page twenty-seven in response to a question by your own attorney, Mr. McCormick, that this question was put to Mr. Natour and the following answers given.

Question, "What recommendations did you make for preventing waste in this well bore in operating it in the most efficient manner?"

Answer, "My recommendation consists of two parts. One, changing the four and a half inch tubing into a smaller size like and two and three-eighths or even a two inch and perforate additional zones below the existing perforations which was covered in that third D.S.T. 11/4/77 to 6/20 at which time that D.S.T. flowed five hundred M.C.F. a day and did not recover any water."

Do you recall that question and that answer?

A. No, not exactly as you have read it but it is all right.

Q. What about the reference to using a smaller tube as a two inch tube. Do you remember his saying that?

A. No, frankly, I didn't.

MR. KANTER: I have no further questions.

CROSS EXAMINATION

BY MR. FREDRIC:

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Q. Incidentally, Mr. Hannifin, we don't want the Commission to think badly of us we do appreciate the large attorneys' fees.

In connection with the rework of this well by Mr. Grace you were given an A.F.E. is that correct?

A. That's correct, sir.

Q. Let me hand you a document which we will mark as D and to keep things straight for the Commission we had up to seven in the initial documents which we have given to the Commission and we introduced a letter, or at least I talked about it and I will introduce it in a moment if I haven't introduced it before, from Michael P. Grace under the signature of Juanita Jones requesting permission to flare as of June 1977, and I ask that it be desingated as P8, and this letter of June 1, 1977, we will call Petitioner's Exhibit Eight, and we also spoke of a June 27, 1977, letter from the Commission to Mr. Grace which was dated June 27, 1977, and that will be P9, and we would ask that the A.F.E. which we will have Mr. Hannifin identify be marked as P10.

MR. KANTER: At this time I would like to object to the line of questioning on several grounds.

The first and foremost ground is that this cross examination goes beyond the scope of the direct examination. As I understand our rules of evidence obtaining in the courts of New Mexico this Commission has the right to allow that if

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it wishes but that it is a practice frowned upon or looked upon with some degree of skepticism because it is pretty obvious that the purpose of cross examination is to clarify the evidence of the witness and not to introduce new testimony.

Secondly, the witness has made a statement that he felt that the cost of reworking the well was excessive. He did that not in response to any question of mine but volunteering that information.

In any event this -- if this is a basis on which the petitioner wishes to predicate his case for granting the petition then it should have rightfully belonged in the case in chief.

The petitioner has rested his case and has terminated his case in chief and therefore testimony on that issue is beyond the scope -- coming at the wrong time. He quit too soon -- and certainly if he intended to rely on it he certainly would have done it when he had the chance to put his case on.

For those two reasons I object to this kind of cross examination.

MR. FREDRIC: If I may comment, he opened the door. He asked the question. The responses elicited about the money spent on the rework, I certainly have a right to follow it up as I so desire.

I can ask the Commission to reopen my case if I

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felt it was necessary and I could bring out materials on rebuttal and this gentleman knows that you can introduce evidence in cross examination just like you can on direct examination.

There is no reason to restrict this. All we are trying to get at is the facts. I am not particularly bothered by this, I can get it in by some other witness, but why not now? What is the point of trying to keep something out? I want the Commission to know what has happened.

MR. KANTER: As a good lawyer should, I guess, when you can't meet an objection head-on you side step it and you talk about something else.

I have no objection to getting the facts out and make no attempt at that. I am merely asking that the fair rules by which hearings are conducted should be followed by everybody in this room, not just by the respondent.

I don't want to keep any information from this Commission and I think that everything that has happened in regard to this well including the cost of reworking are properly and will be before the Commission -- in fact copies of the A.F.E. and the bills, themselves, have been sent, if I am not mistaken to the Commission all along.

What I am saying is that their case was built on something else and now they are trying to expand it. And I suppose the Commission has the authority, I wouldn't object,

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you know I don't want to say that you don't have the authority to let him reopen his case, but I think that is what he ought to do if that is what he intends.

MR. RAMEY: I think we have heard enough argument to let us rule on the motion.

Mr. Kanter, we are going to overrule your objection.

Q. (Mr. Fredric continuing.) Mr. Hannifin, I have marked for identification the A.F.E. as D10 and will you identify that, Mr. Hannifin?

MR. RAMEY: What is that A.F.E., identify what it is?

A. It is the A.F.E. that Mr. Grace had hand delivered to me for the rework of the Grace-Atlantic well that they just completed recently.

Q. When was that delivered?

A. The first day of August --

Q. Would you speak up, please?

A. Pardon me, it was the 31st day of August at about supper time, about six-thirty by some young lady.

Q. Okay. When was that work to start?

A. What was that?

Q. When was this work to start?

A. Well, I am not really sure. I heard that it was supposed to be completed by the first of August. The first was the only one I knew of and I heard that he got an extension

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to the first of September to complete it and then I don't know of any further extensions of the Commission other than just hearsay.

Q. When you got this A.F.E. did you get anything from Mr. Grace that said when you had to respond to this?

A. No, I got the A.F.E. to sign the A.F.E. and my acceptance or rejection.

Q. This showed an amount of forty-four thousand five hundred and thirty-six dollars and thirty-five cents, correct?

A. Yes.

Q. Let me hand you what I have marked as D11 and ask you to identify that, please?

MR KANTER: Are these D's or P's?

MR. FREDRIC: I have been defending so long, I apologize, these are all P's.

A. This is the bill from the Grace office on the Grace-Atlantic rework.

Q. (Mr. Fredric continuing.) This is the bill you received from them, is that correct?

A. Yes, sir.

Q. And the amount on that?

A. The amount is sixty-one thousand five fifty-five forty-three. The clarification of that came later.

Q. Mr. Hannifin, one of the items on here is -- says McDaniel and Co., eleven thousand three hundred thirty-six

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point twenty one feet of I assume tubing because it says tubing up above at two dollars and thirty-five cents and it gives a figure of twenty-seven seven oh five sixty-nine?

Do you assume that to be the cost of this tubing that was put in the hole?

A. Yes.

Q. There is a penciled-in figure here --

A. Yes, sir.

Q. What does that penciled-in figure mean?

A. That is multiplied two thirty-five times the tubing that appears there, the figure that they put across there is incorrect and if you multiply the two together they have made a mathematical error of about twelve hundred dollars.

Q. So, you multiplied the figure of two thirty-five times the footage and came up with a figure of twenty-six six-forty instead of twenty-seven seven oh five, is that right?

A. I presume that they made a mathematical error was all that was.

Q. That was for eleven thousand three hundred thirty-six point twenty-one feet of two and a sixteenth inch tubing, is that correct?

A. Yes, I assume so.

Q. Is it within your knowledge that that tubing was new or used?

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A. It was used. They stated on one of those that it was used tubing.

Q. Have you made any type of an estimate of what you would pay for new two and three-eighths tubing?

A. Yes, sir, I got a price from Universal Supply Company, F.O.B. Carlsbad of two dollars and seventy-five cents.

Q. For the benefit of the Commission without dragging it out if you multiply the two dollars and seventy-five cents times the amount shown on this matter the difference between the old tubing and the new tubing Mr. Hannifin testified to would be three thousand four hundred sixty-eight dollars and eighty-eight cents. That is subject to other counsel disputing it, of course.

MR. KANTER: Well, if I may, in the same vein as Mr. Fredric's testimony if the Commission will add four percent sales tax to the extension of two dollars and thirty-five cents it will come out to exactly twenty-seven thousand seven hundred and five dollars and sixty-nine cents.

MR. FREDRIC: Okay, very good. They didn't include that and we didn't know that.

MR. KANTER: It didn't stop you from making an accusation of --

MR. HUNKER: Now, wait, just a minute --

MR. LUCERO: I think the attorneys and the witness

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are ignoring the Commission over here. Let's get on with the evidence. This is an administrative hearing and the Commission can stay here all night along with all of the others. We have lots of patience but address yourselves to the Commission.

Q. (Mr. Fredric continuing.) Do you know where Mr. Grace is, Mr. Hannifin?

A. No, sir.

Q. You have called his office from time to time have you not?

A. Yes.

Q. Have you ever been able to track down Mr. Grace or have you ever talked to him or has he ever been there when you have called?

A. No, not that I have known. I have always talked to his office manager.

Q. In connection with this bill that they say you didn't pay you only paid about half, apparently, of what you were billed. What was that other half, that part that you didn't pay?

A. That was the fence that they built around the total pad of the Grace-Atlantic and also the Maryland, mine -- Mr. Cook's and mine -- Delaware well, around the total pad.

When we were drilling our well a security guard, I don't know what he was doing, he checked everybody at the gate

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and handed them a little piece of paper.

Q. You mean he had a guard out there?

A. Yes, sir.

Q. Was it an armed guard?

A. No, he was an old gentleman and he really didn't bother anybody.

Q. So, he built a fence around this whole area where you were going to drill this other well?

A. Yes.

Q. That the Commission gave you permission to drill, is that correct?

A. Yes, sir.

Q. Did Mr. Grace ever attempt to ask your permission or ask you to consent or participate in building this fence?

A. No, sir.

Q. How about the armed guard?

A. No, sir.

Q. Did you feel that those were proper --

MR. LUCERO: Are you at this point asking whether there was an armed guard there -- he was an old gentleman --

MR. FREDRIC: No, he was a security guard. I didn't mean to give that impression.

Q. (Mr. Fredric continuing.) Did you feel that these were proper expenses that he should have billed back to you?

A. I didn't feel that they were proper joint expenses.

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They were individual expenses if one cared to do that. It was his business and I didn't feel that it was a proper joint expense, no.

Q. In addition to the monetary injuries that you talked about earlier, Mr. Lamb testified that he felt that three hundred and fifty million cubic feet of gas had been lost to this well as a result of the shut down which he felt would never be regained.

If his testimony is correct, would you also say that part of that gas loss that would never be reacquired was your gas?

A. Yes. It was lost from that well and the worst part of it is that it was mine and all of the other interest owners.

Q. And you have suffered damage as a result of that particular type of operation?

A. Yes, sir.

Q. If the well continues as it is and if you consider Mr. Lamb's testimony that this well as completed at the present time, reworked at the present time, will lose eighteen million cubic feet a month, let's say, do you feel that this is injury to you because you should be staying on the same level as the GoPoGo 2 as the well did for several years?

A. Yes, sir, if I accept his testimony, which I do, it would be a loss to all owners under that of approximately

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eighteen million feet a month, loss of all of our correlative rights and, of course, cash flow.

MR. FREDRIC: That's all I have.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Hannifin, do you feel that the Grace method of operation has caused Hannifin and Cook to go to unnecessary expense to recover the hydrocarbons attributable to your interests under this well?

A. Yes, sir.

Q. Is your primary argument about the way the well has been operated up to and through the setting of the two and a sixteenth inch tubing and not necessarily the way the well is today?

A. Well, with the first four and a half over this -- like Mr. Lamb testified over a fourteen-month period it was losing by the shut down time and the loss by the venting of the gas that the pumper testified to of six to eight hours to blow the water off which was also our gas that he was blowing off.

He not only had no permission from the Commission nor from any of the other non-operating owners.

Q. I am just trying to clarify this in very short response and you answered me and I think you answered me affirmatively but I want to make sure so let me repeat the

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question.

Primarily your argument is with the way the well had been operated up to and through the setting of the two and a sixteenth inch tubing, not necessarily with the way the well is today, primarily?

A. My primary argument, yes.

Q. In your mind is it important whether or not the well is being properly operated today and I say important as to your case here today?

A. Yes, I think it is.

Q. Would you expect the quality of future operations by Mr. Grace to generally follow what has happened in the past as opposed to what is happening today?

MR. RAMEY: I don't know if the witness can answer a question like that, Mr. Stamets, you are speculating.

MR. LUCERO: I think we would have to call upon the Deity to tell us that, Mr. Stamets.

Q. (Mr. Stamets continuing.) I am not going to argue with the Commission. I only asked the witness what he would expect of his personal knowledge, not what he would predict.

MR. RAMEY: Do you mean from his past history?

Q. (Mr. Stamets continuing.) I am just asking for your opinion what you would personally expect?

A. I don't see where he would consult me about any operation or any of the owners about the operation of the well,

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no, that he would change his operating methods from what he has in the past.

I have no reason to believe that he would change his operating methods from what he has in the past.

Q. That's the answer to the question that I asked and the Commission may throw it out --

A. That's the best I could do with the answer.

MR. STAMETS: That's all.

MR. RAMEY: Any other questions of the witness? He may be excused.

(THEREUPON, the witness was excused.)

MR. RAMEY: Mr. Kanter.

MR. KANTER: I'll call as my next witness Juanita Jones Wildberger.

JUANITA JONES WILDBERGER

was called as a witness by the protestant, and having been first duly sworn, testified upon her oath as follows, to-wit:

DIRECT EXAMINATION

BY MR. KANTER:

Q Would you state your full name, please?

A. Juanita Jones Wildberger.

Q. Where do you live, Mrs. Wildberger?

A. In Carlsbad.

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Q What do you do for a living?

A. I work for Michael and Corinne Grace.

Q. What do you do for them?

A. I am the office manager in the Carlsbad office.

Q. Do you communicate with your employers?

A. Yes, I do.

Q. How ofen, if you know?

A. With Mrs. Grace five or six times a day and with Michael once or twice a week.

Q. Have you ever had any -- have you ever come to a point where you could not reach either of the Graces for decisions that you needed to have made?

A. No.

Q. If you were required to transmit information to Mr. Grace can you do so?

A. Yes, I can.

Q. Have you ever failed to communicate information to Mr. Grace that you know of?

A. No, I haven't.

Q. All right. Now, you have heard the testimony of Greg Backstrom earlier today and he testified as to certain reports that he filled out and brought with him.

Have you ever seen those reports before?

A. Yes, sir.

Q. When, did you see them?

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A. The day that he brought them in the office.

Q. In other words you see these reports daily?

A. Right.

Q. And what do you do with those reports?

A. I look at the reports and the original I file away and I keep a copy.

Q. Now, if you find from the reports that one or more of your wells are failing to, I think the expression is to buck the line or no longer bucking the line, which I take means that it no longer has sufficient well head pressure to deliver gas into the transmission lines and I hope that is a correct statement.

MR. RAMEY: It is basically correct.

Q. (Mr. Kanter continuing.) When you find that is happening what course of action have you taken in the past in each such instance?

A. I tell Mr. or Mrs. Grace or sometimes both of them.

Q. What happens then, if you know?

A. They give me instructions as to what to tell Greg to do with it.

Q. All right. Now, there has been a great deal of discussion concerning the flaring of the Grace-Atlantic well and is that the invariable practice of Mr. and Mrs. Grace when the well is no longer capable of bucking the line?

A. Yes, it is.

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Q. They always flare it?

A. There have been times that we have shut it in and the pressure will build up and it will go back on the line itself. It is not every time that it is flared.

Q. Do you first shut it in to see if the pressure will build up?

A. Yes.

Q. And if that doesn't happen then you flare it?

A. Then, we flare it.

Q. Were there instances where the well was shut in for a period of time and then the pressure built up without the necessity of flaring?

A. That's right.

Q. Does Mr. Hannifin owe money to the Graces?

A. Yes, I have billed him for money.

Q. And what do those bills consist of?

A. They consist of operating expenses, a fixed one quarter, and materials to build the fence around the Merlin No. 1 Well which was drilled one hundred feet from the well head of the Grace-Atlantic and charges to hook up the blewey line and to dig the pit.

Q. Do you know anything about the building of that fence?

A. Yes, I do.

Q. What were the circumstances?

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A. Well --

Q. What motivated Mr. Grace to build that fence?

A. The Merlin No. 1 Well, I believe, was about one hundred and five feet from the well head of the Grace-Atlantic.

Of course, with the rig moving in and the cars going and coming and service people out there Mr. Grace was afraid that someone might back into the well head of the Grace-Atlantic.

So, therefore, he built a fence around it and put a guard there.

Q. He did this in order to protect the Grace-Atlantic well head?

A. To protect the Grace-Atlantic.

Q. Now, what discussion, if any, did you have with Mr. Hannifin about paying his bills?

A. I don't believe I have had any discussion with him about paying the bill. I did call him at one time and ask him to pay it.

Q. What was his response if you remember?

A. He said that Michael didn't pay his bills and so he would do the same thing. So, I didn't call back.

Q. Have you continued to bill?

A. Yes, I have.

Q. All right. Now, do you remember receiving a check

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that Mr. Hannifin talked about?

A. Yes, sir.

Q. And why didn't you cash that check?

A. Because of the notation on the back for one thing and the check was not for the amount that I had billed him for.

Q. What did you anticipate would happen if you did cash the check with regard to the balance of the bill?

A. That I would be accepting that as full and complete payment.

Q. Do you know of any different acts or procedures that would be followed with regard to the operation of the Grace-Atlantic well if Mr. Grace were personally present in Carlsbad?

A. No, I can't think of anything. I report to him and he gives me instructions.

MR. KANTER: I have no further questions.

MR. RAMEY: Any questions of the witness?

MR. FREDRIC: Yes, I do, sir.

CROSS EXAMINATION

BY MR. FREDRIC:

Q. Where is Mr. Grace?

A. Sir, I would like to be able to tell you but I can't.

Q. I don't understand that.

A. Well, he doesn't want anyone to know where he is.

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But I do know.

Q. So, if Mr. Hannifin wanted to talk to him he couldn't, is that right?

A. Oh, but he could. I could call Michael and Michael could return his call.

Q. Oh, I see. If Mr. Hannifin wanted to meet and discuss something with Mr. Grace he couldn't do that?

A. Yes, I am sure Mr. Grace would meet him.

Q. But you can't tell me where he is so that Mr. Hannifin could contact him and could talk with the operator of this well? He has to go through you, is that right?

A. Yes, sir.

Q. Okay. Let me see if I understood your testimony about flaring the well.

You said if you find from one of these reports that the well cannot buck the line, I think I am using the language of counsel, that you tell Mr. Grace and he tells you what to do?

A. Yes, sir.

Q. I assume from this particular method of doing things that you don't hold yourself out to be an expert in what to do, is that right?

A. No, sir, I do not.

Q. You are an office manager, correct?

A. Yes, sir.

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Q So, Mr. Grace tells you what someone else should do, is that correct?

A. Yes, sir.

Q. In connection with this Grace-Atlantic well we have like fourteen months that we had testimony on where this thing started getting into pretty bad shape.

Did Mr. Grace ever go out there to the well and check it himself to see what the problem was?

A. No, sir, when it started this we did, in fact, in '75, had a water sample run and found that there was fresh water, not much, you know, flowing back into the formation.

But actually, we didn't do anything to this well for that length of time because nobody actually knew what to do -- whether running an extra string of tubing in there would take care of the problem or what the problem was.

Of course, I am not an engineer.

Q. I realize you are not and I don't believe Mr. Grace is an engineer, either, is he?

A. Well, he is in constant touch with an engineer.

Q. Did he call one in when this well got into trouble fourteen months ago?

A. I am sure that he talked to several engineers on it.

Q. Did he ever call an engineer in to check this well? You know, you can talk to them on the telephone and try to tell them but they can't tell until they go and check the

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well. Did he ever do that?

A. There was an engineer there a couple of years ago but I cannot think of his name. We used several out of Louisiana.

Donald Borg, I believe, is the one that was here in '75.

Q. Did he ever make any recommendations what to do about this problem?

A. I was off on vacation when Donald was in town and so I don't know.

Q. As I understand your testimony further you said that the well stops flowing and that as a practice the Graces, I believe you said, flare the well, is that right?

A. Not always, sir.

Q. That's what you said, wasn't it?

A. If it does not go on the line this well is shut down. Now, if the pressure builds back up or the transmission pipeline pressure goes down, then, the well is put back on the line sometimes without flaring.

Q. Okay. If it is shut in with the hope that it will build back up, then, your testimony was that they always flare it?

A. Right.

MR. KANTER: I'll object to that because I don't think the witness understood your question, Mr. Fredric, and I think

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that her testimony has been different from what you said.

Q. (Mr. Fredric continuing.) So that I don't drag this out, sometimes it is flared, right?

A. Sometimes, yes.

Q. I am not trying to mislead her, I am really not. She said in her direct testimony that they flared a whole bunch and I am trying to find out if they do flare a whole bunch --

MR. KANTER: But she also said that they always shut it down first to see if it would build up.

Q. (Mr. Fredric continuing.) They do flare some, right?

A. Yes.

Q. You know, do you not, that you have to get permission from the O.C.C. to flare, right?

A. Yes, sir.

Q. The Graces know this too, don't they?

A. That's right.

Q. When you don't have permission you are doing it illegally, right? You are violating a Commission order, isn't that right?

A. Yes.

Q. When they flared it they knew that they were violating a Commission order, isn't that correct?

A. Well, as I say, when this first started, when this well started acting up like this, I don't know why permission

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wasn't gotten, you know.

Q. But it wasn't gotten, right?

A. I couldn't find any record of it and that is when I wrote in.

Q. To your knowledge other than the time you wrote on June 1, 1977, and asked for permission to flare have you as office manager and apparently the spokesman for the Graces since they are not here, have you ever asked permission to flare before?

A. Yes, I have.

Q. When, was this?

A. Not on this particular well but it was on another well or something else but I have called and asked for permission to flare a well.

Q. There have been times that wells have been flared and you didn't ask for permission, though?

A. Yes.

Q. Now, you said that Mr. Hannifin owes you money and you said operating expenses. What operating expenses?

A. According to their operating agreement.

Q. What operating expenses do they owe?

A. The amount?

Q. You said he owed operating expenses?

A. Okay. The total supervision to 9/30/77, is one thousand nine eighty-nine thirty-eight.

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I don't have a break down of these other figures but there is roughly fourteen hundred and sixty dollars for the blewey line, the road, the fence, the security guard, and what not, making a grand total of three thousand four twenty-seven thirteen.

Q. This is the same bill that Mr. Hannifin testified to, right?

A. Yes, sir.

Q. He said that he had sent you a check for seventeen hundred and some odd dollars and you won't accept the check but when -- you are not trying to say that he owes for operating expenses other than what he says was in the check, are you?

I got the impression you are talking about some other operating expenses that I don't know about?

A. No, according to the operating agreement.

Q. He acknowledged that he owes operating expenses?

A. Yes.

Q. And he says that he sent you a check and you won't cash it but you are not talking about something else other than that? You are not saying other amounts that we are not aware of?

A. No, he is aware of these amounts. He has been billed for them.

Q. And they were in that thirty-four hundred dollar

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bill he objected to?

A. Right.

Q. Okay. You said that Mr. Grace put up this fence to protect this property and you said the Merlin well is about a hundred feet away? Do you know how far the Merlin well is from the Grace-Atlantic.

A. About one hundred and five feet, I believe.

Q. Did you ever read the District Court judgment of the District Court of Santa Fe which made provision in there for the protection of the Grace-Atlantic well?

A. I didn't read it.

Q. I assume, again, that Mr. Grace would have read it but you didn't read that so you don't know what protection was provided for in that judgment for the Grace-Atlantic well, is that correct?

A. No, sir.

Q. And as I recall you gave a figure on the blewey line and pit of fourteen hundred dollars?

A. That includes the road that was built around the Merlin and a fourth of the expense to build a fence and half of the charges for the security guard.

Q. Now, the blewey line and pit were like only about fifty dollars to Mr. Hannifin, right?

A. That's right.

Q. He says that that is in the seventeen hundred dollar

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check and if he says it is maybe it is and maybe it isn't, isn't that correct?

A. That's right because I didn't know what he had included in that.

Q. Okay. So, the amount that really is not paid for by Mr. Hannifin is the fence and the security guard, isn't that correct?

A. That's right and roughly fourteen hundred and twenty-one dollars or twenty-two dollars.

Q. That's the fence and the security guard?

A. Yes, sir.

Q. The parts that he objected to and said that he was not going to pay?

A. Right.

Q. And did you discuss this with Mr. Grace this fact that he wouldn't pay that?

A. Yes.

Q. Did you talk to him about this check that Mr. Hannifin sent you?

A. Yes, I had told him about that on the telephone.

Q. What did he say?

A. He said don't cash it.

Q. Did he say, "I'll get together with Mr. Hannifin and we will resolve this. I am the operator and should get together with the non-operators and do this?"

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A. No, he didn't say that he would get with Mr. Hannifin on it.

Q. Do you know if Mr. Grace said, "I'll call Mr. Hannifin. He and Mr. Cook own half of this deal and I'll call him and we'll work it out?"

Do you know if he ever did that?

A. No, I don't know if he ever -- I am sure that he never called him. I didn't hear him say that he would call him or anything else. So, I doubt if he called.

MR. FREDRIC: Okay. That's all I have.

MR. RAMEY: Any other questions of the witness? Mrs. Wildberger, let me get something straight on the fence. What is included in the fence?

A. Labor --

MR. RAMEY: I mean, what area does the fence cover?

A. What area, it was -- the Grace-Atlantic is sitting over here and immediately north, I believe, northeast of the Grace-Atlantic well is where they were drilling the Merlin.

So, Mr. Grace built a road around the Merlin well and fenced off that area in order to keep the trucks and the service companies and what not of getting and backing into the well head.

MR. FREDRIC: Mr. Commissioner, I might assist on that, one further thing, am I correct that this fence fenced in both wells?

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A. He could get to his well and we could get to our well but the road was built around.

MR. FREDRIC: But the fence fenced them both in, isn't that correct?

A. No.

MR. FREDRIC: Both wells are not inside the fence? They are both inside the fence aren't they?

A. Yes, I am sorry, they are.

MR. FREDRIC: Now, how did this fence stop these trucks from backing into the well if they are both inside that fence?

A. We had a security guard out there.

MR. RAMEY: That's what I was going to ask. Are there any other questions of the witness?

REDIRECT EXAMINATION

BY MR. KANTER:

Q. Mrs. Wildberger, do you know if Mr. Grace took any action in July of last year to try to collect this bill from Mr. Hannifin?

A. Yes, I sent to you in Albuquerque a statement that I had sent to Mr. Hannifin, copies of these.

Q. Do you know what happened?

A. You, I believe, wrote to Mr. Hannifin and he, in turn, turned it over to his attorney.

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Q Do you know whether or not Mr. Hannifin's attorney made any effort whatsoever to discuss the charges?

A. Not any that I know of.

MR. KANTER: No further questions.

MR. RAMEY: Any other questions of the witness? She may be excused.

(THEREUPON, the witness was excused.)

MR. LUCERO: You have been referring to that check and are you going to introduce it into evidence or a copy of it into the record, just the check anyway?

MR. KANTER: I would like to have the Commission look at it. I don't care if it is introduced or a copy of it is or --

MR. RAMEY: We can't keep it --

MR. KANTER: Certainly, as far as I am concerned you can keep it -- we are not going to negotiate it.

MR. LUCERO: So, you are not offering it in evidence.

MR. KANTER: They have testified about it into the record and if the Commission feels that will be helpful I'll be glad to have copies made and introduce it. I don't feel -- would it be helpful to the Commission to have it as an exhibit -- I'll be glad to offer it.

MR. LUCERO: I think it has been read.

MR. RAMEY: We have looked at it, anyway.

MR. KANTER: I would like now to call Richard

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Steinhorst.

RICHARD STEINHORST, JUNIOR

was called as a witness by the protestants, and having been first duly sworn, testified upon his oath as follows, to-wit:

DIRECT EXAMINATION

BY MR. KANTER:

Q. Would you state your full name, please?

A. Richard Steinhorst, Junior.

Q. And where do you live, Mr. Steinhorst?

A. Lafayette, Louisiana.

Q. What is your profession?

A. Petroleum engineer.

Q. Where were you educated?

A. Oklahoma University.

Q. What degree did you get?

A. Bachelor of Science, Petroleum Engineer.

Q. When was that?

A. In 1942.

Q. What did you do after you got your degree?

A. I worked for the Texas Company for seventeen years and worked for British-American Oil Producing Company for six years and since leaving them I have been a consulting petroleum engineer.

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Q. What did you do for the Texas Company?

A. My last job with them was Assistant District Drilling and Production Superintendent --

MR. RAMEY: Mr. Kanter, if you are trying to qualify the witness I think he has shown ample qualifications and we consider him qualified.

MR. KANTER: I am so proud of it, Mr. Ramey, I wanted him to repeat it.

Then, if the Commission will accept his qualifications and if Mr. Hunker objects he can say so -- then, we will go on to another subject.

Q. (Mr. Kanter continuing.) Have you had occasion to make any kind of observation of the Grace-Atlantic No. 1 Well, Mr. Steinhorst?

A. I have.

Q. When was the last time you did that?

A. In September of 1977.

Q. How much time did you spend at the well site?

A. Sixteen days.

Q. And had you made any studies of that well prior to the commencement of that period of time?

A. Yes.

Q. What was your purpose in being there?

A. My purpose was to consider putting the small tubing inside of the four and a half inch tubing this well was completed

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with.

Q. Were you able to observe the characteristics of this well from an engineering standpoint during that period of time?

A. Yes, I made some observations that were very pertinent to the work being done.

Q. With regard and based upon those observations do you agree, given the testimony by Mr. Lamb this morning, based upon his testimony and your observations at the well, do you agree with his opinion that waste has been committed as that term is defined by the New Mexico statutes during the period commencing fourteen months ago?

A. Not insofar as correlative rights are concerned.

Q. Do you feel that there was any waste in respect to the loss of gas reserves?

A. No.

Q. Now, in your opinion during the last fourteen months there has been no waste as distinguished from the loss of correlative rights?

A. I don't know quite --

Q. Well, there are two opinions that Mr. Lamb gave this morning. One, was during the past fourteen months there has been, I think he called it, underground waste. That there has been a loss of gas. It was his opinion that there was a loss of gas in some fashion or another.

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Now, I am asking you if that is your opinion?

A. No, that is not my opinion.

Q. Now, would you define what you mean by waste so that we will know what you are talking about?

A. Well, it depends on whether you are talking about surface or sub-surface waste.

Q. Well, there is no allegation of surface waste here is there except for the flaring?

A. Well -- so, aside of the flaring there has been no surface waste.

Sub-surface waste would be the loss of producible gas that could not be produced because of well conditions or the method of production being used.

Q. Now, directing your attention to sub-surface waste is it your opinion that there has been none?

A. It is my opinion that there has been none.

Q. Now, do you base that upon any observation that you made at the well, itself?

A. Yes.

Q. What did you discover that led you to this conclusion?

A. Well, first, with respect to this well from the very beginning it has been considered that because of its inability to produce at various times was caused by water buildup in the well bore.

Although, the reasons given for whatever was to be

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done to the well was based on this premise, my observation at the well bore both down hole and at the surface showed no water of any consequence and actually during the period that I was there I saw no water whatsoever.

But during this two years prior, or not quite two years, I believe it is about nineteen months, the well produced less than three hundred barrels of water along with some billion or so -- wait a minute -- more than a billion cubic feet of gas and an insignificant amount of water.

At the same time the well head pressure had declined relatively equal with the offset well. So, that according to Mr. Lamb's testimony and according to my observation the well head pressures were relatively the same.

Q. Now, it has been stated here that this well produced forty-four barrels of water per month, approximately, and that it also produced some moisture when it was flared.

Do you consider that amount of water sufficient to cause the well to shut down?

A. Not really. It would probably cause some problems with the production assuming that it was all produced at one time but it was produced over a period of thirty days and assuming that it was forty-four barrels and that was the correct figure you are looking at less than a barrel in a half a day.

If you are looking at the fact that the well was

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flared four or five times a month and that in the two-hour period was the only time that it made water and then it only made a mist the probability was that you were producing less than a barrel of water, you know.

So, you might say that in a given month you were looking at maybe fifty barrels of water which is relatively an infinitesimal and insignificant amount of water.

Q. In your opinion would that amount of water be sufficient to cause the well to lose pressure?

A. If that amount of water can accumulate in the well bore at one time you would have a bottom hole restricting pressure of about four hundred and fifty pounds per square inch.

There has been no evidence or anything that I have seen that indicates that there is anything like this amount of accumulation in the well bore at any one given time.

Q. Do you have any comments based upon the facts that the well would build up pressure after it was shut in and without flaring? What does that indicate to you?

A. Well, it indicates that the production of the well, the production of any well, because of sink around the well bore and your pressure decreases to a point at the well bore that it is incapable of bucking the line and this pressure transmits back equally to some point in the reservoir at which point the pressure is probably sufficient to overcome the line pressure.

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By shutting the well in you are allowing this pressure which is at some point back here in the reservoir to equalize into the well bore and decrease the pressure sink that you have created by production and the well will again produce until the pressure sink develops again.

You are dealing with a depletion type reservoir in which the only source of energy is the expansion of the gas, itself.

This causes a pressure drop for every cubic foot of gas that is produced. There is a certain pressure drop.

It might be interesting to note that for every drop in pressure that this well has produced, I mean, has had, it has produced something over three million cubic feet of gas.

Q. What is the significance of that, the fact that after pressure drops occurred, then, it produced that much gas?

A. Well, it shows that the well production, efficiently, would be pretty reasonable.

Q. Now, that is your opinion and the basis for it with regard to your opinion that there was no waste, sub-surface waste.

Now, with regard to flaring. Is there anyway that you know how much gas was lost by flaring?

A. Not exactly. I am sure it was not as great as would

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be, say, calculated.

You have got a certain well head pressure and at the end of your flare line you have got atmospheric pressure and you have got a differential between your well head pressure and the end of the line.

This differential is going to depend on several things. The volume of gas going through it and the velocity of the gas going through it and the size of the line, itself.

Unless you went out here and measured this pressure you would never know what it was. But in all probability it was not too much less then the pressure at the well head. Therefore, your calculations would show, really, that you aren't flaring as much gas as you think you are.

Q. But that is speculation, isn't it, since you don't know what the pressure was?

A. Well, it is speculation in that you cannot exactly determine how much gas was flared. Say, on three hundred and fifty million and you lost five hundred million in doing this it is probably something less than any figure that you would calculate.

This has been proven in several different cases.

Q. Now, with regard to the testimony of Mr. Lamb and based upon the fact that he elicited and based upon your own observation of this well do you share his opinion that there has been a loss of correlative rights during the last fourteen

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months and that there will be a loss of correlative rights in the future?

A. I see no evidence to substantiate such a contention.

Q. What do you base your opinion on?

A. I base my opinion on the fact that both wells are apparently very similar in pressure, very close together.

In order for there to be a loss of correlative rights there has to be a differential in pressure in order to make the gas flow from one point to the other. If you have got relatively the same pressure at two points you are not going to have any particular movement of gas one way or another except what gas may go to those particular wells and create this pressure sink we talked about earlier.

The second thing is that going back to Mr. Lamb's plot of the well production of these two wells --

Q. Are you now referring to his Exhibit Seven?

A. Exhibit Seven, yes.

Q. That is a graph is it not?

A. Yes, graph, plot or graph, and it indicates that during the period that they claim that the correlative rights have been damaged that the GoPoGo No. 2 has declined at a very uniform rate which would be expected from a reservoir of this type.

It is not shown to be particularly affected by the shut in or the amount of production that was made in this

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period of time by the Grace-Atlantic.

So, therefore, this shows no sign of interference from production standpoint. I would say that this is a pretty definite -- well, he said that you couldn't tell from production -- this is a pretty definite indication that you have got one well producing and declining at a uniform rate and particularly the rate is pretty much like it has been for the last two and a half years.

The other well has fluctuated all over the country production-wise, then, you have got no interference.

Q. Do you have an opinion with regard as to whether there is communication between these two wells?

A. I see no evidence from the information available to me that I have examined that there is any communication.

Q. All right. Do you see any evidence that there is not communication?

A. No. I just gave what I felt was the evidence that there wasn't and that is because of the fact that the bottom hole pressures on the two wells are very similar. The surface pressures on the two wells are very similar, relatively the same.

One well has continued to produce at a steadily declining rate and the other well has produced at a very drastic decline rate.

One has not been affected by the other, particularly.

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Q. So, it is really your testimony that you see no evidence of communication and that you do see evidence based on the production figures and the pressures that would indicate that there is no communication between these two wells.

Now, do you have an opinion as to whether there is communication or are you able to form such an opinion based on the knowledge that you have?

A. My opinion is at this point that there is no communication between the two wells.

Q. If that is true, is there anyway that the argument can be made that the reduced production for any reason of the Grace--Atlantic can result in a loss of correlative rights by the owners of the Grace-Atlantic?

A. No, not unless you could show that there was communication and in the absence of communication the well is going to produce whatever reserves are available to it to produce. How you produce these reserves in a reservoir of this character is a little bit immaterial.

Q. All right. Now, your major emphasis in your professional career has been with gas production has it not?

A. Yes.

Q. And has that experience been all over the world?

A. It has been all over the eastern part of the United States, from the Rocky Mountains east.

Q. Does that include southeastern New Mexico?

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A. Southeastern New Mexico, west Texas, Louisiana and Oklahoma, Indiana, Michigan.

Q. Are there any characteristics of gas in the southeastern part of New Mexico as a physical property gas, is there any difference between that gas and the gas that is produced, say, in Louisiana or in west Texas?

A. No, other than the fact that this gas out here tends to have liquid hydrocarbons associated with it than probably some other areas but your gas is basically the same.

Q. Now, --

A. Mostly methane.

Q. Now, do you -- what range of diameters have you observed in gas wells around the eastern United States?

A. Well, the bigger gas wells run up to three and a half and four and a half tubing and the smaller gas wells run down to one inch.

Q. There are some gas wells that have as little as one inch tubing, is that correct?

A. Yes.

Q. Is the fact that some gas wells have one inch tubing an indication of imprudent operations of those gas wells?

A. No, it is there for a reason.

Q. Is the use of a flare line or a blewey line, are those terms synonymous as far as you know?

A. Yes, they are synonymous.

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Q. With regard to the line that has been referred to as the blewey line attached to the Grace-Atlantic No. 1, what do you call that?

A. Well, until I came to this country I always heard it called a flare line.

Q. Is that an uncommon device on gas wells?

A. No.

Q. Is it a common device?

A. I would say that ninety percent of the gas wells that are hooked up in the United States have a flare line.

Q. What is the purpose of that flare line?

A. It has several purposes. One purpose is what it was used for here. Primarily it is put there in order to be able to bleed down the surface equipment in the event any repairs have to be made or to test the well in the event that it starts, of course you don't have it in this country, but in other parts of the country if it starts making sand or starts making mud or shale or something which you cannot put through your production equipment so that you can test it and find out what your problem is.

Q. All right. Now, you were in charge of reworking this particular well in September were you not?

A. That's correct.

Q. When you did that did the method you adopted for hanging the narrower diameter pipe inside the existing four

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and a half inch pipe, was it an unconventional method?

A. No.

Q. Did -- you heard Mr. Lamb's testimony with regard to the choking of this particular line. Was he correct in what he said?

A. I don't think he was.

Q. Well, you were there. You installed it did you not?

A. That's right.

Q. Well, would you explain to the Commission since I don't understand it what you did do and how Mr. Lamb has made an error in that area?

A. Well, let's clarify one thing. Everybody seems to be of the opinion that the tubing is strung off in the packer inside the four and a half inch and this is not so.

The packer was put in the well for one reason only and that was to enable us to run the two and a sixteenth in the well.

It was strung through the packer and an expandable plug was punched out so that actually the four and a half annulus still has the well pressure on it and there are no seals in the packer. The tubing is just hung in the well head and down through the packer and set at eleven thousand three hundred thirty-eight feet.

Q. Now, did -- the next question that I have is the use of two and one sixteenth inch pipe an unusual size?

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A. No. Let's put it this way. The two and three-eighths tubing is considered throughout the oil patch as being standard size. But it is not necessarily the only size and it is not necessarily the best size to run in specific instances.

In this particular instance there was no choice. There was no possibility of running a two and three-eighths inch because the two and three-eighths inch would not go through the packer.

The Commission required that the tubing be landed within, I believe, it was two hundred feet of the perforations. The largest tubing that would go through the packer in the four and a half was two and a sixteenth. So, two and a sixteenth was run.

Q. Now, if you were to be requested to advise the operator of this well concerning the replacement of this two and a sixteenth tubing and assuming that you could use a different size tubing, would you consider eleven days' production adequate information on which to base your opinion?

A. No, not from the past performance of the well.

Q. How long would you need before you would be willing to make a professional recommendation?

A. I would want a minimum of ninety days and would prefer six months.

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MR. KANTER: I have no further questions at this time and reserve the right to redirect after cross examination, if I may reserve that right.

CROSS EXAMINATION

BY MR. RAMEY:

Q. Mr. Steinhorst, I have a few questions here. You testified, I think, that you felt like the reason this well would no longer buck the line is that the radius of drainage or you had, say, pressure leak off from the reservoir around the well bore.

This gradually got a bigger and bigger area and then they shut the well in and it would build back up and flow in it?

A. Right.

Q. Mr. Backstrom testified that he would open the well to the atmosphere and I assume as wide open as possible and after he blew water off then he was able to buck the line again.

A. He also pointed out that for the first four hours that it didn't make any water and for the next two hours it would only make a mist of water. It was further indicated that if the well was allowed to build up that it wasn't always necessary to flare it to bring it back on the line.

Q. Okay. Now, you say there was no loss of gas?

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A. Not --

Q. By that operation?

A. Not within the reservoir.

Q. Okay. Let's assume that the GoPoGo 2 and the Grace-Atlantic are in the same reservoir.

A. They could very well be.

Q. There is this same balloon and two holes punched in the same balloon and one is shut off there is going to be more volume from the balloon going through the other well during this shut off isn't there?

A. You are assuming a homogeneous reservoir with no restrictions whatsoever and the migration of gas.

Under those conditions what you say is true. But I know of no homogeneous reservoir particularly in the Morrow.

Q. You don't think there are any homogeneous zones within the Morrow, reasonably homogeneous?

A. Well, what is reasonably? In other words if you only had the one well in the reservoir what would -- would you think that you would produce a hundred percent of the total reservoir reserves as we know them now?

Q. I am sure that I don't think so but I don't have to answer the questions.

A. I don't think so and I bring this up as a point in that the reservoir -- in other words, the probability is that if you only have one well, I don't care which one it was, the

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Grace-Atlantic or the GoPoGo, to date they have produced eighteen billion plus cubic feet of gas.

The probability is that if only one well would be in the reservoir it might have produced only fifteen billion cubic feet of gas or only twelve billion cubic feet before it was uneconomical to operate.

But by putting two wells in the reservoir you were able to recover gas in the reservoir from one well that the other well would not have covered by itself.

Q. I'll agree with that. But then, again, it may be possible to have a reasonably homogeneous reservoir or one stringer that was reasonably homogeneous that this could be economically drained by one well?

A. No, that one stringer would be but the other stringer would not be.

Q. I am sure you are right.

A. In other words if you had five feet of homogeneous formation you might get that five feet but if you have twenty feet of formation you are losing fifteen feet.

Q. Let's go back to your rate of drain theory and loss of production. What has been the top production on a daily basis from this well?

A. I think about twenty million a day.

Q. How would you compare that with permeability? Isn't permeability a factor in draw down?

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A. Well, all right. Going back to the original completion of these two wells, the Grace-Atlantic well indicates considerable, at least by the well bore, considerably greater permeability and possibly porosity than the GoPoGo because it was a considerably bigger well to start with.

It had a capacity of producing at a greater rate at a given instance or time or day, whatever you want to call it, than the GoPoGo did.

But as you went away from that well bore you -- if you are talking about homogeneousness in the reservoir as you approached the GoPoGo then you have got to be affected by the permeability and porosity of the GoPoGo.

So, that as you get away from the well bore --

Q. But you stated that that couldn't be because there is no communication?

A. I don't believe there is any communication. I think that -- I mean, let's go back and assume that there is communication.

As you get away from the porosity and permeability of the Grace-Atlantic and you approach that of the GoPoGo then the time it takes the gas to move through the formation back to the well bore is going to be slower than it was originally.

As your pressures decline in the reservoir it takes longer for the gas to expand and to move a given distance.

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All right. Now, if you create a pressure sink and let's say that that pressure sink goes back -- what's your radius of drainage -- fifty, seventy-five or a hundred feet and then you begin to get a restriction.

Okay. You have got to wait until that restriction is overcome by the pressure line, or if you will, in order to build back up and flow down the line.

Q. Do you think that a well that produced twenty million a day would have a fifty foot or a hundred --

A. No, I just used that as a term -- I would say that it has probably got three or four or maybe five hundred feet.

Q. But permeability would be a factor in the build up time and the flow rates of the well and such as that?

A. That's true.

Q. And this well indicates high permeability?

A. A higher permeability than the other well which is another reason why I don't think we have communication or loss of correlative rights between the Grace-Atlantic and the GoPoGo.

Q. Would you refer to the Hannifin Exhibit Seven and is it possible that there was a rate of decline established, say, from a couple months prior to 1975 through 1976?

A. Yes.

Q. And that as the red line fell below the green line the decline curve maybe shifted higher in the GoPoGo?

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A. It is pretty parallel.

Q. In other words you could draw two decline curves in, say, the middle of '75, you would have different decline curves than you would have in the start of 1977?

A. Well, towards the end of '75, yes.

Q. Okay.

A. If that's all we are talking about, this particular month, you are correct.

Q. Would you see any relation, say, that maybe production declined from the Grace-Atlantic because a shift in the decline curve of the GoPoGo, is that a possibility from looking at this curve?

A. No, because of the fact that when the well was down it did not particularly change the rate of decline. All you did was at some point back here the GoPoGo moved up and produced better.

But you also have relatively the same rate of decline.

Q. Is that something that you would normally expect in a gas well of this nature?

A. Yes. You see this in gas wells lots of times. If you make reserves on a gas well and say you have only got the history that you have on the GoPoGo in the first two years, on the deal, you make a prediction that you are going to produce "X" cubic feet of gas, and I have seen this very thing happen

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in which a well would produce maybe twice or three times what you predicted from the history that you had prior.

Q. Is that unusual or is that normal?

A. No, that's a normal circumstance because you are going at the same rate of decline on the GoPoGo. All you are doing is increasing the volume.

Now, when -- it's well known, it's a well known reservoir premise that once you establish drainage channels to gas or to fluids that as those drainage channels develop the well give up better for a given pressure drop. That's an established reservoir fact.

MR. RAMEY: I have no other questions. Any other questions of the witness?

CROSS EXAMINATION

BY MR. ARNOLD:

Q. Mr. Steinhorst, about the business of the water production that the well was making. I understood you to say you didn't think that the amount of water produced would be a producing problem?

A. I don't believe it was.

Q. Why do you think the operator flared the well, then?

A. Because he believed it and it has been the premise up to this point. Up to my testimony it has been the premise that the problem with the well was loading up with water.

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Q. In other words, you believe it was a mistake on his part?

A. In other words, this is not a water-drive reservoir. Without a water-drive reservoir you are not going to produce significant amounts of water.

But everybody seems to think that the only problem with this well was that it was loading up with water. There is no evidence, even with the flaring and the small amounts of water that was flared, there was -- at no point did anybody see a large slug of water come out of the well.

All they ever saw was a mist of water.

Q. So, you think really if you simply, you know, shut the well in and allow it to repressure you could put it on the line?

A. They did this and it worked -- plus the fact when I operated on the well I found no water to the center of the perforations -- not a drop.

In my subsequent operations of the well I saw no water. I understand that as of now there has not been any -- where did it go? It was admitted that the water that was produced which was conic water or interstitial water. Now, is any well going to produce conic or interstitial water to a degree that would kill a well? How much are you talking about, a barrel or two barrels?

Q. I am not arguing with you. I just wondered what --

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actually, the flaring, then, was without any need, I presume, do you think?

A. It might have been caused by a false belief in the problem that was existing in the well. I am not saying that it was right or wrong. All I am saying is that it was probably caused by a false belief of what the well's problem was.

Q. Did you say that the two and one sixteenth tubing is just hanging through the packer in order to get maximum pressure on the annulus, also?

A. The four and a half annulus is open to production so you can produce either through the four and a half inch or through the two and one sixteenth tubing.

MR. ARNOLD: That's all I have, thank you.

MR. RAMEY: Mr. Steinhorst, what has been the performance of the well since you ran the two and a sixteenth in there?

A. Of course, the only thing we have are these eleven days, officially. I understand now, let me put it this way Mr. Ramey, I understand that the well is still performing about like it was.

MR. RAMEY: What do you mean like it was?

I mean about like it was during the eleven days that we have a record of.

MR. RAMEY: It doesn't have to be shut in for twenty-eight days to produce it?

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A. No, it's still producing.

MR. RAMEY: That's all I have. Any questions?

MR. FREDRIC: I have some questions and I believe Mr. Stamets does, too, and could we possibly have a ten minute break? We have been going for two hours and --

MR. RAMEY: Yes, I think that will be a good idea.

(THEREUPON, the hearing was in recess.)

MR. RAMEY: The hearing will come to order. Mr. Stamets, do you have a question or two?

MR. STAMETS: Yes, I have a few questions.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Steinhorst, if the pressure is similar between the Grace-Atlantic and the GoPoGo wells and their production pressure declines are similar why did the Grace-Atlantic well die on the line and the GoPoGo not?

A. I think you have to go back to your permeability and your radius of drainage.

In other words, the Grace-Atlantic produced around the well bore at a faster rate than the GoPoGo did, or does. Therefore, your Grace-Atlantic was more subject to going down below the line pressure.

Q. If the well had just been allowed to sit there on

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the line would it have come back on by itself?

A. Probably not on the line because it would have -- well, it probably would have in time. It's a matter of do you want to wait a week or do you want to wait a day or do you want to wait two weeks?

Q. Was there any advantage of shutting the well in and putting it back on the line?

A. Yes, I think that when you shut it in you hasten the rate of buildup.

Q. Why is that?

A. Because the well is not trying to produce against any fluctuation in line pressure. All you need is a five-pound change in line pressure and your well will produce.

Q. Well, would it produce any less gas if it were just allowed to sit on the line than if it were shut in and turned back on?

A. I think it would, yes, in a given period of time. If you want to wait twenty years, well no.

Q. Were you consulted about remedying this situation before the plan to run this two and a sixteenth inch was set up?

A. I would say that I was consulted at the time.

Q. Are you the one that recommended running the two and a sixteenth inch?

A. No.

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Q. Your work was to see that it was run in the hole?

A. My work was to see that the well was put in compliance with the Commission's instructions.

Q. If you had been employed to investigated the situation would you have recommended the two and a sixteenth tubing be run?

A. I think so. I don't see any particular advantage to any particular size tubing less than the four and a half.

Q. And why would you have run it?

A. Because it would go easier in the four and a half. There is a point that I want to bring up --

Q. I am sorry --

A. There is a point that I want to bring up about the four and a half that also has something to do with the two and a sixteenth.

When the four and a half was set it was set with thirty pounds of compression and there was some question as to whether or not there would be enough kink in the four and a half to even prevent the two and a sixteenth going through it.

It was pretty definite on the part of those who I consulted about it myself that we probably couldn't get two and three-eighths down.

Q. I am not concerned about what size you ran and about the necessity of running it at all. Now, you have indicated that water is not the problem. That it is pressure in the

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formation. If this is the problem, then, why was the tubing run at all? Why should it have been run at all?

A. That's a good question. The only reason that I could give for it would be the fact that you do by reducing the size of your tubing increase your velocity. By increasing your velocity you possibly keep any contaminants, which I saw some of, from plugging up your permeability.

Q. In other words -- let's go on from that point, then. Could these contaminants have been having a impact on this well for the last fourteen months?

A. Very possibly.

Q. So, even though it may not have been water that was the problem, causing the well to die and having to be vented, but the contaminants could be the problem?

A. Could have been.

Q. All right. I see. So, perhaps there is a good reason to have run tubing, smaller diameter tubing?

A. I think this was contemplated, if I recall correctly, one of my engineers completed that well. At the time I very definitely recall that it was conceded that at some later date in the life of the well smaller tubing would have to be run.

Q. In your examination of the record should that tubing have been run fourteen months ago?

A. I wouldn't say fourteen months ago it should have been run. Fourteen months ago when the problem apparently appeared

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I think a prudent operator would have waited until he was sure that there was no alternative but to spend the money.

Q. Now, you indicated just a minute ago that when the four and a half was run you had anticipated at some stage in the life of the well smaller tubing would have to be run?

A. Correct.

Q. Isn't the indication that you have here from the production -- an indication to you that the time has arrived to do what you predicted would have to be done?

A. Not necessarily, no, because when the well was shut in and restricted because of its extreme capacity to produce and it was restricted in its ability to produce which is not unusual in proration and the fact that you began to have problems with it was not necessarily to say that tomorrow I have to go out and fix it.

Q. Tomorrow -- how about -- about how much time would you consider was an appropriate time?

A. I would say, again, that ninety days to six months depending on how the well performs under observation.

Q. Thank you. Now, you talked about communication between these two wells. What evidence did you examine that to you shows that these two wells are not in communication with one another?

A. Well, one was Exhibit Seven, which is a graph of the production of the two wells versus time. The other was the

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pressure performance of the two wells while that graph was being generated and the present pressures that exist on the two wells.

Q. Okay. What about the present pressures on the two wells? What are those?

A. They are relatively the same. As a matter of fact the GoPoGo right now is off the line because it won't buck the line.

Q. Now, you said your pressure decline curves and specifically what about the pressure decline that tells you that these two wells are not connected?

A. Well, for one thing they have produced at different rates. One of the them producing at quite high rates and the other producing at relatively stable rates.

Q. The high well would be the Grace-Atlantic?

A. Correct. In this interval which we are talking about the well head pressures have declined relatively the same. They are now about equal. But one well is still capable of producing greater than the other well.

Q. Which is that?

A. Well, when I say capable, let me say it is indicated to be capable of producing greater and that is the GoPoGo.

Q. And it has in your opinion the greater capacity?

A. Yes.

Q. Let's go back, now, --

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MR. KANTER: Let me object, I think the witness should be allowed to finish his answer ---

MR. LUCERO: Excuse me -- another thing, has the other side cross examined yet?

MR. RAMEY: No.

MR. FREDRIC: I don't object, go ahead.

MR. STAMETS: I thought that --

MR. KANTER: I thought he had something more to say, I'm sorry --

Q. (Mr. Stamets continuing.) Okay. I thought that I had simply repeated what he had said.

Now, we have a situation here if I understand the evidence presented so far correctly, were these two wells, are they, bucking, roughly, the same line pressures?

A. As far as I know.

Q. Your pumper in the background is shaking his head no.

A. He has looked at those line pressures since I have. I haven't seen those line pressures since the fifteenth of September.

MR. STAMETS: Does anyone have any objection to the pumper telling us if the line pressures are significantly different?

MR. KANTER: No objection.

MR. FREDRIC: No objection.

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MR. BACKSTROM: The Atlantic is on El Paso's pipeline and at the present moment their pressure is around six hundred and fifty and the GoPoGo is Trans Western and they maintain about two forty and at the present time it is up to between four and five hundred and it has made a drastic change in just the last two weeks. So, the GoPoGo is not bucking the line due to that fact.

Q. (Mr. Stamets continuing.) Under those conditions I don't believe that I need to ask this question --

I gathered from your testimony that you feel that the Morrow formation -- do you feel that the wells in the Morrow formation are ever completed in the same reservoir?

A. I don't believe they are even if they correlate somewhat across the logs. The pressure differentials have been demonstrated in this particular area that upon completion of one well in the reservoir versus another well at a later date does not indicate that there is communication through any stringers in the Morrow.

Q. So, you have not examined pools such as the West Atoka Morrow Pool?

A. I have not examined it but I do recall some evidence on that that does demonstrate what you are talking about.

Q. And you have not examined any Morrow channel reservoirs in New Mexico?

A. Only that one.

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MR. STAMETS: That's all.

CROSS EXAMINATION

BY MR. FREDRIC:

Q. Mr. Steinhorst, you testified that you did a study before you started this work. When did Mr. Grace contact you about doing this rework?

A. Let's see, wait a minute, it was about a week before the work was supposed to start.

Q. When did you do this study and what did it consist of?

A. It consisted of information with respect to the productivity of the well, the status of the well, the well head pressures and the existing, then, status of the well -- what it was.

Q. What were you hired to do? Were you hired to run a smaller string of tubing into this well?

A. That is correct.

Q. Were you asked for your professional opinion as to whether the string should be run or not?

A. No.

Q. As I understand your testimony you weren't asked as to the size of the tubing to be run?

A. That's correct.

Q. In other words when you got there you were to run

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two and a sixteenth tubing because that is what you were provided with by Mr. Grace, is that correct?

A. That's correct. But there was no reason to run any other size because as I stated earlier there was considerable doubt in the beginning and there could still be of two and three-eighths going through the four and a half inch and being set within two hundred feet of the perforations.

Q. But you didn't do any study on this question, did you? You said you did a study -- but you didn't do a study on whether you could run the two and three-eighths versus the two and a sixteenth -- you merely accepted the two and a sixteenth and worked from that premise, didn't you?

A. I have no basis on which to refute the decision to run the two and a sixteenth or to even tell my clients that I don't think you are doing right.

Q. You weren't even told why the two and a sixteenth was picked?

A. Yes, I was.

Q. Who told you that?

A. Mrs. Grace.

Q. What reason was given?

A. Well, they had the proper two and a sixteenth tubing which would be satisfactory to run in this well. They had it on hand and it was available.

Q. Okay. Since they had the two and a sixteenth tubing --

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and that was the Graces' tubing, isn't that right?

A. That's correct.

Q. They owned that tubing and so they simply shifted it from one spot to another, isn't that correct?

A. That's right.

Q. Since you had the two and a sixteenth why did you even discuss the two and three-eighths -- you didn't even discuss it did you?

A. Yes, we did.

Q. Why since you already had eleven thousand feet of two and a sixteenth?

A. As I recall there had been before all of this, the hearing of June 21st or whatever date it was, had made a big issue of running two inch or two and three-eighths inch. So, therefore it was discussed as to whether or not either of these two sizes of tubing would be more advantageous -- the two and a sixteenth or -- and it was already on hand.

Q. In connection with your study did you do any type of a study to determine which diameter of tubing would be the most efficient producer for this well?

A. Not really because there is not a significant difference between the three sizes of tubing, if you want to get technical about it.

Q. Have you ever used two and a sixteenths before?

A. Oh, I have run hundreds of thousands of feet of two

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and a sixteenth tubing. I have run hundreds of thousands of feet of every size tubing ever manufactured.

Q. Have you ever run two and a sixteenths in New Mexico?

A. No, I have never run anything smaller than two and seven-eighths in New Mexico. I haven't completed that many wells in New Mexico, either.

Q. Have you ever completed a Morrow well in New Mexico?

A. I have completed several.

Q. You have?

A. I completed the GoPoGo 2.

Q. You did -- was this you, personally, or someone --

A. Me personally at the time the well was completed.

Q. How many Morrow wells have you completed in New Mexico?

A. I have completed -- what's the name of that dual -- the Carlsbad-Grace -- about five.

Q. Is that the extent of your Morrow experience in New Mexico?

A. In New Mexico, yes.

Q. You haven't had any Morrow experience in any other states have you?

A. In Oklahoma.

Q. You have, in the Morrow? Is it the same formation as this one?

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A. As far as we can tell. It has got the same characteristics. If you put some fluid on it, brother, forget it.

Q. Is it at the same depth?

A. It varies a little bit depending on where you are, but it's close.

Q. I see.

A. It goes anywhere from ten thousnad feet to thirteen thousand feet.

Q. Okay. I believe you were asked that you wouldn't have necessarily designed two and three-eighths into the program if you had a choice. Would you have designed two and a sixteenths into the program?

A. Well, we did because of the reason that I expressed before that there was considerable doubt as to whether or not the two and three-eighths could be run through the four and a half and set within two hundred feet of the perforations.

Q. When you got here the two and a sixteenth, the eleven thousand feet, plus, was here, right?

A. That was arranged, yes.

Q. Okay. Did you have any problems using that two and a sixteenth in reworking it?

A. There were no problems with the two and a sixteenths but there was a heck of a lot of problems with the service companies.

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Q. What do you mean by that?

A. The delays were caused by the service companies failure to perform as efficiently as they usually do and cost us some six or seven extra days.

Q. This should have been completed in about five days, isn't that correct?

A. I would have estimated five to six days.

Q. And it ran about sixteen, if I recall your testimony?

A. That's right.

Q. And necessarily the A.F.E. which had earlier come out -- and now the money went up and it was considerably more than was anticipated?

A. That's right.

Q. Weren't some of these problems directly related to the two and a sixteenth tubing?

A. No.

Q. You didn't have any problems with couplings?

A. No.

Q. You didn't have any problems with valves or getting anything to fit this non-standard or this rather unusual size of tubing?

A. It is not a non-standard -- it is made throughout the United States. The couplings, as you call them, the change-overs, the tools are available, not necessarily in southeast New Mexico but they are available, readily, in a

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number of places within our producing area of the United States.

Q. Didn't you have some problems in getting these parts for the two and a sixteenths, wasn't that part of your delay?

A. No.

Q. Is it your testimony that it was not part of your delay?

A. This was not part of our delay.

Q. Okay. What was the problem with the service companies?

A. Well, in the first place we had a Baker packer. Unfortunately, when we went after the packer it was the Labor Day weekend. The packer we needed was not in stock in southeast New Mexico. We could not find out for three days where the packer was.

On Tuesday morning after Labor Day we located a packer that we needed in Woodward, Oklahoma. From there on it was kind of a comedy of errors. Instead of getting in that night like it should have it didn't get in until the next night so there was a loss of two days.

After it got in the Baker people thought that they had the proper expandable plug for this particular packer in Hobbs. When they got the packer in they found out that the expandable plug was not the correct plug and was unusable as a matter of fact. This was at ten o'clock at night.

So, it took until the next morning to find an

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expandable plug and it took until the next night to get the expandable plug out and so we lost another day.

Q. I won't make you go any further on that item. I was just wondering, you testified earlier that the two and three-eighths wouldn't go through this packer. So, if I am correct, the packer was, then, built for a smaller sized tubing, is that right?

A. The packer, the maximum bore of any packer that can be run in fifteen and a half pound four and a half inch.

Q. You say the two and three-eighths wouldn't go through this?

A. No, it had a -- the seal bore on that was three inches.

Q. There are packers for two and three-eighths aren't there?

A. But not for four and a half fifteen pound.

Q. I am not so familiar with the terms so I don't understand what you mean?

A. Okay. When you talk about the weight of the tubing or the weight of the pipe --

Q. At so much a foot, I realize that.

A. Right. You have so much a foot. Okay. You have a pipe of a given O.D., for instance two and three-eighths is is two and three-eighths inch O.D., okay?

Q. I understand you.

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A. Now, then, when the weight of the pipe increases, like let's go back to the four and a half inch for instance, you have nine and a half pound and ten and a half pound and thirteen pound and fifteen pound and sixteen pound.

All right. Now, in a given foot you are changing the weight of steel from nine and a half pounds to sixteen pounds but you are not changing the O.D. so where does that additional steel go? It goes on the I.D.

Q. Okay. Let me try to speed this along. I am not trying to make a big deal out of it but are you saying, then, that two and a sixteenth inch tubing had nothing to do with the size of the packer? The packer wasn't for that particular size of tubing?

A. The packer that shows in here and the tubing had been determined.

Q. Right. But you had to get this packer to fit this tubing, isn't that right?

A. Yes.

Q. And you couldn't find that packer here. You had to get it in Oklahoma, isn't that right?

A. Yes. We couldn't find the packer. Baker doesn't stock all sizes of packers [illegible] points at any given time.

Q. You told me you didn't have any problems with parts or anything but you did with the packer because you had to get it in Oklahoma, right?

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A. Yeah.

Q. For what to go in there -- a nipple or something?

A. An expandable plug which fits in the packer.

Q. And you couldn't get that because --

A. They had a plug but it was the wrong one.

Q. You had to go to a two and a sixteenths and you had to get that someplace else?

A. No, it wasn't the two and a sixteenths. It was a plug for this particular packer.

Q. For -- to fit the two and a sixteenths inch tubing, is all I am getting at?

A. It didn't have anything to do with the two and a sixteenths.

Q. It didn't have anything to do with the two and a sixteenths?

A. It had to do with the I.D. of the packer.

Q. Okay. Now, you said that two and three-eighths wouldn't go through the packer but if you had used a tubing hanger you wouldn't have had the packer problem, so you could have used the two and three-eighths, just on that point alone?

A. Well, yes. You could have used two and three- eighths assuming it would go through the four and a half inch which we doubted.

Q. I had the impression from your earlier testimony that you couldn't use a two and three-eighths because you couldn't

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get it through the packer but you didn't have to use that method. Mr. Lamb talked about a tubing hanger and assuming that everything else was equal the tubing hanger would have taken care of that question?

A. Assuming that you could have gotten the two and three-eighths through the four and a half which we doubted.

Q. When you ran the two and a sixteenths did you get an indication that you could have run two and three-eighths?

A. We got no indication whether we could or couldn't.

Q. You didn't have any problems?

A. We had no problems with the two and a sixteenth.

Q. You may have just as easily run the two and three-eighths and didn't know it, is that right?

A. That's correct. You can't take a chance.

Q. You said there was no water of any consequence that you found in this well. You think it was a mistaken belief possibly by the Grace people to feel that water was causing this well to die.

In connection with some questions of Mr. Stamets you said that there were possibly some contaminants of some type in this well and I assume that maybe these contaminants may have had some affect on the well dying.

What I would like to know from you is why did the well die? I don't quite understand why it did die?

A. Well, I think you have to go back again to the volume

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of gas the well has produced and how big a reservoir, truly, are you dealing with. Nobody can really say.

That reservoir had "X" pressure at "Y" times. We are looking at today and it has "Z" pressure at today's time. The probability is that there is a pressure curve that goes something like this from the well bore back into the formation. But as you pull the well down that curve could go like this (indicating).

Okay. You get a faster drop in some radius of the well bore than you would have at a greater radius, a considerably greater radius, from the well bore.

Okay. When this pressure drop happened and this pressure drop comes down to a point where the pressure in the well bore will not buck the pressure on the line then your well is going to die.

Q. Okay. So, what you are saying is when you shut it in this pressure starts to migrate in towards the radius and it builds up?

A. Yes.

Q. I understand that. Now, they went out and flared this thing and it seemed to do the same thing and I don't understand that. When you flare it you draw it down. Now, why did they flare it?

A. They flared it only after shutting it in.

Q. When they flare it they draw it down, right? That

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reduces the pressure that you say has been built up, right?

A. Well, that's true but your time element of flaring, say, six or eight hours -- all right, let's take eight which was the maximum time.

Your eight hours against a week or ten days' production is time-wise very small. So, that your time interval of draw down is insignificant.

Q. Now, if you look back on those reports you will find that they didn't always shut it in. Sometimes they flared it and started it up the next day, were you aware of that?

A. Yes, I am aware of that.

Q. Okay. Producing one day and the next day they flare it and the next day they produce, again?

A. They shut it in over night and it depends on the line pressure and at what pressure the well dies.

Q. Incidentally, have you looked at those reports by the pumper?

A. I haven't looked at these particular ones but I have looked at a lot of them.

Q. I think you just glanced at those earlier today?

A. I glanced at them but to really say, I mean, I did this in the office.

Q. He is using the wrong column for one of those, isn't he?

A. That's right.

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Q. So, he is filling them out improperly as far as using the proper columns, isn't that right?

A. He is putting the correct information but in the wrong column.

Q. In other words he doesn't know which column it is supposed to go in, no one has told him that?

A. Yes.

Q. You don't know how much gas was lost in the flaring that was done?

A. No, and nobody else does.

Q. Well, while you were out doing this work on the well, did Mr. Grace ever come out there?

A. No, but I was in contact with him nearly every day.

Q. That was telephone contact, I assume?

A. That's right.

Q. Now, it's your opinion that the GoPoGo and this well are not in communication?

A. I don't see any evidence that substantiates that they are.

Q. Have you looked at the logs?

A. Yes. I looked at the logs that were demonstrated here and I looked at the logs of the well.

Q. And you would agree that they appear to be producing from the same formation?

A. Producing from the same formation interval.

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Q. Have you checked the pressures on the two wells?

A. Not since the early part of September.

Q. Have you ever done a bottom hole pressure test on both wells simultaneously to find out if there is any draw down?

A. No.

Q. You haven't done that?

A. No.

Q. That would conclusively show, would it not, if there was communication?

A. That would lend credible evidence, yes.

Q. Is it your opinion that the flaring of this gas done by Mr. Grace did not constitute waste?

A. Let's put it this way, legally it was waste. But if you hadn't of flared it you might not have produced the well, so, therefore, which came first, the chicken or the egg?

Q. Actually it was waste, not only legally, isn't that correct?

A. Well, it could have been a waste but if you hadn't done it you might not have produced the well.

Q. But under your own testimony you said it was a mistaken belief to do this?

A. I think so.

Q. So, not only did he commit waste but he was wrong when it did it, correct?

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A. I can't say that he was wrong because my information came considerably later than his early information. As I say, no one has been able to tell me that a slug of water came out of this well.

So, the evidence that I have today and that I had when I worked this well over was that water was not the problem.

Q. Okay. So, water was not the problem and if you had been called in fourteen months ago when he started this flaring and apparently they did it because of the water problem, that's what they thought, what would you have told Mr. Grace? You could have told them that it was not a water problem, is that correct?

A. I think so. I would have requested a reservoir investigation be done to determine just exactly what the problem was and take it on that basis.

Q. You are a Petroleum Engineer and you have drilled wells and you have had extensive experience and I respect that and isn't it your opinion that a reasonable prudent operator when he developed this problem would have called somebody in, just like yourself, and say, "What's my problem and what can I do about it?"

A. I think it is reasonable to say that most operators would do this.

Q. If these wells, the GoPoGo 2 and the Grace-Atlantic,

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are in communication, if they are in this spare tire, this inner tube, this balloon, or whatever it is that has a couple of straws going in there and one is shut down and the other one produces, then, there is certainly damage and injury to correlative rights to the one that is shut down, isn't that correct?

A. Assuming that there is communication you are correct.

Q. So, under Mr. Lamb's assumption --

A. Within the drainage radius of the well being produced.

Q. Okay. Under Mr. Lamb's assumption that there is communication and the GoPoGo made three hundred and fifty million cubic feet over this period of time, more than the Grace-Atlantic, and if there was communication, then, that three hundred and fifty million cubic feet is gone, if part of it belonged to the Grace-Atlantic well, there has been damage to the correlative rights of that well, is that correct?

A. If you can validate the fact that there is communication, some percentage not the whole thing, some percentage of that three hundred and fifty million because the GoPoGo 2 has its own gas to produce. Some percentage which is probably in the neighborhood of not over forty percent would be attributable to what you are saying.

Q. You are aware of the fact that in New Mexico the

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Oil Conservation Commission requires permission before flaring?

A. Correct.

Q. So, flaring without permission is illegal, isn't it? It's against the rules?

A. That's right.

Q. Do you consider the violation of O.C.C. regulations to be prudent operations?

A. Depends on the circumstances.

Q. In other words you think that the end justifies the means, is that right?

A. Yes, I do.

Q. Flaring of gas we sort have agreed that this is waste, so, that affects correlative rights of people under the well, does it not?

A. Not necessarily.

Q. Well, it is going out into the atmosphere and is not being sold I assume that people are suffering a monetary loss who have an interest in that well?

A. No, because if you don't do it you can't produce it and what loss is there?

Q. But you said, I believe, that doing this was the wrong thing to do, anyway?

A. Generally, speaking it is.

Q. Okay.

A. In this particular instance it may or may not.

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Q. Without any reservations and without saying if you don't and so forth, it is injury to correlative rights to flare gas, is it not?

A. It depends on why you flare it and how often you flare it and how much gas goes out. There are conditions under which it is necessary to flare a well with no affect on correlative rights.

Q. So, you say when the gas is lost to the atmosphere and is not sold that does not affect correlative rights?

A. Not in all instances.

Q. All right. Okay. Do you know -- did you see the last order of the Commission, the last extension of the Commission for this rework?

A. In which they requested that the tubing be run? Is that the one?

Q. No, they requested that the tubing be run by a certain date and it wasn't run by that date, isn't that correct?

A. It was run by that date. It was sitting at eleven thousand three hundred and thirty-eight feet on September 15th.

Q. That was their extension, am I right?

A. Oh, yes, now, you are talking about the original order -- all I recall was that the original order stated it was to be completed by a certain date and I don't recall what that date was and the tubing was to be run to a certain point.

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Okay, there was an extension and if I recall the extension did not mention where the tubing was to be run.

Q. Then, there was another extension, isn't that right?

A. No, sir, not that I know of.

Q. One more extension?

A. Not that I know of. It had to be done by September 15th. That was the only extension that I am aware of.

Q. And it was completed and hooked back up by that time?

A. The tubing was run to that point but the well was not finished -- wait a minute, the fifteenth -- no, we actually hung the tubing on the morning of the sixteenth and the well was ready for production except for having to make some corrections in some welding in the flow line which I was afraid to put the well on on account of the line being too damn hot.

Q. So, it wasn't finished by the time of the order?

A. It was finished. The tubing was hung and the tubing was set within two hundred feet of the perforations on September 15th.

Q. Okay.

A. They didn't state the well -- I believe they just said the tubing had to be at that point by that time.

Q. Okay. What is the purpose of proration?

A. The purpose of proration is to protect correlative

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rights and allowing everybody that has their straw in the soda to get their fair share.

Q. That means, I assume, that there was a common pool or a common reservoir, is that right?

A. That's right.

Q. Common source of supply of some sort?

A. That's correct.

Q. When you protect correlative rights the only way you can protect them is by making sure that they get their fair share?

A. That's the theory.

Q. Okay. The only way they wouldn't get their fair share is if someone else drains them, isn't that correct?

A. That's true.

Q. Okay. Is it your testimony -- I think I understood your testimony to say that there are no homogeneous zones in the Morrow gas?

A. Not in this particular field.

Q. Oh, not in just this field? I thought your testimony was that there were no homogeneous zones in the Morrow gas formation?

A. As I understand the hearing involves the South Carlsbad Morrow, correct?

Q. Yes.

A. All right. If this hearing involves the South

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Carlsbad Morrow then we are talking about the reservoir characteristics, itself, of the Carlsbad Morrow, and not of the Morrow of the southeast.

Q. Okay. I just wanted to make sure. I guess I misunderstood your testimony. I thought your testimony was that there were no homogeneous zones within the Morrow formation, period?

A. That was Mr. Stamets and we discussed one which he brought up reference to.

Q. I think actually you sort of backed up on that a little bit didn't you?

A. I had really forgotten about that until he reminded me of it.

Q. This is in a prorated gas field, this well, isn't it?

A. Correct.

Q. So you are saying the Commission is wrong?

A. No, I am not saying the Commission is wrong. Wrong in what respect?

Q. Well, you are saying that they are incorrect. You are saying that you don't have two straws in the same pot?

A. I am not saying that they don't have two straws in the same pot. All I am saying is that the same pot is not homogeneous and therefore you can't expect a straw over there to get as much of the soda as the straw over here because you

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have got something in between that will let the same amount go to each well.

Q. Oh, but there is communication, then?

A. No, there is no communication.

Q. No evidence of communication?

A. No evidence of communication.

Q. It should not be prorated, is that correct?

A. No, that's not so.

Q. I don't understand. Would you explain?

A. You should understand a little bit more about oil and gas reservoirs and then you would understand what we are talking about because there is no reservoir by and large, now there are some exceptions, and these exceptions I can't put my finger on at the moment, but the majority of reservoirs throughout the world are not homogeneous.

You can drill two wells offsetting each other on thirteen hundred and twenty foot spacing or twenty-six hundred and forty foot spacing or three hundred and thirty foot spacing and no two wells will produce exactly alike or will produce exactly the same amount of oil, gas and/or water from the same formation.

The reason being that the reservoir is not homogeneous and therefore you are not going to get the same. But one of the basis for proration is this very fact that it is not homogeneous and therefore, let's say that a well -- okay,

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let's just say -- take for example and say that the Grace-Atlantic has more porosity and permeability at a greater distance from the well bore than the GoPoGo 2.

All right. If you produce the Grace-Atlantic at a greater rate than the GoPoGo 2, then, you are going to get more gas which maybe is across that fence line. You are going to reach out across this fence line and get gas that belongs to the GoPoGo 2.

Or, you could reverse it and say, "Okay, the GoPoGo 2 has got a greater radius of drainage and therefore it is going to get more of its share of the gas if you produced it at a greater rate than you produce the offset."

Q. I think I agree with everything you say. You are saying that there is communication between the wells?

A. No, I am not saying there is communication.

Q. That's what you said.

A. No, I did not say that there was communication.

Q. You said that if the GoPoGo 2 produces more it may take some of the gas from the Grace-Atlantic or the opposite and that is communication is it not?

A. No, it is not communication. Communication indicates that either well could produce the gas that's available to be produced.

Q. In the same pool?

A. In the same pool. But in all reservoirs or nearly

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all reservoirs and particularly in the Carlsbad Morrow -- there is not enough interconnection between the various zones even though they may correlate on the log, there is not enough communication between the two of them or not -- communication is not the word I want -- but anyway you know what I am talking about -- to where the GoPoGo 2 could produce the gas that the Grace-Atlantic should have produced or the Grace-Atlantic could produce the gas that the GoPoGo should produce.

That's when you have communication, either well could produce all the gas in the reservoir or could at least produce a part of the gas that the Grace-Atlantic should have produced.

Q. It is your opinion that the Grace-Atlantic should not be in a prorated field, is that correct?

A. No, sir. You are relating communication to proration and there is no correlation.

Q. There is no correlation at all?

A. No.

Q. Have you check permeability and porosity of the GoPoGo 2 and the Grace-Atlantic and compared the two to see if there is any comparison that can be made between the two?

A. The only comparison I have made is between the initial completions.

Q. Which one of those wells was completed first?

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A. The GoPoGo 2.

Q. How much before the Grce-Atlantic?

A. About seven months.

Q. So, it was producing for some period of time before the Grace-Atlantic?

A. It was.

Q. Let me ask you to look at P7 again and I am going to move in a little closer, if I may.

As I understand your testimony on P7 you say that the GoPoGo 2 shows a normal decline curve and you see no correlation between in that, the Grace-Atlantic, is that correct?

A. I can see no correlation.

Q. I look over here and I see that in 1975, that you seem to have a reasonably consistent curve coming down in the GoPoGo 2, and the Grace-Atlantic is erratic as apparently it has always been.

In the first part of 1976, you have the same type of curve. By the way I notice that the Grace-Atlantic goes up and sometimes this seems to go down on the GoPoGo --

A. Yeah, but you are on a decline rate, here. I don't know and I would have to go back and check the Commission's records -- how much of this fluctuation right through here was caused by proration.

I don't know how much of this fluctuation. I am sure considerable of this fluctuation was caused by proration.

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But when you look at the two wells, this well has a considerably steeper decline than this well ever had which indicates that this well has a greater permeability because it actually has as of to date produced more gas than this well has.

Q. Is it your testimony that starting in the last half of 1976, that this decline curve for the GoPoGo 2 does not change position?

A. I don't think that is a valid decline in here.

Q. You don't think that means anything that suddenly as the Grace-Atlantic goes down that this one starts to go up and decline curve position changes does it not?

A. Well, yes, if you want to only take the last year, fourteen months or so of this curve, then you have a very severe decline.

Q. This last fourteen months is when the Grace-Atlantic started to fall and this one goes up, isn't that correct?

A. No, this goes up before the Grace-Atlantic while the Grace-Atlantic was producing at a greater rate.

Q. Just barely --

A. Well, all right, what are you talking about by way of time?

Q. I want to take this over from the last half of '76 to '77, as far as the curve goes and the curve jumps on the

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scale does it not?

A. But also while it jumps on the scale the Grace-Atlantic is producing considerably more gas than any of them.

Q. Maybe we are looking at the wrong deal. This is where the Grace-Atlantic --

MR. KANTER: I think that this is bordering on argumentative questioning -- I respect Mr. Fredric's purpose and he should have a lot of leeway but I think they are getting pretty close to arguing with the witness --

MR. FREDRIC: I'll quit, I am through --

RECROSS EXAMINATION

BY MR. RAMEY:

Q. According to your definition of communication as I understand it you have to have one well in the pool to drain the whole pool and that's communication?

A. Not necessarily. You would have to establish the fact that a pressure differential between one well or the other would cause gas to flow from the high pressure well to the low pressure well. You have no evidence.

Q. But you said as long as you don't have a homogeneous sand you can't have communication?

A. You probably do not have. You may have a very small amount of communication but you have no evidence of it here.

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Q. To what degree are you talking about on the formation being homogeneous?

A. All right. Let's look at it this way. I don't mean this to be facetious, but you tell me how much gas was under the Grace-Atlantic to be produced before the well was ever penetrated and how much gas was under the GoPoGo at the same condition and if the Grace-Atlantic produced more gas than it was entitled to, then, you would have to say that there was communication.

Now, you have no evidence as of the information available to us at this point to demonstrate that there is any indication that one well affects the other well's producibility.

Q. Okay. Say the Grace-Atlantic or the GoPoGo, one of the two was not drilled, and the other one was. Would there be any gas go from one lease to the other?

A. Again, say that depends on the limits of the reservoir and the permeability and the radius of drainage in the direction between the two wells.

Q. You mean there would be movement of gas from one lease to the other if the well was not drilled?

A. Eventually, if one hadn't have been drilled and the other one was, then, in twenty-five or thirty or forty years, yes.

Q. Say that there is a little difference in porosity,

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one or two percent, difference in porosity between the two and maybe ten millidarcies difference in the permeability between the two wells?

A. Well, you are making an assumption and the contention of communication is making an assumption of one well bore to another well bore that you have a relatively uniform permeability.

The Morrow in the South Carlsbad area has not demonstrated this. The pressure performance versus production in these two wells do not demonstrate it.

Q. You don't think in the South Carlsbad that you could take one individual stringer in the Morrow and correlate that over a certain amount of the pool and say that there would be drainage from one area to aother as a result of production from one area versus no production in the other?

A. Mr. Ramey, if you will recall about four or maybe five years ago I prepared an exhibit which took the initial bottom hole pressure on all of the wells that at that time that had been drilled in the South Carlsbad Morrow.

It was very evident from that that the time in which a well was drilled had no affect on its initial bottom hole pressure. That wells that had been produced as long as a year that offsetting wells that had initial bottom hole pressure or very close thereto, that was a demonstration that the Carlsbad Morrow, at least in that area of the field, did not

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demonstrate intercommunication between the various stringers.

Mr. Stamets and I went round and round about that.

Q. I remember that vaguely but I don't remember all of it.

A. I am sure that he does because we fought over it.

Q. I am thinking communication is something that, you know, if you drill a well over here and you drill another well and you complete this well with less bottom hole pressure than this well that you have communication between the wells. So, the withdrawal from the initial well has affected the pressure on the other.

A. Well, this could be true. However, also, you have to take into consideration, too, in the two instances in which we are talking about you brought it up, yourself, that there is evidently a considerable -- not just ten millidarcies -- there is evidently considerable differences in the permeability of the two wells at the well bore.

How far back this difference in permeability goes nobody can say at this particular point. I don't believe that you can have an extremely permeable well, which the Grace-Atlantic is, and a relatively less permeable well and say that they communicate because somewhere in between them you have got to have a change in the permeability from real good to not so good.

Q. That could be right at the well bore, couldn't it?

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A. Sure could be.

Q. You couldn't, under my definition of communication, you couldn't say that there is not communication?

A. That depends on whether you are saying that a particular well is going to lose a whole lot of gas as compared to, say, half a percent or a half or one percent.

Q. Take the east Texas fields, would you say that there is communication in east Texas?

A. Definitely, they have water flooded that and proved it.

Q. What about the Hobbs Pool?

A. I am not that familiar with the Hobbs field but I understand, yes. Of course, I have seen it in other reservoirs.

Q. You are saying that the Hobbs Pool is a homogeneous reservoir?

A. No.

Q. But you say there is communication?

A. I can cite you instances where between any two wells in a given reservoir you can very definitely demonstrate that there is communication. But they are not necessarily communicated to the other wells surrounding it in the same reservoir.

Q. I wondered if you said that awhile ago. It seems like you said awhile ago that as long as the formation was absolutely homogeneous you had communication?

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A. Between the two wells.

Q. But if there is any difference of the homogeneity of the reservoir then there is not communication?

A. The probability there isn't from well to well in this particular instance. I don't see any indication or any information that would convince me at this point that there is communication or that there has been communication.

Q. If there is two percent difference in the porosity between the two wells and everything else being different?

A. Porosity is not a criteria of communication other than the absence of it.

Q. If you have one well that has five hundred millidarcies of permeability and the other well has two hundred could there be communication between the two wells?

A. Probably not because probably between the two of them somewhere there is about four or five millidarcies.

Q. How could you say that?

A. By bottom hole pressure studies and by reservoir studies in various places and by water flood performances.

Q. How could you make a statement that because one well has two hundred and one has five hundred that someplace in between there is four?

A. Probably is and somewhere in between you could have two fifty or you could have a thousand.

Q. If you had a thousand in between --

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A. I would think if you had a thousand in between them that you would have to have much more evidence than we have here of communication.

Q. I am not talking about that one. I don't think you have anywhere near five hundred --

A. Well, they have got to be pretty good for the way they flooded them. It is, what, less than a hundred millidarcies in the Morrow?

Q. I imagine it is.

A. Okay. If you have got wells like this without any stimulation I would venture that at least five hundred.

Q. Can you say that if there is a difference in permeability there is no communication?

A. I think so. There is no communication until you get almost to depletion.

Q. If there is a difference in permeability?

A. That's right.

Q. What's the cutoff -- two millidarcies -- that's non-homogeneous, two millidarcies difference?

A. Well, it used to be until we got into fracks but now that we fracture them why it is pretty hard to tell what is the minimum, the millidarcies, for non-homogeneity.

Q. Okay. Let's say that you have five hundred here and two hundred here and a thousand in between -- you have no bearing, you have no four millidarcies?

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A. That's right.

Q. Could you have communication?

A. You would have and it would be and it would be evident.

Q. How would it be evident if you didn't take any pressure tests and if you just produced the well?

A. It would be evident on the well performances. If you had, let's say, that the thousand would extend to within a quarter of the drainage radius of each well bore, I mean a quarter of the well bore of each drainage radius, and you had two hundred between there and five hundred between that -- this well is going to produce a lot more gas and a lot easier than the two hundred millidarcies and you are going to see that right quick.

Q. What about five hundred -- four fifty and a thousand, what is going to be the difference?

A. It is probably going to be a little bit less obvious and your pressures are going to show it.

Q. You don't have a homogeneous sand or reservoir according to your definition but still you have communication between the wells?

A. That's right and it is rather evident. You don't have to have a completely homogeneous reservoir to have communication but the degree of --

Q. Well, that's what I wanted to get you to say because

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I think you said before that as long as you have a homogeneous zone -- homogeneous reservoir, then, you had communication and when you did not have a homogeneous reservoir you did not have communication and I think you said that.

A. I said it in those terms but I qualified it in terms of the question that you originally asked me which was was not there a zone through this well that could be homogeneous and would produce.

I told you if there was, yes.

Q. Okay. But you don't feel like there is but you have nothing to really conclude that?

A. I have nothing to conclude that there is.

Q. And you have nothing to conclude that there isn't?

A. I feel like we do because I don't think the well performance to date indicates communication at this point and this has been admitted that nobody really can say from the evidence that is available that there is communication.

Q. Probably buildup tests --

A. To me it shows that there has not been at this point.

Q. But without buildup tests and such as that you could not --

A. Without a whole bunch of additional information you could not positively say.

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MR. RAMEY: Are there any other questions of the witness?

CROSS EXAMINATION

BY MR. LUCERO:

Q. I guess you have been asked a lot of questions and they were based upon assumptions and probabilities and possibilities and all of that and you have given answers.

Did I hear you testify that you have never had any bottom hole pressures done simultaneously on both wells and if they were done they would conclusively prove communication, right, or not?

A. I think so. I think with the evidence that we have that simultaneous bottom hole pressure would certainly -- I think I said indicate -- I don't believe I said conclusively but it would be conclusive indication that we had.

Q. Then, is it your testimony that in your opinion there is no evidence here to show that there is communication between these two wells?

A. That is correct. I do not see any evidence.

Q. Concerning your testimony and leaving the assumptions and probabilities and possibilities and on other engineer data not relating to these two wells?

A. That's correct.

MR. LUCERO: No more questions.

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MR. RAMEY: Mr. Stamets.

RECROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Steinhorst, you talked a minute ago about the original shut in pressures on these wells --- wells in general in the South Carlsbad Morrow, as being indicative of there not being communication between the wells?

A. I said at the time they were completed.

Q. Right.

A. In other words versus the pressures that were existing on wells that had been produced that were offsetting or near offsetting.

Q. That's correct. What was the original bottom hole pressure in that pool?

A. As I recall it ran anywhere from about forty-one hundred to about forty-five hundred.

Q. Those seem a little high -- assuming we have a surface tubing shut in pressure here of twenty-five hundred and eighty-one pounds on a well, completed in that pool, not the first well completed there, would that be an indication to you that there had been drainage by other wells in the pool?

A. Not necessarily -- depending on what the well would do when you tested it. In other words, if you had a tight well and you had that kind of pressure on it, then, you can

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say that the well never had the original pressure. But if you had a real loose well and you had that pressure on it then it would.

Q. I have just given the witness an official well file on the Grace-Atlantic well and have shown him a C-122 which is a multi-point vacuum pressure test report for the Grace-Atlantic well and the test was taken in late March of 1973, and I believe the rest of the records show that the well is not connected until after that date.

What does that show as far as the shut in pressure on this well?

A. It shows twenty-five hundred and eighty-one pounds.

Q. How many hours was the well shut in?

A. The shut in --

Q. Look to the right of the pressure?

A. Well, it says duration of float seventy-two hours, okay, so I guess that was the time that it was shut in.

Q. Now, you indicated earlier that this well had high permeability?

A. Right.

Q. Do you think seventy-two hours would have been enough time to reflect its true shut in pressure?

A. Assuming that the permeability of the well bore was homogeneous throughout the drainage radius of the well, yes, if this high permeability extended for some fraction of the

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drainage radius, then, of course, this well hasn't been produced so that should be representative.

Q That's representative?

A. Yes.

Q In your opinion does that show that this well has been drained by other wells in the pool?

A. No, not when the well produces sixty-five million on open flow.

Q Let me rephrase the question. Does this pressure which you indicated should have been higher if it had not been drained -- well, I am answering the question for you --

I believe you indicated a higher pressure, shut in pressure, for the pool. Now, this well has a lower pressure than that figure. Does that show you that that well has been drained before it was ever put on production?

A. Could have been because of its permeability and because it had a lower bottom hole pressure of thirty-four hundred and nineteen pounds, essentially, and as I recall it is a little bit low.

MR. STAMETS: That's all.

RECROSS EXAMINATION

BY MR. FREDRIC:

Q I have one last question and I apologize -- you reworked it and you put it back on stream and it is not

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making as much as the GoPoGo 2 and fourteen months before both of the wells were making about the same thing. Why is this well going to make this eighteen million feet a month less than the GoPoGo 2 is producing at a two and seven-eighths?

A. I think this well has produced more gas for the pressure drop available to it than the GoPoGo and the GoPoGo is now beginning to show signs of the affect of the pressure drop.

Also the line pressure has a definite affect upon the ability of either one of the wells to produce. The line pressure is fluctuating -- the GoPoGo was low therefore it would produce at a steadier rate and for a greater length of time because it has more differential to give gas up than the Grace-Atlantic did at the same time.

Now, back at the time when you are talking about the differentials were sufficient to produce at about the same rate.

Q. You don't think that two and three-eighths would recover more, is that your testimony?

A. In the type of reservoir that this is indicated to be the size of the tubing is not going to determine how much gas you do or you don't get from the reservoir.

Q. Would a four and a half inch tubing determine how much gas you are going to get or not get because there was too

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much hole there to bring the gas up because of velocity and so you really had to get a smaller tubing, is that correct?

A. The well would produce when the pressure differential would -- when the well head pressure and the line pressure was sufficient for the well to produce.

The running of the tubing has had no affect upon the pressures available for production.

The only thing that you did by running a smaller tubing was to increase the velocity of the gas through the tubing which has a greater chance of lifting any fluids or any foreign materials that might be detrimental.

Q. Mr. Grace says that the rework job was not prudent, is that correct?

A. No. He is not saying that it wasn't prudent.

Q. It didn't need to be done as I understand your testimony?

A. It had to be done. It had to be done by an order of the Commission, not by choice.

Q. But nobody fought this, I assume, Mr. Grace didn't fight it?

A. Going back to the original deal, Mr. Fredric, in the assumption was that the problem with this well was that it was loading up with water and this was causing it not to produce.

The present evidence is that this was not a true

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premise and it was an assumption and it was an assumption that wasn't checked.

Q. I don't want to carry this out any further but when you first got there you could tell that that was a false premise and why didn't you at that time recommend to Mr. Grace, "Let's go back to the Commission and say we shouldn't do this and here is why?"

A. At that particular time I thought it was a pretty good idea because I didn't really know until we got started that it wasn't a good premise.

MR. FREDRIC: That's all I have.

MR. RAMEY: Any other questions?

REDIRECT EXAMINATION

BY MR. KANTER:

Q. I apologize for taking up additional time but I feel I must do so.

Is it a fair statement that disregarding all hypothesis and hypothetical situations that based upon the hard evidence shown by the parallel bottom hole pressures that we have and based upon the graphs prepared by Mr. Lamb as to the production of these two wells that based upon that evidence you draw the conclusion that in this instance there is no communication or relatively little communication between the GoPoGo and the Grace-Atlantic?

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A. As of this instance from that information there is nothing to substantiate the fact that communication exists.

Q. Is there anything in it that would substantiate the conclusion that it does not exist?

A. I think there is some evidence in the fact that your decline rate on the GoPoGo is fairly uniform even though the rate at one period of time was less than the rate in another period of time.

The decline rate on the Grace-Atlantic aside from being erratic has been quite a bit steeper.

Q. Now, if I may indulge in hypotheticals. If in fact there is communication between the GoPoGo and the Grace-Atlantic and there is a two and a sixteenth inch tube in the Grace-Atlantic and a two and three-eighths tube or a two and seven-eighths tube in the GoPoGo will there be a substantial loss of correlative rights over the expected life of these wells because of that fact?

A. Under the indicated conditions within the two well bores at the present time, no.

MR. KANTER: I have no further questions.

MR. RAMEY: Okay. Does anybody else have any questions of the witness?

He may be excused.

(THEREUPON, the witness was excused.)

MR. RAMEY: Any closing statments, Mr. Fredric?

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MR. FREDRIC: Yes, sir, and if I have not previously offered into evidence all of these exhibits -- I may have left out a P10 or nine or ten -- whatever I have not offered I will offer at this point.

MR. RAMEY: They will be admitted.

MR. FREDRIC: All right. I also wish to offer the O.C.C. administrative order number TX 39. I believe the Commission can take notice of this. This was the original exception order allowing four and a half inch tubing in this well and giving the Commission the right to rescind its authority if it appears that the producing characteristics of the well have changed and the producing methods have caused or may cause waste.

That is in the record and I think that the Commission can take notice of that. I would offer that as P11.

MR. KANTER: No objection.

MR. FREDRIC: I will also tender Ms. Teschendorf's brief as a brief for the petitioner. I think it says what I think I wish the Commission to consider and corresponding counsel should have an opportunity to tender any --

MR. KANTER: That's most generous, Mr. Fredric, thank you.

MR. FREDRIC: I guess that I do have a closing statement and I will try to be as brief as I can.

I would just very briefly like to comment about the

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evidence.

The evidence boils down in many respects to testimony between two experts. We have Mr. Lamb who has had forty years' experience in New Mexico and his experience has been in the Morrow gas field type of work and the Commission is aware of this.

He has testified that in his opinion that there is communication between these two wells. With the existence of communication when one straw is dipped into the pot and takes out and the other one doesn't there is damage to correlative rights of the owners under the property that is not producing.

He says that this is waste because it is damage to correlative rights. This is an inefficient or improper usage of the gas from the pool because it deprives the owners of this property their fair share of gas.

I am using language that is in the statute which controls the actions of the Commission. He says that the flaring of the gas was waste and this injured correlative rights. That flaring, by the way, was done illegally. It was done by an operator who, apparently does not care what the Commission has to say as to orders and regulations for the orderly operation of the well.

He says that these items are items of imprudent operations. I think that it is permissible for the Commission to draw inferences and presumptions from the past practices

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and to take that and see what is going to happen in the future.

Mr. Lamb also feels that the use of the two and a sixteenth inch tubing has caused a smaller choke diameter in the well and thus not allowing the well to recover what it could recover had it used two and three-eighths.

We have Mr. Steinhorst on the other side who discourages this. The last point, I believe was, no, there was no communication.

A minute or two before that, however, he did testify that the pressure on this well, the initial shut in pressure on this well when it was completed probably indicated drainage from one of the other wells.

Now, the only way in which you can have drainage from one of the other wells is by communication. So, regardless of how he tried to get around it I think he said that there is communication even though he really didn't want to say that.

If we take his premise and say that there is no communication then there is no purpose in prorating this gas field and the Commission was entirely wrong when they did it in the first place.

I think that the Commission is simply going to have to decide on the basis of the background information and the credibility and the reasonableness of the testimony between

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the two experts to determine who is correct in this instance.

To determine that Mr. Lamb is correct, then, what we have said thus far is that waste has taken place and injury to correlative rights has taken place is correct.

Now, the Commission is to protect waste and to protect correlative rights and this is a statutory power. But in addition to the power the Commission has a duty and it is set forth in the statutes that you have the duty and on occasion the Commission is faced with this type of a situation. It is a difficult task to choose an operator where you have more than one person vying for what is probably a dubious position in the first place.

But you are placed in this bad position and you have to decide. So, when you decide I think one of your criteria is that this person will operate prudently.

This may be a suggestive standard but I think you can expect, at least, certain things. I think you can expect that reasonable practices should be employed in operations.

I think you should expect that royalty and over-riding royalty owners will be dealt with fairly and that they will be paid for their fair share of the gas.

That their interest as owners in the well and their correlative rights in the property will be protected against waste and drainage.

I think, lastly, you should expect that this operator

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will follow and will obey rather explicitly the statutes of the state and the rules and regulations and orders of this Commission.

I think that maybe we ought to take a look at what Mr. Grace has done because we have the previous record to look at and we have that testimony which came in before we have the testimony here.

You found from the previous information that he violated proration rules in the pool and that he over-produced the well. I think at one time it was ten to one and later I think the Commission order said six to one.

He failed to pay royalty owners. You had a royalty owner who testified that he had to sue him. That he did not pay except under legal compulsion. He failed to pay an overriding royalty owner which was Atlantic-Richfield. He didn't pay that except under legal compulsion.

He allowed substantial liens to be filed against this property and certainly this has to affect correlative rights because it goes against the property and these people have property rights in it.

When this well had problems starting fourteen months ago he failed to go in and do any rework. He didn't do this when it was needed as a prudent operator would do.

There is some question about whether he would have done anything at all had the Commission not required him to do

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so and then when the Commission required him to do so he had to get extensions and when it came right down to the wire in completing he completed a far -- he spent far much more money than he had anticipated doing.

They used a not usually used tubing, a two and a sixteenth, and there wasn't really any question about whether they were going to use two and three-eighths. When Mr. Steinhorst got there there was eleven thousand feet of two and a sixteenth that came from Mr. Grace's used pipe. Now, he had it and it was cheap and so he used it. He didn't have any other use for it. So, there wasn't any talk about anything else.

The problem on the packer, the delay, that is directly connected with the two and a sixteenth and so instead of having five days they had some sixteen days.

He flared and vented gas. Flared, apparently, without authority of the Commission. They hadn't applied for authority from the Commission to do this from 1976 up until June 1, and he did that, apparently, because he was suddenly worried that someone would question that big flame outside of Carlsbad.

I feel that he committed both surface and underground waste, again, particularly if you accept what Mr. Lamb has testified to. There has definitely been underground waste and damage to correlative rights and to these interest owners.

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They are not now able to produce their fair share of gas and so they have suffered.

He has failed to protect their correlative rights in that sense as compared to the GoPoCo 2. I think that you just can consider that the rework, itself, was somewhat improper because they used the two and a sixteenth and apparently they are not going to be able to produce through that tubing what the GoPoGo is doing with the two and seven-eighths. They are going to lose eighteen million cubic feet a month or something and this runs into quite a bit of money.

I think when you add all of these things together that you simply have to conclude that these are not the acts and actions of a reasonable, competent, capable, prudent operator.

I think the Commission can consider it in that fashion.

Now, you have appointed Mr. Grace and have -- maybe there is some question that you can't remove him. Well, let's see, you can prorate his field and you can require him to do certain things and completions and to make reports and to go in and change out the tubing. Now, certainly, you can remove him as an operator. You have the power to do all of these other items.

Possibly, this power hasn't been exercised before and maybe this is the time for the Commission to do so. But

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Mr. Grace has had the opportunity since 1972, to demonstrate that his ability as an operator and in fact the Commission has bent over backwards, you really have, you have been more than patient and more than fair with Mr. Grace and you all have had an opportunity to see what he has done -- he has not been responsive. He has not been responsible. He has not been prudent. He has not been protective of the rights of the others.

I think, really, one of the things that you really have to look at is he has not been available. I asked a witness on the stand where is Mr. Grace. I can't tell you. By innuendo they talk about why somebody hasn't contacted him. How can you contact somebody that you can't find. Mr. Grace hasn't been out to that well for a year and a half or more. He is the operator of this well and he is never around.

He doesn't check on this well. Fourteen months goes by and he thinks one thing is wrong and his own engineer now says that it is a false premise. But he didn't send somebody out there to check on it.

Now, this is not the act or the actions of a prudent operator. This is a fellow who simply is not going to spend the money to protect anyone else's rights.

His GoPoGo 2 is doing pretty well and he has a hundred percent of the working interest in that and why should he care.

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I think it is time for the Commission to exercise the power to meet its duty in this type of a case. I think that unless they at this time will not condone operations of this nature under circumstances where the Commission has selected the operator.

I think that you must say at this time that what you expect of an operator is prudent operations -- I think what you must expect.

I think that you must say that you will not allow past imprudent operations and a pattern of conduct, an operation of this nature, to continue in the future.

I think that you must say now that under your power and your authority and the duties that you have that you will do whatever maybe reasonably necessary, and this is statutory language, to protect the rights of the owners under the property where the actions of an appointed operator is simply wrong.

I think it is clear that they are wrong in this case. You have had other working interest owners that have asked for a change of operators. You have had all of the royalty owners ask for a change of operators. You have had the overriding royalty owners ask for a change of operators. All of these people want a change because they have suffered under the hands of this man.

I think he should not be allowed to continue his

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capacity as the operator of the well and further perpetrate these types of actions and damage the correlative rights as he has done in the past.

It is time for a change and I think if the Commission has not exercised the power in the past that now is the time to do it because this is the appropriate case. Thank you.

MR. RAMEY: Mr. Kanter.

MR. KANTER: I think that the Commission needs to consider the fact that you have to deal with two time periods in deciding this case.

One time period began on September 15, 1977, and the other time period extends back in time to the origination of this well from that date.

I think that when you consider the evidence that you should first consider what is the evidence of imprudence and of waste and of loss of correlative rights before September 15th and what evidence do you have after September 15th.

If you look at what you have after September 15th, I think there is unanimity that there is no dispute as to the evidence.

Mr. Lamb has said that he would not recommend any change in the operation of this well at this time. He doesn't have enough evidence.

Mr. Hannifin said that he wouldn't make any changes

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at this time. There is not enough evidence.

Mr. Steinhorst has said that there should be no changes. There is not enough evidence.

So, there you have no dispute whatsoever that this well at this time is being operated in accordance with the standards set down by every witness who has testified as to standards -- that has testified today.

Now, there is a lot of evidence that has been emphasized and there has been a lot of disagreement as to imprudence and to waste and loss of correlative rights prior to September 15th.

I submit to you that the only evidence of waste or loss of correlative rights prior to September 15th came from Mr. Lamb. Mr. Lamb said that the waste occurred prior to September 15th occurred in two areas. One, is underground and the other is flaring.

The underground, he said, was due to the four and a half inch pipe. It seems to me that if you are going to find that the use of four and a half inch pipe was imprudent then you must say that the original order, TX 30 I think it is, that was introduced by the petitioner was an improper order because that pipe was there because of that order.

It is submitted that there was no waste because of that pipe and Mr. Steinhorst has testified to that and has given full explanation -- no underground waste because of that

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pipe.

I submit to you that you heard Mr. Lamb's testimony and while he sincerely believed that there was waste he could not under intensive interrogation, both by Mr. Hunker and Mr. Fredric and also by me, he couldn't give you any statement for that opinion. He just held it. He held to it steadfastly. But he couldn't say why.

Secondly, there is not doubt that if gas is let out to the atmosphere that it is lost and that might be waste but that is not evidence of loss of correlative rights. Correlative rights are a different thing. It could evidence waste.

To that I must answer that we don't argue that some of the gas hasn't escaped into the atmosphere. It's a fact. Mr. Steinhorst hasn't tried to deny it and neither has anyone representing the Graces tried to deny it. What we have said is that nobody, all of the witnesses agree, nobody can tell you what the extent of that waste was. We don't know what the volume of it was. It may have been insignificant.

Secondly, given, the status of knowledge, and remember, Mr. Hannifin brought an expert in here on June 21st who stated flaring was necessary because of the four and a half inch tubing and the basis for substituting the narrower gauge tubing was to stop that necessary flaring.

If you didn't flare, given the knowledge and the

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assumptions that both this Commission was operating under and Mr. Grace was operating under, and evidently Arco was operating under, and certainly accepted by Mr. Hannifin because he was operating under that at that time, too, that in order to keep this well on the line it had to be flared.

Now, I cannot gainsay flaring. I do not justify flaring without permission. I do not know why permission was not granted but I think it is improper to assume that it was done out of any ulterior motive.

Certainly, it does not indicate an intent on the part of Mr. Grace to benefit GoPoGo at the expense of the Grace-Atlantic.

He did everything he possibly could to keep the Grace-Atlantic on the line. He did what he thought was right and what this Commission thought was right and what Mr. Natour thought was right and what Mr. Hannifin thought was right in order to keep it on the line.

Therefore, even that may not have been relative waste. It may have been relative to the right thing to do and it proves two things.

Number one, we don't know definitely that it was waste. We do know that it was the common consensus that this was the thing that was necessary to do here to keep this well in production and the main thing it proves is that there was no intent on the part of Mr. Grace to cheat his co-owners

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by benefiting the GoPoGo. He could have just very easily just shut the thing in and let it stay shut in and sold no gas at all.

If he was that intent upon benefiting himself by favoring the GoPoGo that would have been the thing to do.

I must say that what is being asked of you is a drastic thing. Mr. Fredric, himself, admits that it is a drastic thing to change operators.

I ask you do consider to whom will you change it? Mr. Hannifin, who is perfectly willing to kill the well and pull the four and a half inch tubing as late as June 21st when he testified here and when he had an expert in here to say that that was the thing to do?

Mr. Hannifin who says that he won't pay a bill merely because Mr. Grace hadn't paid someone else?

I don't think it is proper for me to insult anyone but I think that my client has been roundly insulted here. I think that you should consider just what kind of a improvement are you going to get.

Because a lot of the things that they have accused Mr. Grace of, Mr. Hannifin on the witness stand has admitted he did.

Finally, I must say to you that I think regardless of what the statutes may imply it does not state that you have the right to change a -- or power rather -- to change an

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operator once he has been established.

It might be a good idea to give you that power if there were not operating agreements there would not be anything other than the interpretation of New Mexico statutes involved here. But there is a contract between Mr. Hannifin and Mr. Grace making Mr. Grace the operator.

There is no provision in that contract for that --

MR. FREDRIC: I object to that. There has been no evidence introduced either the operating agreement or the contract and he is talking about something that is not before the Commission.

MR. KANTER: I stand corrected. If this Commission were to look at the contract which is a standard form contract it would see that there is no spaces for changing the operator.

In any event since the earliest days of this Republic it has been an absolute unquestioned principal of constitutional law that the state through its agencies may not impair the rights of parties to a contract.

I respectfully submit to this Commission that if it does now violate the terms or change the obligations of that contract regardless of its powers over its own orders, its pooling orders, regardless of its statutory rights and duties that that act would be unconstitutional and therefore it would be overthrown by the courts.

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So, in summary, what I am saying is on the evidence you don't have enough -- you do not have the level of strong evidence to take this drastic action under any circumstances.

There is just too much of a difference of sincere logical well informed difference of opinion as to what was right and what was wrong.

And finally, in the law what you -- what Mr. Fredric proposes to do is unconstitutional. I want to thank you for hearing me out. I have enjoyed not having two opponents but three and I submit this case to the good judgment of the Commission.

MR. FREDRIC: Do I get the last bite of the apple? This ordinarily this is the way it is in courts and I was just wondering --

I have one quick comment. This matter would not be overthrown by the courts. As the Commission is aware if you appeal a decision of this Commission to the District Court it goes on the basis of the record. I found that out to my dismay the last couple of times.

But they go by the record and if there is some contractual right in this they have had every opportunity to do this and have failed to do so. The courts are not going to look at anything else. They are going to go on this record. They are not going to look at what might have been.

So, this stuff about being overthrown by the courts

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is simply not true. It is simply not true. It is not unconstitutional. You do have the power and that's all I have to say.

MR. KANTER: Now, I have got to say something. The record of June 21st, there is a statement by Mr. Hannifin that there is an operating agreement. Today, I asked him if there was such a one and he said there was one and reluctantly agreed to give me a copy of it.

MR. RAMEY: Is there anything further in the case?

MR. LUCERO: I would like to mention one thing. At the beginning of the hearing before any evidence was submitted I personally urged counsel of both sides to present any briefs other than the oral arguments and please feel free to do so.

By that I mean, probably, your own view points of the case based on the evidence after it occurred and not necessarily Ms. Teschendorf's opinion of general law that has been referred to by the Commission. By that I mean it shouldn't be implied based on any anticipation of the evidence. That's why I urged counsel to present your own briefs and I believe our presiding officer under the authority of the rules has agreed that her opinion should be stricken from the record.

You may find some cases that will disagree with her and I may find some and that's what lawyers are all about.

MR. KANTER: How much time, Mr. Lucero, would you

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say would be reasonable for --

MR. LUCERO: I think fifteen days would be a reasonable time.

MR. KANTER: That would be the third of November or whatever -- thank you.

MR. RAMEY: The Commission will take the case under advisement and the hearing is adjourned.

(THEREUPON, the hearing was concluded.)

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REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

Sidney F. Morrish, C.S.R.

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 21, 1977

COMMISSION HEARING

IN THE MATTER OF:

Application of D. L. Hannifin for amendment of Order No. R-4432, Eddy County, New Mexico. CASE 5961

BEFORE: Joe D. Ramey, Secretary-Director
Phil Lucero, Member
Emery Arnold, Member

Daniel S. Nutter
Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: Lynn Teschendorf, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant: Don G. McCormick, Esq.
Attorney at Law
Hobbs, New Mexico

For Energy Resources Development Company: Andrew M. Ives, Jr., Esq.
BIGBEE, STEPHENSON, CARPENTER, & CROUT
Attorneys at Law
Suite 200, Bokum Building
Santa Fe, New Mexico

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MR. RAMEY: The hearing will come to order. Call Case 5961.

MS. TESCHENDORF: Case 5961, application of D. L. Hannifin for amendment of Order No. R-4432, Eddy County, New Mexico. Applicant in the above-styled cause seeks the amendment of Order No. R-4432 to remove the present operator of the pooled proration unit comprising the south half of Section 24, Township 22 South, Range 26 East, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico and to designate applicant as operator of said unit.

MR. RAMEY: I would ask for appearances at this time.

MR. McCORMICK; Don G. McCormick of Hobbs, New Mexico, Attorney at Law, for the applicant D. L. Hanifin.

MR. RAMEY: How many witnesses do you have, Mr. McCormick?

MR. McCORMICK: Three.

MR. RAMEY: Any other appearances?

MR. IVES: Mr. Commissioner, Andrew Ives for Energy Resources Development Company.

MR. RAMEY: Any other appearances? You may proceed, Mr. McCormick.

MR. McCORMICK: If the Commission please, I would like to make a preliminary statement.

The application which we filed was to amend an order this Commission entered on the eighth of November, 1972. In that

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proceeding, the 1972 proceedings, Mr. Hannifin who had a lease on one-half of this proration unit had filed an application to be appointed operator. Mr. Grace who had the leases on the other half of the proration unit had also applied to be appointed operator and they had both applied to create the proration unit and pool the lands. The two cases were consolidated and so on the eighth of November in that action the Commission entered its order and designated Mr. Grace as the operator of the subject well and unit and pooled all of the minerals under the three hundred and twenty acre proration unit and the Commission retained jurisdiction of the cause. In Paragraph 13 of the Order it says that jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

Now, the application which we have filed is to amend the Order of 8 November '72 by substituting Mr. Hannifin as the operator instead of Mr. Michael P. Grace.

Now, in our application we have set out the description of the land and if the Commission please, I would like these plats just for reference. I will not make these as exhibits but just so you will be familiar with the location of the land.

The land is the south half of Section 24 and we allege that this order was entered, as I have stated, and that a well had been brought in on this unit known as the Grace Atlantic No. 1 Well and the applicant seeks to have the order

amended by removing Michael P. Grace as the operator and naming the applicant and there are grounds for that.

We state: (A) Michael P. Grace has departed the State of New Mexico and his whereabouts are unknown. It is impossible for the applicant or other interested parties to communicate with him.

And (B) the said Michael P. Grace has not operated said well as a prudent operator.

(C) He does not have adequate skilled personnel to attend the said well.

(D) He is committing waste to the irreparable damage of applicant and mineral owners by blowing off an excessive amount of gas to dispel the encroaching water.

And (E) the said Michael P. Grace has failed to timely pay the royalty owners under the leases which he holds and has also failed to pay various contractors who have performed work for him. As a result the said Michael P. Grace has been involved in extensive litigations which embarrasses the title of all mineral owners under the proration unit to their great detriment and due to the numerous liens filed by royalty owners and also by judgment creditors the said Michael P. Grace is financially unable to provide the necessary repairs and equipment for the proper operation of the well, thereby causing its production to prematurely decrease.

I would like to call as my witnesses, Mr. I. J. Natour,

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Mr. D. L. Hannifin and Mary Frances Merchant. Will you all stand, please, and be sworn?

(THEREUPON, the witnesses were duly sworn.)

MR. McCORMICK: Please, Mr. Hannifin, you take the stand first.

D. L. HANNIFIN

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

DIRECT EXAMINATION

BY MR. McCORMICK:

Q. Your name is D. L. Hannifin?

A. Yes.

Q. And where do you live?

A. Roswell, New Mexico.

Q. What is your age?

A. Forty-seven.

Q. Are you in the oil business?

A. Yes, I am.

Q. How long have you been connected with the oil business?

A. Thirty years.

Q. Do you have any college training?

A. Yes, I graduated from the University of New Mexico with a degree in business administration.

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Q. In what year?

A. In 1955.

Q. Thereafter for whom did you work?

A. I worked for Skelly Oil Company in Midland, Texas for five years.

Q. And in what department?

A. Their land department.

Q. And what territory did you work?

A. West Texas and Southeast New Mexico.

Q. And you worked for them for five years, you say?

A. Yes.

Q. And what have you been doing for the past seventeen years?

A. I have been an independent oil operator since 1960.

Q. Are you now the designated operator by this Commission of any well?

A. Yes, I am, the Hannifin and Cook No. 1 Marland in the same section.

Q. That is a Delaware well, is it not?

A. That is correct.

Q. Do you have working interests in any other wells besides those involved in this case?

A. Yes, I do.

Q. About how many wells do you have working interests in?

A. Approximately sixty.

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Q. And how many of those are in New Mexico?

A. Twenty.

Q. Now, in this particular proration unit what is your percentage of the working interest?

A. Twenty-five percent.

Q. And is Mr. Joe Don Cook associated with you in this venture?

A. Yes, he is.

Q. Does he also own twenty-five percent?

A. That is correct.

Q. And Mr. Grace owns the other fifty percent of the working interest?

A. Yes.

Q. Do you maintain an office in Roswell?

A. Yes, I do.

Q. What staff do you have there?

A. A secretary and a bookkeeper.

Q. If you should be designated operator of this well who would you hire to pump the well?

A. Marshall O. Morris Pumping Service.

Q. Is that a reputable pumping service?

A. Yes, it is.

Q. Do they handle many wells in Eddy County?

A. They handle a great many Morrow gas wells in Eddy County.

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Q. Now, you are not an engineer, are you?
A. No, I'm not.
Q. If you had any engineering problems what would you do?
A. Hire a professional consulting engineer.
Q. You would hire one?
A. Yes, sir.
Q. And you are acquainted with and in touch with such professional engineers?
A. Yes, sir.
Q. Did you visit this well within the last week?
A. Yes, I did.
Q. What day was that?
A. On the sixteenth of June.
Q. And who went with you on this visit?
A. Mr. Natour.
Q. What did you find on this well in particular, the surface equipment?
A. The only unusual surface equipment was the blooie line hooked to the well to blow off gas.
Q. What is a blooie line for?
A. The only thing it could be for is to lift liquid out of the wellbore, partially removing liquid from the wellbore.
Q. How do you spell blooie?
A. B-l-o-u-y, I believe. When I paid for it that's what

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it said on the bill.

Q. At the time you visited this well was it running any gas?

A. No.

Q. And the blooie line, of course, was not operating?

A. No, it was all turned off.

Q. Describe this blooie line, what size line is it?

A. It's a two-inch line, about ninety feet of it going into an open pit.

Q. And what is that used for?

A. To lift liquids out of the borehole of the well.

Q. And what happens when the liquids are lifted, what happens to the gas?

A. Well, it's blown out into the air, of course, it's dissipated into the air.

Q. You don't know how much gas is blown out into the air, do you?

A. I don't have any way of knowing how much gas is necessary to blow the water off.

Q. How would you characterize this two-inch blooie line operation, is that a good oil field practice?

A. Not as far as I have ever seen before it certainly isn't. You are wasting your product lifting -- the blow off of your fluid off of your well, using your product to blow them off with.

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Q. Now, when is the last time you saw Mr. Grace?
A. As I recall, I believe it was in the courthouse in Santa Fe about three years ago.
Q. You haven't seen him since?
A. I think I saw him at the airport one time for a moment or two but I don't really recall when that was.
Q. Has he ever discussed the operations with you?
A. No.
Q. Do you have adequate capital to do some remedial work on this well if you are appointed the operator?
A. Yes, I do.
Q. Have you been in discussion with Mr. I. J. Natour about this particular work that he proposes to recommend?
A. Yes, I have.
Q. Now, you desire to be named as operator of this well. Do you believe that you could operate it in a prudent manner?
A. Yes, sir, it's not a difficult operation at all.
Q. And do you believe by appointing you that waste would be prevented or that you could prevent waste of gas out of this well?
A. Yes, by doing the necessary corrective measures.
Q. Have any bottom-hole pressures ever been taken on this well?
A. Not from the Commission reports.

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Q. You have never been charged for any of them, have you?

A. No, I have not.

Q. And the well was completed in 1973?

A. That is correct.

Q. And you don't know what the bottom-hole pressures are?

A. No.

Q. Because none have been taken?

A. No, none have been taken or reported to the Commission or to me.

Q. Did you enter into a joint operating agreement with Mr. Grace after the Commission designated him as operator?

A. Yes, I did.

Q. And did that operating agreement require the operator to carry insurance policies?

A. Yes, it did.

Q. To your knowledge is any insurance in effect on this operation now?

A. Not to my knowldege. I have never received a copy of any insurance from any insurance carrier, a normal copy you get carrying liabilities on an operator to a non-operating partner.

Q. And that would go for workmens compensation as well as public liability?

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A. That is correct.

Q. There is no insurance in effect?

A. Not as far as I know.

Q. Now, you were force pooled on this operation originally, were you not?

A. That is correct.

MR. McCORMICK: I believe that's all the questions I have.

CROSS EXAMINATION

BY MR. RAMEY:

Q. Mr. Hannifin, let's go into this waste a little further, if we may. You say that Mr. Grace or his representatives are blowing the gas to remove water from the well?

A. That is correct.

Q. What do you have in mind, some kind of workover for the well?

A. Yes, I have a recommendation of removing the four and a half inch tubing in the well and replacing it with two and three-eighths.

Q. Do you think the two and three-eighths tubing will more efficiently lift the water than the four and a half?

A. Yes, sir. I would really prefer that Mr. Natour do that in his engineering testimony because he has the engineering information, the differences of flow rates you

need to lift the water off through the four and a half and through the two and three-eighths inch tubing.

Q. But you feel it isn't necessary to be flaring gas to remove the water?

A. No, it certainly isn't. Of course, there is no pressure gauge on the end of that blooie line, there is no way to tell how much gas you are using to lift your water off but it would be considerable.

Q. But you do know for a fact that he is blowing gas from the well?

A. Yes, that is the only way to lift enough water to be able to produce it.

MR. ARNOLD: Does he have an intermitter operation on it?

A. No, just a hand deal.

MR. RAMEY: Any other questions of the witness?

CROSS EXAMINATION

BY MR. LUCERO:

Q. Is there anything in the agreement that you have with Mr. Grace that if you see anything wrong with the well you bring it to his attention?

A. No, there certainly isn't.

Q. Did you ever bring this matter to the attention of his Carlsbad office or Mrs. iss Jones, as mentioned in the last

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case?

A. You mean the blooie line, the line itself?

Q. Yes.

A. No, I haven't. The operation is not an unusual one. If you had a smaller string of tubing in there to start with and you get down to the bottom end of it and it's watering up I guess a blooie line might be all you could use to remove the water off of it. In this case you've got a four and a half inch tubing and, of course, you have another remedy of putting a smaller tubing in the hole in order to accomplish getting the movement of the water to a constant movement so that you don't have it building up on the wellbore.

Q. To your knowledge no one contacted this Mrs. Jones that operates the Carlsbad office concerning this blooie line situation?

A. She would be aware of it since she is the one who billed for putting the blooie line on there originally and she runs the Grace operation.

Q. Well, let's assume that she has knowledge of that, did you bring to her attention the possibility that by making these changes the efficiency of the well would be increased?

A. No, I haven't yet. I frankly saw no reason to because I could see no way financially that he would be able to affect these changes.

Q. That is your conclusion?

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A. I think Mr. McCormick will demonstrate that later.

MR. RAMEY: Do you know what the production of this well was in April of this year?

A. About twenty-eight million is the last figure we have on paper, or March, I'm sorry, April, I think it was around twenty-eight million for April.

MR. RAMEY: According to my figures it is thirty-eight million six forty-four gas and twenty-one barrels of water. Do you agree with that?

A. Not quite, possibly. The other Commissioner said if there is no intermitter on there, so it's how often that pumper comes by there and turns it on and blows the water off and then shuts it back to the line and if it kills itself and if he gets back there fairly soon and blows the water off again -- it depends on the pumper getting there before the time it dies to turn it and blow the water off or how much production you are going to produce that month, of course, also how much gas you are going to blow out in the air that month too. But your production really is dependent upon that pumper and him getting there every time the well dies and blowing the water off and putting it back on.

MR. RAMEY: But only twenty-one barrels of water, now that's less than a barrel of water a day, is that a sufficient amount of water to cause a well to die?

A. Well, what he is producing, of course, isn't much,

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you know, you get a little off the top but the rest of it is still sitting there in the wellbore and I don't really know that his reporting as far as the water figure, we have no idea of the accuracy of it. We looked at the pit out there and it had, oh, probably ten barrels of water in it that we could see in the pit beside the tank there but the production of water I really wouldn't have any way to guess what it really is.

MR. RAMEY: So you as an interest owner in the well, you really don't know how much water it's making?

A. No, I certainly don't. I get no reports at all. The only reports I get are from El Paso Natural, their purchaser reports, but no production reports.

MR. RAMEY: Any other questions of the witness? He may be excused.

MR. IVES: Mr. Commissioner.

MR. RAMEY: Mr. Ives.

CROSS EXAMINATION

BY MR. IVES:

Q. Mr. Hannifin, can you tell me, have you developed a financial plan for the reworking of this well?

A. Yes, I have an AFE, estimated cost.

Q. Have you discussed this with Mr. Grace?

A. No, I haven't discussed it with him. I don't know

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where to find Mr. Grace.

Q. Have you attempted to locate him?

A. No, I really haven't, whatever correspondence I have I sent to that box in Carlsbad.

Q. Have you corresponded with him in that way in regards to your plan?

A. No, I'll send him an AFE but if he's going to be the operator I don't need to send him an AFE, if I'm going to be the operator I need to send it so it's up to the decision of the Commission. If they make me the operator then I'll send him the AFE.

Q. Are you personally aware of the financial entanglements involving this well?

A. I have general knowledge of it. They didn't affect me personally but I have general knowledge of it, yes.

Q. As an interest holder in the well?

A. Yes.

Q. In your financial plan for reworking the well, have you contemplated a means by which this can be accomplished in light of the financial entanglements in which the well is presently involved?

A. Yes, I have, by billing Mr. Grace and then if he doesn't pay his half, if he didn't pay his half before I attempted this workover I would go around to the major creditors on the well and ask them to subordinate their liens against

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the well to the cost, to his part of the cost of remedial work to be done on the well and I think I wouldn't have a great deal of difficulty with all of the major creditors. With some of the smaller ones I wouldn't know but theirs wouldn't make a great deal of difference of my recovering Grace's other fifty percent of the working interest cost.

Q. Would it be correct to state that you have made at least preliminary contact with the major creditors, including Atlantic Richfield and Energy Resourses and they have indicated their assent to this plan of yours?

A. They are certainly interested in the plan.

MR. IVES: I have no further questions.

MR. RAMEY: Any other questions of the witness? He may be excused.

(THEREUPON, the witness was excused.)

MR. McCORMICK: Mr. Natour, please.

I. J. NATOUR

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

DIRECT EXAMINATION

BY MR. McCORMICK:

Q. State your name?

A. I. J. Natour.

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Q. And where do you live?
A. I live in Midland, Texas.
Q. What is your age?
A. Twenty-nine.
Q. By whom are you employed?
A. Atlantic Richfield Company.
MR. RAMEY: Would you spell your name, please?
A. N-a-t-o-u-r.
Q. (Mr. McCormick continuing.) What is your position with Atlantic Richfield Company at this time?
A. I'm an Operations Engineer.
Q. And how long have you been with the company?
A. Three years next September.
Q. What has been your training?
A. Educational training?
Q. Yes.
A. I received a BS in chemical engineering from Texas Tech in 1973 and a Master's degree in chemical engineering from Texas Tech in 1974.
Q. At the present time just what is the scope of your work in Eddy County, New Mexico?
A. I'm responsible for evaluation, completion, drilling recommendations and workover and operations of Morrow production leases that Atlantic Richfield has in Eddy and Lea Counties.
Q. You specialize in the Morrow production?

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A. Yes, and I have been for the last two years.

Q. And you have been doing that for the past two years?

A. Yes.

Q. And during that period about how many Morrow wells have you had connection with?

A. Including the wells that Atlantic Richfield drilled and Atlantic Richfield have an interest in, it would probably be around thirty wells.

Q. Does Atlantic Richfield have an interest in this proration unit, the Grace's Atlantic No. 1?

A. Yes, we have six point twenty-five percent overriding royalty interest in this well and Grace's lease was a farmout from Atlantic Richfield.

Q. I'll ask you if you have been authorized by Atlantic Richfield to make the study which you have made and the recommendations which you are about to make?

A. I was told to do it, sir.

Q. Now, in order to make this study just what preliminary work did you do, what records did you study and what work did you do?

A. Well, I had to go thrcugh the well file and research the completion, the original completion of that well, the drilling if possible if we have any information on the drilling of that well. I had to study the logs and the production history on that well, any pressure data that we have on that

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well and, of course, cumulatives and current rates and projected reserves for that well and the possibility of workovers.

Q. I'll hand you Applicant's Exhibit Number One and ask you if that is the completion report as furnished by the Petroleum Information organization?

A. Yes, sir.

Q. And this same type of report is filed with the Commission, is it not?

A. I would think so.

MR. McCORMICK: We offer into evidence Applicant's Exhibit One and I will give one copy to each of the Commissioners.

THE WITNESS: I've got some more copies of these exhibits if anyone desires to look at them.

A. This merely shows the name of the well, the operator, the field, the location of the well and the original perforations and the treatment and from this report I would say that the hole was drilled tight and we didn't get too much information at the time it was drilling.

We had two or three, three DST's to be exact, and the perforations, the potential on that test and that's about all that is in this report. Usually you would have a follow up from the spud date all the way down if that hole was not tight.

Q. (Mr. McCormick continuing.) I hand you Applicant's Exhibit Two and ask you what that is?

A. This is a schematic representation of the casing in

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the well. It's taken from our records and Mr. Hannifin's records and the Exhibit Number One.

Q. It is a profile of the wellbore?

A. Yes, a wellbore diagram.

MR. McCORMICK: We offer into evidence Exhibit Two.

A. One thing I didn't put on that wellbore diagram is the tubing, it's four and a half, fifteen point five pounds per foot of weight.

Q. (Mr. McCormick continuing.) Now, Mr. Natour, I'll ask you if you also studied the log analysis of this well?

A. Yes, sir, I sure did. The existing zone plus any additional zones that I could see on the log that have a possibility of production.

Q. All right, now, you stated that it had four and one-half inch OD tubing in the well?

A. That is correct.

Q. And where is that tubing set?

A. I don't have the slightest idea what it is from the records but it is probably -- it is just a guesstimate based on my experience in the Morrow -- it's probably set at about fifty feet above the perforations.

Q. Now, did you visit this well in company with Mr. Hannifin last week?

A. Yes, sir.

Q. Please tell the Commission what you discovered from

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your visual inspection of this well?

A. One, the location has got weeds growing about two feet high. Two, there are two open pits. One of them is by the tank collecting condensate and/or water and it has probably got about ten barrels of water in it, in that pit and the other pit on the other side of the blooie line and you can see some evaporated droplets of water, you know, that you can tell that blooie line was used. How long ago that thing was used I wouldn't have the slightest idea but you can see where the water had evaporated from that pit. It did not have any water in it at the time I saw it.

Q. Now, what is the purpose of this two-inch blooie line?

A. The only way I could figure out is the reduction of your back pressure to unchoke your well to be able to produce at a higher rate to pick up more of your water standing in the hole because you are going against -- I believe El Paso's line is about four or five hundred pounds -- you are going against about four or five hundred pounds and by using the blooie line you are going against atmosphere which is, what, fifteen point two in New Mexico, so you've got that much differential pressure that you would be able to pick up quite a few MCF a day and be able to have enough velocity to pick up some of that water.

Q. But at the time the blooie line was used why gas was also blown to the atmosphere?

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A. Yes, it had to be.

Q. Now, why is a blooie line needed in this well as opposed to other wells, is it because of the tubing?

A. Well, mainly because of the water standing in that tubing. Now, we don't know if we've got a thousand feet of water in the tubing or two thousand or three thousand, there hasn't been any testing done on this thing to determine how much water you have and if you had two thousand feet for the same rates and pressures, if you have two thousand feet of fluid standing in four and a half inch casing or standing in a two and three-eighths inch casing you are creating an artificial choke.

Q. Could the well be unloaded through a smaller tubing?

A. Yes, I believe so.

Q. Unloaded with what?

A. Well, just using whatever the MCF per day that well is making, by the help of the gas energy.

Q. All right, now, in your study of the production records and the drilling records did you find whether or not any bottom-hole pressure have ever been taken on this well?

A. If I may direct your attention to Exhibit One, the second DST that covers the interval eleven four twelve to four seventy-nine which covers the producing zone in the well right now, we can see that they do have a bottom-hole pressure of thirty-four hundred and nineteen pounds and the DST just below

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that, eleven four seventy-seven to six twenty also has another bottom-hole pressure on it.

To my knowledge these are the only two bottom-hole pressures we have on this well. I haven't been able to find anything in the Commission reports, the Engineering Committee reports, except for two shut-in tubing pressures for twenty-four hour duration, one in 1976 and the other one in 1975. Of course, this first shut-in tubing pressure on completion is a third point.

Q. So three tubing pressures have been taken, one on completion, one in '75 and one in '76?

A. Yes. To the best of my knowledge and to the best of the research I did that's all I could find.

Q. I hand you Applicant's Exhibit Three and ask you what that is?

A. These represent production in MCF per day for that well.

Q. Per month?

A. Yes, MCF a month, excuse me, since January of 1976 through March of 1977, taken from the Committee books.

MR. McCORMICK: We offer into evidence Exhibit Three.

Q. (Mr. McCormick continuing.) Have you made an estimate of the remaining gas reserves in this well?

A. How good that estimate is, yes. The data that I'm working with is not by any way complete. My best estimate in that well is that you have additional reserves of about a

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billion cubic feet and that's using some guesstimate work and using production history and plus available two or three points of pressure data that we have.

Q. And in arriving at that estimate you have used the best information available to you?

A. Yes, the best information that is available.

Q. Now, do you think this billion feet of reserves could be completed if the well is continued to produce under its present method?

A. To the best of my knowledge, no, the reason being is the well right now, Mr. Ramey and Mr. Hannifin said was making about thirty-eight million a month in April, and it has declined and it's going to decline to a certain ecomonic limit, depending on who the operator is and how he figures out his economic limit. He may reach that economic limit before we recover that billion cubic feet in the present condition in that wellbore.

Q. What recommendations do you make for preventing waste in this wellbore and operating it in the most efficient manner?

A. My recommendation consists of two parts, one, changing the four and a half inch tubing into a smaller size, like a two and three-eighths or even a two inch and perforate additional zones below the exisitng perforations which was covered in that third DST, eleven four seventy-seven to six twenty, at which time that DST flowed five hundred MCF a day

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and did not recover any water.

Q. Has that zone ever been produced out of this well?

A. Not to my knowledge.

Q. Then there is a lower zone about fifty feet below the present producing zone?

A. Yes, I would say fifty feet.

Q. That had an initial test of half a billion cubic feet a day?

A. That's correct.

Q. All right, now, what else do you recommend?

A. Of course, you would have to wash your old and new perforations with acid and nitrogen, to try to clean your hole up. You may need that acid and nitrogen to break your new perforations too.

Q. And what size tubing do you recommend being installed?

A. Well, I said two and three-eighths or two inch. Now, running a two inch, the new operator or the old operator or whoever is operating such a well, will probably have a problem getting some test equipment to go in a two inch, the idea that two inch is small and most of this equipment is made for two and three-eighths or two and seven-eighths, so two and three-eighths would probably be ideal.

Q. Now, did you outline these procedures to Mr. Hannifin so he could prepare a cost estimate?

A. Yes, sir.

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Q. And have you gone over that cost estimate with him?

A. Yes, sir.

Q. I hand you Exhibit Number Four and ask you if that is the cost estimate prepared by Mr. Hannifin for the work which you recommended?

A. Yes, sir, that is true.

Q. And from your experience do you believe that this sum is reasonable for doing the remedial work, a reasonable estimate?

A. With expecting no problems. If he starts getting some problems that cost could go up but assuming prudent operations and everything goes fine, that is a sufficient number.

Q. There also would be some salvage from the four and a half inch tubing, would there not, that isn't reflected on here?

A. Yes, it's not reflected on there.

Q. About what could that salvage amount to, what would you ordinarily expect it to amount to?

A. I would think three or three and a half dollars a foot.

MR. McCORMICK: We offer into evidence Applicant's Exhibit Four.

Q. (Mr. McCormick continuing.) Now, Mr. Natour, you have made these recommendations, will you please explain to the

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Commission how you justify these or back up these recommendations?

A. If we may, off of the next exhibit, if we can pull from it.

Q. I hand you Applicant's Exhibit Five and Five-A. Please tell the Commission what Exhibit Five is?

A. Exhibit Five is a paper written in 1969 by Mr. R. G. Turner of Baker Oil Tools, Incorporated, Mr. M. G. Hubbard of the University of Houston and Mr. A. E. Dugler, University of Houston. The paper is entitled, "Analysis and Prediction of Minimum Flow Rate for the Continuous Removal of Liquids from Gas Wells".

Q. And he makes recommendations for procedures there?

A. Yes, sir, recommendations to calculate the minimum flow rate that you need in different sizes of tubing to be able to pick up any condensate or/and water that you may have in that wellbore.

Q. How closely is this analysis followed by your company?

A. I use it quite a bit in the surveillance of my work.

Q. I hand you Applicant's Exhibit Five-A and ask you what that is?

A. Exhibit Five-A is a computer output using the equations presented in Exhibit Five and including four different sizes of tubing and several different pressures.

Q. Let me hand you these exhibits. Do you have these?

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A. Yes.

MR. McCORMICK: I offer into evidence Applicant's Exhibit Five and I hand the Commission Exhibit Five-A.

Q. (Mr. McCormick continuing.) All right, would you please explain to the Commission just how this is applied to this situation?

A. Well, this paper right here discusses a procedure of how to calculate the minimum flow rate needed to lift your liquids from gas producing wells. I don't know how deep the Commission wants me to go on this paper but if I may direct their attention to Page 1480, equations seven, eight and nine in that paper and these equations were put on our computer and seven and eight are velocity calculations and nine is a relationship to calculate million cubic feet per day versus the velocity using different areas of flow and different pressures.

Q. All right, now, give us an illustration of the amount of pressure it would take on a four and a half inch tubing to lift the liquids?

A. Well, the paper on page 1481 has got a nomograph and that nomograph is a solution for the equations I just stated and we can either go through that nomograph or better yet go through the Exhibit Five-A which is the computer output that was based on the same equations that the nomograph is based on.

Q. Just confine it to Exhibit Five-A and give an illustration to the Commission?

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A. Okay, if we take as an example a flowing tubing pressure of six hundred pounds, flowing through two and three-eighths inch tubing and that's the eleventh line from the top, we go across the page and if we do have water in that wellbore to clean out, using the two and three-eighths inch tubing, then we only need eight hundred and ninety-six MCF per day to be able to take that water all of the way to the surface. If we are producing condensate, which we are not in this case, we only need five hundred and seventy-eight MCF a day to lift the condensate from the face of the formation to the surface.

Let's take for the same pressures, let's take four and a half inch. That's about the eleventh line from the bottom. I didn't mean for it to be this way, it just happened to be eleven eleven, for six hundred pounds of tubing pressure you are using a four and a half inch tubing and to produce water they need three thousand five hundred and twenty-nine MCF per day and if we are producing condensate we need two thousand two hundred and seventy-seven MCF a day.

Q. It is about a four to one ratio when you consider only water, is it not?

A. Yes.

Q. About a four to one ratio, in other words --

A. About a four to one ratio on both of them, water and condensate.

Q. But since we have only water in this well, water

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and gas?

A. Yes.

Q. It would take about four times as much gas to raise the gas through the water or raise the water out?

A. To pick up the water and take it all of the way out.

Q. Through four and a half inch tubing as it would through two and three-eighths?

A. Yes, sir.

Q. And that is the reason you recommended pulling the four and a half inch?

A. Well, the well is not making but a little over a million a day so I know that I do have some stagnant water left in that hole, how much, I don't know, and I also know that I'm not producing three and a half million a day to be able to take any water from that hole all of the way to the surface and that's part of my recommendation to go down to a smaller size tubing.

Q. Now you spoke about the economic limits of this well, just how would you describe that to the Commission, an economic limit with the four and a half inch tubing as opposed to the two and three-eighths inch tubing?

A. One thing, right now we are making about a million a day or a little over a million a day. Now based on this particular paper and these calculations right here, we need three and a half million a day to produce that water. If we

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don't take it out of that hole all we are doing is creating an additional hydrostatic pressure on that formation and creating an artificial choke, so you are right, it is going to decrease faster if you have a fluid level standing in the hole than if you would have just gas in the hole and I believe that with a two and three-eighths inch tubing you wouldn't have any water. You are making a million a day, you only need about nine hundred MCF and you would be able to pick it up at the present time.

Q. All right, now, this lower zone you spoke of, developing that really has nothing to do with the controversy between four and a half inch and two and three-eighths, does it?

A. No, sir.

Q. Why do you recommend that they attempt to produce from the lower zone now?

A. Okay, if I may draw everybody's attention to Exhibit One and DST number three, that covers the interval from eleven thousand four hundred and seventy-seven to six hundred and twenty. The DST says that the well was open for two hours, gas to surface in twenty-eight minutes at five hundred thousand cubic feet per day through a half inch choke against a separator pressure of three hundred and seventy-five. The recovery was six hundred and sixty-eight feet of mud. The one hour initial shut-in pressure was forty-eight oh eight psig

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and the final shut-in pressure forty-eight oh eight psig, but looking at the initial final shut-in pressures we will not have any pressure depletion in that test which tells me that we've got some reservoir that flowed gas at half a million a day with no pressure depletion.

And this time in this workover we've already got the unit on the well, we kill the well, are we going to put four and a half? While we are at it we are only talking about seven or eight thousand dollars to go ahead and perforate the porosity zones that I can see on the log within that DST interval and go about our work the same way, perforate, go in and install your two and three-eighths inch tubing with your packer and wash out with some acid and nitrogen.

So the additional expense that we are talking about and the real, real low risk that we have in getting gas on this zone I think would more than justify an expenditure of seven thousand dollars.

Q. And you think it would be a prudent operation to go ahead and do that and try to produce from that lower zone also?

A. If it was my well that is the way I would do it.

Q. And it would cost only --

A. The only way it could do is help you, it is not going to hurt you.

Q. And the cost of doing that, of testing this lower

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zone, would probably not be more than seven or eight thousand dollars?

A. That is what I estimate, seven or eight thousand dollars and that is included in this forty-six thousand dollar AFE that Mr. Hannifin has prepared.

Q. Now in your opinion do these recommendations which you make, are they calculated to prevent waste and conserve natural resources?

A. Yes, sir.

Q. And you recommend that an operator be appointed who could conduct these operations?

A. Well, as an engineer with some experience, I would like to see every well operated in a prudent manner and if Mr. Hannifin is willing to operate that well in a prudent manner, I wouldn't see any reason why not give him the operation, if Mr. Grace wants to do the same work, to me it's all the same because I'm looking at getting production from that well and help that well to produce additional reserves we have in that wellbore and if Atlantic Richfield would take that well it makes me more happy.

MR. McCORMICK: All right, I have no further questions of this witness.

CROSS EXAMINATION

BY MR. RAMEY:

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Q. Mr. Natour, I think at one point in your early testimony you said that you had visited this well and that there was condensate and water in the pit?

A. I don't know if I said condensate, if I did I didn't mean to. I couldn't see any condensate. There was water. There definitely was water and to the best of my estimate there was about ten barrels of water in the pit close to the tank, the storage tank. Now in the pit on the other side of the blooie line there was an indication of water because there was no water in that pit at the time.

Q. But you feel that there had been water in the pit at sometime?

A. Yes. Not in great quantities, you know, a spray, say a spray of water.

Q. You feel that the blooie line had been used?

A. Yes, definitely.

Q. What is going to happen to this well if the tubing isn't changed?

A. If you leave it the way it is, Mr. Ramey, I believe you are creating that artificial choke, of course, we don't know how big that choke is. If we can go in that well and definitely say four thousand feet of cover, four thousand feet of water standing in that hole then that's a lot different than saying it's five hundred feet and if it is four thousand feet I don't look for that well to produce too much longer,

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maybe a matter of months. Now, if you clean that thing and you take whatever four thousand feet of water times point four three psi per foot static head is, you are talking about a little over two hundred pounds of additional choke that you have on that wellbore.

Q. Two hundred or two thousand?

A. Well, it's four thousand feet, we are talking about two thousand but you are talking about a humanly created additional pressure against the face of the formation, if it is two hundred or two thousand we are talking about in principle, it's the same principle that we are talking about how much when we talk about two hundred or two thousand.

Q. If at present it is a small volume of water do you feel that this small volume is enough to retard the flow from the well?

A. Enough to retard some of the flow, say, now throwing numbers in, say the well is making a million a day, we could increase it to eleven hundred, let's say, or maybe twelve hundred. This is just throwing numbers around the table.

Now, if we leave, this is a problem, if we leave that liquid standing in the hole then we are not going to get that million. That thing is going to drop real fast because we do not have enough pressure, enough bottom-hole pressure to create a velocity necessary in the four and a half inch casing to pick any water.

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Q. Okay, with four and a half and a small volume of water you probably have a choke?

A. Yes.

Q. And with two and three-eighths and a small volume of water it should lift it right out.

A. It should pick it up. You are talking about four times as much velocity in the two and three eighths that you have in the four and a half and that's reflected in the rates that we are talking about, nine hundred versus three point five million.

Q. Okay, now, you mentioned bottom-hole pressures?

A. Yes, sir.

Q. You have one bottom-hole and two shut-in pressures?

A. You've got actually one bottom-hole pressure on each DST and then you've got three shut-in pressure. You've got the initial shut-in pressure at the time of completion and you've got one in 1975 and you've got one in 1976.

Q. Do those indicate a normal decline?

A. Yes and no. Yes, the last two points show a normal pressure decline. Now the jump from the first point to the second point, you jump from twenty-five hundred and eighty-one pounds down to somewhere around nine hundred pounds. I can't recall the cumulative production on that during that period. That could reflect a drop in your pressures too.

Q. What was your third pressure?

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A. About seven hundred give or take, ten psi and that's a tubing pressure. Now when you talk about tubing pressure you are talking about a little difference between it and the bottom-hole pressure due to whatever fluid you have in the hole. The more water you have the more erroneous your shut-in tubing pressure is going to be if you calculate back to your bottom-hole pressure.

Q. Is it normal practice for Atlantic Richfield to take bottom-hole pressures yearly or less than yearly?

A. Yes, sir, in my area, in all of my Morrow wells, I do take a build-up pressure every two years and we do take a bottom-hole pressure every year.

Now, the Commission requirements, if I recall that requirement correctly, is a shut-in tubing pressure for at least twenty-four hours on all of these gas wells.

Q. It seems that the operator has filed all of the required tests to the Commission?

A. Yes, except for one year. The well was completed in '73, he had '76, '75 and '73 but he doesn't have a report for '74.

Q. From 1974?

A. But if you want to get a good number of your reserves especially in that Morrow, you need a bottom-hole pressure and I believe and it's my opinion and we can argue about it from now on, that you need a seventy-two hour shut-in bottom-hole

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pressure because your permeabilities are real low, your time it takes for that reservoir to stabilize is real long.

Q. It seems like you had stabilization in a short time?

A. Yeah, but you hardly had any production though, Mr. Ramey.

Q. The drill stem test --

A. You hardly have any production, say that was open for two hours, if we had that thing open for three months then come in and shut that well in, you've got the radius of the influence of that billion cubic feet or whatever we produced during that three months and definitely this well produced about a billion cubic feet in three months when that well started so your radius of investigation and given twenty-four hours unless you got some permeability in the range of fifty to a hundred milidarcy and I think you need a longer shut-in time to stabilize a meaningful bottom-hole pressure.

Just to add, some of my wells that I take care of that I have been able to calculate permeability on from build-up tests, I'm coming up with a range of point five one milidarcy permeability.

Q. I won't argue with you about the need for all of the information you can have to determine what you've got in that well.

A. That's right, especially in the Morrow.

Q. Now I've heard a lot of talk about, you know, you've

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got to keep water off the Morrow?

A. Yes, sir.

Q. Now is there any danger in completely losing this well if you go in and kill it and pull the tubing?

A. With the KCL water that we are proposing, we are going to have, and it has been proven through tests ran on cores that KCL water will not damage the permeability of your formation as much as putting the formation water back in that formation so we definitely have a better water to kill the well and even to treat it. Some operators frac the Morrow with gel KCL in the Panhandle of Texas and Oklahoma. Now we haven't gone through that here in Eddy County and Lea County but it has been used with good success.

Q. I would assume from this that you would feel that there is less risk involved in killing the well with this KCL water than there is in leaving the formation water in contact with the formation face?

A. That's right, based on permeability tests that were done on Morrow cores.

Q. Would you look at item three there on this Exhibit Four?

A. Yes, sir.

Q. Should that be corrected to four thousand or should the hours be corrected to some other figure? It says a hundred dollars per hour times forty hours, forty-five hundred

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dollars?

A. Yes, it should be four thousand, you are correct.

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

A. I didn't have anything to do with these numbers that Mr. Hannifin proposed. Now, I had something to do with the way the workover.

MR. RAMEY: Any other questions of the witness?

MR. ARNOLD: I would like to ask one on this point of formation water damaging the formation.

CROSS EXAMINATION

BY MR. ARNOLD:

Q. If it has been there three hundred years without damaging the formation that much I don't really understand.

A. That could have something to do with the tests, you know, that formation water the minute you take it out to the surface you contaminate that formation water and that contamination is what would probably do the damage to the formation when you put it back in.

Q. Do you contaminate it in the casing?

A. That's contaminated on the surface. When I answered Mr. Ramey's question my answer was referred back to the artificial choke that you create with your fluid level standing in the hole because it's damaging.

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Q. Now, I understood in answer to his question that you would have less damage using this special water than you would from the well killing itself, is what I understood?

A. If I said that I'm sorry. The well would kill itself and that's damage and the formation water taken out to the surface and back in the well.

Q. If you don't take it to the surface you're not testifying that it would damage it?

A. No, it would damage it as far as creating that artificial choke on it to kill it.

Q. We are talking about formation damage at the moment.

A. No, no. If I said that I'll take it back.

Q. Well, that was just the way I understood it.

A. Yeah, if you take that formation water out to the surface and back in that well, I think that is the way these tests were run. Of course, you have to take it out to run the tests anyway.

CROSS EXAMINATION

BY MR. RAMEY:

Q. So you don't feel that leaving formation water in contact with the Morrow within the tubing or the casing is harmful to the well?

A. Not as far as, say, clay swelling or iron and chlorite in suspension or anything like that but as far as creating an

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artificial pressure, yes, it is damaging as far as the pressure goes.

Q. Even if it killed the well it could be swabbed off and the well come back?

A. If you have enough energy in that to bring it back up, yes. We had an instance where we asked Mr. Gressett on our Curlin Federal No. 1 in the Burton Flat, we were producing about a hundred barrels a day and we asked for an exemption to shut that well in and we were granted that exemption. The well is a Southern Union connection and the way Southern Union operates their business, we had a high-low pressure valve on it and they shut that well in and we never got it back. The pressure on that well was riding line pressure. A hundred barrels a day is quite a few feet. It's not like this one barrel a day, two barrels a day that we get on the Committee reports on this well. So we could say a hundred barrels a day is probably excessive but the pressure and the energy supplied to take that water out is your controlling factor as far as regaining it by swabbing that well.

MR. ARNOLD: I want to ask one more question.

CROSS EXAMINATION

BY MR. ARNOLD:

Q. I noticed on the scout ticket you have that there is an upper zone that had a shut-in pressure of thirty-four

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nineteen, the lower had forty-eight oh eight. That would seem like an awful lot of pressure difference in two zones that close together. How do you account for that?

A. I don't have the slightest idea. If I knew my geology a little bit better I could probably answer that.

Q. Which one of those do you think is closer to the correct Morrow pressure in the area?

A. Well, when that one was drilled there was hardly any wells around it so that thirty-four hundred seems to be a little bit low and the forty-eight is also a little bit high. My experience with the Morrow has been bottom-hole pressures between four thousand and forty-five hundred pounds if it is not depleted. Now if it is depleted then you can run into any kind of pressures below whatever that average is going to come out to be.

Q. Do you have any estimate of the amount of gas that has been wasted on the surface in lifting the water out as far as volumes blown to the air?

A. No, sir, I wouldn't have any way of calculating that, no one has, because I don't know how many times he blew it.

Q. It is your testimony, isn't it, that this is one of the issues because it is causing waste?

A. It's wasteful.

Q. But you don't have any numbers you can put on it?

A. No, I don't know how many times that well had been

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blown, I don't know how long that well has been blown every time. When I went out to the well there was no meter on that blooie line, there was nothing to get any kind of flow rates, you need some device to measure that flow rate and there wasn't one on it. It's wasteful, how much wasteful I can't testify to it because I don't know.

Q. Do you have any idea how often he has been blowing the well?

A. No, sir. Mr. Hannifin would probably be better able to answer that than I can. We did not follow this well as close as we would follow one that we have a working interest in. It would have to be asked for an expenditure, you know, this is an overriding royalty. We follow it as far as making sure that well is producing and is operating in a prudent manner.

Q. You also mentioned the economic limit?

A. Yes, sir.

Q. Do you have any figures on what you would consider the economic limit to be?

A. No, sir, I don't. That is going to depend on how much he is paying the pumper and how much he is paying the trucks to truck that water and what have you. I don't have any figures on that. Now I can give you an average number based on experience and that would be a guesstimate. I'm talking about three million a month, four million a month. That also

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depends upon how big you are and how small you are as far as operators go, how much overhead you are carrying.

Q. I believe you are testifying that if you left the four and a half tubing in that it was going to hasten the arrival of the economic limits. What factors did you use in making that determination?

A. Okay, one is your production that you need to lift any water in that hole, three and a half million a day, you're not making it. You are still producing water and that's why you have the blooie line to blow that water out. We don't know like I said, how much fluid we have in that hole. Okay, depending upon how much fluid you have in that hole, that controls the time of the arrival of your economic limit, regardless if it is a thousand dollars a month or ten dollars a month. The time could be in months or it could be in years to produce what I'm estimating to be one billion cubic feet of reserves.

MR. ARNOLD: Thank you.

CROSS EXAMINATION

BY MR. RAMEY:

Q. Mr. Natour, now you state that you think that the blooie line has been used?

A. Yes, sir, you can see it on the pit.

Q. Now what is going to happen in the future, say with

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the operation of the blooie line?

A. Well, it's going to build to a certain level the way I think about it. It's going to build to a certain level in that wellbore beyond which it's not going to build anymore because of your bottom-hole pressure and your static pressure on it. He may get to produce two hundred MCF a day or he may get to produce nothing.

Q. So he could, say, have his pumper set out by the well twenty-four hours a day and every time production started falling off he could open the valve to the blooie line and blow some water out and get the production back?

A. You are talking about the economic limit again. That pumper setting out there on that well is going to charge him more than he would charge if he went out to the well once a day or once a week.

Q. Will he be using the blooie line more?

A. In the future?

Q. Yes.

A. Yes, definitely.

Q. He will have to as a matter of necessity to keep the well operating, he will have to blow it to the atmosphere more and more?

A. Yes, he may have to install an intermitter on that thing and periodically shut that well and reflow it again or he may be forced to put a compressor on it, depending upon if

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he can justify it economically or not.

Q. Does this well have a packer?

A. I would assume so, yes.

Q. They do make a four and a half and a seven inch packer?

A. Yes.

MR. RAMEY: Any other questions? Mr. Lucero.

CROSS EXAMINATION

BY MR. LUCERO:

Q. You say that to conduct the operation you recommend they will have to kill this well?

A. Yes.

Q. Is that an absolute necessity?

A. You would have to, yes.

Q. Okay and you said that the KCL water would help bring it back up?

A. I didn't say it would bring it back up, I said it wouldn't damage that formation.

MR. McCORMICK: Well, answer his question.

MR. LUCERO: I'm not an engineer.

A. We are using the nitrogen, you see, we are using the nitrogen in our acid to create an artificial energy in that reservoir to be able to pick your acid water and any flushing that may have occurred back into the wellbore and by swabbing

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it and whenever you get a rate that rate should be able to get at least what we are producing right now. If you open that bottom zone then you will probably get about five hundred MCF additional flow rate and that's going to help your cause, the four and a half or two and three-eights, that additional five hundred is going to help your cause.

Q. Then in killing the well you do have a calculated risk as far as bringing it back up?

A. Yes.

Q. Despite the rest of the operation?

A. Yes, you do have that calculated risk in every well regardless of whether it's oil or gas.

Q. Are there any studies that have built up some statistics as to what your chances are in killing it and bringing it back up or not bringing it back up?

A. I'm not aware of any if there was.

Q. Have you personally been involved during your career in such an operation where a well has been killed and hasn't been brought up?

A. Yes, it decreased. It was brought up but it decreased. Your MCF per day decreased. It was one of our wells that we had made a recommendation, we didn't have hardly any bottom-hole pressure. The bottom-hole pressure was in the range of six hundred pounds or five hundred pounds even and we killed the well, we re-perforated one zone and brought it back up and

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actually had less MCF a day than what we started with.

Q. Did that have a blooie line in operation?

A. No way.

Q. Do you have any others, other than the one you have given as an illustration where you may end up with less production when you bring it back up?

A. This is the only one where I had to kill to do a workover on it that had something like that. And also this is the only workover in the Morrow too. Now, I'll give you an illustration of that well where we were making a hundred barrels of water a day and killed that well and never did regain that well back.

Q. Well then, correct me if I'm wrong, we are taking a calculated risk if you kill this it could end up like you illustrated with this other well with less production or maybe not bringing it back up at all?

A. Yes, you are always taking that risk, I agree with you. However, if you are going to open that five hundred MCF a day and you are going to get any reduction in your rates, that five hundred MCF a day may make up for it but you are spending another seven thousand dollars so to speak.

Q. Is there a possibility of incurring greater expense or far larger sums than the one recommended here in terms of trying to bring it back up if other conditions are created other than the ones you have stated?

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A. Yes, if you have to swab on it that thing is going to increase if you've got a pulling unit on it that is charging you a hundred dollars an hour.

This right here was assuming a minimum swab if you had to do one on the well essentially to bring your acid water out. Now if you go in that well and you lose quite a few barrels to kill that well and it takes you an additional day or two to swab that load back so we could actually overrun this AFE easily.

Q. So then some of your testimony is that by following the procedure you have outlined you assume a calculated risk of increasing the reserve production out of this well?

A. Say that again.

Q. Some of your testimony is that by following the procedures you have outlined in spending the money that has been allocated here to complete this operation, in essence you are saying there is a possibility that the reserve production will be increased?

A. The production, the reserve, you are actually adding reserves because you are opening a new zone.

Q. Well, yeah.

A. In every well, Mr. Lucero, in every workover that you do you've got the mechanical chance factor that you have to apply to that workover and I wouldn't go ahead and say that I've got a hundred percent chance of doing this workover with

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this kind of money, no way.

Q. Anymore than you would say twenty-five percent or fifty percent?

A. No, I would say get it back probably in the range of seventy-five percent, rather than being on the range of twenty-five percent.

Q. You mentioned something about weeds being in this area, is it your testimony that the man that allows weeds to grow in the area is not a prudent operator, are you?

A. No, this was just probably a derogatory remark on my part but whenever you walk to a location the appearance of that location will attract all of our attention. A good location tells you that some guy has been around here taking care of that. One thing about this well, the cellar was covered.

MR. RAMEY: Mr. Arnold.

CROSS EXAMINATION

BY MR. ARNOLD:

Q. As far as investigating methods of getting water out of the hole, I know up in the San Juan Basin they used to install pistons in the tubing, is there any possibility --

A. He can put a plunger lift in it.

Q. In the four and a half?

A. Yes, but I don't know how much cost you are talking

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about, you know, I haven't checked into that.

Q. Would you have to kill the well to install a piston?

A. Yes, you are not going to work on that well with eight hundred MCF a day hitting you in the face, I surely wouldn't want to be on that location.

Q. Is that what your flowing pressure is on it?

A. Eight hundred MCF a day. The flowing pressure, I would assume, is the line pressure, four or five hundred MCF a day is in El Paso's line.

Q. So even if you went that route you wouldn't get away from --

A. No, you wouldn't get away from killing it. It may take the capacity of the tubing to kill that well because you are not talking about that much pressure. You are not going to go in and pump in that well a hundred and fifty barrels without saying if you killed it with fifty or not, you know, you go in and put the capacity of that tubing and see what is happening before you release your packers and then you can add to it, you know.

MR. ARNOLD: That's all I have.

CROSS EXAMINATION

BY MR. LUCERO:

Q. Is there any chance that you follow through with this operation, killing it and trying to bring it back up and

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you bring it back up and you end up with less production than you had if you continued with the blooie line?

A. Yes, there is, but there is another chance that you may produce that well for a longer period if you killed it and lost a small number of production, a small MCF a day of production, you would make it up as far as your reserves go.

Q. The length of time it would continue?

A. This is also a chance that it could happen.

CROSS EXAMINATION

BY MR. RAMEY:

Q. Now you say that Atlantic has a small override in this well?

A. Yes, sir, six point two five percent in the whole well.

Q. If Atlantic were operating this well and owned it one hundred percent would you make the recommendation to change the tubing?

A. If Atlantic owned that well a hundred percent when they drilled that well I wouldn't have set four and a half inch tubing in it to start with.

Q. Assuming you did?

A. Assuming that thing happened and did and I came in the same time I came to work for them, say two years ago in that Morrow and I had gone out and looked at this well I would

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have run it in and if I looked at it today I would have run it today.

Q. You would make that recommendation today?

A. Yes, definitely.

Q. To your management?

A. Yes.

Q. Putting your reputation on the line?

A. Yes.

Q. For what it's worth? Now, let's talk about the bottom-hole pressure in relation to, say, killing the well, would it be safer to kill this well with your KCL water at this stage, would it be safer at this stage than it would be, say, a year from now when the bottom-hole pressure is depleted further?

A. Well, of course, when the bottom-hole pressure depletes it takes less to kill that well and when it takes less to kill that well your invasion in that productive zone is going to be less. It may not be less, you've got the same permeability in that zone and you are putting on the same hydrostatic head, so the only thing, your opposing force may be a hundred pounds less so you are actually not talking about that much difference as far as the invasion of the water that you pour on that well now and a hundred psi from now.

Now, if you can, if Halliburton or Dowell Well or somebody discovers a new way of, say, killing the fluid that

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they can use in these wells and that thing is purported to be better than what the operators are using now today that could make a difference too and everybody is working on new methods and new fluids to do it with.

Q. Well, I was just looking in April of '76, the well made a hundred and thirty-four million and April of '77 it made thirty-eight million?

A. Yes. Let me remind you, Mr. Ramey, that this is in a prorated field and over and under production could play some in that MCF a month that we're getting. I haven't checked on that to see what the allowable for these months were but my inclination would be your over and under production situation will play a part in your fluctuations in the rate.

Q. You don't think that is a natural decline?

A. Well, if you take the first four months in '76 and you look at this I would say it's natural, adding to it your fluctuations and allowables too, I mean, over and under production and considering all of that, I would say it's a natural decline.

Q. In March of 1977 and also in April of 1977 we were under an emergency whereby the President had asked all gas -- or Secretary Andrus, one or both, had asked that all gas possible be produced and don't you think that El Paso produced all of the gas that they had available to produce?

A. I think that El Paso produces all of the gas that

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they can lay their hands on, I know that.

Q. Considering that March and April were in these periods, you could make the assumption that the well was producing at capacity?

A. We don't know that well produced for thirty days or if that well was produced for five days, we really don't have the slightest idea. The time we went out there the well was shut in.

Q. If this Commission had been advised by El Paso that they were producing essentially every available MCF of gas during this period would you assume that this well had been producing at capacity?

A. I would definitely think it was producing at capacity but the condition that you have in the wellbore would prevent you from producing thirty days which is considered to be a month, you know, when you put them all together.

Q. You are saying the pumper didn't get around to the blooie line as often?

A. Probably, I wasn't there to say for sure that he didn't do it, maybe they blew it one time or maybe they blew it five times but I know that El Paso would produce everything at capacity, you bet. As a matter of fact, I tried to contract with El Paso to produce to capacity.

Q. And you would think probably in April of '76 when it produced a hundred and thirty-four million that it was

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probably producing at capacity then also?

A. Yes, unless he had to make some under production time, say.

Q. Yes. So assuming that you had capacity in both months you've got a ninety-six million depletion there or a ninety-six million down-hole trouble?

A. Between where and where, Mr. Ramey?

Q. Between April of '76 and using my figure of thirty-eight million six four four for April of '77?

A. Yeah. Well, you have depletion, plus you have hole condition problems, both of them combined together, plus your natural decline, you could have this kind of a situation, plus we are actually trying to compare, say, a month where you produced for actually thirty days, twenty-four hours a day, and some months were -- the report may say thirty-one days or thirty days and we have to believe what the reports are but in actuality they could produce that well, say, for fifteen or twenty days. This is the best information we have. Now, if we can determine and say MCF per hour, you know, or something like that, we probably can make a more definite comparison.

Q. Have you looked at any charts from this well, El Paso's gas charts?

A. I've got a chart here, a chart, you mean a production chart actually on that office, no. A production history, MCF per month versus a month, yes, I looked at it.

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Q. Could you get a copy of the chart, say, the charts for the month of March on this well from El Paso?

A. I don't know, we can try.

Q. I wish you would, I think it would be interesting to see. It looks to me like you could be able to tell from these charts if the well were logging off with water?

A. Yes, you could. This is the production history on that well, MCF per month as a solid line, the dashed line is barrels of oil per month and the red line is barrels of water per month and the fluctuations of that thing is so erratic and being in a prorated field you don't know if actually that is what is happening to the well or Grace had overproduced and he had to shut that one in. To give you an example right here, about in the middle of 1975 you are producing essentially zero and on both sides of that month you are producing a hundred million a month to two hundred million a month, so that definitely is not a representative decline. What caused that I don't know, we can speculate, over and under production, maybe, mechanical problem with the well, for all I know, he probably perforated these additional zones. I don't have any records of him not perforating these things.

CROSS EXAMINATION

BY MR. LUCERO:

Q. That's a condition that is just limited to that

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particular period of time, isn't that correct and how would that relate to the current situation?

A. Well, what I'm trying to say, Mr. Lucero, the fluctuations that we had during the life of this well is not a natural type decline and that could be attributed to too many different problems that you could have, you know, you could have had a mechanical problem, maybe a packer leakage or something like that and you went in and fixed it or you could have an over and under production situation.

Q. The only way we could be definitive and certain as to why that curve was going in that pattern is to establish a single time, what caused it, and not necessarily to the blooie line situation?

A. Yes. I didn't say the blooie line.

Q. I know you didn't, I'm asking a question.

A. Well, we would have to check with the operator and see if he's got any reason why his production went down to zero. You know it took him three months to go down to zero and it took him one month to go up to two hundred million. It's, well in that middle of 1975, I don't know why it was that.

MR. RAMEY: When was the blooie line installed? Mr. Hannifin, would you care to answer that?

MR. HANNIFIN: I was thinking it was March of '75, I got a billing on it.

THE WITNESS: That's when you got the billing?

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MR. HANNIFIN: That's when I got the billing, the installation, I don't know.

A. Mr. Hannifin was billed for that blooie line in March of 1975 so he can assume it was during March or before March was when this blooie line was installed and if I had to guess at it it would probably be January of '75 when that blooie line was installed because your water dropped from sixty barrels a month, sixty-four barrels a month, to zero.

MR. RAMEY: It went somewhere?

A. Yes, and it came back up and is making about a barrel a day now according to the Committee books.

MR. RAMEY: Mr. Arnold.

CROSS EXAMINATION

BY MR. ARNOLD:

Q. To get back to the definition of waste again as you were making the definition, suppose the well's flow rate is cut to fifty percent for a period of time by this water in the wellbore over what it would have been if you had a completely clean wellbore and suppose this went on for a period of time so that the amount of gas you produced is less but still this has nothing to do with the amount of gas you have left in the reservoir and then at some later date you could go ahead and perform the operation you are talking about and retrieve this gas and then the fact that this condition exists over a

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period of time doesn't necessarily make a case for waste, does it?

A. The thing that I can testify to waste is using that blooie line partially or maybe totally to remove the liquid from the down hole up to the surface.

Q. You are talking about blowing the gas to the atmosphere in this case?

A. Yes. This is a waste. Now, if that thing is cut down from five hundred to two hundred MCF --

Q. That's why I asked you to put a figure to that a moment ago.

A. I can't, I wish I could.

Q. But that is what you are defining waste to be in this situation?

A. Yes, waste is flaring to the atmosphere in this particular situation. I can't testify as to how much reserves are you going to lose.

A. Well, you may delay them rather than lose them completely, right?

A. Yes, you may delay them, that's right, but you also have that calculated risk of losing that well before you produce these reserves too, you know, your pressure is declining, your bottom-hole pressure is declining, your static fluid is probably sitting right there, fluctuating a little bit. The more you decline the more choke you are going to put against

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that face of that formation the less your rate is and we are back to this economic limit again. Are you going to produce that thing until you hit zero MCF a day or are you going to produce it until you hit ten MCF a day, or what?

Q. Suppose you did produce until you get ten MCF a day?

A. Yes.

Q. And you were at ten MCF a day because of the fact that you were loading so high on water that you could no longer get through it and if you went in at that time then and performed the operation you are talking about there is no reason to suspect that possibly you couldn't go ahead and produce the rest of the gas at that time?

A. Unless it is a mechanical reason where you would have to go to a real small rate in MCF per day. Say now we are talking about two and three-eighths and we are talking about a certain pressure, you know, six hundred pounds, we are talking about eight hundred and ninety MCF a day. Say you didn't do it today, you want to wait until three years from now, do you still think you can do it and produce fifty MCF a day and you want to wait until a year from now or two years from now. You are right that you are going to be talking about it, it is going to decrease because of natural depletion. All of the time you are producing that fifty MCF a day your pressure is declining and you will probably have to go to a smaller tubing than two and three-eighths, maybe one inch and that could be a

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mechanical problem trying to find equipment to fit that one inch into seven inch casing.

CROSS EXAMINATION

BY MR. LUCERO:

Q. Is the use of the blooie line common in industry to accomplish for what this blooie line is being used?

A. In my short tenure in the oil business I haven't seen it done. Now, I've heard of going in, say, a one inch line all of the way to TD and injecting nitrogen and blowing all of that water out. Now, I've heard of that but I haven't seen that done by putting the blooie line nippled up on the top of your Christmas tree and out to the atmosphere with one valve on it, this is the only time I have seen it, of course, I haven't seen everything in the oil patch either.

Q. Would you consider this an unsafe type of practice or just unusual?

A. It is unusual to be used, it could be unsafe if you don't have the right equipment in that line, if you don't have enough grade on that line and you exceeded the pressures for that line you could have your line busting on you or something like that. I don't know what kind of a line he's got on there but it is unusual to see a blooie line on a well like that.

Q. Do you know if anyone else objected to the placing of a blooie line on this at the time he placed it on there?

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A. No, I don't know if anybody -- I didn't even know Hannifin objected to it either.

Q. I was going to ask you again this question of waste. If one cubic foot of gas goes in the atmosphere the way we have there, that's waste, right?

A. Yes, definitely.

Q. At a certain point what might be negligible waste becomes what we would call legal waste in terms of the decision this Commission has to make?

A. It could be significant.

Q. In this case there were no tests that were taken or anything to determine the extent of the waste?

A. No.

Q. Whether it is in the loose term sense or in a legal waste term?

A. Not to my knowledge by these tests.

MR. LUCERO: Okay, thank you.

CROSS EXAMINATION

BY MR. RAMEY:

Q. But you do feel that the blooie line of necessity will have to be used more and more and more as the well --

A. Yes, as your pressure declines you will have to use that more and more to reduce your differential pressure between the bottom-hole pressure and the line pressure that you are

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selling to. It's a difference between four hundred pounds and thirteen pounds.

Q. So if there is a minor amount of waste now there will be more in the future?

A. It will be more than minor.

CROSS EXAMINATION

BY MR. LUCERO:

Q. Could that be the same as if you started getting temporary permission to flare a well to keep it going and the well just keeps going down for whatever conditions it might need to require this flaring and continue to flare it more and more and more as the well is going down?

A. I think that describes it.

Q. That's waste too, right?

A. Yes.

Q. That could be a common procedure in the industry to keep that well going?

A. A flare on a tank battery I think is waste, you know, if you don't have a vapor recovery on it, I think it's waste. Then if you really want to come to the nitty gritty we are going to say, is five MCF waste, or five hundred MCF waste and I think I better leave that to the lawyers to determine a legal number for waste. Now, to my knowledge, any time you open that well to the atmosphere I think you are wasting it.

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MR. LUCERO: That's a tough job for this Commission. Thank you.

CROSS EXAMINATION

BY MR. RAMEY:

Q. In other words, you feel it is not necessary to open a well to the atmosphere?

A. Unless you have some real special cases, say you drilled a well, okay, and you need to test that well and the only way to test it you have to flare it because nobody is going to buy it from you until you have a test on it. Then somebody would have to go to the Commission and get their approval and say if we keep that well shut in, we are not helping the energy crisis at all, we need to get that well producing and the only way we can get it producing is to test it and the only way we can test it is to get your permission to flare that gas. It is still waste but waste for a different reason, waste for producing whatever billions you have in that well. It is waste that probably will not be corrected unless you have to have a force to correct it with.

Q. Keep on with waste, I'm getting confused. You don't feel, or do you feel that there will be downhole waste under the present conditions. If nothing is done to this well will there be downhole waste, will there be reserves left in the ground from this well?

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A. We are back to find the way to the economic limit, if you can --

Q. Okay, under present operations. Let me put it this way, you can go in and workover the well with no risk?

A. Right.

Q. You are going to get all back, you are going to have a good well when you start and a good well when you finish?

A. That's an assumption.

Q. Okay, but you are going to be able to remove the water better?

A. Yes, sir.

Q. Will you recover more gas with the two and three-eighths than you would with the four and a half?

A. I don't think so.

Q. You don't think you would?

A. No.

Q. Then why would you run the two and three-eighths?

A. No, no, you've got a condition out here that you need to correct then you can recover the same gas. You are telling me that your four and a half inch and your two and three-eighths inch are clean, okay?

Q. No, I'm saying you've got water down there.

A. Well, you've got the economic limit that is going to play part of cutting your rate due to that water production. If you have a two and three-eighths and you have the four and

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and a half and both of them are clean, you are not going to have any loss of reserves.

Q. Right.

A. If you have a two and three-eighths clean and you have a four and a half loaded, okay, then sooner or later you are going to get to the point in that four and a half that you cannot produce that well economically anymore.

Q. So you would leave gas in the ground?

A. So you would leave gas in the ground, how much gas I don't know.

Q. Are you saying that with this well, assuming that you had a good workover, we are still talking about this well that's making water, it's got four and a half in it now, if you leave it producing the way it is versus putting two and three-eights in you will not recover any more gas?

A. Are you assuming that we are going to perforate this new zone, see, we've got the workover --

Q. I'm not even going to assume that we perforate the new zone. Let's look at the present zone, the twenty feet we have open in the well.

A. The twenty feet we have open in the well.

Q. Okay, you've got four and a half in there, it loads up periodically and you have to blow it off, at some stage you are not going to be able to blow it off anymore?

A. Right.

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Q. Okay, with two and three-eighths in there would you be able to produce the well longer, will you get more gas with the two and three-eighths?

A. You can't get more gas because your gas --

Q. Are you going to lose some gas with the four and a half in there?

A. If you have that well loaded with the four and a half, yes, you will lose some gas but your reserves are there, it's controlled by your pressures.

Q. Okay, but if the well is loaded up you can't produce the reserves, right?

A. True.

Q. If the two and three-eighths is in there theoretically the well shouldn't load?

A. It shouldn't.

Q. So you should get more reserves, produce more of the reserves that are in there?

A. Produce more of the reserves that are there, yes.

Q. With the four and a half and loading up you are not going to be able to produce as much of the reserves that are available in the well?

A. Right, I agree.

Q. So leaving reserves in the ground is waste, is it not?

A. I would say, yes.

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MR. RAMEY: Thank you.

CROSS EXAMINATION

BY MR. LUCERO:

Q. Waste for the present or waste for the future?

A. Both.

Q. I wanted to ask you, you recommended that there be some additional perforations, what fifty feet below the present level of the bottom?

A. Yes.

Q. Do you have any data to indicate that there have been any perforations of any kind during the life of this well done in these areas?

A. No, sir, that's why I said in my testimony that for all I know that zone could be already open.

Q. So then again in terms of the recommendation for additional perforations there we are also taking a calculated risk of the possibility of succeeding or not?

A. You mean succeeding as having it open or not open?

Q. Yes.

A. Well, yeah, but we have to check on the records, the real records and see if that thing has been shot, if it has been perforated then you don't spend that additional seven thousand dollars, if it is not then you spend that because you have a DST, that zone proved to be gas productive.

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CROSS EXAMINATION

BY MR. RAMEY:

Q. But as a part of normal completion operations you would run casings, perforate, acidize and treat?

A. Yes.

Q. And this lower zone is just like it was when the well was cemented, we assume?

A. Mr. Ramey, they have two DST's in the Morrow, one is eleven four twelve to four seventy-nine and at that time that well flowed twelve million and then the lower zone flowed five hundred MCF so I would assume that economics dictates to go after that twelve million, especially with your less pressures in it, you know, and you see with the twelve million you've got thirty-four hundred pounds and your five hundred MCF you've got forty-eight hundred pounds. They went after that big zone hoping for a workover later on.

Q. There is always the distinct possibility that they may have perforated this zone and the water from the production may be coming from this lower zone?

MR. HANNIFIN: Mr. Ramey, from the back-up invoices I have the only perforations shown are in the upper zone.

MR. RAMEY: You have no indication that any other perforations were made?

MR. HANNIFIN: No.

MR. RAMEY: They have not billed you for it?

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MR. HANNIFIN: No, the back-up invoices that I have been furnished don't and there was a previous Commission hearing for Mr. Grace and those are the only perforations shown.

MR. RAMEY: I don't think we need to discuss that anymore then. We've had enough suppositions, now.

MR. McCORMICK: May I proceed now?

MR. RAMEY: Does anyone else want to ask this witness anymore questions? Are you through with him, Mr. McCormick?

MR. McCORMICK: Yes, I'm through with him.

MR. RAMEY: Okay, the witness may be excused and we'll take a fifteen minute recess.

(THEREUPON, the witness was excused and the hearing was in recess.)

MR. RAMEY: The hearing will come to order.

Mr. McCormick, will you proceed.

MR. McCORMICK: If the Commission please, I would like to offer into evidence Exhibit Six which consists of certified copies of liens filed by the Employment Security Company in Eddy County against Mr. Grace. The purpose of this is an attempt to show his financial inability to operate the well and especially to take care of the remedial work.

I also offer into evidence Exhibit Seven which is

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certified copies of liens filed by royalty owners under the Oil and Gas Products Lien Act.

These liens, I don't have extra copies of them so I'll tell you that these liens have been filed by Marland, Inc. which is the owner of one-half of the minerals. That lien, incidentally, after litigation was paid, it was filed in 1973. The lien was filed by W. E. Walling, royalty owner and by E. W. Douglas. There were several filed by Walling and by Atlantic Richfield Company seeking to collect from Mr. Grace the royalty due them.

We also offer into evidence Exhibit Eight, a certified copy of transcripts of judgments filed against Mr. Grace in Eddy County. As the Commission knows, these transcripts constitute a lien on all real property of Mr. Grace in Eddy County and these transcripts are filed by Van Tool Company, IMW, Inc., which is an oil well supply or service company, by A and M Drilling Company, by Sherman Power Tongs, Inc., by Eddins-Walcher Company, by Ormsby Development Company and various others, one out of the Federal court involving quite a number of claimants.

These liens vary in amount from a few thousand dollars to two hundred and fifty thousand dollars which are now liens upon the interest of Mr. Grace in this well and, in fact, the Atlantic Richfield royalty lien which is in the previous exhibit, Exhibit Seven, is in the amount of about

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six hundred thousand dollars.

Now those are for the purpose of showing, tending to show, that he is unable financially to take care of proper operation of the well.

Now we offer into evidence also two letters and under the Rules of the Commission you are allowed to receive unsworn letters in evidence of this kind for what it may be worth and since I do not have sufficient copies I will read these letters, they are very short and you don't need to take them down because they will be in the record here.

A letter addressed to the Oil Conservation Commission re this case. (Reading.) Gentlemen: I am informed that D. L. Hannifin, Roswell, New Mexico, has filed an application to amend Order No. 4432 to remove Michael P. Grace, II, as the operator and have Mr. Hannifin appointed in that capacity.

I am the owner of approximately one hundred and twenty-six mineral acres of the southwest quarter of Section 24 Township 22 South, Range 26 East.

The lease which I executed to Sinclair Oil and Gas Company was farmed out to Michael P. Grace and he is therefore the owner of the working interest as to my lease. I have been in almost constant litigation with Mr. Grace for the past three years in order to collect royalties due me. I do not believe that Mr. Grace should continue as operator and I support the application of Mr. D. L. Hannifin to be substituted as

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operator of the Grace Atlantic Well. Signed W. E. Walling. (End of reading.)

I offer Applicant's Exhibit Nine into evidence.

And if the Commission please, I have another letter from E. W. Douglas which is Applicant's Exhibit Ten.

It is addressed to the Oil Conservation Commission. (Reading.) Gentlemen: I am the owner of approximately four point two seven five two acres of minerals in the southwest quarter of Section 24, Township 22 South, Range 26 East. This mineral interest was leased to Michael P. Grace. A proration unit covering all of the southwest of said Section 24 was formed and the Grace Atlantic Well No. 1 was then drilled. My lease interest entitled me to receive point one six seven oh percent of the oil and gas produced.

I am informed that Mr. D. L. Hannifin of Roswell, New Mexico has filed an application to be named as the operator of the Grace Atlantic No. 1 Well in place of Michael P. Grace. In my opinion Mr. Hannifin is more capable of operating the well than Mr. Grace and I hope you will see fit to grant the application of Mr. Hannifin. (End of reading.)

We offer Applicant's Exhibit Ten.

MR. RAMEY: Is this all of your exhibits, Mr. McCormick?

MR. McCORMICK: Yes, sir, all of the exhibits.

MR. RAMEY: All of your exhibits will be admitted.

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(THEREUPON, Applicant's Exhibits One through Ten were admitted into evidence.)

MR. McCORMICK: I would like to call as my last witness, Mary Frances Merchant. She was sworn earlier in the day.

MARY FRANCES MERCHANT

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

DIRECT EXAMINATION

BY MR. McCORMICK:

Q. State your name, please?

A. Mary Frances Merchant.

Q. Where do you live?

A. Carlsbad, New Mexico.

Q. How long have you lived there?

A. I was born there and I've lived there all of my life.

Q. You have lived there all of your life?

A. That is correct.

Q. Are you connected with the corporation known as Marland, Inc.?

A. I am, I'm the President of it.

Q. And you and members of your family are the principal stockholders?

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A. We are the only stockholders.

Q. What land under this Grace Atlantic Well do you own?

A. Marland owns all of the southeast quarter of Section 24.

Q. You own the minerals and the surface, do you not?

A. Yes.

Q. And I understand you leased that land to Mr. Hannifin?

A. That's right.

Q. You are presently receiving your royalties directly from Mr. Hannifin, are you not?

A. Yes.

Q. For a period were you due to receive royalties from Mr. Grace?

A. We were due to, I had to go into court to claim them. I did go into court to claim them.

Q. That was in 1973 or '74 that you had the litigation?

A. We initiated the suit in '73 and it was completed in Federal court in '74.

Q. That was for royalties payable to you while Mr. Grace had sole control of the production?

A. Yes.

Q. Are you satisfied with Mr. Grace as the operator of this well?

A. Well, we have felt very uncertain about it all of the

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time because there has been a wide variation on the production from the beginning that was reflected in what we have got from the well and I have asked my attorney and I have asked Mr. Hannifin about the well periodically over several years.

Q. You are not satisfied with him as an operator?

A. I have reason to question it because of the wide variation on the production and with the other wells that we've had it seems quite different.

Q. Do you ever have any communication with Mr. Grace?

A. No, not since that lawsuit and our royalties have come through Mr. Hannifin.

Q. Have you seen him?

A. No, I have inquired about where he was through you and through Mr. Hannifin and as I understand it he does not list an address.

Q. Is it your desire then that Mr. Hannifin be appointed operator of this well?

A. Definitely so.

Q. Are you confident in his ability to properly operate the well?

A. I am.

MR. McCORMICK: I have no further questions.

MR. RAMEY: Any questions of the witness?

Mr. Lucero.

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CROSS EXAMINATION

BY MR. LUCERO:

Q. Mrs. Merchant, the lawsuit involving the royalty, what was the issue involved there?

A. Well, they weren't paying.

Q. They just weren't paying them?

A. They weren't paid and my division order read that they were to be paid and Mr. Grace, it was through contacts, just didn't respond in any way so I took it to Mr. McCormick and told him I wanted to go into court to collect the royalty. By that time they had accumulated rather substantially and I didn't see him at any time, there was no promise of when these royalties would be paid up or how they would be paid up and I asked Mr. McCormick to take the matter into court and at that time he changed his residence from Eddy County to Bermuda and we had to change the suit from district court in New Mexico to Federal court and that case took place in '74 and we were awarded our royalties with the interest on the withheld monies.

Q. And have you had that problem since then?

A. No, because at that time the monies had been paid to Mr. Hannifin and Mr. Hannifin sends us our part of our half interest in the well.

MR. McCORMICK: I might elaborate on that. About the time the well was paid out a hearing was held here about the cost of the pay out and an order entered and after that point

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a contract was entered into by Mr. Hannifin whereby he sold direct his half of the gas and another contract entered into by Mr. Grace whereby he sold his half. So Mr. Hannifin has been responsible then to paying the royalty to Marland and Mr. Grace has been responsible for paying it to all of the other people, the owners in the southwest quarter including Mr. Douglas and Mr. Walling from whom we had letters here. Since that point in 1973, the latter part of '73, there has been no commingling of the money but prior to that time Mr. Grace received all of the funds and under contract he was to disburse all of the royalties.

MR. RAMEY: Any other questions of the witness? She may be excused.

(THEREUPON, the witness was excused.)

MR. RAMEY: Do you have anything further, Mr. McCormick?

MR. McCORMICK: I would like to make a very short statement unless somebody else has something they would like to bring before the Commission.

MR. RAMEY: Mr. Ives.

MR. IVES: If I may, before Mr. McCormick makes his closing statement. I stated earlier that I represent Energy Resources Development Company of Fort Worth, Texas. Energy Resources was formerly known as Ormsby Development Company, a copy of whose Federal judgment lien you have which is in excess

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of two hundred and thirty thousand dollars. Ormsby Development Company by virtue of that lien and negotiations with the Grace's holds the mortgage on this lien, or on this well and has asked me to be here today to state that in light of their substantial financial interest in the well, they enthusiastically join with Arco in supporting the application of Mr. Hannifin to be named as operator.

MR. LUCERO: May I ask a question?

MR. IVES: Yes, sir.

MR. LUCERO: Does that include the plan outlined by the engineer in his testimony?

MR. IVES: As it has been explained to me by Mr. Hannifin, yes, sir.

MR. McCORMICK: If the Commission please, we believe that we have submitted substantial evidence to show that Mr. Grace should be removed as the operator and that Mr. Hannifin who is the owner of the other half with Mr. Cook, the other half of the working interest, should be named as such. We believe that there is statutory authority for this action. The Commission has broad general powers under the provisions of Section 65-3-5 which is very short and which I will read.

(Reading.) The Commission shall have and is hereby given jurisdiction and authority over all matters relating to the conservation of oil and gas and the prevention of the waste of potash as a result of oil and gas operations in this

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State. It shall have jurisdiction, authority and control of and over all persons, matters or things necessary or proper to enforce effectively the provisions of this act or any other law of this State relating to the conservation of oil and gas and the prevention of waste of potash as a result of oil and gas operations. (End of reading.)

Now in Section 65-3-11, subparagraph four, there is a special provision that the Commission has the power and authority to prevent the drowning by water of any strata or part thereof capable of producing oil or gas.

In Section 65-3-14 which relates to pooling and spacing in Section C and I'll not read it all because it's long

In creating a pool as was done in this case, the three hundred and twenty acre proration unit, the Commission has the power to designate an operator for the unit. Well, that the Commission did in 1972. Now we say if it has the power to designate an operator it also has the power to remove that operator and designate a new operator for a good cause shown.

Now we have a very peculiar situation here in which the man whc is the operator of this well has departed the State and nobody knows where he is, there is nobody that we can find out knows where he is. He cannot be communicated with. He has not paid his royalty regularly, now this is a matter over which this court does not have direct jurisdiction,

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the matter of his payment of royalties, but we think that the Commission as a matter of good morals and a matter of public policy should not allow a man to be an operator of a well, officially designated as the operator of a well, who habitually and over a long period of years refuses to pay his royalty owners. That is what he has done.

Now we have three hundred and twenty acres in this unit. Now the mineral owners representing two hundred and ninety of the three hundred and twenty acres have asked you to make this change. Mrs. Merchant who represents half of the minerals, a hundred and sixty acres, has asked you. Mr. Walling who owns a hundred and twenty-six acres out of the other quarter section has asked you. Mr. Douglas who owns more than four acres has asked you. Now that is two hundred and ninety acres as I added it up in my head, out of three hundred and twenty. Now the interest of the royalty owners should be considered as a matter of public policy and good morals too. It's not fair to these people, these royalty owners, especially to the smaller ones and there are many of those. You can see the division order, there are many that have such a small interest they can't even afford to hire a lawyer or don't hire lawyers and their interests are being ignored so we think it is the duty of this Commission to make this change so you have a competent operator in there.

Now by appointing him as operator you do not necessarily

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endorse this plan for remedial work, you aren't saying we put our stamp of approval on that, I think it's not your obligation to do that but we have shown by our expert witness that the well is not being properly operated now and probably it will ultimately produce more gas if this particular plan of remedial work is carried out and that it is something that a prudent operator would do.

We have also shown by these exhibits that the present operator couldn't do that if he wanted to and besides if he had wanted to he should have done it probably two or three years ago, at least a year ago before the well started to decline and he hasn't done that.

So we think in the interest of good administration and conservation that this petition, this application, should be granted, Mr. Grace removed as operator and Mr. Hannifin put in his place, because in a sense the operator is a representative of the Commission, at least you have named a man as operator and if he proves unworthy of that to the detriment of the State which can't collect its taxes, to the detriment of the royalty owners who can't collect their royalty and to the detriment of the cause of conservation, I think it becomes encumbent upon the Commission to take such action. Thank you.

MR. RAMEY: Thank you, Mr. McCormick.

I think it may be appropriate to have the Commission

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take notice of the field trip report by Lelan Mermis dated 5-27-77 where one of the notations says: M. P. Grace, Grace Atlantic Well No. 1, 24, 22, 26, flared gas.

Anything further in the case? The Commission will take the case under advisement and the hearing is adjourned.

(THEREUPON, the hearing was adjourned.)

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REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

Sidney F. Morrish, C.S.R.

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Phone (505) 982-9212

W. L. Hannifin

OIL CONSERVATION COMMISSION

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

DIRECTOR
JOE D. RAMEY

LAND COMMISSIONER
PHIL R. LUCERO

STATE GEOLOGIST
EMERY C. ARNOLD

December 29, 1978

Re: CASE NO. 5961
ORDER NO. R-5483-A

Mr. George Hunker
Hunker-Fedric
Attorneys at Law
Post Office Box 1837
Roswell, New Mexico 88201

Applicant:

D. L. Hannifin

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other Larry L. Lamb, Andrew M. Ives, Jr.

Send copy of docket to
Harold Hensley with Hinkle
Law Firm in Roswell.
Mailed 9/30/77

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 5961
Order No. R-5483-A

APPLICATION OF D. L. HANNIFIN FOR
AN AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

REHEARING

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 10:00 a.m. on June 21, 1977, and for rehearing at 9:00 a.m. on October 19, 1977, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 21st day of December, 1978, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearings, and being fully advised in the premises,

FINDS:

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

(2) That Commission Order No. R-4432 entered November 8, 1972, compulsorily pooled the S/2 of Section 24, Township 22 South, Range 26 East, NMPM, to form a standard 320-acre proration unit for the South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon.

(3) That said order designated Michael P. Grace II as the operator of said pooled unit and proposed well.

(4) That Michael P. Grace II subsequently completed the Grace-Atlantic Well No. 1 located in Unit J of said Section 24 as a producing gas well in said South Carlsbad-Morrow Gas Pool.

(5) That the applicant herein, D. L. Hannifin, is a co-owner in said Grace-Atlantic Well No. 1.

(6) That D. L. Hannifin seeks the amendment of Order No. R-4432 to remove Michael P. Grace II as operator of the pooled unit and the Grace-Atlantic Well No. 1 and to designate D. L. Hannifin as operator thereof.

(7) That in support of his request that Michael P. Grace II be removed as operator of said Grace-Atlantic Well No. 1, applicant presented testimony attempting to show that Michael P. Grace II had operated said well in such a manner as to cause waste, to violate the correlative rights of the other owners in said well, to prohibit such owners in said well from recovering or receiving, without unnecessary expense, their just and fair share of the oil and gas produced therefrom, and otherwise operated such well in violation of Commission Rules and Regulations.

(8) That at the time of hearing, none of the actions complained of by the applicant was occurring.

(9) That the parties have entered into an operating agreement relative to the operation of the Grace-Atlantic Well No. 1.

(10) That the terms of said agreement were not entered in evidence.

(11) That Michael P. Grace II should operate the Grace-Atlantic Well No. 1 in accordance with the terms of that agreement.

(12) That in the absence of evidence demonstrating continuing waste of oil or gas, violation of correlative rights, or violation of Commission Rules and Regulations, the application should be denied.

IT IS THEREFORE ORDERED:

(1) That the application of D. L. Hannifin for amendment of Order No. R-4432 to remove Michael P. Grace II as operator of the proration unit pooled thereunder and the Grace-Atlantic Well No. 1 located in Unit J of Section 24, Township 22 South, Range 26 East, NMPM, is hereby denied.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman

EMERY C. ARNOLD, Member

JOE D. RAMEY, Member & Secretary

S E A L

fd/

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 5961
Order No. R-5483

APPLICATION OF D. L. HANNIFIN FOR
AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 10 a.m. on June 21, 1977, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 28th day of June, 1977, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, D. L. Hannifin, is a co-owner of the Michael P. Grace II Grace-Atlantic Well No. 1, located in Unit J of Section 24, Township 22 South, Range 26 East, NMPM, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico.

(3) That said well is the unit well for a certain gas spacing and proration unit, said unit comprising the S/2 of said Section 24.

(4) That the S/2 of said Section 24 was pooled by Commission Order No. R-4432, dated November 8, 1972, to form a standard 320-acre proration unit for the South Carlsbad-Morrow Gas Pool, to be dedicated to a well to be drilled at a standard location on said unit.

(5) That a well was subsequently drilled on said pooled unit, being the well described in Finding No. (2) above.

(6) That Michael P. Grace II was designated by Commission Order No. R-4432 as the operator of the above-described well and unit.

(7) That the applicant herein, D. L. Hannifin, a co-owner of the aforesaid well and unit, seeks the amendment of said Order No. R-4432 to remove the present operator of said well and unit, Michael P. Grace II, as operator, and to designate the applicant, D. L. Hannifin, as operator of said well and unit.

(8) That the applicant has failed to show sufficient cause for the hereinabove described amendment of Commission Order No. R-4432, and such amendment should be denied.

IT IS THEREFORE ORDERED:

(1) That the application of D. L. Hannifin for the amendment of Commission Order No. R-4432 is hereby denied.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman

EMERY C. ARNOLD, Member

JOE D. RAMEY, Member & Secretary

S E A L

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION COMMISSION

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

CASE NO. 5961
Order No. R-5483-A

APPLICATION OF D. L. HANNIFIN FOR
AN AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

REHEARING

ORDER OF THE COMMISSION

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NOW, on this _____ day of _____, 1978, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearings, and being fully advised in the premises,

FINDS:

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

(2) That Commission Order No. R-4432 entered November 8, 1972, compulsorily pooled the S/2 of Section 24, Township 22 South, Range 26 East, NMPM, to form a standard 320-acre proration unit for the South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon.

(3) That said order designated Michael P. Grace II as the operator of said pooled unit and proposed well.

(4) That Michael P. Grace II subsequently completed the Grace-Atlantic Well No. 1 located in Unit J of said Section 24 as a producing gas well in said South Carlsbad-Morrow Gas Pool.

(5) That the applicant, herein, D. L. Hannifin, is a co-owner in said Grace-Atlantic Well No. 1.

(6) That D. L. Hannifin seeks the amendment of Order No. R-4432 to remove Michael P. Grace II as operator of the pooled unit and the Grace-Atlantic Well No. 1 and to designate D. L. Hannifin as operator thereof.

(7) That Michael P. Grace II originally completed said Grace Atlantic Well No. 1 utilizing four and one-half inch casing as tubing.

(8) That Michael P. Grace II later requested an exception to Rule 107(d)(2) and 107(d)(3) of Commission Rules and Regulations for use of such tubing.

(9) That Administrative Order TX-39 was entered on April 17, 1973, and stated in part:

> "Inasmuch as the gas produced from this well is very dry (gas-liquid ratio reported TSTM on 4-point test), it appears that this well can be produced in the manner proposed without causing waste. You are therefore granted the requested exception. The Commission does reserve the right, however, to rescind this authority if at any time it appears that the producing characteristics of the well have so changed that this method of production is causing or may cause waste."

(10) That sometime during 1975, the well began to experience production problems.

(11) That the well commenced producing water or some other material that impeded or totally restricted the flow of gas from the well.

(12) That prior to December 15, 1975, the well was equipped with a "blooie" line which could be used to flare gas, or vent gas, fluids, and any other material to the atmosphere.

(13) That the water or other material which impeded production could not be lifted or cleared from the wellbore efficiently through the four and one-half inch tubing.

(14) That in order to clear the wellbore of the water or other material to restore production, the well was flared or vented to the atmosphere.

(15) That allowing gas to escape to the atmosphere during the flaring or venting process constitutes waste.

(16) That the evidence presented demonstrated that said well was flared approximately 4 days per month.

(17) That flaring or venting gas without Commission approval is a violation of the Commission's Rules and Regulations.

(18) That Michael P. Grace II did allow the flaring or venting of gas from said well without Commission approval and did violate Rule 404(a) of the Commission Rules and Regulations.

(19) That rather than flaring or venting gas from said well to clear the wellbore of fluids or other material, Michael P. Grace II as operator should have, within a reasonable period of time after production problems commenced, equipped said well with smaller diameter tubing which would more efficiently clear the wellbore of water or other material.

(20) That 90 days to 6 months following the onset of production problems would have been a reasonable period of time in which to equip said well with smaller diameter tubing.

(21) That Michael P. Grace II did not equip said well with smaller diameter tubing until September, 1977, at least 20 months after the onset of said production problems.

(22) That Michael P. Grace II did in fact equip the well with smaller diameter tubing only after the Commission rescinded Administrative Order No. TX-39.

(23) That said well has flowed at a reasonable sustained rate of production since the installation of the smaller diameter tubing.

(24) That Michael P. Grace II, by allowing said well to produce at an impeded or totally restricted rate for an unreasonable period of time did, in all probability, allow gas that would otherwise be recovered by said well to migrate from the proration unit to another well or wells on other proration units within the same pool.

(25) That Section 65-3-14(c) paragraph 2, New Mexico Statutes Annotated, 1953 Compilation, concerning compulsory pooling states in part that:

> "All orders effecting such pooling shall be made after notice and hearing, and shall be upon such terms and conditions as are just and reasonable and will afford to the owner or owners of each tract or interest in the unit the opportunity to recover or receive without unnecessary expense his just and fair share of the oil or gas, or both."

(26) That operations allowing gas to migrate from said Grace-Atlantic Well No. 1 to other proration units in the same pool denies the owners of the pooled unit dedicated to said well the opportunity to recover or receive their just and fair share of the gas from said pool.

(27) That Michael P. Grace II withheld certain royalty interest payments due from production from the well and the pooled unit and did in fact make the payments only after federal court action by the royalty interest owners.

(28) That such action denied the owners of such royalty interest the opportunity to recover or receive without "unnecessary expense" their just and fair share of the production from said pool.

(29) That Michael P. Grace II as operator of said well did cause waste to occur therefrom, did operate said well in such a manner as to cause owners of interest in the pooled unit to not recover or receive without unnecessary expense their just and fair share of the oil, gas, or both from the South Carlsbad Morrow Gas Pool, and did not operate the well with reasonable diligence, in a prudent and workmanlike manner, having due regard for the interests of all owners of interest in the well and pooled unit.

(30) That Commission Order No. R-4432 should be amended to designate D. L. Hannifin as operator of the subject well and unit.

IT IS THEREFORE ORDERED:

(1) That effective at 7:00 o'clock a.m. on _____, 1978, Order (2) of Commission Order No. R-4432 is hereby amended to read in its entirety as follows:

"(2) That D. L. Hannifin is hereby designated the operator of the subject well and unit."

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman

EMERY C. ARNOLD, Member

JOE D. RAMEY, Member

S E A L

jr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION COMMISSION

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

CASE NO. 5961
Order No. R-5483-A

APPLICATION OF D. L. HANNIFIN FOR
AN AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

REHEARING

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 10:00 a.m. on June 21, 1977, and for rehearing at 9:00 a.m. on October 19, 1977, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this _____ day of _____, 1978, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearings, and being fully advised in the premises,

FINDS:

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

(2) That Commission Order No. R-4432 entered November 8, 1972, compulsorily pooled the S/2 of Section 24, Township 22 South, Range 26 East, NMPM, to form a standard 320-acre proration unit for the South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon.

(3) That said order designated Michael P. Grace II as the operator of said pooled unit and proposed well.

(4) That Michael P. Grace II subsequently completed the Grace-Atlantic Well No. 1 located in Unit J of said Section 24 as a producing gas well in said South Carlsbad-Morrow Gas Pool.

(5) That the applicant, herein, D. L. Hannifin, is a co-owner in said Grace-Atlantic Well No. 1.

(6) That D. L. Hannifin seeks the amendment of Order No. R-4432 to remove Michael P. Grace II as operator of the pooled unit and the Grace-Atlantic Well No. 1 and to designate D. L. Hannifin as operator thereof.

(7) That Michael P. Grace II originally completed said Grace Atlantic Well No. 1 utilizing four and one-half inch casing as tubing.

(8) That Michael P. Grace II later requested an exception to Rule 107(d)(2) and 107(d)(3) of Commission Rules and Regulations for use of such tubing.

(9) That Administrative Order TX-39 was entered on April 17, 1973, and stated in part:

> "Inasmuch as the gas produced from this well is very dry (gas-liquid ratio reported TSTM on 4-point test), it appears that this well can be produced in the manner proposed without causing waste. You are therefore granted the requested exception. The Commission does reserve the right, however, to rescind this authority if at any time it appears that the producing characteristics of the well have so changed that this method of production is causing or may cause waste."

(10) That sometime during 1975, the well began to experience production problems.

(11) That the well commenced producing water or some other material that impeded or totally restricted the flow of gas from the well.

(12) That prior to December 15, 1975, the well was equipped with a "blooie" line which could be used to flare gas, or vent gas, fluids, and any other material to the atmosphere.

(13) That the water or other material which impeded production could not be lifted or cleared from the wellbore efficiently through the four and one-half inch tubing.

(14) That in order to clear the wellbore of the water or other material to restore production, the well was flared or vented to the atmosphere.

(15) That allowing gas to escape to the atmosphere during the flaring or venting process constitutes waste.

(16) That the evidence presented demonstrated that said well was flared approximately 4 days per month.

(17) That flaring or venting gas without Commission approval is a violation of the Commission's Rules and Regulations.

(18) That Michael P. Grace II did allow the flaring or venting of gas from said well without Commission approval and did violate Rule 404(a) of the Commission Rules and Regulations.

(19) That rather than flaring or venting gas from said well to clear the wellbore of fluids or other material, Michael P. Grace II as operator should have, within a reasonable period of time after production problems commenced, equipped said well with smaller diameter tubing which would more efficiently clear the wellbore of water or other material.

(20) That 90 days to 6 months following the onset of production problems would have been a reasonable period of time in which to equip said well with smaller diameter tubing.

(21) That Michael P. Grace II did not equip said well with smaller diameter tubing until September, 1977, at least 20 months after the onset of said production problems.

(22) That Michael P. Grace II did in fact equip the well with smaller diameter tubing only after the Commission rescinded Administrative Order No. TX-39.

(23) That said well has flowed at a reasonable sustained rate of production since the installation of the smaller diameter tubing.

(24) That Michael P. Grace II, by allowing said well to produce at an impeded or totally restricted rate for an unreasonable period of time did, ~~in all probability,~~ allow gas that would otherwise be recovered by said well to migrate from the proration unit to another well or wells on other proration units within the same pool.

(25) That Section 65-3-14(c) paragraph 2, New Mexico Statutes Annotated, 1953 Compilation, concerning compulsory pooling states in part that:

> "All orders effecting such pooling shall be made after notice and hearing, and shall be upon such terms and conditions as are just and reasonable and will afford to the owner or owners of each tract or interest in the unit the opportunity to recover or receive without unnecessary expense his just and fair share of the oil or gas, or both."

(26) That operations allowing gas to migrate from said Grace-Atlantic Well No. 1 to other proration units in the same pool denies the owners of the pooled unit dedicated to said well the opportunity to recover or receive their just and fair share of the gas from said pool.

(27) That Michael P. Grace II withheld certain royalty interest payments due from production from the well and the pooled unit and did in fact make the payments only after federal court action by the royalty interest owners.

(28) That such action denied the owners of such royalty interest the opportunity to recover or receive without "unnecessary expense" their just and fair share of the production from said pool.

(29) That Michael P. Grace II as operator of said well did cause waste to occur therefrom, did operate said well in such a manner as to cause owners of interest in the pooled unit to not recover or receive without unnecessary expense their just and fair share of the oil, gas, or both from the South Carlsbad Morrow Gas Pool, and did not operate the well with reasonable diligence, in a prudent and workmanlike manner, having due regard for the interests of all owners of interest in the well and pooled unit.

(30) That Commission Order No. R-4432 should be amended to designate D. L. Hannifin as operator of the subject well and unit.

IT IS THEREFORE ORDERED:

(1) That effective at 7:00 o'clock a.m. on _____, 1978, Order (2) of Commission Order No. R-4432 is hereby amended to read in its entirety as follows:

"(2) That D. L. Hannifin is hereby designated the operator of the subject well and unit."

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman

EMERY C. ARNOLD, Member

JOE D. RAMEY, Member

S E A L

jr/

BEFORE THE OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO

In the matter of the hearing
called by the Oil Conservation
Commission of New Mexico for
the purpose of considering:

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN
for amendment of Order #R-4432,
Eddy County, New Mexico.

ENTRY OF APPEARANCE

COMES NOW the law firm of LAMB, METZGAR & LINES, P.A., and hereby enters its appearance on behalf of Michael P. Grace, II in the above entitled and numbered matter.

LAMB, METZGAR & LINES, P.A.

BY: _____
Larry L. Lamb
Attorneys for Michael P. Grace, II
Post Office Box 987
Albuquerque, NM 87103
(505)247-0107

I hereby certify that a true copy
of the foregoing was mailed to
opposing counsel of record this
15th day of December, 1978.

_____

RECEIVED
DEC 1 1978
Oil Conservation Commission

BEFORE THE OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO

In the matter of the hearing
called by the Oil Conservation
Commission of New Mexico for
the purpose of considering:

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN
for amendment of Order #R-4432,
Eddy County, New Mexico.

MOTION FOR HEARING

COMES NOW Michael P. Grace, II, by his attorneys, LAMB, METZGAR & LINES, P.A., and respectively moves the Commission for an entry of an appropriate Order reopening the above entitled and numbered matter for the purpose of hearing new testimony, and as grounds for said motion states to the Commission:

1. That witnesses, M. Raymond Lamb, and Richard Steinhorst, previously testified at the hearing before the Commission on October 19, 1977. Each rendered their respective opinion that well production data available as of the date of said hearing, October 19, 1977, referencing the Grace Atlantic Well was inadequate to justify rendering competent opinions concerning production of Grace Atlantic Well following the reworking of same prior to said hearing.

2. That movant is informed and believes, and therefore alleges, that material production data on the Grace Atlantic Well is presently available which would provide a sufficient foundation for expert witnesses of the respective parties and an independent expert witness to render professional opinions which would be beneficial to

the Commission in reaching its decision on the issues.

3. Movant is informed and believes, and therefore alleges, that applicant, D.L. Hannifin, his agents, servants, or employees has, since the hearing on October 19, 1977, personally tampered with and modified the mechanical apparatus of the Grace Atlantic Well and caused the flaring of said well in direct violation of a previous Order of the Commission prohibiting such flaring, all as more fully set forth in affidavit of Juanita Jones Wildberger and Clarence Forister marked Exhibits "A" and "B", attached hereto, and incorporated herein by reference. That such actions of applicant in facilitating and causing the flaring of said well, is one of the acts previously cited by applicant as a reason for removal of Michael P. Grace as the operator.

4. That subsequent to the hearing of the Commission on October 19, 1977, more particularly the 8th of September, 1978, the parties and their respective counsel met at the offices of the Commission in Santa Fe, New Mexico for the purpose of potential settlement discussions, which discussions resulted in an agreement between the parties to obtain the services of an independent engineer to advise the parties on the most prudent course of conduct to determine the future of Grace Atlantic #1 Well, Eddy County, such agreement between the parties being more fully set forth in communications between the parties' respective counsel, marked Exhibits "C", "D", "E", and "F" attached hereto, and incorporated herein by reference.

5. That in accordance with the terms and conditions of the agreement between the parties, as reflected by the provision of Exhibits "C", "D", "E", and "F", engineers

Richard S. Guenther and Richard Steinhorst selected engineer Tom Birtch of Houston, Texas, to perform the requested testing and evaluation of the Grace Atlantic #1 Well, Eddy County.

6. That counsel for the parties have been verbally advised by said Tom Birtch that in his opinion, substantial reserves of natural gas are available from the Grace Atlantic #1 Well, Eddy County, if a compressor could be installed which would facilitate induction of natural gas from Grace Atlantic #1 Well, Eddy County, in to the relatively higher pressured gathering pipeline of El Paso Natural Gas Company.

7. Respondent - Operator Michael P. Grace concurs with the recommendation of engineer Tom Birtch that a compressor should be installed on the Grace Atlantic #1 Well, Eddy County, New Mexico, and in light of applicant's previous questions concerning the operation of Grace Atlantic #1 Well, Eddy County, has requested applicant's concurrence in the wisdom of installation of such a compressor, all as more fully set forth in a copy of a letter from counsel for Michael P. Grace to counsel for applicant, a copy of which is marked Exhibit "G".

WHEREFORE, movant prays that the Commission set a date certain within the next 45 days for the purpose of receiving additional testimony from the parties on the issues present in the above entitled and numbered action.

LAMB, METZGAR & LINES, P.A.

BY: _____
Larry L. Lamb
Attorneys for Michael P. Grace, II
Post Office Box 987
Albuquerque, NM 87103
(505)247-0107

I hereby certify that a true copy of the foregoing was mailed to opposing counsel of record this 15th day of December, 1978.

_____

STATE OF NEW MEXICO)
COUNTY OF EDDY)

A F F I D A V I T

The undersigned being office manager for Michael P. Grace II and Corinne Grace in their Carlsbad, New Mexico office, being first duly sworn, deposes and says that Mr. Dan Hannifin came by the office approximately six months ago and was asking about the Grace Atlantic Well #1 and why the production had fallen off. He asked why we did not flare the well and I told him that the valve to the blowie line had been stolen when we reworked the well back in September, 1977. We discussed the El Paso line pressure being high and he said that he had called El Paso Natural and the line pressure was, he felt, not too high for the well to go on stream. We discussed the possibility of the well loading up with water, but I do not remember him asking me to buy a valve and connect the flare line up. If he had specifically asked me too I would not have given him the reason we did not have $50.00 but the simple truth that we did not and do not have permission from the State to flare this well. I had requested this from the State almost a year and a half ago, to flare this well when we felt that it needed it and we were denied this request. As to the financial situation of the Graces, Mr. Hannifin asked how we were operating the Carlsbad office and if we were getting our payroll on time and I replied to this that Mrs. Grace wired the money into us each week for our expenses and payroll, and that we were managing quite well with this arrangement.

I did not know that Mr. Hannifin was going to connect the flare line on this well and call the pumper and tell him that it was connected. If the flare line needed to be connected, and if we could have flared this well, we would certainly have taken care of it ourselves. However, I did not feel there was any need to spend money for something we could not use. Since the time that Mr. Forister came to work for us this flare line had not been connected, therefore he did not know not to flare the well when

EXHIBIT A

Mr. Hannifin called him that it had been connected. He did not know this until after he had flared the well for approximately 30 minutes and after he came by the office, at which ~~time~~ I asked him not to flare it anymore.

Juanita Jones Wildberger

Juanita Jones Wildberger

Subscribed and sworn to before me this 13th day of December 1978.

Ruth S. Ground

Notary Public

My commission expires:

MY COMMISSION EXPIRES 2-11-81

STATE OF NEW MEXICO)
COUNTY OF EDDY)

A F F I D A V I T

The undersigned being the pumper for Michael P. Grace II and Corinne Grace, being first duly sworn, deposes and says that approximately six months ago Mr. Dan Hannifin called me at home one night, told me who he was and that he was a partner in the Grace Atlantic Well #1. He asked me why the well production had gone down on the well and I told him it was due to high line pressure on the El Paso Pipeline. I was asked by Mr. Hannifin why I did not flare the well and I told him that the blowie line was not hooked up.

Several days later Mr. Hannifin called me again and said that he had a crew working on one of his wells and that he had them go over and hook up the blowie line on the Grace Atlantic Well #1, and that the well could now be flared. After Mr. Hannifin called me and told me this, several days later I went by and flared the well for 30 to 40 minutes and there was no liquid coming out.

Subsequent to the flaring of the well, pursuant to Mr. Hannifin's telephone call, I went by the Grace office in Carlsbad and was advised by Juanita Jones Wildberger that the well should not have been flared as permission to flare the well had previously been denied by the State of New Mexico.

Clarence Forister

Subscribed and sworn to before me this 13th day of December 1978

Ruth S. Ground
Notary Public

My Commission Expires

MY COMMISSION EXPIRES 2-11-81

EXHIBIT B

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

September 15, 1978

Mr. Larry L. Lamb
Lamb, Metzgar & Lines, P.A.
Attorneys at Law
P.O. Box 987
Albuquerque, New Mexico 87103

Re: Grace Atlantic #1 Well -
Eddy County, New Mexico
(NMOCC - Application of
D.L. Hannifin for Change
in Operator)

Dear Larry:

In connection with our attempts to work out some type of acceptable and satisfactory arrangement to possibly resolve or at least improve the business relationship between our respective clients, as the same pertains to the captioned well, counsel agreed, with client approval, at our meeting in Santa Fe on September 8, 1978, to the following:

(1) To request of the New Mexico Oil Conservation Division that they postpone or withhold the rendering of any decision in Case No. 5961 (Application of D.L. Hannifin to Change Operator from Michael P. Grace to D.L. Hannifin) until November 1, 1978, by which date it is hopeful that our respective clients will have obtained further needed information about the captioned well, which conceivably may serve to assist them in some sort of resolution of their problems. The request to the Division was in fact made and they agreed.

(2) For your client, Mr. Grace, and our client, Mr. Hannifin, to each submit to the other, through counsel, the name and qualifications information of a proposed field reservoir engineer, proposed by each to perform the necessary testing and evaluation of the captioned well. The name and qualifications are to be submitted by September 20, 1978.

(3) By September 20, 1978, the parties are also to present to each other, through counsel, their suggested specifications and/or recommendations and/or instructions for the work to be done by the engineer.

EXHIBIT C

(4) By September 30, 1978, the parties are to mutually agree upon one of the engineers to perform the study. If our clients cannot mutually agree, then the two engineers are to mutually suggest a third engineer to do the job, and the parties will engage such named engineer to do the proposed work.

(5) The parties will each deposit $1,500 with their respective attorneys, as a good-faith deposit against anticipated engineering study expenses.

(6) The parties will each provide the engineer with all well information and data requested of them and in their possession, and will abide by and agree to the engineer's requirements and needs to accomplish the necessary testing and evaluation of the well.

(7) All directions, suggestions and requests of the parties to the engineer will go through their attorneys, and neither party will restrict or interfere with the engineering study, it being the desire of both parties that they obtain an impartial and complete report about the well and its future potential, if any.

(8) The agreement to evaluate the well is not intended by the parties as a settlement of their differences, but rather as an initial informational step to see if the mutual financial interests of the parties may lead to further discussions of settlement, or a request of NMOCD to render its decision. The parties contemplate and shall seek completion of the proposed engineering study prior to November 1, 1978.

We trust the foregoing sets forth your understanding of our verbal agreement on September 8, 1978. Should you disagree in any way, please advise.

Yours very sincerely,

HUNKER - FEDRIC, P.A.

Don M. Fedric

Don M. Fedric

DMF:dd

cc: Mr. D.L. Hannifin

MAILGRAM SERVICE CENTER
MIDDLETOWN, VA. 22645

Mailgram

4-066971E262002 09/19/78 ICS IPMMTZZ CSP ABQB
I 5052470107 MGM TDMT ALBUQUERQUE NM 09-19 0656P EST

LAMB METZGAR & LINES L L LAMB
PO BOX 987
ALBUQUERQUE NM 87103

THIS MAILGRAM IS A CONFIRMATION COPY OF THE FOLLOWING MESSAGE:

5052470107 MGM TDMT ALBUQUERQUE NM 127 09-19 0656P EST
ZIP
DON FEDRIC
HUNKER-FEDRIC PA
PO BOX 1837
ROSWELL NM 88201

RE: GRACE ATLANTIC NUMBER 1 WELL

RECEIVED YOUR LETTERS OF SEPTEMBER 15, 1978. AGREE WITH YOUR OUTLINE OF A VERBAL UNDERSTANDING REACHED SEPTEMBER 8, 1978. MICHAEL GRACE HAS RECOMMENDED RICHARD STEINHORST AS THE ENGINEER TO PERFORM PROPOSED STUDY AND EVALUATION. MR STEINHORST, PETROLEUM ENGINEER, IS GRADUATE OF UNIVERSITY OF OKLAHOMA, 17 YEARS EXPERIENCE WITH TEXAS COMPANY (TEXACO), AND 6 YEARS WITH BRITISH-AMERICAN OIL PRODUCING COMPANY. MR STEINHORST MAY BE REACHED AT PO BOX 51795, LAFAYETTE, LA 7050[illegible], TELEPHONE (318) 232-7777 OR (318) 981-4303. MR STEINHORST HAS BEEN ADVISED TO SPEAK FREELY TO EITHER YOU OR MR HUNKER. PROPOSED STUDY OUTLINED IN YOUR LETTER HAS BEEN FORWARDED TO MR GRACE AND MR STEINHORST FOR THEIR EVALUATION. A RESPONSE WILL BE FORWARDED TO YOU UPON RECEIPT BY THE UNDERSIGNED

LARRY L LAMB

1900 EST

MGMCOMP MGM

EXHIBIT D

TO REPLY BY MAILGRAM, SEE REVERSE SIDE FOR WESTERN UNION'S TOLL-FREE PHONE NUMBERS

MAILGRAM SERVICE CENTER
MIDDLETOWN, VA. 22645

Western Union Mailgram

4-067291E262002 05/19/78 ICS IPMMTZZ CSP ABGA
1 5052470107 MGM TDMT ALBUQUERQUE NM 05-19 0701P EST

LAMB METZGAR & LINES L L LAMB
PO BOX 987
ALBUQUERQUE NM 87103

THIS MAILGRAM IS A CONFIRMATION COPY OF THE FOLLOWING MESSAGE:

5052470107 MGM TDMT ALBUQUERQUE NM 127 05-19 0701P EST
ZIP
RICHARD STEINHORST JR
PO BOX 51795
MAFAYETTE LA 70505

RE: GRACE ATLANTIC NUMBER 1 WELL

THIS WILL CONFIRM OUR TELEPHONE CONVERSATION WHEREIN WE DISCUSSED MR MICHAEL GRACE'S RECOMMENDATION THAT YOU BE CONSIDERED AS THE CONSULTING ENGINEER TO PERFORM CERTAIN WELL STUDY AND EVALUATION TESTS ON THE GRACE ATLANTIC NUMBER 1 WELL- MR DON FEDRIC AND MR GEORGE HUNKER, ATTORNEYS FOR MR D L HANNIFIN, ARE FREE TO SPEAK WITH YOU CONCERNING THE PROPOSED TESTS AND EVALUATION OF SUCH WELL, COPIES OF LETTERS RECEIVED FROM MR FEDRIC ARE BEING FORWARDED TO YOU BY MAIL FOR YOUR EVALUATION. IF YOU HAVE ANY QUESTIONS, PLEASE FEEL FREE TO CALL UPON ME, (505) 247-0107

LARRY L LAMB

1903 EST

MGMCOMP MGM

EXHIBIT E

TO REPLY BY MAILGRAM, SEE REVERSE SIDE FOR WESTERN UNION'S TOLL - FREE PHONE NUMBERS

MAILGRAM SERVICE CENTER
MIDDLETOWN, VA. 22645

western union Mailgram® UNITED STATES POSTAL SERVICE U.S. MAIL

4-070787E2 75002 10/02/78 ICS IPMMTZZ CSP ABQC
1 5052470107 MGM TDMT ALBUQUERQUE NM 10-02 0528P EST

LAMB METZGAR AND LINES PA L L LAMB
SUITE 1010 BANK OF NEW MEXICO BLDG PO BOX
987
ALBUQUERQUE NM 87103

THIS MAILGRAM IS A CONFIRMATION COPY OF THE FOLLOWING MESSAGE:

5052470107 MGM TDMT ALBUQUERQUE NM 100 10-02 0528P EST
ZIP
DON M FEDRIC
HUNKER-FEDRIC PA
210 HINKLE BLDG PO BOX 1837
ROSWELL NM 88201

RE: GRACE-ATLANTIC NUMBER ONE WELL EDDY COUNTY, NEW MEXICO

DEAR MR FEDRIC:

MY CLIENT UNABLE TO AGREE WITH SELECTION OF RICHARD S GUNTHER AS ENGINEER FOR STUDY OF GRACE-ATLANTIC NUMBER ONE WELL. SUGGEST MR GUNTHER AND MR STEINHAORST IMMEDIATELY CONTACT EACH OTHER TO AGREE UPON IMPARTIAL THIRD ENGINEER TO PERFORM STUDY. STEINHAORST OFF SHORE IN GULF UNTIL THURSDAY MORNING.

LAMB METZGAR AND LINES PA
LARRY L LAMB

1730 EST

MGMCOMP MGM

EXHIBIT F

TO REPLY BY MAILGRAM, SEE REVERSE SIDE FOR WESTERN UNION'S TOLL - FREE PHONE NUMBERS

LAMB, METZGAR & LINES, P. A.
Attorneys and Counsellors at Law
P. O. BOX 987
SUITE 1010
BANK OF NEW MEXICO BUILDING
ALBUQUERQUE, NEW MEXICO 87103
PHONE 505-247-0107

LARRY L. LAMB
BERNARD F. METZGAR
FARRELL L. LINES
JOHN S. CAMPBELL
G. RICHARD MANTLO

December 14, 1978

Don H. Fedric, Esquire
Hunker - Fedric P.A.
210 Hinkle Building
Post Office Box 1837
Roswell, NM 88201

Re: Grace Atlantic #1 Well - Eddy County, New Mexico

Dear Don:

Following our telephone conversations on the 11th of December, 1978, I spoke with the offices of Michael P. Grace and I was advised that they concur with the recommendation Mr. Tom Birtch made to you and I that a compressor be installed on the Grace Atlantic #1 Well to increase production. Although the projected initial cost for installation of the compressor, i.e. $3,000.00 - $3,500.00 does not require prior approval by the terms of paragraph 11 of the Operating Agreement, the aggregate total of the compressor lease payments over a year, i.e. $36,000.00 would seem to require the written consent of all parties. Please consider this letter as a formal request pursuant to the provisions of the Operating Agreement on Grace Atlantic #1 Well, Eddy County, to authorize Michael P. Grace as operator of same to implement engineer Tom Birtch's recommendation that a compressor be installed. Upon receipt of the written report from Tom Birtch, I will forward a copy of same to Joe Don Cook, the other holder of a working interest in the well, requesting his approval on leasing and installation of a compressor.

Following receipt of Mr. Birtch's written report, I would suggest that Mr. Birtch, you, and I hold a telephone conference call to discuss the relative merits of a straight lease versus a lease - purchase of a compressor for the well.

Sincerely yours,

Larry L. Lamb

LLL:jem
cc: Michael P. Grace

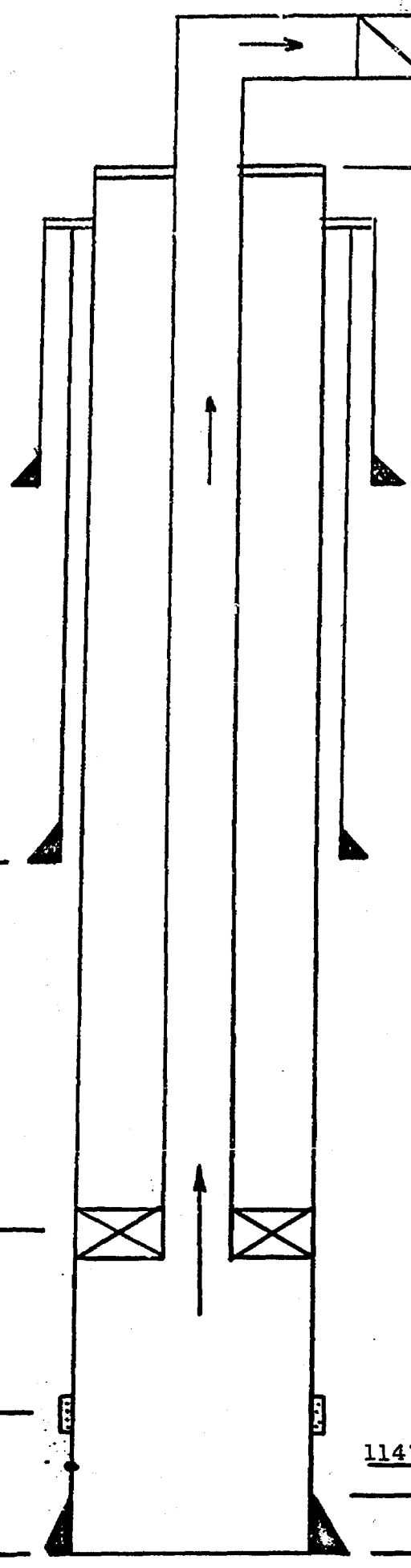
EXHIBIT G

Exhibit
3

MICHAEL P. GRACE II
GRACE-ATLANTIC No.I

1980' FSL & 1980' FEL
Section 24, T-22S, R-26E
Eddy County, New Mexico

OIL CONSERVATION COMMISSION
5931 3
D. L. Hannifin
10-19-77



4½" Tbg.
15.5 # 1 Ft.

Elevation 3162' Gr.

13-3/8" csg. set @ 375'
Cmt. W/350 sx.

9-5/8" csg. set @ 5402'
Cmt. w/1650 sx.

Baker 83 FA 47
Pkr. assembly @ 11000

Morrow perforations
11,424 - 444'

11475 Possible Pay Zone

PBD 11740

7" csg. set @ 11,768'
Cmt. W/500 sx.
(32# 29# 26# & 23#

TD 11,768'

BH.P @ 11,500 - 3342 PSIG

N. Raymond Lamb
8-19-77

Exhibit 4

MICHAEL P. GRACE II
GRACE-ATLANTIC No.1

1980' FSL & 1980' FEL
Section 24, T-22S, R-26E
Eddy County, New Mexico

BEFORE THE
OIL CONSERVATION COMMISSION
Case No. 5961 Exhibit No. 4
Submitted by: D.L. HANNIJIN
Hearing Date: 10-19-77

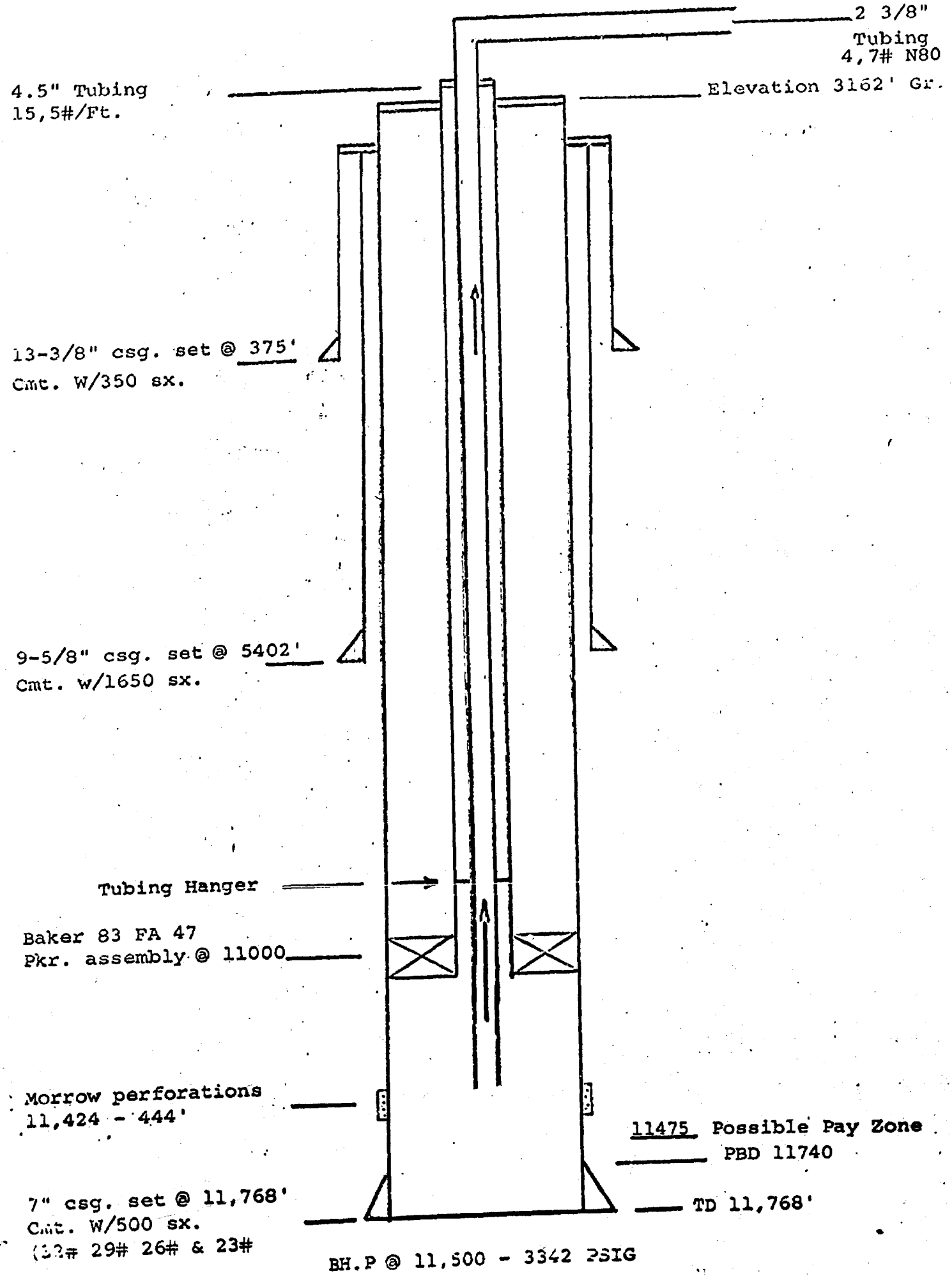


Exhibit 4A

NO. OF COPIES RECEIVED	4	
DISTRIBUTION		
SANTA FE	4	
FILE	1	1
U.S.G.S.		
LAND OFFICE		
OPERATOR	1	

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

SEP 22 1977

U. S. G.

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" (FORM C-101) FOR SUCH PROPOSALS.)

5a. Indicate Type of Lease: State ☐ Fee ☒

5. State Oil & Gas Lease No.

7. Unit Agreement Name

OIL WELL ☐ GAS WELL ☒ OTHER-

2. Name of Operator: Michael P. Grace II

8. Farm or Lease Name: Atlantic Grace Com

3. Address of Operator: P. O. Box 1148 Carlsbad, New Mexico 88220

9. Well No.: 1

4. Location of Well: UNIT LETTER J, 1980 FEET FROM THE South LINE AND 1980 FEET FROM THE East LINE, SECTION 24 TOWNSHIP 22S RANGE 26E NMPM.

10. Field and Pool, or Wildcat: South Carlsbad Morrow

15. Elevation (Show whether DF, RT, GR, etc.): 3162 GR

12. County: Eddy

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐		COMMENCE DRILLING OPNS. ☐	PLUG AND ABANDONMENT ☐
PULL OR ALTER CASING ☐	CHANGE PLANS ☐	CASING TEST AND CEMENT JOB ☐	Run 2 1/16" tubing
OTHER ☐		OTHER ☐	

17. Describe Proposed or Completed Operations *(Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work)* SEE RULE 1103.

August 30, 1977 — Moved in Clary's Well service rig & rigged up
Sept. 10, 1977 — Ran Baker 22FA30 packer W/expendable plug and set @ 10926'KB
Sept. 15, 1977 — 2 1/16" O.D. tubing set as follows:

15 jts. 2 1/16"OD N-80 10R IJ tubing	485.59
Baker Oil Tools 2 1/16x 1.50BFC-Fnip	0.80
175 jts. 2 1/16" OD N-80 10R IJ tbg.	5620.27
2 1/16"OD 10 R IJ pin x 2 1/16"OD CS Hydril box	0.61
167 jts, 2/16" OD N-80 CS Hydrill tbg.	5230.35
2 1/16" OD CS Hydrill pin x 2 3/8"OD EUE 8Rpin	0.44
Tubing hanger 7"x2 3/8"	0.50
	11338.59
Elevation KB-THF	13.81
Tubing hung at	11352.43
Well shut in and	
put back on line 9/19/77	

BEFORE THE OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 541 Exhibit No. 4A
Submitted by: D.L. Hannifin
Hearing Date: 10-19-77

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

SIGNED Dennis Williams TITLE Agent DATE 9/20/77

APPROVED BY W. A. Gressett TITLE SUPERVISOR, DISTRICT II DATE SEP 23 1977

Exhibit 5

MICHAEL P. GRACE

GAS PRODUCTION FROM GRACE ATLANTIC NO. 1 WELL IN S½ Section 24, Township 22 South, Range 26 East, Eddy County, New Mexico, PER REPORTS OF N.M. O&G ENGINEERING COMMITTEE FOR PERIOD COMMENCING JANUARY 1976

Accumulative total 1-1-75	6,882,252		
January, 1975		207,631	MCF
February		130,916	
March		95,328	
April		87,390	
May		143,746	
June		54,028	
July		8,522	
August		0	
September		203,658	
October		168,013	
November		40,642	
December		18,068	
Accumulative total 1-1-76	8,040,194		
January, 1976		27,536	MCF
February,		105,906	
March		148,176	
April		134,114	
May		94,608	
June		74,148	
July		77,626	
August	(260,688)	63,451	
September		90,064	
October		68,711	
November		44,670	
December		66,983	
Accumulative total 1-1-77	9,036,187		
January, 1977		47,102	MCF
February		45,820	
March		22,936	
April		38,644	
May		26,129	
June		2,211	
July		2,945	4½" TBG above
August		0	
September		10,778	- 11 days

Accumulative total 10/1/77 9,232,752 MCF

Note: In last 14 months Go Po Go #2 produced 350000 more than Grace Atlantic #1.

BEFORE THE OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 5961 Exhibit No. 5
Submitted by D. L. Hannifin
Hearing Date 10-19-77

Exhibit 6

Grinne

~~MICHAEL~~ P. GRACE

GAS PRODUCTION FROM GO PO GO NO. 2 WELL IN N½ Section 24, Township 22 South, Range 26 East, Eddy County, New Mexico, PER REPORTS OF N.M. O&G ENGINEERING COMMITTEE FOR PERIOD COMMENCING JANUARY 1976

Accumulative total 1-1-75	6,742,038	
January, 1975	132,140	MCF
February	118,356	
March	128,776	
April	90,595	
May	79,791	
June	77,447	
July	74,748	
August	88,219	
September	75,141	
October	73,905	
November	73,390	
December	75,369	
Accumulative total 1-1-76	7,829,914	
January 1976	75,077	MCF
February	63,679	
March	64,167	
April	60,904	
May	63,363	
June	61,403	
July	70,944	
August	77,836	
September	67,205	
October	72,345	
November	69,996	
December	67,977	
Accumulative total 1-1-77	8,644,810	
January 1977	67,790	MCF
February	55,232	
March	59,915	
April	62,659	
May	64,061	
June	56,408	
July	58,930	
August	56,329	
September	49,893	
Accumulative total 10-1-77	9,119,619	MCF

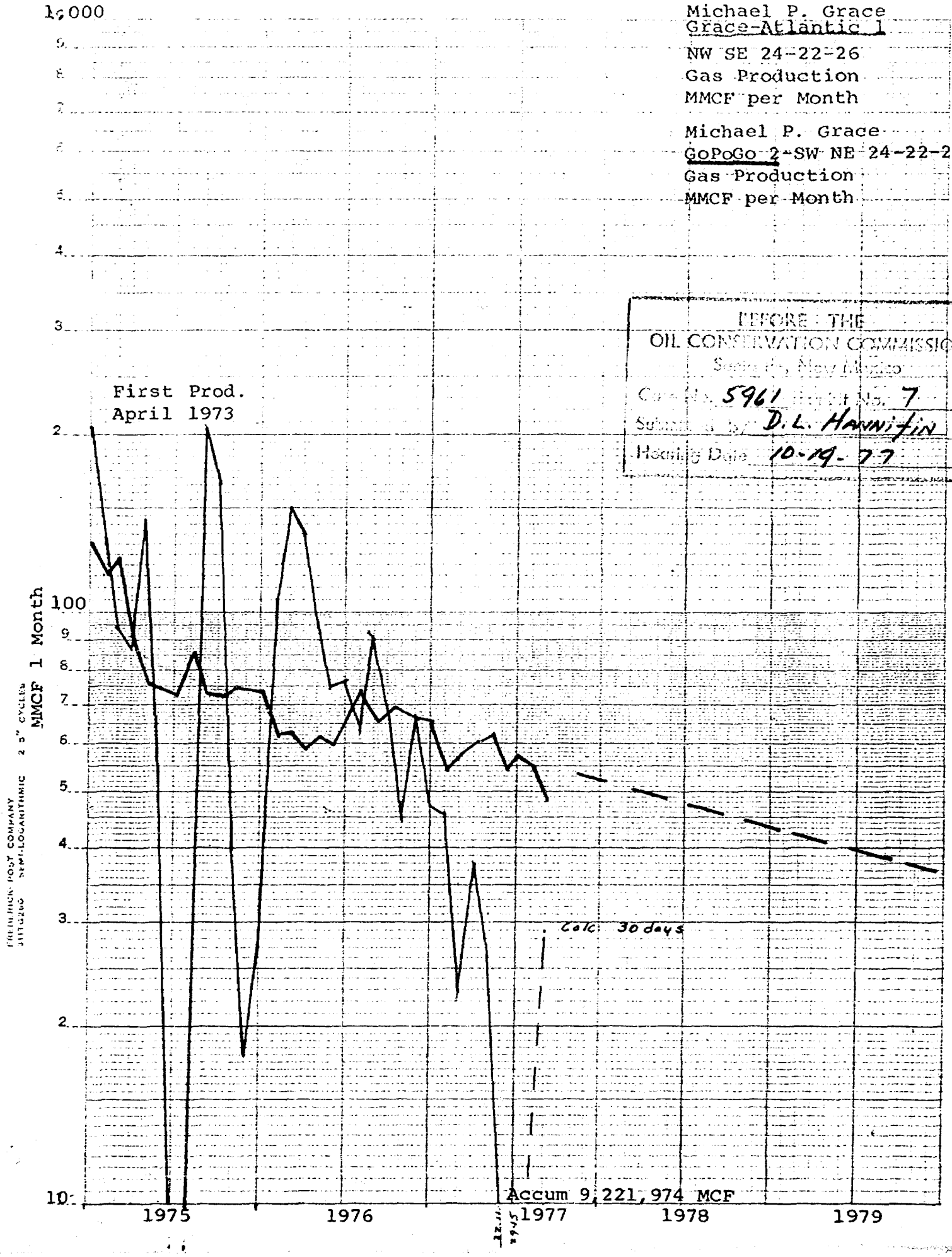
BEFORE THE OIL CONSERVATION COMMISSION Santa Fe, New Mexico Case No. 5961 Exhibit No. 6 Submitted by J. C. Hamilton Hearing Date 10-19-77

Exhibit 7

Michael P. Grace
Grace-Atlantic 1
NW SE 24-22-26
Gas Production
MMCF per Month

Michael P. Grace
GoPoGo 2-SW NE 24-22-26
Gas Production
MMCF per Month

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 5961 Exhibit No. 7
Submitted by D.L. Hannifin
Hearing Date 10-19-77



A F E

GRACE ATLANTIC WELL # 1
SECTION 21, T 22 S, R 26 E
EDDY COUNTY, NEW MEXICO
ESTIMATED
COST OF RE-WORKING

PULLING UNIT	
$60.00 per hr. 3 days - 12 hrs.per day	$ 2,160.00
Reading time, unit & crews, rigging up and rigging down	465.00
Tong rental 3 days @ $60.00 per day	180.00
Slip type elevators 3 days @ $65.00 per day	195.00
RENTAL BLOW OUT PREVENTOR & STRIPPER RUBBERS	800.00
ANCHORS (This well was completed with a big rig)	272.72
TUBING HANGER & VALVES	2,500.00
TUBING 11,500' 2 1/16" @ $2.35 per foot	27,025.00
NIPPLE & PLUG	125.00
TRUCKING SERVICE	400.00
LABOR	1,000.00
ENGINEERING & SUPERVISION + MILEAGE	1,800.00
TRUCKING	1,000.00
MISC. & UNFORSEEN EXPENSES	3,000.00
TUBING TESTERS	1,500.00
	$42,720.72
4% STATE TAX	1,815.63
	$44,536.35

P 10

ACTUAL WELL COST ACCOUNTING

RE-WORKING

GRACE-ATLANTIC WELL #1

WORK OVER RIG:		
CLARY'S WELL SERVICE		$ 13,318.96
SURFACE:		
HOBBS ANCHOR		281.54
RENTAL EQUIPMENT		
LAND & MARINE	1,620.09	
STAR TOOL	276.76	
BALES EQUIPMENT	102.68	
C & C RENTALS	234.52	
		2,234.05
TESTING		
BENNETT WIRELINE	234.69	
TESTERS, INC	1,671.07	
		1,905.76
PACKER		
BAKER		2,067.10
WIRELINE SERVICE		
McCULLOUGH	2,317.87	
KUYKENDALL	1,014.94 * - 28.19 Tax	
		3,332.81
TRUCKING		
STEVENSON ROACH	1,061.32	
Xmas TREE SUPPLY	848.00	
BUS FREIGHT	5.10	
		1,914.42
WELDING, ETC.		
UNION INDUSTRIAL	21.52	
MINE SUPPLY	19.58	
G & W	24.00	
WORLD PLASTICS	93.83	
		158.93

P-11

TUBING

McDaniel Co. 11,336.21' @ $2.35	27,705.69	26,640.09
Curley's Fishing Tool (crossover)	326.00	

WELL HEAD EQUIPMENT

Xmas Supply, Inc.	2,538.20	
" " (Labor)	1,193.00	
		3,731.20

ENGINEERING & SUPERVISION

Richard Steinhorst, Jr.	4,607.26

GRAND TOTAL	$ 61,583.72
	- 28.29 TAX
	$61,555.43

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

April 17, 1973

Mrs. Juanita L. Jones
P. O. Box 1418
Carlsbad, New Mexico 88220

Administrative Order TX-39

Dear Mrs. Jones:

Reference is made to your application for an exception to Rules 107(d)(2) and 107(d)(3) for the Michael P. Grace Grace Atlantic Well No. 1, located in Unit J of Section 24, Township 22 South, Range 26 East, South Carlsbad Morrow gas pool, Eddy County, New Mexico, to permit the production of gas through 4 1/2-inch tubing set at 11,000 feet. The uppermost perforation is at 11,424 feet.

Inasmuch as the gas produced from this well is very dry (gas-liquid ratio reported TSTM on 4-point test), it appears that this well can be produced in the manner proposed without causing waste. You are therefore granted the requested exception. The Commission does reserve the right, however, to rescind this authority if at any time it appears that the producing characteristics of the well have so changed that this method of production is causing or may cause waste.

Very truly yours,

COPY

A. L. PORTER, Jr.
Secretary-Director

ALP/DSN/dr

cc: Oil Conservation Commission - Artesia
Oil & Gas Engineering Committee - Hobbs

P-12

No. 481745

RECEIPT FOR CERTIFIED MAIL—30¢

SENT TO
Michael P. Grace

POSTMARK OR DATE

STREET AND NO.
Box 1418

P. O., STATE, AND ZIP CODE
Carlsbad, New Mexico 88220

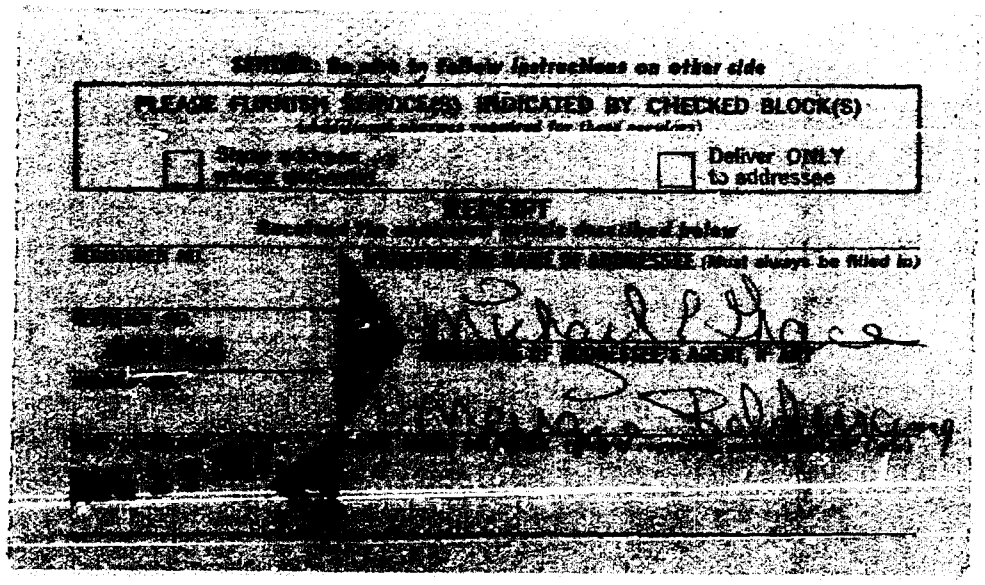
EXTRA SERVICES FOR ADDITIONAL FEES

Return Receipt		Deliver to Addressee Only
Shows to whom and date delivered	*Shows to whom, date, and where delivered*	
☐ *10¢ fee*	☐ *35¢ fee*	☐ *50¢ fee*

POD Form 3800
Mar. 1966

**NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL**

(See other side)



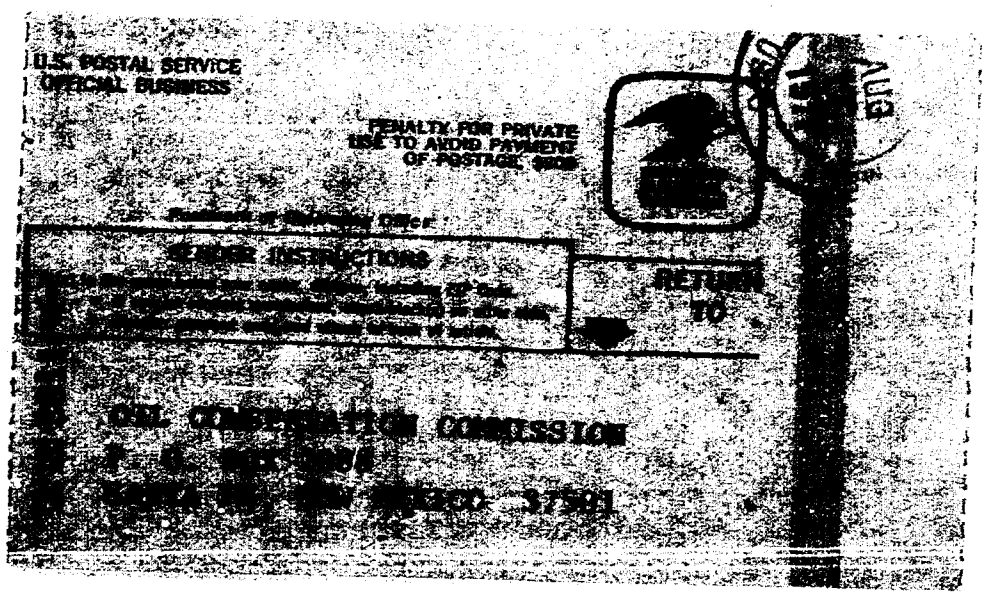
OPTIONAL SERVICES

- Return receipt (10¢ or 35¢)
- Deliver to addressee only—50¢
- Special delivery

[illegible] the gummed stub on the left portion of the [illegible] and present this article at a post office [illegible] (See reverse side)

3. If [illegible] attach the gummed stub on the left portion of [illegible] receipt, and mail the article.
4. [illegible] your name, the article number and your name and address on [illegible] the article by means of the gummed ends. [illegible] RETURN RECEIPT REQUESTED. (*Fees—10¢ or 35¢.*)
5. If you [illegible] delivered only to the addressee, endorse it on the front DELIVER TO ADDRESSEE ONLY. (*Fee—50¢*). Place the same endorsement in line 2 of the return receipt card.
6. Save this receipt and present it if you make inquiry.

☆ GPO : 1966 O—216-700



OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

August 15, 1977

COPY

CERTIFIED - RETURN
RECEIPT REQUESTED

Mr. Michael P. Grace
Box 1418
Carlsbad, New Mexico 88220

Dear Mr. Grace:

This is to notify you of a Commission hearing to be held on September 20, 1977, at 9 o'clock a.m. in the Oil Conservation Commission Conference Room, State Land Office Building, Santa Fe, New Mexico. This will be a rehearing of Case No. 5961, the application of D. L. Hannifin for amendment of Order No. R-4432.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

No. 481746

RECEIPT FOR CERTIFIED MAIL—30¢

SENT TO
George Hunker

POSTMARK OR DATE

STREET AND NO.
P. O. Box 1837

P. O., STATE, AND ZIP CODE
Roswell, New Mexico 88201

EXTRA SERVICES FOR ADDITIONAL FEES

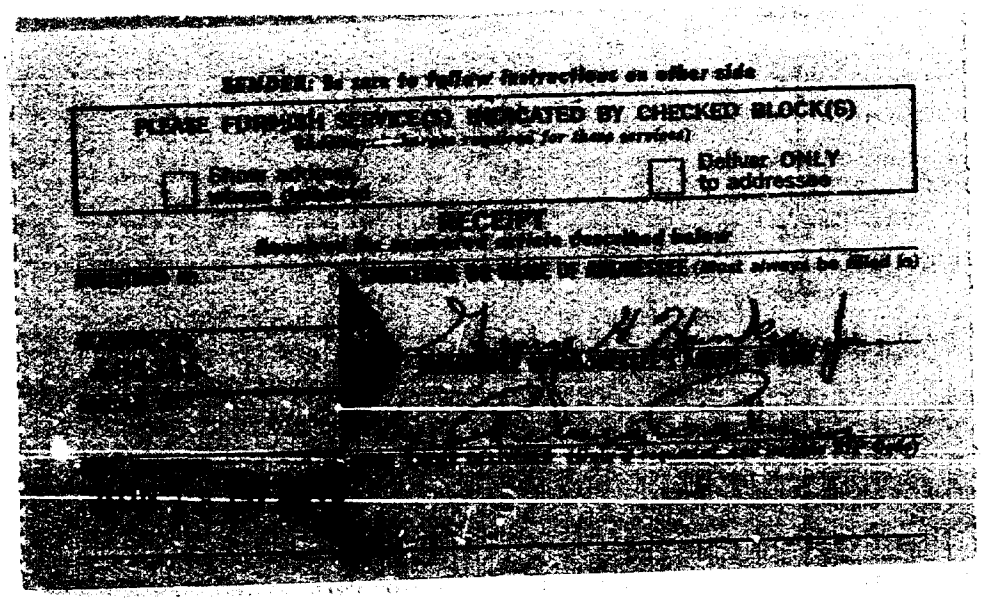
Return Receipt
- *Shows to whom and date delivered* ☐ *10¢ fee*
- *Shows to whom, date, and where delivered* ☐ *35¢ fee*

Deliver to Addressee Only ☐ *50¢ fee*

POD Form 3800
Mar. 1966

NO INSURANCE COVERAGE PROVIDED—NOT FOR INTERNATIONAL MAIL

(See other side)



OPTIONAL SERVICES
Return receipt (10¢ or 35¢)
Deliver to addressee only—30¢
Special delivery

3. [illegible] return receipt, write the gummed stub on the left portion of the [illegible] and the [illegible] the receipt [illegible], and present the article at a post office [illegible] the [illegible] return receipt. *(no extra charge)*
4. If you do not want this receipt postdated, stick the gummed stub on the left portion of the address side of the article, detach and retain the receipt, and mail the article.
5. If you want a return receipt, write the certified-mail number and your name and address on a return receipt card, Form 3811, and attach it to the back of the article by means of the gummed ends. Endorse front of article RETURN RECEIPT REQUESTED. *(Fee—10¢ or 35¢.)*
6. If you want the article delivered only to the addressee, endorse it on the front DELIVER TO ADDRESSEE ONLY. *(Fee—30¢).* Place the same endorsement in line 2 of the return receipt card.
7. Save this receipt and present it if you make inquiry.

P 573 1966 O—216-700



OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

August 15, 1977

CERTIFIED - RETURN
RECEIPT REQUESTED

Mr. George Hunker
Hunker - Fedric
Attorneys at Law
Post Office Box 1837
Roswell, New Mexico 88201

Dear Mr. Hunker:

This is to notify you of a Commission hearing to be held on September 20, 1977, at 9 o'clock a.m. in the Oil Conservation Commission Conference Room, State Land Office Building, Santa Fe, New Mexico. This will be a rehearing of Case No. 5961, the application of D. L. Hannifin for amendment of Order No. R-4432.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

No. 481747

RECEIPT FOR CERTIFIED MAIL—30¢

SENT TO Elvin Kanter	POSTMARK OR DATE
STREET AND NO. Two Hundred Lomas Boulevard, NW	
P. O., STATE, AND ZIP CODE Albuquerque, New Mexico 87102	
EXTRA SERVICES FOR ADDITIONAL FEES Return Receipt: *Shows to whom and date delivered* ☐ 10¢ fee; *Shows to whom, date, and where delivered* ☐ 35¢ fee *Deliver to Addressee Only* ☐ 50¢ fee	

POD Form 3800 Mar. 1966 **NO INSURANCE COVERAGE PROVIDED— NOT FOR INTERNATIONAL MAIL** *(See other side)*

SENDER: Be sure to follow instructions on other side

PLEASE FURNISH SERVICE(S) INDICATED BY CHECKED BLOCK(S)
(Additional charges required for these services)

☐ Show address where delivered

☐ Deliver ONLY to addressee

RECEIPT
Received the numbered article described below

REGISTERED NO.

CERTIFIED NO.
481747

INSURED NO.

DATE DELIVERED

SIGNATURE OF ADDRESSEE (Must always be filled in)
Elvin Kanter

SIGNATURE OF AGENT, IF ANY

ADDRESS WHERE DELIVERED (Only if requested, and include ZIP Code)

OPTIONAL SERVICES

Return receipt (10¢ or 35¢)
Deliver to addressee only—50¢
Special delivery

2. If you do not want this receipt postmarked, stick the gummed stub on the left portion of the article and present the article at a post office window or hand it to your rural carrier (*no extra charge*)

3. If you want this receipt postmarked, stick the gummed stub on the left portion of the article, date, detach and present the receipt, and mail the article.

4. If you want a return receipt, write the certified mail number and your name and address on a return receipt card, Form 3811, and attach it to the back of the article by means of the gummed ends if space permits. Otherwise, affix to front of article. If return receipt is requested, check the proper box in item 15 of Form 3800. (*Fees—10¢ or 35¢.*)

5. If you want delivery restricted to the addressee, or to an authorized agent of the addressee, endorse this card "RESTRICTED DELIVERY." (*Fee—50¢*). Place the same endorsement in line 2 of the return receipt card.

6. Save this receipt and present it if you make inquiry.

P 1975 O—274-775

U.S. POSTAL SERVICE
OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, $300

Postmark of Delivering Office

SENDER INSTRUCTIONS

[redacted]
P. O. Box [redacted]
Santa Fe, New Mexico 87501

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

August 15, 1977

CERTIFIED - RETURN
RECEIPT REQUESTED

Mr. Elvin Kanter
Kanter & Carmody, P.A.
Suite 1111
American Bank of Commerce Complex
Two Hundred Lomas Boulevard, Northwest
Albuquerque, New Mexico 87102

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Yours very truly,

JOE D. RAMEY
Director

JDR/fd

JUL 15 19
OIL CONSERVATION COMM.
SANTA FE

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN
FOR AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

APPLICATION FOR REHEARING

COMES NOW D.L. Hannifin, by and through his Attorneys, Hunker-Fedric, P.A., P.O. Box 1837, Roswell, New Mexico 88201, and makes Application to the Commission pursuant to Rule 1222, for a rehearing with respect to a matter heretofore determined by the Commission and in this connection would show:

1. That heretofore and at 10:00 A.M. on June 21, 1977, at Santa Fe, New Mexico, the Oil Conservation Commission of New Mexico heard and considered testimony and received exhibits at a hearing, and by Order dated June 28, 1977, the Commission denied D.L. Hannifin's Application for an Amendment of Commission Order R-4432, entering its Order R-5483 in this matter. The Commission retained jurisdiction in the cause for the entry of such further Orders as the Commission may deem necessary.

2. That Applicant, D.L. Hannifin, is a co-owner of the Michael P. Grace, II, Grace-Atlantic Well #1 located in Unit J, Section 24, Township 22 South, Range 26 East, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico. That the unit comprising the S½ of Section 24 was pooled by Commission Order R-4432 dated November 8, 1972, with a standard 320-acre proration unit being dedicated to the drilling of a test well. That the test well was drilled and completed on said unit and Michael P. Grace, II, was designated by Commission Order R-4432 as the Operator of the described well and unit.

3. Applicant herein, D.L. Hannifin, being a co-owner of a substantial interest in the aforesaid well and unit, seeks herein an Amendment of Order R-4432 to remove the presently designated Operator of the well and unit, Michael P. Grace, II, as Operator, and to designate the Applicant, D.L. Hannifin, as Operator of said well and unit.

4. That the Applicant has new and additional evidence from which it will be demonstrated that the Order of June 28, 1977, is erroneous and should be set aside. That waste will occur and correlative rights will be adversely affected in the event the present Operator is permitted to continue to operate the subject well and unit.

5. That it is necessary and proper to protect correlative rights and to afford the owners of interests in the dedicated tract an opportunity to receive without unnecessary expense their shares of the oil and gas production from the communitized tract. The Applicant, D.L. Hannifin, will show that it is in the interest of conservation and the protection of correlative rights that he should be designated as the Operator of the well and unit.

WHEREFORE, Applicant prays that an Order be entered herein granting a rehearing to the Applicant and upon rehearing, that D.L. Hannifin be designated as the Operator of the Grace-Atlantic Well #1 located in Unit J of Section 24, Township 22 South, Range 26 East, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico.

Respectfully submitted,

HUNKER - FEDRIC, P.A.

By George H. Hunker, Jr. 7-14-77
George H. Hunker, Jr.
Attorneys for Applicant
P.O. Box 1837
Roswell, New Mexico 88201

Telephone (505) 622-2700

CERTIFICATE OF MAILING

I hereby certify that on this 14th day of July, 1977, true copies of the foregoing Application for Rehearing were mailed to the following interested parties:

Mr. Michael P. Grace, II
P.O. Box 1418
Carlsbad, New Mexico 88220

Mr. Michael P. Grace, II
1141 East Bethany Home Road
Phoenix, Arizona 85014

Elvin Kanter, Esquire
Attorney for Michael P. Grace, II
1111 American Bank of Commerce Bldg.
200 Lomas, NW
Albuquerque, New Mexico 87102

George H. Hunker, Jr.
HUNKER - FEDRIC, P.A.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

JUL 15 19
OIL CONSERVATION COMM.
Santa Fe

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

CASE NO. 5961

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FOR AMENDMENT OF ORDER NO. R-4432,
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Respectfully submitted,

HUNKER - FEDRIC, P.A.

By _____
George H. Hunker, Jr.
Attorneys for Applicant
P.O. Box 1837
Roswell, New Mexico 88201

Telephone (505) 622-2700

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Elvin Kanter, Esquire
Attorney for Michael P. Grace, II
1111 American Bank of Commerce Bldg.
200 Lomas, NW
Albuquerque, New Mexico 87102

George H. Hunker, Jr. 7-14-77
HUNKER - FEDRIC, P.A.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN
FOR AMENDMENT OF ORDER NO. R-4432,
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Respectfully submitted,

HUNKER - FEDRIC, P.A.

By George H. Hunker, Jr. 7-11-77

George H. Hunker, Jr.
Attorneys for Applicant
P.O. Box 1837
Roswell, New Mexico 88201

Telephone (505) 622-2700

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Elvin Kanter, Esquire
Attorney for Michael P. Grace, II
1111 American Bank of Commerce Bldg.
200 Lomas, NW
Albuquerque, New Mexico 87102

George H. Hunker, Jr.
HUNKER - FEDRIC, P.A.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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

Case No. 5961

APPLICATION OF D. L. HANNIFIN
FOR AMENDMENT OF ORDER NUMBER
R-4432, EDDY COUNTY, NEW MEXICO

OPPOSITION TO REHEARING

COMES NOW Michael P. Grace II, co-owner of the Michael P. Grace II-Atlantic Well No. 1, located in Unit J, Section 24, Township 22 South, Range 26 East, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico, represented by his attorneys, Kanter & Carmody, P. A., Suite 1111 American Bank of Commerce Complex, 200 Lomas Blvd. NW, Albuquerque, New Mexico 87102 and opposes the application of D. L. Hannifin for a rehearing of case number 5961 and amendment of Commission Order R-4432; and as grounds therefor would show the Commission that D. L. Hannifin was afforded a full hearing before the entire Commission on June 21, 1977; that Michael P. Grace II was not represented at that hearing in person or by his attorneys and presented no evidence at that hearing; and the Commission, nevertheless, denied the application of D. L. Hannifin for an amendment of Commission Order R-4432; therefore, D. L. Hannifin has been afforded a full hearing under the most favorable circumstances and has failed to carry his burden of proof and persuasion.

As further grounds, Michael P. Grace II would show the Commission that the application of D. L. Hannifin for a rehearing is defective in that, among other things, it fails to comply with the provisions of §65-3-22 N.M.S.A. 1953 Comp. that such application shall set "... forth the respect in which such order or decision is believed to be erroneous...."

The application of D. L. Hannifin merely states that he has "new and additional evidence" but fails to describe what this evidence is and what it will tend to prove.

WHEREFORE, Michael P. Grace II prays the Commission that it refuse to grant a rehearing on case number 5961.

Respectfully submitted,

KANTER & CARMODY, P. A.

By Elvin Kanter

Elvin Kanter
Attorneys for Michael P. Grace II
200 Lomas Blvd. NW
Suite 1111
Albuquerque, New Mexico 87102
Telephone/243-2844

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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

Case No. 5961

APPLICATION OF D. L. HANNIFIN
FOR AMENDMENT OF ORDER NUMBER
R-4432, EDDY COUNTY, NEW MEXICO.

MOTION FOR A MORE DEFINITE STATEMENT

COMES NOW Michael P. Grace II, by his attorneys, Kanter & Carmody, P. A., Suite 1111, American Bank of Commerce Complex, 200 Lomas Blvd. NW, Albuquerque, New Mexico 87102 and moves the Commission for an Order requiring D. L. Hannifin to state with particularity:

1. The respects in which the Commission's Order No. R-5483, June 28, 1977, issued in the above-referenced case, is erroneous.

2. A statement of the grounds on which D. L. Hannifin claims that Michael P. Grace should be replaced as operator of the Grace-Atlantic Well No. 1 located in Unit J, Section 24, T22S, R26E, N.M.P.M., South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico.

3. A description of the new evidence, including sources, on which D. L. Hannifin predicated his application for rehearing, which evidence was not presented at the hearing on June 21, 1977.

KANTER & CARMODY, P. A.

By _____
Elvin Kanter
Attorneys for Michael P. Grace II
200 Lomas Blvd. NW
Suite 1111
Albuquerque, New Mexico 87102
Telephone/243-2844

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN FOR
AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

SUPPLEMENT TO APPLICATION FOR HEARING

Applicant, D.L. Hannifin, by his Attorneys, Hunker-Fedric, P.A., Roswell, New Mexico, in response to the Commission's request for more definite statement, shows:

1. Unknown to Applicant and discovered after the Commission Order of June 21, 1977, Designated Operator Grace requested permission to flare Grace-Atlantic #1. (Exhibit "A")

2. Unknown to Applicant and discovered after the Commission Order of June 21, 1977, Designated Operator Grace was advised by the Director of the Commission that authority to produce gas through 4½-inch tubing run in the Grace-Atlantic #1 Well, was rescinded since the flaring of gas constitutes waste. (Exhibit "B")

3. Directed (Exhibit "B") to install tubing no greater than 2-7/8-inch in well by August 1, 1977, Designated Operator Grace has failed to comply with Commission directions, thereby affecting correlative rights.

4. The Commission erred in this matter by not designating a new Operator by reason of the following:

(a) The Application of D.L. Hannifin was uncontested and no adverse entry of appearance was made.

(b) Applicant Hannifin made a good and sufficient showing to show cause for the requested amendment of Commission Order R-4432.

(c) That the whereabouts of Michael P. Grace, II, are unknown, and reasonable search and inquiry fails to reveal his

personal place of business or residence. That Applicant and others interested in the prevention of drainage by wells offsetting said well and the protection of correlative rights, are unable to personally communicate with the Designated Operator, Grace.

(d) That the Designated Operator has not operated said well in a prudent manner, thereby permitting drainage and affecting correlative rights.

(e) That irreparable damage is being done to Applicant and Applicant's lessor by reason of the Designated Operator's flaring of gas and the waste attendant thereto.

(f) That the Designated Operator, Michael P. Grace, II, has not demonstrated that he is financially able to provide the necessary equipment and repairs for the prudent operation of said well.

(g) That the production from the well has substantially decreased by reason of Designated Operator's failure to change tubing as directed, permitting drainage. That such failure does not protect correlative rights.

5. That Applicant will support the allegations contained in the Application and the Supplement thereto by the testimony of Raymond M. Lamb, Petroleum Engineer, Artesia, New Mexico, or some other equally qualified professional person.

WHEREFORE, Applicant prays that an Order be entered herein granting a rehearing to Applicant, and upon rehearing that D.L. Hannifin be designated as the Operator of the Grace-Atlantic Well #1 located in Unit J of Section 24, Township 22 South, Range 26 East, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico.

Respectfully submitted,

HUNKER - FEDRIC, P.A.

By George H. Hunker, Jr. 8-2-77

George H. Hunker, Jr.
Attorneys for Applicant
P.O. Box 1837
Roswell, New Mexico 88201

Telephone (505) 622-2700

Michael P. Grace II
Corinne Grace
P. O. BOX 1418
CARLSBAD, NEW MEXICO 88220

June 1, 1977

JUN - 2 1977

Mr. Joe D. Ramey
Director
Oil Conservation Commission
State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

April

We respectfully request permission to flare the following wells from time to time as they are loading up with water. The three wells are as follows:

38,644
21 wtr

Grace Atlantic #1 - Michael P. Grace, Operator - Section 24 T22S, R26E, Eddy County

10
0

Carlsbad Grace #1 - Corinne Grace, Operator - Section 36, T22S, R26E, Eddy County

482
0

LaCueva #1- Corinne Grace, Operator - Section 6, T23S, R26E Eddy County

Thank you.

Sincerely yours,

Juanita L. Jones

jlj

EXHIBIT "A"

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

June 27, 1977

COPY

Michael P. Grace II
Box 1418
Carlsbad, New Mexico 88220

Attention: Ms. Juanita L. Jones

Gentlemen:

On April 17, 1973, Administrative Order TX-39 was issued permitting the use of 4½-inch tubing in your Grace Atlantic Well No. 1, located in Unit J of Section 24, Township 22 South, Range 26 East, South Carlsbad-Morrow gas pool, Eddy County, New Mexico. This Order in part states, "Inasmuch as the gas produced from this well is very dry (gas-liquid ratio reported TSTM on 4-point test), it appears that this well can be produced in the manner proposed without causing waste. You are therefore granted the requested exception. The Commission does reserve the right, however, to rescind this authority if at any time it appears that the producing characteristics of the well have so changed that this method of production is causing or may cause waste."

Since the well now makes sufficient water that it must be unloaded by flaring periodically (your letter of June 1, 1977), and since the flaring of gas constitutes waste, Administrative Order TX-39 is hereby rescinded.

EXHIBIT "B"

You are hereby directed to install tubing, maximum size to be no greater than 2 7/8-inch, in this well by August 1, 1977. Tubing perforations are to be set within 250 feet of the top of the pay.

Please contact the Oil Conservation Commission's district office at Artesia at least 24 hours before commencing work on the well.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

AUG - 3 '77

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

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN FOR
AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

SUPPLEMENT TO APPLICATION FOR HEARING

Applicant, D.L. Hannifin, by his Attorneys, Hunker-Fedric, P.A., Roswell, New Mexico, in response to the Commission's request for more definite statement, shows:

1. Unknown to Applicant and discovered after the Commission Order of June 21, 1977, Designated Operator Grace requested permission to flare Grace-Atlantic #1. (Exhibit "A")

2. Unknown to Applicant and discovered after the Commission Order of June 21, 1977, Designated Operator Grace was advised by the Director of the Commission that authority to produce gas through 4½-inch tubing run in the Grace-Atlantic #1 Well, was rescinded since the flaring of gas constitutes waste. (Exhibit "B")

3. Directed (Exhibit "B") to install tubing no greater than 2-7/8-inch in well by August 1, 1977, Designated Operator Grace has failed to comply with Commission directions, thereby affecting correlative rights.

4. The Commission erred in this matter by not designating a new Operator by reason of the following:

(a) The Application of D.L. Hannifin was uncontested and no adverse entry of appearance was made.

(b) Applicant Hannifin made a good and sufficient showing to show cause for the requested amendment of Commission Order R-4432.

(c) That the whereabouts of Michael P. Grace, II, are unknown, and reasonable search and inquiry fails to reveal his

personal place of business or residence. That Applicant and others interested in the prevention of drainage by wells offsetting said well and the protection of correlative rights, are unable to personally communicate with the Designated Operator, Grace.

(d) That the Designated Operator has not operated said well in a prudent manner, thereby permitting drainage and affecting correlative rights.

(e) That irreparable damage is being done to Applicant and Applicant's lessor by reason of the Designated Operator's flaring of gas and the waste attendant thereto.

(f) That the Designated Operator, Michael P. Grace, II, has not demonstrated that he is financially able to provide the necessary equipment and repairs for the prudent operation of said well.

(g) That the production from the well has substantially decreased by reason of Designated Operator's failure to change tubing as directed, permitting drainage. That such failure does not protect correlative rights.

5. That Applicant will support the allegations contained in the Application and the Supplement thereto by the testimony of Raymond M. Lamb, Petroleum Engineer, Artesia, New Mexico, or some other equally qualified professional person.

WHEREFORE, Applicant prays that an Order be entered herein granting a rehearing to Applicant, and upon rehearing that D.L. Hannifin be designated as the Operator of the Grace-Atlantic Well #1 located in Unit J of Section 24, Township 22 South, Range 26 East, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico.

Respectfully submitted,

HUNKER - FEDRIC, P.A.

By _____
George H. Hunker, Jr.
Attorneys for Applicant
P.O. Box 1837
Roswell, New Mexico 88201

Telephone (505) 622-2700

Michael P. Grace II
Corinne Grace
P. O. BOX 1418
CARLSBAD, NEW MEXICO 88220

June 1, 1977

JUN - 2 1977

Mr. Joe D. Ramey
Director
Oil Conservation Commission
State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

April

We respectfully request permission to flare the following wells from time to time as they are loading up with water. The three wells are as follows:

38,644

Grace Atlantic #1 - Michael P. Grace, Operator - Section 24, T22S, R26E, Eddy County — 21 wtr

Carlsbad Grace #1 - Corinne Grace, Operator - Section 36, T22S, R26E, Eddy County — 10 / 0

LaCueva #1- Corinne Grace, Operator - Section 6, T23S, R26E, Eddy County — 482 / 0

Thank you.

Sincerely yours,

Juanita Jones

Juanita L. Jones

jlj

EXHIBIT "A"

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

June 27, 1977

COPY

Michael P. Grace II
Box 1418
Carlsbad, New Mexico 88220

Attention: Ms. Juanita L. Jones

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Since the well now makes sufficient water that it must be unloaded by flaring periodically (your letter of June 1, 1977), and since the flaring of gas constitutes waste, Administrative Order TX-39 is hereby rescinded.

EXHIBIT "B"

You are hereby directed to install tubing, maximum size to be no greater than 2 7/8-inch, in this well by August 1, 1977. Tubing perforations are to be set within 250 feet of the top of the pay.

Please contact the Oil Conservation Commission's district office at Artesia at least 24 hours before commencing work on the well.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

AUG -3 07

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

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN FOR
AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

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Applicant, D.L. Hannifin, by his Attorneys, Hunker-Fedric, P.A., Roswell, New Mexico, in response to the Commission's request for more definite statement, shows:

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5. That Applicant will support the allegations contained in the Application and the Supplement thereto by the testimony of Raymond M. Lamb, Petroleum Engineer, Artesia, New Mexico, or some other equally qualified professional person.

WHEREFORE, Applicant prays that an Order be entered herein granting a rehearing to Applicant, and upon rehearing that D.L. Hannifin be designated as the Operator of the Grace-Atlantic Well #1 located in Unit J of Section 24, Township 22 South, Range 26 East, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico.

Respectfully submitted,

HUNKER - FEDRIC, P.A.

By _____ 5-2-77
George H. Hunker, Jr.
Attorneys for Applicant
P.O. Box 1837
Roswell, New Mexico 88201

Telephone (505) 622-2700

Michael P. Grace II
Corinne Grace
P. O. BOX 1418
CARLSBAD, NEW MEXICO 88220

June 1, 1977

JUN - 2 1977

Mr. Joe D. Ramey
Director
Oil Conservation Commission
State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

April

We respectfully request permission to flare the following wells from time to time as they are loading up with water. The three wells are as follows:

34,644

Grace Atlantic #1 - Michael P. Grace, Operator - Section 24, T22S, R26E, Eddy County — 21 wtr

Carlsbad Grace #1 - Corinne Grace, Operator - Section 36, T22S, R26E, Eddy County — 10 / 0

LaCueva #1- Corinne Grace, Operator - Section 6, T23S, R26E Eddy County — 482 / 0

Thank you.

Sincerely yours,

Juanita Jones

Juanita L. Jones

jlj

EXHIBIT "A"

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

June 27, 1977

COPY

Michael P. Grace II
Box 1418
Carlsbad, New Mexico 88220

Attention: Ms. Juanita L. Jones

Gentlemen:

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You are hereby directed to install tubing, maximum size to be no greater than 2 7/8-inch, in this well by August 1, 1977. Tubing perforations are to be set within 250 feet of the top of the pay.

Please contact the Oil Conservation Commission's district office at Artesia at least 24 hours before commencing work on the well.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 20, 1977

COMMISSION HEARING

IN THE MATTER OF:

Application of D. L. Hannifin for amendment of Order No. R-4432, Eddy County, New Mexico.

CASE 5961
(Rehearing)

BEFORE: Joe D. Ramey, Director

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission:

Lynn Teschendorf
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

MR. RAMEY: Call Case 5961.

MS. TESCHENDORF: Case 5961, application of D. L. Hannifin for amendment of Order No. R-4432, Eddy County, New Mexico. Mr. Elvin Kanter, Attorney for Michael P. Grace, an interested party, has requested a continuance of the subject case.

MR. RAMEY: This hearing is hereby continued until October 19, 1977, 9 o'clock a.m., Oil Conservation Commission Conference Room, State Land Office Building, Santa Fe, New Mexico. The hearing is adjourned.

NO. OF COPIES RECEIVED	4	
DISTRIBUTION		
SANTA FE	2	✓
FILE	1	
U.S.G.S.		
LAND OFFICE		
OPERATOR	1	

RECEIVED
NEW MEXICO OIL CONSERVATION COMMISSION
SEP 22 1977
O. C. C.
ARTESIA, OFFICE

Form C-103
Supersedes Old C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease State ☐ Fee ☒
5. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL ☐ GAS WELL ☒ OTHER-

7. Unit Agreement Name

2. Name of Operator
Michael P. Grace II ✓

8. Farm or Lease Name
Grace
Atlantic ~~Grace~~ Com

3. Address of Operator
P. O. Box 1418 Carlsbad, New Mexico 88220

9. Well No.
1

4. Location of Well
UNIT LETTER J, 1980 FEET FROM THE South LINE AND 1980 FEET FROM THE East LINE, SECTION 21 TOWNSHIP 22S RANGE 26E NMPM.

10. Field and Pool, or Wildcat
South Carlsbad Morrow

15. Elevation (Show whether DF, RT, GR, etc.)
3162 GR

12. County
Eddy

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐		COMMENCE DRILLING OPNS. ☐	PLUG AND ABANDONMENT ☐
PULL OR ALTER CASING ☐	CHANGE PLANS ☐	CASING TEST AND CEMENT JOB ☐	Run 2 1/16" tubing
OTHER ☐		OTHER ☐	

17. Describe Proposed or Completed Operations *(Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work)* SEE RULE 1103.

August 30, 1977 Moved in Clary's Well service rig & rigged up
Sept. 10. 1977 Ran Baker 22FA30 packer W/expendable plug and set @ 10926'KB
Sept. 15, 1977 2 1/16" O.D. tubing set as follows:

15 jts. 2 1/16"OD N-80 10R IJ tubing	485.59'
Baker Oil Tools 2 1/16x 1.50BFC-Fnip	0.80'
175 jts. 2 1/16" OD N-80 10R IJ tbg.	5620.27'
2 1/16"OD 10 R IJ pin x 2 1/16"OD CS Hydril box	0.61
167 jts. 2/16" OD N-80 CS Hydrill tbg.	5220.35
2 1/16" OD CS Hydrill pin x 2 3/8"OD EUE 8R pin	0.44
Tubing hanger 7"x2 3/8"	0.50
	11338.59
Elevation KB-THF	13.84
Tubing hung at	11352.43'
Well shut in and put back on line 9/19/77	

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

SIGNED Juanita Jones Wilbanks TITLE Agent DATE 9/20/77

APPROVED BY W. A. Gressett TITLE SUPERVISOR, DISTRICT II DATE SEP 23 1977

CONDITIONS OF APPROVAL, IF ANY:

Return

CASE NO. 5961

SUBPOENA DUCES TECUM

THE STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

To GREG BACKSTROM, Route 1, Box 184-B, Carlsbad, N.M. Greeting:
(Telephone 887-1489)

We command you to be and appear on September 20, 1977, at 9:00 A.M. before the Oil Conservation Commission of the State of New Mexico, at The Oil Conservation Commission Conference Room in the State Land Office Building, in the City of Santa Fe, then and there to testify in the Case of Application of D.L. Hannifin for Amendment of Order No. R-4432, Eddy County, New Mexico, Upon Rehearing, on behalf of Applicant and also that you bring with you and produce at the time and place aforesaid Daily Operational and Production Reports and Records from January 1, 1977, to date, affecting Grace-Atlantic Well #1, located in Unit J, Section 24, Township 22 South, Range 26 East, and Grace Go-Po-Go #2 located in N½ Section 24, Township 22 South, Range 26 East, South Carlsbad Gas Pool, Eddy County, New Mexico.

And this do you under penalty of the law

WITNESS JOE D. RAMEY, Secretary-Director of the Oil Conservation Commission of the State of New Mexico, and the seal of said Commission, this 24th day of August A.D. 1977

Joe D. Ramey

SHERIFF'S RETURN

I, Le Roy E Payne Sheriff of Eddy County, State of New Mexico, do hereby certify, that I served the within Subpoena Duces Tecum on the 7th day of Sept. by delivering a copy thereof, in Eddy County, State of New Mexico, to Dug Backstrom in person -

Dated: 9-7-77

Lt. Anne M. Rice Deputy Sheriff

Fee $8.00

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION
COUNTY OF SANTA FE

APPLICATION OF D.L. HANNIFIN

SUBPOENA

No. 5961

CASE NO. 5961

SUBPOENA DUCES TECUM (ALIAS)

SEP 27 1977

THE STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

To GREG BACKSTROM, Route 1, Box 184-B, Carlsbad, N.M. Greeting:

We command you to be and appear on October 19, 1977, at 9:00 A.M. before the Oil Conservation Commission of the State of New Mexico, at The Oil Conservation Commission Conference Room in the State Land Office Building, in the City of Santa Fe, then and there to testify in the Case of Application of D. L. Hannifin for Amendment of Order No. R-4432, Eddy County, New Mexico, Upon Rehearing, on behalf of Applicant and also that you bring with you and produce at the time and place aforesaid Daily Operational and Production Reports and Records from January 1, 1977, to date, affecting Grace-Atlantic Well #1, located in Unit J, Section 24, Township 22 South, Range 26 East, and Grace Go-Po-Go #2 located in N/2 Section 24, Township 22 South, Range 26 East, South Carlsbad Gas Pool, Eddy County, New Mexico.

And this do you under penalty of the law

WITNESS JOE D. RAMEY, Secretary-Director of the Oil Conservation Commission of the State of New Mexico, and the seal of said Commission, this 22nd day of September A.D. 1977

Joe D. Ramey

SHERIFF'S RETURN

I, LeRoy E. Payne Sheriff of Eddy County, State of New Mexico, do hereby certify, that I served the within Subpoena Duces Tecum on the 27th day of September by delivering a copy thereof, in Eddy County, State of New Mexico, to Greg Backstrom

Dated: 9-27-77

Don Maxwell Sheriff
Deputy Sheriff

SUBPOENA

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION
COUNTY OF SANTA FE

APPLICATION OF D. L. HANNIFIN

No. 5961

JDC JOE DON COOK / OIL AND GAS PRODUCTION / PHONE 505 623-7096

RECEIVED
SEP 30 1977
CONSERVATION COMM
Santa Fe

September 28, 1977

Mr. Michael P. Grace
P.O. Box 1418
Carlsbad, New Mexico 88220

Re: Rework Grace- Atlantic
Well
Sec. 24, T 22 S, R 26 E
Eddy County, New Mexico

Dear Sir:

We hereby consent to participate in the rework of the above well pursuant to your AFE dated August 31, 1977. We will require that all billing be supported by invoices and field tickets for all materials and services preformed during this this rework.
We have enclosed the executed copy of your AFE of August 31, 1977.

Sincerely Yours,

D. L. Hannifin

Joe Don Cook

JDC/lp

cc: Oil Conservation Commission
Joe Ramey

P. O. BOX 159 / 805 NORTH RICHARDSON / ROSWELL, NEW MEXICO 88201

Michael P. Grace II
Corinne Grace
P. O. BOX 1418
CARLSBAD, NEW MEXICO 88220

August 31, 1977

SEP 30 1977
CONSERVATION COMM
Santa Fe

Mr. Don Hannifin
P.O.box 182
Roswell, New Mexico

Mr. Joe Don Cook
P. O. Box 159
Roswell, New Mexico

RE: Reworking - Grace Atlantic #1 Well
Section 24, T22s R26E, Eddy County, N.M.

Gentlemen:

Attached you will find the estimated AFE for the above well. Pursuant to New Mexico Oil Commission order that we must run tubing in the Grace Atlantic well prior to September 15, 1977, we herewith submit our AFE.

We would appreciate payment of your 1/4 share each in the amount of $11,134.09each by September 2, 1977 so that we may complete the job timely. We will commence working on this well tomorrow September 2, 1977.

Sincerely yours,

Juanita Jones-Wildberger

jjw

Received a copy of this letter August 31, 1977 with AFE attached

Dan Hannifin

Joe Don Cook

SEP 30 1977
CONSERVATION COMM
Santa Fe

A F E

GRACE ATLANTIC WELL # 1
SECTION 24, T 22 S, R 26 E
EDDY COUNTY, NEW MEXICO
ESTIMATED
COST OF RE-WORKING

PULLING UNIT	
$60.00 per hr. 3 days - 12 hrs.per day	$ 2,160.00
Roading time, unit & crews, rigging up and rigging down	465.00
Tong rental 2 days @ $60.00 per day	180.00
Slip type elevators 3 days @ $65.00 per day	195.00
RENTAL BLOW OUT PREVENTOR & STRIPPER RUBBERS	800.00
ANCHORS (This well was completed with a big rig)	270.72
TUBING HANGER & VALVES	2,500.00
TUBING 11,500' 2 1/16" @ $2.25 per foot	27,025.00
NIPPLE & PLUG	125.00
PERFORATING SERVICE	400.00
LABOR	1,000.00
ENGINEERING & SUPERVISION + MILEAGE	1,800.00
TRUCKING	1,000.00
MISC. & UNFORSEEN EXPENSES	3,000.00
TUBING TESTERS	1,500.00
	$42,720.72
4¼ STATE TAX	1,815.63
	$44,536.35

OIL CONSERVATION COMMISSION

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

DIRECTOR
JOE D. RAMEY

LAND COMMISSIONER
PHIL R. LUCERO

STATE GEOLOGIST
EMERY C. ARNOLD

MEMORANDUM OF LAW

TO: OIL CONSERVATION COMMISSION

FROM: LYNN TESCHENDORF, GENERAL COUNSEL

RE: CASE 5961, D. L. HANNIFIN REHEARING, PRUDENT OPERATOR STANDARD

DATE: SEPTEMBER 22, 1977

The prudent operator standard is "the generally applicable test for determining whether the lessee has breached his implied covenants." Manual of Oil and Gas Terms, Williams and Meyers, at p. 470. What is prudent depends on the facts of each case, but it can broadly be defined as the exercise of reasonable diligence.

The standard was first enunciated in 1905 in the case of Brewster v. Lanvon Zinc Co., 140 F. 801. The case concerned an implied covenant on the part of the lessee that after production of oil and gas in paying quantities was obtained, he must continue development "with reasonable diligence." The court stated, "It is only to the end that oil and gas shall be extracted with benefit or profit to both [the lessor and lessee] that reasonable diligence is required.... Whatever, in the circumstances, would be reasonably expected of operators of ordinary prudence, having regard to the interests of both lessor and lessee, is what is required."

This rule has been adopted by the New Mexico courts. See Clayton v. Atlantic Refining Co., 150 F. Supp. 9 (D. N.M. 1957); Libby v. DeBaca, 51 N.M. 95, 179 P.2d 263 (1947); State ex rel. Shell Petroleum Corp. v. Worden, 44 N.M. 400, 103 P.2d 124 (1940). It can readily be extended to apply to operators of forced pooled acreage as well as to lessees.

There is some case authority as to judicial review of a unit operator's actions. The test seems to be whether the action was arbitrary and capricious, or founded upon technical knowledge and judgment. West Edmond Hunton Lime Unit v. Stanolind Oil and Gas Co., 193 F.2d 818 (10th Cir., 1951), cert. denied., 343 U.S. 920 (1952). The court also indicated that it was merely enforcing the rights and duties of the parties as fixed by their contract. However, in New Mexico, the Oil Conservation Commission has great authority in essentially setting

the terms of such a contract in forced pooling cases. Section 65-3-14, N.M.S.A., 1953 Comp. Therefore, the scope of its review should be governed by this test as well as by the prudent operator standard and considerations of fiduciary relations, as discussed below.

"Fiduciary principles appear to be applicable to the relationship of the operator under a pooling, unitization or joint operating agreement and persons having interests in the premises affected by such agreement." 6 Oil and Gas Law 990. "The relationship between the participants should be on the same basis as that between joint owners of an oil and gas lease. That relationship has been held to be fiduciary in character and all their dealings with each other require the exercise of the utmost good faith." The Law of Pooling and Unitization, Vol. 1, Raymond M. Myers, p. 526. See also Blackstock Oil Co. v. Caston, 184 Okla. 489, 87 P.2d 1087 (1939); Young v. West Edmond Hunton Lime Unit, Okla., 275 P.2d 304 (1954), app. dism'd, 349 U.S. 909 (1955).

A fiduciary is "a person holding the character of a trustee.... in respect to the trust and confidence involved in it and the scrupulous good faith and candor which it requires." Black's Law Dictionary.

Thus, not only must the operator of a forced pooled unit do what is reasonably expected of operators of ordinary prudence, but he must also exercise the far higher standard of care required of a fiduciary. He must not only act in good faith, but has the duty of a trustee towards other interest holders. A review of his actions must consider these standards of care.

dr/

LAW OFFICES OF
KANTER & CARMODY, P. A.

ELVIN KANTER
JOHN J. CARMODY, JR.

TELEPHONE 243-2844
AREA CODE 505

SUITE IIII
AMERICAN BANK OF COMMERCE COMPLEX
TWO HUNDRED LOMAS BOULEVARD, NORTHWEST
ALBUQUERQUE, NEW MEXICO 87102

OCT 05 1977

Hannifin File

[illegible]
Anker - Fowlie, [illegible]
[illegible]
[illegible] Box 1357
[illegible]

[illegible] Section 21
[illegible], Township 22 S, Range 28 E
[illegible], New Mexico
[illegible] $755.34

COPY

Dear Mr. Anker,

I [illegible] you concerning the cost of reworking the above mentioned well and the share of those reworking charges incurred by your clients, Mr. Hannifin and Mr. Cook.

As explained then on [illegible] was mailed to your clients on August 31, 1977 showing an estimated cost of reworking of $[illegible]. The reworking job, which was estimated to take approximately five days, ended up taking fifteen. As a consequence of the actual reworking charges came to $61,355.43. Your clients were mailed an actual well cost accounting showing a total due of $61,363.72, which was overstated by $8.29, representing a small error in the Kuykendall charges. I enclose herewith a photocopy of the "Actual Well Cost Accounting", with a correction for the small error in the Kuykendall charges.

My clients have borne the entire $61,355.43 and this has worked a hardship on them. It respectfully requested that your clients each pay 1/4 of the total costs, or $15,388.86 each, as is their obligation, at the very earliest time. I am informed by Mrs. Juanita Jones Wilderger that all invoices and field tickets have been mailed to Mr. Cook and Mr. Hannifin.

Could you kindly confer with your clients and let me know when we may expect payment. Your immediate cooperation will be greatly received.

Very sincerely yours,

s/ Elvin Kanter

EK:jf
cc: Mr. & Mrs. Michael P. Grace
Oil Conservation Commission

TOWNSHIP 24 NORTH, RANGE 8 WEST, NMPM
Section 6: SE/4
Section 7: E/2
Section 8: S/2
Section 9: S/2
Section 16: NW/4

(q) EXTEND the Rusty-Chacra Pool in Sandoval County, New Mexico, to include therein:

TOWNSHIP 22 NORTH, RANGE 7 WEST, NMPM
Section 22: S/2

****

Docket No. 32-77

DOCKET: COMMISSION HEARING - WEDNESDAY - OCTOBER 19, 1977

OIL CONSERVATION COMMISSION - 9 A.M. - ROOM 205
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

CASE 5961: (Rehearing)

Application of D. L. Hannifin for amendment of Order No. R-4432, Eddy County, New Mexico. Applicant, in the above styled cause, seeks the amendment of Order No. R-4432 to remove the present operator of the pooled proration unit comprising the S/2 of Section 24, Township 22 South, Range 26 East, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico, and to designate applicant as operator of said unit.

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR.
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

May 18, 1978

New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Attn: Mr. Joe D. Ramey, Director

Re: Hannifin - Grace-Atlantic #1
Case No. 5961
Sec. 24, T22S, R26E
Eddy County, New Mexico

Gentlemen:

We enclose proposed Findings of Fact and Conclusions of Law submitted on behalf of the applicant, D. L. Hannifin. We are also transmitting a copy of the same to opposing counsel of record.

Yours very sincerely,

HUNKER-FEDRIC, P.A.

Don M. Fedric

DMF/rp
Enc.
cc: Elvin Kanter, Esq., w/enc.
1111 American Bank of Commerce Bldg.
200 Lomas, N.W.
Albuquerque, New Mexico 87102

cc: Ms. Lynn Teschendorf, General Counsel, w/enc.
NMOCC
P.O. Box 2088
Santa Fe, New Mexico 87501

cc: Mr. D. L. Hannifin, w/enc.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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

CASE NO. 5961

APPLICATION OF D. L. HANNIFIN
FOR AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

REQUESTED FINDINGS OF FACT AND CONCLUSIONS OF LAW
SUBMITTED BY APPLICANT, D. L. HANNIFIN

FINDINGS OF FACT:

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

2. That pursuant to Commission Order R-4432, dated November 8, 1972, the S½ of Section 24, Township 22 South, Range 26 East, N.M.P.M., Eddy County, New Mexico, was pooled to form a standard 320 acre proration unit for the South Carlsbad Morrow Gas Pool, to be dedicated to a well to be drilled at a standard location on said unit.

3. That a well was subsequently drilled on said pooled unit, known as the Grace-Atlantic Well #1, located in Unit J of said Section 24.

4. That the applicant, D. L. Hannifin and Michael P. Grace II are co-owners in said well, owning leasehold estates covering two separate tracts of land within the spacing or proration unit.

5. That both applicant D. L. Hannifin and Michael P. Grace II sought designation by the Commission to be operator of the Grace-Atlantic Well #1 and pursuant to Commission Order R-4432, Michael P. Grace II was designated as the operator of said well and unit.

6. That the applicant seeks amendment of Commission Order R-4432 removing Michael P. Grace II as operator and naming the applicant as operator.

7. That this matter came on for hearing before the Commission on June 21, 1977, and pursuant to such hearing, Order R-5483 was issued in Case 5961 on June 28, 1977, which order denied the application of D. L. Hannifin for amendment of Order R-4432.

8. That pursuant to Commission Rule 1222, an Application for Re-hearing was timely filed by the applicant on or about July 15, 1977.

9. That this matter came on for hearing upon the applicant's Application for Re-hearing before the Commission on October 19, 1977.

10. That the evidence adduced at said hearing established that on April 17, 1973, the Commission had entered an Administrative Order TX39, permitting the said operator, Michael P. Grace II, to use 4¼" tubing in the said well, based on the premise that the said well could be produced from such size tubing without causing waste.

11. That under Administrative Order TX39, the Commission reserved the right to rescind the authority to produce through 4½" tubing, if producing characteristics of said well changed so as to cause waste.

12. That on June 1, 1977, the said operator sought permission from the Commission to flare gas from the said well, from time to time, on the basis that said well was loading up with water.

13. That on June 27, 1977, the Commission rescinded Administrative Order TX39, on the basis that flaring of gas constitutes waste and directed the operator to install new tubing of no greater than 2 7/8" in size in said well by August 1, 1977, so as to prevent waste.

14. That the evidence adduced at said hearing, established that the said operator, Michael P. Grace II, prior to the first hearing of the application to remove and replace the operator on June 21, 1977, and prior to the Commission's rescision of Administrative Order TX39 of June 27, 1977, had flared or vented gas from the said well for a period of at least 14 months without Commission authority or approval.

15. That the operator, Michael P. Grace II, completed rework operations upon said well, by installing tubing in said well of 2 1/16" in size in September of 1977.

16. That the evidence adduced at said hearing established that said well required rework operations and installation of a smaller sized tubing for a period of more than 14 months before the said operator initiated such rework operations, and that such rework operations were not initiated until the Commission by its June 27, 1977, directive, required installation of small tubing.

17. That the evidence established that said operator's failure to rework said well when needed and required has resulted in a loss to said well of recoverable reservoir gas.

18. That the evidence established that the rework efforts of said operator have not fully protected correlative rights of the owners of royalty, overriding royalty and working interests under said well.

19. That the Grace-Atlantic Well #1 and the Go-Po-Go #2 Well, located in the N½ of Section 24, Township 22 South, Range 36 East, N.M.P.M., Eddy County, New Mexico, are completed in and produce from the same gas reservoir, and that both wells have compatible permiability and porosity in the same productive zones.

20. That there is reservoir communication between the said Grace-Atlantic Well #1 and the said Go-Po-Go #2 Well, which well is also operated by Michael P. Grace II, and under which well Michael P. Grace II owns a 75% working interest.

21. That said operator has permitted drainage to occur to the extent that the Grace-Atlantic Well has lost approximately 350,000,000 cu.ft. of reservoir gas to offsetting wells, the closest of which is the said Grace operated Go-Po-Go #2 Well, located 1,320ft. north of the Grace-Atlantic #1 Well.

22. That the Go-Po-Go #2 Well is produced through 2 3/8" tubing. That rework operations on the Grace-Atlantic #1 Well resulted in 2 1/16" tubing being installed in said well.

23. That due to the differential in size of the tubing installed in the Grace-Atlantic #1 Well and the Go-Po-Go #2 Well, the Grace-Atlantic

#1 Well will not be competitive with the Go-Po-Go #2 Well, and drainage will occur from the productive reservoir underlying the Grace-Atlantic #1 Well.

24. That the evidence adduced at said hearing established that said operator, Michael P. Grace II, during his operations, overproduced said well in excess of Commission allowables.

25. That the evidence established that said operator failed to pay royalty owners and one overriding royalty interest owner their share of proceeds from production, except under legal compulsion.

26. That the evidence established that said operator allowed several liens to be filed against the said unit property and said well.

27. That the evidence adduced at the hearing and rehearing established that the royalty owners, the overriding royalty interest owner, and the other working interest owner in the Grace-Atlantic Well #1, concur in applicant's request for a change of operator.

28. That the applicant, D. L. Hannifin, is physically present in the State of New Mexico, and resides in Roswell, New Mexico, while the said operator, Michael P. Grace II, does not apparently reside in the State of New Mexico, and his personal location and residence were not revealed at the hearing, nor would employees of said operator reveal where said operator could be physically contacted and/or located.

29. That the applicant, D. L. Hannifin, a co-owner of the Grace-Atlantic Well #1 and unit, seeking an amendment of Order R-4432, to remove the present operator of said well, Michael P. Grace II, as operator and to designate the applicant, D. L. Hannifin, as operator of said well and unit, has shown sufficient cause for Commission Order R-4432 to be amended.

CONCLUSIONS OF LAW:

1. That pursuant to Section 65-3-14C NMSA (1953 Comp., 1975 Supp.) the Commission is authorized to designate an operator for a spacing and proration unit, and make such orders in connection therewith to

afford to the owners of each tract the opportunity to recover or receive, without unnecessary expense, such owner's fair share of the oil and gas.

2. That pursuant to Section 65-3-10 NMSA (1953 Comp.), the Commission has a duty to prevent waste of oil and gas and protect the correlative rights of owners of interest in oil and gas, and the Commission is empowered to make and enforce rules, regulations and orders to such end, and may do whatever may be reasonably necessary to carry out the purpose for which the Commission was created.

3. That the venting or flaring of gas constitutes economic waste.

4. That an operator of an oil and gas well has a fiduciary relationship with the other interest owners of the well, and the operator must practice utmost good faith in his dealings with said other interest owners.

5. That the operator of a well must conduct his operations prudently, and prudent operations, at a minimum, include: prevention of waste; protection from drainage and protection of the correlative rights of the other interest owners in a well; the employment of reasonable practices in well operations; timely payment of the proceeds from production to other interest owners; protection of other interest owners' rights in the well from liens attributable to the operator, and not related to well operations; and compliance by the operator with New Mexico statutes and rules and regulations of the Commission.

6. That the operator, Michael P. Grace II, has conducted his operations in an imprudent manner, by committing waste through unauthorized flaring of gas; by allowing a loss of recoverable reservoir reserves to occur; by failing to initiate well rework operations when needed and required; by failing to timely pay other interest owners their rightful share of production, except under legal compulsion; by allowing liens against the operator of a non-operating nature to be filed against the well property; and by violating the rules and regulations of the Commission; any one or more of which actions by the operator consitute imprudent operations.

7. That having the authority to appoint the operator of a pooled unit, the Commission also has the authority and the duty to remove and replace an appointed operator where that operator has failed to conduct operations in a prudent manner, and/or has violated the rules and regulations of the Commission.

8. That the application of D. L. Hannifin for the amendment of Commission Order R-4432 is hereby granted.

9. That Michael P. Grace II is hereby removed as operator of the Grace-Atlantic Well #1, located in Unit J, S½ of Section 24, Township 22 South, Range 26 East, N.M.P.M., Eddy County, New Mexico, and the applicant, D. L. Hannifin, is hereby appointed operator of said well. This order shall be effective as of the first day of the month next following the finality thereof.

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

Respectfully submitted,

HUNKER-FEDRIC, P.A.

By: Don M. Fedric
Don M. Fedric
P.O. Box 1837
Roswell, New Mexico 88201
505-622-2700

Attorneys for D.L. Hannifin

I hereby certify that a true copy of the foregoing instrument was mailed to opposing counsel of record this 12th day of May, 1977.

Don M. Fedric
Attorney at Law

TELEPHONE 247-1541
AREA CODE 505

LAW OFFICES OF
KANTER & CARMODY, P.A.

ELVIN KANTER
JOHN J. CARMODY, JR.
BARBARA C. EVERAGE

SUITE 111
AMERICAN BANK OF COMMERCE COMPLEX
TWO HUNDRED LOMAS BOULEVARD, NORTHWEST
ALBUQUERQUE, NEW MEXICO 87102

May 18, 1978

Mr. Joe D. Ramey
Director
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: Grace Atlantic Well No. 1
Case No. 5961
Section 24, Section 22 South,
Range 26 East, Eddy County, NM
Our File #A769.34

Dear Mr. Ramey:

In response to the request of Ms. Lynn Teschendorf, general counsel, we enclose herewith our Proposed Findings of Fact and Conclusions of Law in the above-referenced matter.

Very sincerely yours,

Elvin Kanter

EK/pw

Enclosure (as indicated)

cc: Hunker-Federic, P. A.
Ms. Lynn Teschendorf
Mr. Michael P. Grace II
Mrs. Corinne Grace

BEFORE THE
NEW MEXICO OIL CONVERSATION COMMISSION

IN THE MATTER OF:
Application of D. L. Hannifin
for Amendment of Order
No. R-4432, Eddy County,
New Mexico. Case No. 5961

RESPONDENT'S PROPOSED FINDINGS OF FACT
AND CONCLUSIONS OF LAW

PROPOSED FINDINGS OF FACT

Respondent, Michael P. Grace II, by his attorneys, Kanter & Carmody, P. A., proposes the following findings of fact:

1. The four and one-half inch tubing in the Grace Atlantic Well No. 1 was legally installed pursuant to the Oil Conversation Commission's Administrative Order TX-39 dated April 17, 1973.

2. The four and one-half inch tubing in the Grace Atlantic Well No. 1 remained legally installed up to and including September 15, 1977.

3. The two and one-sixteenth inch tubing in the Grace Atlantic Well No. 1 was legally installed on September 15, 1977 pursuant to the Order of the Oil Conservation Commission contained in its letter dated June 27, 1977.

4. The two and one-sixteenth inch tubing in the Grace Atlantic Well No. 1 remained legally installed in the Grace Atlantic Well No. 1 up to and including the date of the hearing on this matter, October 19, 1977.

5. The use of four and one-half inch tubing in the Grace Atlantic Well No. 1 from April 17, 1973 until September 15, 1977 was prudent.

6. The installation of two and one-sixteenth inch

tubing on September 15, 1977 and its use from that date until the date of the hearing on this matter, October 19, 1977, was prudent.

7. It has not been established by a preponderance of the evidence that there is communication between the Grace Atlantice Well No. 1 and GoPoGo No. 2 Well.

8. There is no communication between Grace Atlantic Well No. 1 and GoPoGo Well No. 2.

9. It has not been established by a preponderance of evidence that either Grace Atlantic Well No. 1 can drain the reservoir of GoPoGo Well No. 2 nor that GoPoGo Well No. 2 can drain the reservoir of Grace Atlantic Well No. 1.

10. It has not been established by a preponderance of evidence that Grace Atlantic Well No. 1 has drained the reservoir of GoPoGo Well No. 2 nor that GoPoGo Well No. 2 has drained the reservoir of Grace Atlantic Well No. 1.

11. The Grace Atlantic Well No. 1 has not drained the reservoir of GoPoGo Well No. 2.

12. GoPoGo Well No. 2 has not drained the reservoir of Grace Atlantic Well No. 1.

13. It has not been established by a preponderance of evidence that the flaring of Grace Atlantic Well No. 1 has wasted a significant amount of the gas in the reservoir of that well.

14. Flaring of Grace Atlantic Well No. 1 was a use of gas to maintain production.

15. Flaring of Grace Atlantic Well No. 1 was not a waste of gas.

16. The flaring of Grace Atlantic Well No. 1 was the result of a universally held opinion that the flaring was necessary to keep the well producing.

17. The use of two and one-sixteenth inch tubing

in the Grace Atlantic Well No. 1 will not cause it to produce less than is produced by the two and seven-eighths inch tubing in the GoPoGo Well No. 2.

18. The use of two and one-sixteenth inch tubing in Grace Atlantic Well No. 1 will not cause GoPoGo Well No. 2 to drain the reservoir of Grace Atlantic Well No. 1.

19. No gas has been lost to the reservoir of Grace Atlantic Well No. 1 due to Michael P. Grace II's operating practices.

20. Michael P. Grace II is in continuous communication with his office in New Mexico.

21. The Michael P. Grace II office in New Mexico is continuously open and available to persons doing business with Michael P. Grace II.

22. No evidence was introduced that anyone seeking to deal directly with Michael P. Grace has not been able to do so.

23. The flaring of gas from the Grace Atlantic Well No. 1 was prudent until September 15, 1977.

24. No evidence was introduced that Michael P. Grace II will operate the Grace Atlantic Well No. 1 imprudently after September 15, 1977.

25. No evidence was introduced that D. L. Hannifin would operate the Grace Atlantic Well No. 1 differently from the way it will be operated by Michael P. Grace II after September 15, 1977.

26. Michael P. Grace II did not operate the Grace Atlantic Well No. 1 in a way as to benefit himself at the expense of the other owners.

27. The cost of installing two and one-sixteenth tubing in the Grace Atlantic Well No. 1 between the dates

August 31, 1977 and September 15, 1977 was reasonable and necessary in the circumstances.

28. Michael P. Grace II, D. L. Hannifin and Joe Don Cook entered into two agreements, each dated October 30, 1973 in which the then pending petition to the Oil Conservation Commission filed by D. L. Hannifin, in which he prayed that the Commission remove Michael P. Grace II as operator of the Grace Atlantic Well No. 1 and replace him as operator with D. L. Hannifin, was agreed to be revoked and in which agreements Michael P. Grace II was designated operator of the Grace Atlantic Well No. 1 by mutual consent.

29. The agreements dated October 30, 1973 between Michael P. Grace II, D. L. Hannifin and Joe Don Cook were voluntarily entered into by competent parties, fully informed in the premises.

30. The agreements dated October 30, 1973 are still in full force and effect.

PROPOSED CONCLUSIONS OF LAW

Michael P. Grace II, by his attorneys, Kanter & Carmody, P. A., proposes the following conclusions of law:

1. Michael P. Grace II has operated the Grace Atlantic Well No. 1 in good faith.

2. Michael P. Grace II will continue to operate the Grace Atlantic Well No. 1 in good faith.

3. Michael P. Grace II has operated the Grace Atlantic Well No. 1 with reasonable care, skill and diligence.

4. Michael P. Grace II will continue to operate the Grace Atlantic Well No. 1 with reasonable care, skill and diligence.

5. Michael P. Grace II has operated the Grace

Atlantic Well No. 1 prudently.

6. Michael P. Grace II will continue to operate the Grace Atlantic Well No. 1 prudently.

7. Michael P. Grace II has caused no waste at the Grace Atlantic Well No. 1 as a result of his operations.

8. Michael P. Grace II has caused no loss of correlative rights by his operation of Grace Atlantic Well No. 1.

9. The operation by Michael P. Grace II of Grace Atlantic Well No. 1 was not arbitrary and capricious.

10. The operation by Michael P. Grace II of Grace Atlantic Well No. 1 was not grossly negligent.

11. The contracts between the parties dated October 30, 1973 are mutually binding and in full force and effect.

12. While the Oil Conservation Commission has broad statutory authority to amend its orders, supervise the operators of gas wells and to take a broad range of sanctions against operators of gas wells, it has no explicit statutory authority to remove an operator.

13. The Oil Conservation Commission has no authority to remove an operator voluntarily designated by the owners of the gas well.

14. The Oil Conservation Commission cannot impair the obligations of contracts.

15. Michael P. Grace II should remain operator of Grace Atlantic Well No. 1.

Respectfully submitted,

KANTER & CARMODY, P. A.

By_____
Elvin Kanter
Attorneys for Michael P. Grace II
200 Lomas Boulevard NW
Suite 1111
Albuquerque, New Mexico 87102
Telephone/247-1541

Case 5961

George Hunden, Don Gidrie, Glenn Hunter, H. L. Kendrick } D. L. Hannapin

Michael P. Grace — EPNG

~~Hannapin's case~~

① Raymond Hamb
JA #1 4½" tubing set 6ft above pay
60 Pogo #2 to s. 2⅞" tubing set near pay zone
Compared completions.
2¼ w/ 1½" clk
SA now has 3½" - W3 feels this is minimal. Hamb recommends 2⅜

Cum production
~ 9 billion MCF GA
~ 9 billion MCF GP
Same, but plot of production shows wild fluctuations in GA w/ 4½" tubing, while GP is steady. ½" is inefficient → reset? Yes efficiency today

50 mile GA
50 mile GP
> not competitive — tubing too small? Yes

Waste - inefficient use of gas energy resulting in less ultimate recovery
Correlative rights - violated. In last 14 mos. GA is under produced 3.5 mil CF. Gas can't be recovered now & w/ 2⅜" tubing will always be behind production?

Cross - X

2½ unconventional in SE NM.

Total production same ultimately there by 4 on tubing

Re: communication bet. 6P & 6A
B1/4 pressures ~
Jan '75 production ~
" 9 '77 " "
WS - lousy testimony - says there is communication but no evidence.

How prove validation of correlative rites w/ no evidence of communication?

In the future, no waste. That was a result of the 4½" tubing.
Says must watch 2⅛" tubing for 60 days before determine if bad → violation of correlative rites now?

Re-direct
Solve rework / well 14 mos. ago.

(2) Greg Backstrom
6-8
Plaid flannel o a X
~ 4X/inc.

4693 } prorationing of case
4694 }
4795
? Ct 46933 nonproduction of well
5085 no exempt / prorate
Ct 47406 offset objection

Kanter moved for D.V.

Do you think the evidence that 2 1/16"
is bad is sufficient? NO

Tubing would not have been
changed except for Comm action.
We should've let it stand pend
term of rehearing.

Pars violated regs.
Was imprudent in part.

i.e. communication

Pet'ners includes DNG

Grace's case

① Hennigen

Panter wants copy of operating agreement.

H hasn't paid some of his bills. Pd all fixed operating costs, flare line & pit around Wdnt pay for fence & security guard Marlin Well H lost / his costs - 2 lawsuits / to get his royalties pd > H for 2 1/16 chg unconmon, > costly to set.

② Juanita Jones Wilberger

Flaring is common when pres. drops, esp if shuts in doesn't work.

Notes done w/ well chg so one knew wh + problem was.

Does know need a CC permit 2 Rule 404(a) flare. One ask, not this X.

Both well in force Protect?

③ Richard Stinhorst

Did the rework in 9-77

& every pres drop, produce/ gas → efficiency good. ∴ no subsurface waste. How much gas lost by flare? Unsure - South Sea 350 mcf

No undo / viol / correlative rights. Both well ~ pres. No move / gas [one 2 another

P's Ex. 7 plot 7 produc/. GoPoGo
unaffect/ by GA shut in, ∴ no
interfer. Welling is uniform
rate. Dec no cond 7 communic/.

- BH press ∀ surface press +
diff in decline curve → no
communic/. ∴ no viol of 7
correlative rites.

2 1/16" run eq only this cod fit thru
packer as requir/ by OCC?

Higher permeability ea. GA than
GP. So GA produces faster
ea. wellbore & that's why "ilted"

He did not choose the 2 1/16", but says
it's O.K.

If no not problem, then why clay-tubs?
Maybe contaminants.

$\frac{2}{32} = \frac{3}{8} \quad \frac{12}{32}$

$\frac{1}{16} \quad \frac{2}{32}$

Cross-x by Dilric

Proof 6 has no tho 2 66 w/ commun/.

Make them run BHP surveys?
Cudd says there's language about to calculate vs 2 communicats.

Rec'd CD

Says no undo 7 communicat, but there is some undo 7 no communicat

DCC accept order allows 4½" tubs
TX-39

Fedric's closing -
- summary 7 imprudent operats

Kanter
Moot?
Admits prior to 9-15 problems
But now, no chgs
DCC can't chg obligat 7 operats agree

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

DIRECTOR
JOE D. RAMEY

LAND COMMISSIONER
PHIL R. LUCERO

STATE GEOLOGIST
EMERY C. ARNOLD

MEMORANDUM OF LAW

TO: OIL CONSERVATION COMMISSION

FROM: LYNN TESCHENDORF, GENERAL COUNSEL

RE: CASE 5961, D. L. HANNIFIN REHEARING, PRUDENT OPERATOR STANDARD

DATE: SEPTEMBER 22, 1977

The prudent operator standard is "the generally applicable test for determining whether the lessee has breached his implied covenants." Manual of Oil and Gas Terms, Williams and Meyers, at p. 470. What is prudent depends on the facts of each case, but it can broadly be defined as the exercise of reasonable diligence.

The standard was first enunciated in 1905 in the case of Brewster v. Lanyon Zinc Co., 140 F. 801. The case concerned an implied covenant on the part of the lessee that after production of oil and gas in paying quantities was obtained, he must continue development "with reasonable diligence." The court stated, "It is only to the end that oil and gas shall be extracted with benefit or profit to both [the lessor and lessee] that reasonable diligence is required.... Whatever, in the circumstances, would be reasonably expected of operators of ordinary prudence, having regard to the interests of both lessor and lessee, is what is required."

This rule has been adopted by the New Mexico courts. See Clayton v. Atlantic Refining Co., 150 F. Supp. 9 (D. N.M. 1957); Libby v. DeBaca, 51 N.M. 95, 179 P.2d 263 (1947); State ex rel. Shell Petroleum Corp. v. Worden, 44 N.M. 400, 103 P.2d 124 (1940). It can readily be extended to apply to operators of forced pooled acreage as well as to lessees.

There is some case authority as to judicial review of a unit operator's actions. The test seems to be whether the action was arbitrary and capricious, or founded upon technical knowledge and judgment. West Edmond Hunton Lime Unit v. Stanolind Oil and Gas Co., 193 F.2d 818 (10th Cir., 1951), cert. denied., 343 U.S. 920 (1952). The court also indicated that it was merely enforcing the rights and duties of the parties as fixed by their contract. However, in New Mexico, the Oil Conservation Commission has great authority in essentially setting

the terms of such a contract in forced pooling cases. Section 65-3-14, N.M.S.A., 1953 Comp. Therefore, the scope of its review should be governed by this test as well as by the prudent operator standard and considerations of fiduciary relations, as discussed below.

"Fiduciary principles appear to be applicable to the relationship of the operator under a pooling, unitization or joint operating agreement and persons having interests in the premises affected by such agreement." 6 Oil and Gas Law 990. "The relationship between the participants should be on the same basis as that between joint owners of an oil and gas lease. That relationship has been held to be fiduciary in character and all their dealings with each other require the exercise of the utmost good faith." The Law of Pooling and Unitization, Vol. 1, Raymond M. Myers, p. 526. See also Blackstock Oil Co. v. Caston, 184 Okla. 489, 87 P.2d 1087 (1939); Young v. West Edmond Hunton Lime Unit, Okla., 275 P.2d 304 (1954), app. dism'd, 349 U.S. 909 (1955).

A fiduciary is "a person holding the character of a trustee.... in respect to the trust and confidence involved in it and the scrupulous good faith and candor which it requires." Black's Law Dictionary.

Thus, not only must the operator of a forced pooled unit do what is reasonably expected of operators of ordinary prudence, but he must also exercise the far higher standard of care required of a fiduciary. He must not only act in good faith, but has the duty of a trustee towards other interest holders. A review of his actions must consider these standards of care.

dr/

Blackstock v. Caston

T conveyed ½ interest in lease for 3 wells drilled. 3 drilled three oil-producers formally, produced wtr + bought out T for $. This was fraud & violat fiduciary relationship.

Young v. W. Edmond Hunton Lime Unit

Okla. Corp Comm force unitize. Unit operator sold to Kinsey at $2.65/bbl rather than 2 Phillips at $3/bbl.
275 P. 2d 304
P. 309
+ operator is a trustee 4 all who r interested in + oil produced such as lessees or royalty owners. TR can make no profit out of his trust. Operator must get highest market price. Here, breach of duty.

Mines & Minerals 92.78

Baca v. Worden

Assignee ? oil lease ~~[illegible]~~ was also bound by implied covenant to develop w/ reasonable dilig°.

Libby v. De Baca

Affirms Worden Addl'l duty ↓ reasonably prudent operator - has to mind his own interest as well as that ? + lessor, 2 market + product.

Here no CO_2 plant ever built. So no CO_2 ever sold.

TELEPHONE 247-1541
AREA CODE 505

LAW OFFICES OF
KANTER & CARMODY, P. A.

ELVIN KANTER
JOHN J. CARMODY, JR.
BARBARA C. EVERAGE

SUITE IIII
AMERICAN BANK OF COMMERCE COMPLEX
TWO HUNDRED LOMAS BOULEVARD, NORTHWEST
ALBUQUERQUE, NEW MEXICO 87102

May 18, 1978

Mr. Joe D. Ramey
Director
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: Grace Atlantic Well No. 1
Case No. 5961
Section 24, Section 22 South,
Range 26 East, Eddy County, NM
Our File #A769.34

Dear Mr. Ramey:

In response to the request of Ms. Lynn Teschendorf, general counsel, we enclose herewith our Proposed Findings of Fact and Conclusions of Law in the above-referenced matter.

Very sincerely yours,

Elvin Kanter

EK/pw

Enclosure (as indicated)

cc: Hunker-Federic, P. A.
Ms. Lynn Teschendorf
Mr. Michael P. Grace II
Mrs. Corinne Grace

BEFORE THE
NEW MEXICO OIL CONVERSATION COMMISSION

IN THE MATTER OF:
Application of D. L. Hannifin
for Amendment of Order
No. R-4432, Eddy County,
New Mexico. Case No. 5961

RESPONDENT'S PROPOSED FINDINGS OF FACT
AND CONCLUSIONS OF LAW

PROPOSED FINDINGS OF FACT

Respondent, Michael P. Grace II, by his attorneys, Kanter & Carmody, P. A., proposes the following findings of fact:

1. The four and one-half inch tubing in the Grace Atlantic Well No. 1 was legally installed pursuant to the Oil Conversation Commission's Administrative Order TX-39 dated April 17, 1973.

2. The four and one-half inch tubing in the Grace Atlantic Well No. 1 remained legally installed up to and including September 15, 1977.

3. The two and one-sixteenth inch tubing in the Grace Atlantic Well No. 1 was legally installed on September 15, 1977 pursuant to the Order of the Oil Conservation Commission contained in its letter dated June 27, 1977.

4. The two and one-sixteenth inch tubing in the Grace Atlantic Well No. 1 remained legally installed in the Grace Atlantic Well No. 1 up to and including the date of the hearing on this matter, October 19, 1977.

5. The use of four and one-half inch tubing in the Grace Atlantic Well No. 1 from April 17, 1973 until September 15, 1977 was prudent.

No

6. The installation of two and one-sixteenth inch

tubing on September 15, 1977 and its use from that date until the date of the hearing on this matter, October 19, 1977, was prudent.

7. It has not been established by a preponderance of the evidence that there is communication between the Grace Atlantice Well No. 1 and GoPoGo No. 2 Well.

8. There is no communication between Grace Atlantic Well No. 1 and GoPoGo Well No. 2.

9. It has not been established by a preponderance of evidence that either Grace Atlantic Well No. 1 can drain the reservoir of GoPoGo Well No. 2 nor that GoPoGo Well No. 2 can drain the reservoir of Grace Atlantic Well No. 1.

10. It has not been established by a preponderance of evidence that Grace Atlantic Well No. 1 has drained the reservoir of GoPoGo Well No. 2 nor that GoPoGo Well No. 2 has drained the reservoir of Grace Atlantic Well No. 1.

11. The Grace Atlantic Well No. 1 has not drained the reservoir of GoPoGo Well No. 2.

12. GoPoGo Well No. 2 has not drained the reservoir of Grace Atlantic Well No. 1.

13. It has not been established by a preponderance of evidence that the flaring of Grace Atlantic Well No. 1 has wasted a significant amount of the gas in the reservoir of that well.

14. Flaring of Grace Atlantic Well No. 1 was a use of gas to maintain production.

15. Flaring of Grace Atlantic Well No. 1 was not a waste of gas.

16. The flaring of Grace Atlantic Well No. 1 was the result of a universally held opinion that the flaring was necessary to keep the well producing.

17. The use of two and one-sixteenth inch tubing

in the Grace Atlantic Well No. 1 will not cause it to produce less than is produced by the two and seven-eighths inch tubing in the GoPoGo Well No. 2.

18. The use of two and one-sixteenth inch tubing in Grace Atlantic Well No. 1 will not cause GoPoGo Well No. 2 to drain the reservoir of Grace Atlantic Well No. 1.

19. No gas has been lost to the reservoir of Grace Atlantic Well No. 1 due to Michael P. Grace II's operating practices.

20. Michael P. Grace II is in continuous communication with his office in New Mexico.

21. The Michael P. Grace II office in New Mexico is continuously open and available to persons doing business with Michael P. Grace II.

22. No evidence was introduced that anyone seeking to deal directly with Michael P. Grace has not been able to do so.

23. The flaring of gas from the Grace Atlantic Well No. 1 was prudent until September 15, 1977.

24. No evidence was introduced that Michael P. Grace II will operate the Grace Atlantic Well No. 1 imprudently after September 15, 1977.

25. No evidence was introduced that D. L. Hannifin would operate the Grace Atlantic Well No. 1 differently from the way it will be operated by Michael P. Grace II after September 15, 1977.

26. Michael P. Grace II did not operate the Grace Atlantic Well No. 1 in a way as to benefit himself at the expense of the other owners.

27. The cost of installing two and one-sixteenth tubing in the Grace Atlantic Well No. 1 between the dates

August 31, 1977 and September 15, 1977 was reasonable and necessary in the circumstances.

28. Michael P. Grace II, D. L. Hannifin and Joe Don Cook entered into two agreements, each dated October 30, 1973 in which the then pending petition to the Oil Conservation Commission filed by D. L. Hannifin, in which he prayed that the Commission remove Michael P. Grace II as operator of the Grace Atlantic Well No. 1 and replace him as operator with D. L. Hannifin, was agreed to be revoked and in which agreements Michael P. Grace II was designated operator of the Grace Atlantic Well No. 1 by mutual consent.

29. The agreements dated October 30, 1973 between Michael P. Grace II, D. L. Hannifin and Joe Don Cook were voluntarily entered into by competent parties, fully informed in the premises.

30. The agreements dated October 30, 1973 are still in full force and effect.

PROPOSED CONCLUSIONS OF LAW

Michael P. Grace II, by his attorneys, Kanter & Carmody, P. A., proposes the following conclusions of law:

1. Michael P. Grace II has operated the Grace Atlantic Well No. 1 in good faith.

2. Michael P. Grace II will continue to operate the Grace Atlantic Well No. 1 in good faith.

3. Michael P. Grace II has operated the Grace Atlantic Well No. 1 with reasonable care, skill and diligence.

4. Michael P. Grace II will continue to operate the Grace Atlantic Well No. 1 with reasonable care, skill and diligence.

5. Michael P. Grace II has operated the Grace

Atlantic Well No. 1 prudently.

6. Michael P. Grace II will continue to operate the Grace Atlantic Well No. 1 prudently.

7. Michael P. Grace II has caused no waste at the Grace Atlantic Well No. 1 as a result of his operations.

8. Michael P. Grace II has caused no loss of correlative rights by his operation of Grace Atlantic Well No. 1.

9. The operation by Michael P. Grace II of Grace Atlantic Well No. 1 was not arbitrary and capricious.

10. The operation by Michael P. Grace II of Grace Atlantic Well No. 1 was not grossly negligent.

11. The contracts between the parties dated October 30, 1973 are mutually binding and in full force and effect.

12. While the Oil Conservation Commission has broad statutory authority to amend its orders, supervise the operators of gas wells and to take a broad range of sanctions against operators of gas wells, it has no explicit statutory authority to remove an operator.

13. The Oil Conservation Commission has no authority to remove an operator voluntarily designated by the owners of the gas well.

14. The Oil Conservation Commission cannot impair the obligations of contracts.

15. Michael P. Grace II should remain operator of Grace Atlantic Well No. 1.

Respectfully submitted,

KANTER & CARMODY, P. A.

By _____
Elvin Kanter
Attorneys for Michael P. Grace II
200 Lomas Boulevard NW
Suite 1111
Albuquerque, New Mexico 87102
Telephone/247-1541

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

DEC 13 1978

December 11, 1978

Mr. Phil R. Lucero, Chairman
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Application of D.L. Hannifin
for Change in Operator
NMOCD Case No. 5961
Grace-Atlantic #1 Well
Eddy County, New Mexico

Dear Mr. Lucero:

With encouragement by the NMOCD, the undersigned and client, D.L. Hannifin, met in Santa Fe on September 8, 1978, with Attorney Larry Lamb and his client, Michael P. Grace, to see if some possible settlement resolution of the captioned matter could be worked out between the parties.

As a result of that meeting, the parties agreed to obtain an engineering study of the Grace-Atlantic #1 Well as an initial informational step to see if the engineering data could lead to further discussions of settlement, or if the parties would simply ask NMOCD to render a decision in the case. On September 8, 1978, we requested NMOCD to withhold the rendering of any decision in Case No. 5961 until November 1, 1978, and that request was granted.

November 1, 1978, is long past, but both parties have been awaiting the engineering report. The engineer's report has been made verbally to counsel for both parties, although a written report has not yet been received. The report, as to probable further economic production from the Grace-Atlantic #1 Well, is encouraging.

Having received the verbal report, the parties, through counsel, have had further discussions as to possible settlement of Case 5961, but unfortunately, without success.

It appears the parties cannot resolve among themselves the Application of Mr. Hannifin for a Change of Operator as to the subject well. Since time is short before the composition of the Division changes at the year's end, we request that the Division once again consider this matter and render its Decision.

This request is made reluctantly, for it was hoped something might be resolved between the parties, but counsel for both parties have discussed the same at length and it does not appear that a settlement can be accomplished.

Thank you for your kind attention.

Yours very sincerely,

HUNKER - FEDRIC, P.A.

Don M. Fedric

DMF:dd

xc: Mr. Joe D. Ramey, Director, NMOCD, P.O. Box 2088, Santa Fe, N.M.
xc: Mr. Emery Arnold, NMOCD, P.O. Box 2088, Santa Fe, N.M.
xc: Mr. Larry L. Lamb, Lamb, Metzgar & Lines, P.A., P.O. Box 987, Albuquerque, N.M. 87103
xc: Mr. D.L. Hannifin, P.O. Box 182, Roswell, N.M. 88201

LAMB, METZGAR & LINES, P. A.
Attorneys and Counsellors at Law
P. O. BOX 987
SUITE 1010
BANK OF NEW MEXICO BUILDING
ALBUQUERQUE, NEW MEXICO 87103
PHONE 505-247-0107

LARRY L. LAMB
BERNARD P. METZGAR
FARRELL L. LINES

JOHN S. CAMPBELL
G. RICHARD MANLEY

DEC 18 1978 December 15, 1978

Mr. Phil R. Lucero, Chairman
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87501

Re: Application of D.L. Hannifin for Change in Operator
NMOCD Case No. 5961 Grace-Atlantic #1 Well, Eddy County, New Mexico

Dear Mr. Lucero:

I am in receipt of a copy of Attorney Don M. Fedric's letter to you under cover date December 11, 1978 reference the above entitled matter presently pending before the Oil Conservation Commission. In response to Mr. Fedric's letter, I submit to you for filing with the Commission a Motion for Hearing wherein I request on behalf of my client, Michael P. Grace, that the Commission re-open the record for the purpose of considering additional testimony concerning the application of Mr. Hannifin.

Although we acknowledge the contents of Mr. Fedric's letter which pointed out that you will be going out of office at the first of the year, we feel that on a case a first impression, i.e. an administrative ordered change of operator and taking a private contractual right in violation of the Federal Constitution, that the record should be complete and the parties afforded a full and complete hearing. Therefore, I respectfully wish you protest Mr. Hannifin's request that this matter be decided prior to the Commission being given the opportunity to hear the testimony and expert opinion of Mr. Tom Birtch, the independent engineer selected by Messrs. Hannifin and Grace for an independent evaluation of the Gract-Atlantic #1 Well.

Respectfully yours,

Larry L. Lamb

LLL:jem
cc: √Mr. Joe D. Ramey
Mr. Emery Arnold
Mr. Don M. Fedric

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 5961
Order No. R-5483-A

APPLICATION OF D. L. HANNIFIN
FOR AN AMENDMENT OF ORDER NO.
R-4432, EDDY COUNTY, NEW MEXICO.

REHEARING

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 10:00 a.m. on June 21, 1977, and for rehearing at 9:00 a.m. on October 19, 1977, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this_____day of April, 1978, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearings, and being fully advised in the premises:

FINDS:

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

(2) That the applicant, D. L. Hannifin, is a co-owner of the Michael P. Grace II Grace-Atlantic Well No. 1, located in Unit J of Section 24, Township 22 South, Range 26 East, NMPM, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico.

(3) That said well is the unit well for a certain gas spacing and proration unit, said unit comprising the S/2 of said Section 24.

(4) That the S/2 of said Section 24 was pooled by Commission Order No. R-4432, dated November 8, 1972, to form a standard 320-acre proration unit for the South Carlsbad-Morrow Gas Pool, to be dedicated to a well to be drilled at a standard location on said

unit.

(5) That a well was subsequently drilled on said pooled unit, being the well described in Finding No. (2) above.

(6) That Michael P. Grace II was designated by Commission Order No. R-4432 as the operator of the above-described well and unit.

(7) That the applicant herein, D. L. Hannifin, a co-owner of the aforesaid well and unit, seeks the amendment of said Order No. R-4432 to remove the present operator of said well and unit, Michael P. Grace II, as operator, and to designate the applicant, D. L. Hannifin, as operator of said well and unit.

(8) That Michael P. Grace II completed said Grace Atlantic Well No. 1 utilizing four and one-half inch casing as tubing which was later authorized by Administrative Order TX-39.

(9) That said Administrative Order TX-39 stated in part:

> "Inasmuch as the gas produced from this well is very dry (gas-liquid ratio reported TSTM on 4-point test), it appears that this well can be produced in the manner proposed without causing waste. You are therefore granted the requested exception. The Commission does reserve the right, however, to rescind this authority if at any time it appears that the producing characteristics of the well have so changed that this method of production is causing or may cause waste."

(10) That at some indeterminable date prior to January, 1977, said well commenced producing water or some other material that impeded or totally restricted the flow of gas from the well.

(11) That water or other material could not be lifted or cleared from the well bore efficiently through the four and one-half inch tubing.

(12) That Michael P. Grace II as operator should have within a

reasonable period of time equipped said well with smaller diameter tubing which would more efficiently clear the well bore of water or other material.

(13) That in order to clear the well bore of this water or other material, the well was flared or vented to air on several occasions.

(14) That flaring or venting of gas to air is waste and is a violation of the correlative rights of the owners of interest in said well in that no compensation was made to the owners of interest for the flared or vented gas.

(15) That Michael P. Grace II did in fact only reduce the tubing size after the Commission rescinded Administrative Order TX-39.

(16) That said well has flowed at a reasonable sustained rate of production since the installation of the smaller tubing.

(17) That flaring or venting gas without Commission approval is a violation of the Commission's Rules and Regulations.

(18) That Michael P. Grace II did allow the flaring or venting of gas from said well without Commission approval and did violate Rule 404(a) of the Commission's Rules and Regulations.

(19) That Michael P. Grace II, by allowing said well to produce at an impeded or totally restricted rate did, in all probability, allow gas that would otherwise be recovered to migrate from the proration unit dedicated to said well to other wells on other proration units completed in the same pool.

(20) That by allowing said gas to migrate from the proration unit, Michale P. Grace II did not protect the correlative rights of the owners of interest in the proration unit.

(21) That Michael P. Grace II did withhold royalty interest payments and did in fact only make the payments after federal court action.

(22) That Michael P. Grace II as operator of said well did cause waste to occur, did not protect the correlative rights of the owners of interest, and did not operate the well in a prudent and workmanlike manner.

(23) That Commission Order No. R-4432 should be amended designating D. L. Hannifin as operator of said well and unit.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION COMMISSION

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

CASE NO. 5961
Order No. R-5483-A

APPLICATION OF D. L. HANNIFIN FOR
AN AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

REHEARING

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 10:00 a.m. on June 21, 1977, and for rehearing at 9:00 a.m. on October 19, 1977, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this _____ day of _____, 1978, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearings, and being fully advised in the premises,

FINDS:

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

(2) That Commission Order No. R-4432 entered November 8, 1972, compulsorily pooled the S/2 of Section 24, Township 22 South, Range 26 East, NMPM, to form a standard 320-acre proration unit for the South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon.

(3) That said order designated Michael P. Grace II as the operator of said pooled unit and proposed well.

(4) That Michael P. Grace II subsequently completed the Grace-Atlantic Well No. 1 located in Unit J of said Section 24 as a producing gas well in said South Carlsbad-Morrow Gas Pool.

(5) That the applicant, herein, D. L. Hannifin, is a co-owner in said Grace-Atlantic Well No. 1.

(6) That D. L. Hannifin seeks the amendment of Order No. R-4432 to remove Michael P. Grace II as operator of the pooled unit and the Grace-Atlantic Well No. 1 and to designate D. L. Hannifin as operator thereof.

(7) That ~~the~~ ~~applicant~~ in support of his request ~~position~~ that Michael P. Grace II ~~should~~ be removed as operator of said Grace-Atlantic Well No. 1, applicant presented testimony ~~attempting~~ to show that Michael P. Grace II had operated said well in such a manner as to cause waste, to violate the correlative rights of the other owners in said well, ~~and to~~ prohibit ~~prevent~~ such ~~the~~ owners in said well from recovering or receiving, without unnecessary expense, their just and fair share of the oil and gas produced therefrom, and otherwise operated such well in violation of ~~various~~ Commission Rules and Regulations.

(8) That Michael P. Grace II originally completed said Grace Atlantic Well No. 1 utilizing four and one-half inch casing as tubing.

(9) That Michael P. Grace II later requested an exception to Rule 107(d)(2) and 107(d)(3) of Commission Rules and Regulations for use of such tubing.

(16) ~~(9)~~ That Administrative Order TX-39 was entered on April 17, 1973, and stated in part:

> "Inasmuch as the gas produced from this well is very dry (gas-liquid ratio reported TSTM on 4-point test), it appears that this well can be produced in the manner proposed without causing waste. You are therefore granted the requested exception. The Commission does reserve the right, however, to rescind this authority if at any time it appears that the producing characteristics of the well have so changed that this method of production is causing or may cause waste."

(11) ~~(10)~~ That sometime during 1975, the well began to experience production problems.

(12) ~~(11)~~ That the well commenced producing water or some other material that impeded or totally restricted the flow of gas from the well.

(13) ~~(12)~~ That prior to December 15, 1975, the well was equipped with a "blooie" line which could be used to flare gas, or vent gas, fluids, and any other material to the atmosphere.

(14) ~~(13)~~ That the water or other material which impeded production could not be lifted or cleared from the wellbore efficiently through the four and one-half inch tubing.

(15) ~~(14)~~ That in order to clear the wellbore of the water or other material to restore production, the well was flared or vented to the atmosphere.

(7) That ~~the~~ applicant in support of his ~~position~~ request that Michael P. Grace II ~~should~~ be removed as operator of said Grace-Atlantic Well No. 1, applicant presented testimony ~~alleging~~ attempting to show that Michael P. Grace II had operated said well in such a manner as to cause waste, to violate the correlative rights of the other owners in said well, ~~and~~ to prohibit ~~prevent~~ such ~~other~~ owners in said well from recovering or receiving, without unnecessary expense, their just and fair share of the oil and gas produced therefrom, and otherwise operated such well in violation of ~~various~~ Commission Rules and Regulations.

(8) That Michael P. Grace II originally completed said Grace Atlantic Well No. 1 utilizing four and one-half inch casing as tubing.

(9) That Michael P. Grace II later requested an exception to Rule 107(d)(2) and 107(d)(3) of Commission Rules and Regulations for use of such tubing.

(16) ~~(9)~~ That Administrative Order TX-39 was entered on April 17, 1973, and stated in part:

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(12) ~~(11)~~ That the well commenced producing water or some other material that impeded or totally restricted the flow of gas from the well.

(13) ~~(12)~~ That prior to December 15, 1975, the well was equipped with a "blooie" line which could be used to flare gas, or vent gas, fluids, and any other material to the atmosphere.

(14) ~~(13)~~ That the water or other material which impeded production could not be lifted or cleared from the wellbore efficiently through the four and one-half inch tubing.

(15) ~~(14)~~ That in order to clear the wellbore of the water or other material to restore production, the well was flared or vented to the atmosphere.

(16) ~~(15)~~ That allowing gas to escape to the atmosphere during the flaring or venting process constitutes waste. The applicant alleged that

(16) ~~(16)~~ That the evidence presented demonstrated that said well was flared approximately 4 days per month.

(17) ~~(17)~~ That flaring or venting gas without Commission approval is a violation of the Commission's Rules and Regulations.

(8) ~~(18)~~ That Michael P. Grace II did allow the flaring or venting of gas from said well without Commission approval and did violate Rule 404(a) of the Commission Rules and Regulations.

~~(19)~~ That prior to the date of this hearing, Michael P. Grace II did equip said well with smaller diameter tubing which permits said well to be produced without unnecessary flaring of gas therefrom.

(20) ~~(23)~~ That said well has flowed at a reasonable sustained rate of production since the installation of the smaller diameter tubing.

21 ~~(23)~~ ~~(24)~~ That applicant further alleges that Michael P. Grace II, by allowing said well to produce at an impeded or totally restricted rate for an unreasonable period of time did ~~in all probability,~~ allow gas that would otherwise be recovered by said well to migrate from the proration unit to another well or wells on other proration units within the same pool.

22 ~~(22)~~ ~~(25)~~ That Section 65-3-14(c) paragraph 2, New Mexico Statutes Annotated, 1953 Compilation, concerning compulsory pooling states in part that:

> "All orders effecting such pooling shall be made after notice and hearing, and shall be upon such terms and conditions as are just and reasonable and will afford to the owner or owners of each tract or interest in the unit the opportunity to recover or receive without unnecessary expense his just and fair share of the oil or gas, or both."

23 ~~(24)~~ ~~(26)~~ That continued operations allowing gas to migrate from said Grace-Atlantic Well No. 1 to other proration units in the same pool would deny ~~denies~~ the owners of the pooled unit dedicated to said well the opportunity to recover or receive their just and fair share of the gas from said pool.

(24) That the applicant failed to prove that such migration has occurred.

(25) ~~(27)~~ That Michael P. Grace II withheld certain royalty interest payments due from production from the well and the pooled unit and did in fact make the payments only after federal court action by the royalty interest owners.

(26) ~~(28)~~ That the applicant alleges That such action denied the owners of such royalty interest the opportunity to recover or receive without "unnecessary expense" their just and fair share of the production from said pool.

(27) That at the time of the hearing ~~Michael P. Gr~~ none of the actions complained of by the applicant ~~in Find~~ as set out in Finding No. 7 above was occurring.

(28) That ~~in~~ the absence of evidence demonstrating continuing waste of oil or gas, violation of correlative rights, or violation of Commission Rules and Regulations the application should be denied.

IT IS THEREFORE ORDERED

(1) That the application of D. L. Hamilton for amendment of Order No. R-4432 to remove Michael P. Grace II as operator of the proration unit pooled thereunder and the Grace - Atlantic Well No. 1 located in Unit J of Section 24, Township 22 South, Range 26 East, NMPM, is hereby denied

2 Jurisdiction

FINDS

(1) That due public notice...

(2) – (7)

(8) That at the time of hearing, none of the actions complained of by the applicant was occurring.

(9) That the parties have entered into an ~~uniform~~ operating ~~Gas~~ agreement ~~which governs~~ relative to the operation of the Grace-Atlantic well No. 1. ~~relationship as operator and co-owner~~.

(10) That the terms of said agreement were not entered in evidence.

(11) That ~~the parties~~ Michael P. Grace II should operate the Grace-Atlantic well No. 1 in accordance with the terms of that agreement.

(12) That in the absence of evidence demonstrating continuing waste of oil or gas, violation of correlative rights, or violation of Comm Rules and Regulations, the application should be denied.

IT IS THEREFORE

OIL CONSERVATION COMMISSION

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

DIRECTOR
JOE D. RAMEY

LAND COMMISSIONER
PHIL R. LUCERO

STATE GEOLOGIST
EMERY C. ARNOLD

MEMORANDUM OF LAW

TO: OIL CONSERVATION COMMISSION

FROM: LYNN TESCHENDORF, GENERAL COUNSEL

RE: CASE 5961, D. L. HANNIFIN REHEARING, PRUDENT OPERATOR STANDARD

DATE: SEPTEMBER 22, 1977

The prudent operator standard is "the generally applicable test for determining whether the lessee has breached his implied covenants." Manual of Oil and Gas Terms, Williams and Meyers, at p. 470. What is prudent depends on the facts of each case, but it can broadly be defined as the exercise of reasonable diligence.

The standard was first enunciated in 1905 in the case of Brewster v. Lanvon Zinc Co., 140 F. 801. The case concerned an implied covenant on the part of the lessee that after production of oil and gas in paying quantities was obtained, he must continue development "with reasonable diligence." The court stated, "It is only to the end that oil and gas shall be extracted with benefit or profit to both [the lessor and lessee] that reasonable diligence is required.... Whatever, in the circumstances, would be reasonably expected of operators of ordinary prudence, having regard to the interests of both lessor and lessee, is what is required."

This rule has been adopted by the New Mexico courts. See Clayton v. Atlantic Refining Co., 150 F. Supp. 9 (D. N.M. 1957); Libby v. DeBaca, 51 N.M. 95, 179 P.2d 263 (1947); State ex rel. Shell Petroleum Corp. v. Worden, 44 N.M. 400, 103 P.2d 124 (1940). It can readily be extended to apply to operators of forced pooled acreage as well as to lessees.

There is some case authority as to judicial review of a unit operator's actions. The test seems to be whether the action was arbitrary and capricious, or founded upon technical knowledge and judgment. West Edmond Hunton Lime Unit v. Stanolind Oil and Gas Co., 193 F.2d 818 (10th Cir., 1951), cert. denied., 343 U.S. 920 (1952). The court also indicated that it was merely enforcing the rights and duties of the parties as fixed by their contract. However, in New Mexico, the Oil Conservation Commission has great authority in essentially setting

the terms of such a contract in forced pooling cases. Section 65-3-14, N.M.S.A., 1953 Comp. Therefore, the scope of its review should be governed by this test as well as by the prudent operator standard and considerations of fiduciary relations, as discussed below.

"Fiduciary principles appear to be applicable to the relationship of the operator under a pooling, unitization or joint operating agreement and persons having interests in the premises affected by such agreement." 6 Oil and Gas Law 990. "The relationship between the participants should be on the same basis as that between joint owners of an oil and gas lease. That relationship has been held to be fiduciary in character and all their dealings with each other require the exercise of the utmost good faith." The Law of Pooling and Unitization, Vol. 1, Raymond M. Myers, p. 526. See also Blackstock Oil Co. v. Caston, 184 Okla. 489, 87 P.2d 1087 (1939); Young v. West Edmond Hunton Lime Unit, Okla., 275 P.2d 304 (1954), app. dism'd, 349 U.S. 909 (1955).

A fiduciary is "a person holding the character of a trustee.... in respect to the trust and confidence involved in it and the scrupulous good faith and candor which it requires." Black's Law Dictionary.

Thus, not only must the operator of a forced pooled unit do what is reasonably expected of operators of ordinary prudence, but he must also exercise the far higher standard of care required of a fiduciary. He must not only act in good faith, but has the duty of a trustee towards other interest holders. A review of his actions must consider these standards of care.

dr/

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

September 22, 1977

COPY

Sheriff of Eddy County
Eddy County Court House
Carlsbad, New Mexico 88220

Attention: Lt. Anne M. Price

Re: Case No. 5961
D. L. Hannifin Rehearing

Dear Lt. Price:

I would appreciate your serving Mr. Backstrom with the enclosed subpoena. Thank you very much for the attention you've given this matter.

Very truly yours,

LYNN TESCHENDORF
General Counsel

LT/dr

cc: Mr. George Hunker
Mr. Elvin Kanter

CASE NO. 5961

SUBPOENA DUCES TECUM (ALIAS)

THE STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

To GREG BACKSTROM, Route 1, Box 184-B, Carlsbad, N.M. Greeting:

We command you to be and appear on October 19, 1977, at 9:00 A.M. before the Oil Conservation Commission of the State of New Mexico, at The Oil Conservation Commission Conference Room in the State Land Office Building, in the City of Santa Fe, then and there to testify in the Case of Application of D. L. Hannifin for Amendment of Order No. R-4432, Eddy County, New Mexico, Upon Rehearing, on behalf of Applicant and also that you bring with you and produce at the time and place aforesaid Daily Operational and Production Reports and Records from January 1, 1977, to date, affecting Grace-Atlantic Well #1, located in Unit J, Section 24, Township 22 South, Range 26 East, and Grace Go-Po-Go #2 located in N/2 Section 24, Township 22 South, Range 26 East, South Carlsbad Gas Pool, Eddy County, New Mexico.

And this do you under penalty of the law

WITNESS JOE D. RAMEY, Secretary-Director of the Oil Conservation Commission of the State of New Mexico, and the seal of said Commission, this 22nd day of September A.D. 1977

Joe D. Ramey

SHERIFF'S RETURN

I, _____ Sheriff of _____ County, State of New Mexico, do hereby certify, that I served the within Subpoena Duces Tecum on the _____ day of _____ by delivering a copy thereof, in _____ County, State of New Mexico, to _____

_____

Dated: _____

_____ Sheriff

No. 5961

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

COUNTY OF SANTA FE

APPLICATION OF D. L. HANNIFIN

SUBPOENA

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR.
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

September 2, 1977

Mr. Michael P. Grace, II
P.O. Box 1418
Carlsbad, New Mexico 88220

Re: Rework, Grace-Atlantic #1 Well
Sec. 24, 22-S, 26-E,
Eddy County, New Mexico

Dear Mr. Grace:

On August 31, 1977, at 6:12 P.M., your representative hand delivered to our client, D.L. (Dan) Hannifin, of Roswell, an "AFE" covering your estimated cost of reworking the captioned well. Your cover letter requested payment of Mr. Hannifin's share of the rework expense by September 2, 1977, on which date the letter states you will commence rework operations.

Please be advised that in accordance with the October 30, 1973, Operating Agreement for the captioned well, under Paragraph 12, Page 5, Mr. Hannifin has 30 days from the date of receipt of your "AFE" to make his election as to whether or not he will participate in the cost of the proposed operation.

One of the primary purposes of an Operating Agreement is to give all of the working interest owners an opportunity to participate in major decisions affecting the mutual interests of the parties. Your delivery of the "AFE" calling for immediate operations and payment is the first and only contact by you with Mr. Hannifin with reference to the proposed reworking operations. Your method of handling this proposal has not been in accordance with the strict terms of the Operating Agreement or the spirit of such an Agreement.

You will be advised of Mr. Hannifin's decision on participation within the time frame allowed.

Yours very sincerely,

HUNKER - FEDRIC, P.A.

Don M. Fedric

DMF:dd

cc: Mr. D.L. Hannifin
cc: Mr. Joe Ramey, NMOCC

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

August 24, 1977

COPY

Sheriff of Eddy County
Eddy County Court House
Carlsbad, New Mexico 88220

Re: Case No. 5961
D. L. Hannifin rehearing

Gentlemen:

Please serve the enclosed Subpoena Duces Tecum on Mr. Greg Backstrom. He lives approximately one mile south of Otis and can be reached after 6:30 to 7:00 P.M. Your bill can be sent to the Oil Conservation Commission at the above address.

Very truly yours,

LYNN TESCHENDORF
General Counsel

LT/dr

enc.

CASE NO. 5961

SUBPOENA DUCES TECUM

THE STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

To GREG BACKSTROM, Route 1, Box 184-B, Carlsbad, N.M. Greeting:
(Telephone 887-1489)

We command you to be and appear on September 20, 1977, at 9:00 A.M. before the Oil Conservation Commission of the State of New Mexico, at The Oil Conservation Commission Conference Room in the State Land Office Building, in the City of Santa Fe, then and there to testify in the Case of Application of D.L. Hannifin for Amendment of Order No. R-4432, Eddy County, New Mexico, Upon Rehearing, on behalf of Applicant and also that you bring with you and produce at the time and place aforesaid Daily Operational and Production Reports and Records from January 1, 1977, to date, affecting Grace-Atlantic Well #1, located in Unit J, Section 24, Township 22 South, Range 26 East, and Grace Go-Po-Go #2 located in N½ Section 24, Township 22 South, Range 26 East, South Carlsbad Gas Pool, Eddy County, New Mexico.

And this do you under penalty of the law

WITNESS JOE D. RAMEY, Secretary-Director of the Oil Conservation Commission of the State of New Mexico, and the seal of said Commission, this 24th day of August A.D. 1977

Joe D. Ramey

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

August 22, 1977

Ms. Lynn Teschendorf
General Counsel
New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Case No. 5961
D.L. Hannifin rehearing

Dear Ms. Teschendorf:

We hand you herewith our Subpoena Duces Tecum to be issued by the Commission for the appearance on September 20, 1977, at 9:00 A.M., of Greg Backstrom, Carlsbad, New Mexico. Mr. Backstrom's address is Route 1, Box 184-B, Carlsbad. His phone number is 887-1489, and he lives approximately one mile south of Otis. He can be reached after his pumping duties are complete for the day, at approximately 6:30 to 7:00 P.M. each evening.

If you have any problem with the Subpoena, please do not hesitate to call us. We want this served in plenty of time so that Mr. Backstrom can prepare his records.

Sincerely yours,

HUNKER - FEDRIC, P.A.

George H. Hunker, Jr.

GHH:dd
Enc.

cc: Mr. D.L. Hannifin

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

August 15, 1977

Mr. George M. Hunker, Jr.
Hunker-Pedric, P.A.
P. O. Box 1837
Roswell, New Mexico 88201

Re: Case No. 5961
D. L. Hamnifin rehearing

Dear Mr. Hunker:

I checked with Florene Davidson, and she sent the requested transcript out last week. If you haven't received it by now, please let us know.

I have enclosed a Subpoena form for use in the above-referenced case. As before, please return it to us for signature and issuance.

Very truly yours,

LYNN TESCHENDORF
General Counsel

LT/dr
enc.

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1937
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR.
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

August 10, 1977

Ms. Lynn Teschendorf
General Counsel
New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Case No. 5961
D.L. Hannifin rehearing

Dear Ms. Teschendorf:

On July 13, 1977, Florene Davidson advised us that the transcript in Case No. 5961 would be sent to us when it was received. This letter will serve as a reminder that we still need the transcript.

We have received the Subpoena Deces Tecum form and thank you for it; however, do you have a simple Subpoena form?

Let us know as soon as the hearing is scheduled before the Commission.

Sincerely yours,

HUNKER - FEDRIC, P.A.

George H. Hunker, Jr.

GHH:dd

cc: Mr. D.L. Hannifin

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

August 8, 1977

Mr. George H. Hunker, Jr.
Hunker-Fedric, P.A.
P. O. Box 1837
Roswell, New Mexico 88201

Re: Case No. 5961
D. L. Hannifin rehearing

Dear Mr. Hunker:

I've enclosed a Subpoena Duces Tecum for you to complete with the necessary information. Please return it to us for signature and issuance.

Very truly yours,

LYNN TESCHENDORF
General Counsel

LT/dr
enc.

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

August 5, 1977

Mr. Elvin Kanter
Kanter & Carmody, P.A.
200 Lomas Blvd., N.W.
Suite 1111
Albuquerque, New Mexico 87102

Re: Case No. 5961
D. L. Hannifin rehearing

Dear Mr. Kanter:

The hearing scheduled for September 15, 1977, in the above-referenced case has been postponed until a later, as yet undetermined, date.

When this date has been set, you will be timely notified.

Very truly yours,

LYNN TESCHENDORF
General Counsel

LT/dr

cc: Mr. George H. Hunker, Jr.
P. O. Box 1837
Roswell, New Mexico 88201

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR.
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

August 2, 1977

Mr. Joe D. Ramey, Director
New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Case No. 5961
D.L. Hannifin Rehearing

Dear Mr. Ramey:

In response to a request from your office, we hand you herewith in triplicate a Supplement to D.L. Hannifin's Application for Hearing in the above matter. Will you please file this Supplement.

We are sending a xerox copy of this letter along with a xerox copy of the Supplement to opposing counsel, Kanter & Carmody, Albuquerque, New Mexico.

Respectfully submitted,

HUNKER - FEDRIC, P.A.

George H. Hunker, Jr.

GHH:dd
Enc.

cc: Mr. D.L. Hannifin, w/enc.
xc: Mr. Elvin Kanter
Kanter & Carmody, P.A.
200 Lomas Blvd., NW
Suite 1111
Albuquerque, New Mexico 87102, w/enc.

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

July 22, 1977

COPY

Mr. George Hunker
Attorney
P. O. Box 1837
Roswell, New Mexico 88201

Re: Case No. 5961
Application for Rehearing

Dear Mr. Hunker:

Enclosed please find the Motion for a More Definite Statement filed on behalf of the Graces. I would appreciate your calling me upon receipt of the same.

Very truly yours,

LYNN TESCHENDORF
General Counsel

LT/dr
enc.

TELEPHONE 243-2844
AREA CODE 505

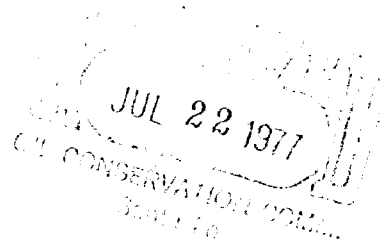
LAW OFFICES OF
KANTER & CARMODY, P. A.

ELVIN KANTER
JOHN J. CARMODY, JR.
BARBARA C. EVERAGE

SUITE IIII
AMERICAN BANK OF COMMERCE COMPLEX
TWO HUNDRED LOMAS BOULEVARD, NORTHWEST
ALBUQUERQUE, NEW MEXICO 87102

July 21, 1977

Mr. Joe D. Ramey
Secretary Director
Oil Conservation Commission
State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501



RE: Oil Conservation Commission
Case No. 5961,
Application of D. L. Hannifin for
Amendment of Order No. R-4432
Eddy County, New Mexico
Our File #A769.34

Dear Mr. Ramey:

Enclosed herewith please find the Motion of Michael P. Grace II for a More Definite Statement which we request be filed in the above-referenced case.

We also request that this Motion be considered at the earliest possible time so that adequate preparation can be made for the hearing on this matter on September 15, 1977.

Very sincerely yours,

Elvin Kanter

EK/pw

Enclosure (as indicated)

TELEPHONE 243-2844
AREA CODE 505

LAW OFFICES OF
KANTER & CARMODY, P. A.

ELVIN KANTER
JOHN J. CARMODY, JR.
BARBARA C. EVERAGE

SUITE IIII
AMERICAN BANK OF COMMERCE COMPLEX
TWO HUNDRED LOMAS BOULEVARD, NORTHWEST
ALBUQUERQUE, NEW MEXICO 87102

JUL 20 1977
OIL CONSERVATION COMM.
Santa Fe

July 19, 1977

Mr. Joe D. Ramey
Director, New Mexico Oil
Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: Hannifin-Grace Atlantic No. 1
Case No. 5961
Section 21, T-22S, R-26E, Eddy
County, New Mexico
Our File #A769.34

Dear Mr. Ramey:

Enclosed herewith please find the Opposition of Michael P. Grace II to D. L. Hannifin's application for rehearing of case number 5961.

Very sincerely yours,

Elvin Kanter

EK/pw

Enclosure (as indicated)

cc: Michael P. Grace
Hunker-Fedric, P. A.

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1637
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

JUL 15 19

July 14, 1977

Mr. Joe D. Ramey, Director
New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Hannifin-Grace-Atlantic #1
Case No. 5961
Sec. 24, T-22-S, R-26-E
Eddy County, New Mexico

Dear Mr. Ramey:

We hand you herewith D.L. Hannifin's Application for Rehearing in Case No. 5961. Will you please file this Application and notify us of the hearing date.

Sincerely yours,

HUNKER - FEDRIC, P.A.

George H. Hunker, Jr.

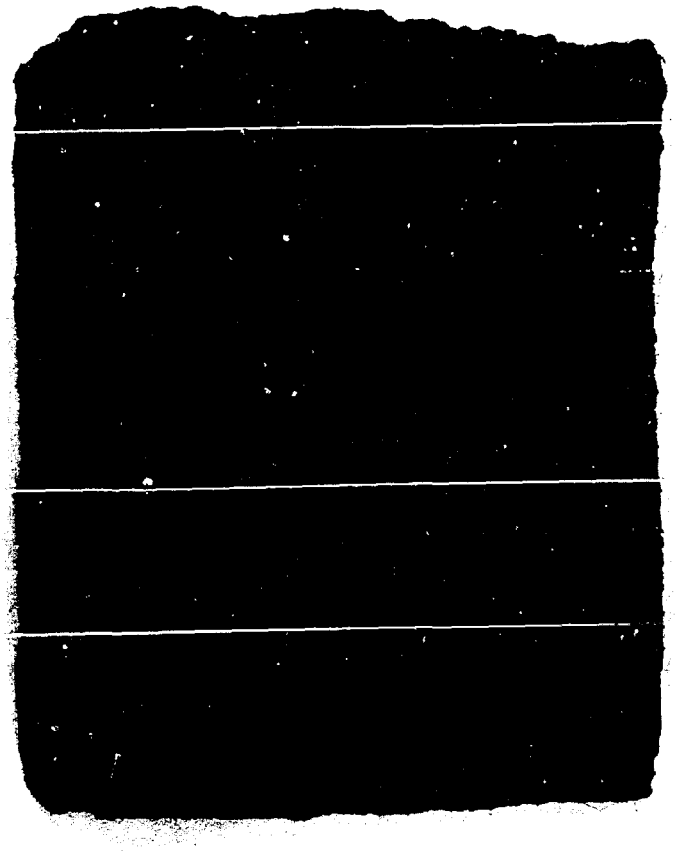
GHH:dd
Enc.

xc: Mr. Michael P. Grace, II
certified mail, return receipt requested
P.O. Box 1418
Carlsbad, New Mexico 88220, w/xc App.

xc: Mr. Michael P. Grace, II
certified mail, return receipt requested
1141 East Bethany Home Road
Phoenix, Arizona 85014, w/xc App.

xc: Elvin Kanter, Esquire
1111 American Bank of Commerce Bldg.
200 Lomas, NW
Albuquerque, New Mexico 87102, w/xc App.

xc: Mr. D.L. Hannifin, w/xc App.



OIL CONSERVATION COMMISSION

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

DIRECTOR
JOE D. RAMEY

LAND COMMISSIONER
PHIL R. LUCERO

STATE GEOLOGIST
EMERY C. ARNOLD

June 29, 1977

Re: CASE NO. 5961
ORDER NO. R-5483

Mr. Don G. McCormick
McCormick and Forbes
Attorneys at Law
P. O. Box 1718
Carlsbad, New Mexico 88220

Applicant:

D. L. Hannifin

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other Andrew Ives

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

Please file

December 20, 1978

Mr. Phil R. Lucero, Chairman
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Application of D.L. Hannifin for
Change of Operator
NMOCD Case No. 5961
Grace-Atlantic Well #1
Eddy County, New Mexico

Dear Mr. Lucero:

Enclosed is a Response on behalf of our client, D.L. Hannifin, to the recent Motion for Hearing filed by counsel for Mr. Grace.

Thank you for your consideration.

Yours very sincerely,

HUNKER - FEDRIC, P.A.

Don M. Fedric

DMF:dd
Enc.

xc: Mr. Joe D. Ramey, w/enc.
xc: Mr. Emery Arnold, w/enc.
xc: Mr. Larry L. Lamb, w/enc.
xc: Mr. D.L. Hannifin, w/enc.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

In the matter of the hearing called by the Oil Conservation Commission of New Mexico for the purpose of considering:

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN FOR AMENDMENT OF ORDER R-4432, Eddy County, New Mexico.

RESPONSE TO MOTION FOR HEARING

D.L. Hannifin, by and through his attorneys of record, hereby responds and objects to the Motion for Hearing recently filed herein by Michael P. Grace, II.

In May of 1977, Mr. Hannifin filed his application in this cause for amendment of Order R-4432, to remove Michael P. Grace, II, as Operator of the Grace-Atlantic #1 Well. A hearing was held June 21, 1977, at which time extensive testimony and exhibits were given to the Commission. Subsequently, Mr. Hannifin filed a timely application for rehearing before the Commission, and a second hearing was held on October 19, 1977. Again, extensive testimony and exhibits were presented to the Commission. In November 1977, both parties filed extensive briefs with the Commission. In May of 1978, both parties filed Finding of Facts and Conclusions of Law. In September of 1978, the parties under encouragement by the Commission met in Santa Fe to discuss the case and the status of the well itself. The parties entered into a tentative agreement to engage an engineer to perform a well study to see if mutual economic interests might lead to meaningful settlement negotiations for disposition of this case. An oral report by the engineer did trigger subsequent settlement discussions, but unfortunately, to no avail.

Contrary to the assertions of the Motion for Hearing by Mr. Grace, the recent engineer's report is not really pertinent to this case, except to the extent that the same recommends the taking of certain steps by the operator of the well to improve production.

The engineer's report is brief and to the point. As reflected in the report, a copy of which is attached hereto, the parties can improve production of the well by making certain expenditures, and substantial reserves are yet to be recovered if the parties follow the recommendations. A hearing before the Commission could add nothing more to the essence of the recommendations in the report. If Mr. Grace believes that the engineer's information would be helpful to the Commission, the copy attached hereto should satisfy such need.

The motion for hearing, in any event, is not relevant to the real issue in this matter. The issue is removal of Mr. Grace as operator of the well. Has he operated the well as a reasonable, prudent operator?

Extensive testimony and factual information has previously been given to the Commission on Mr. Grace's imprudent operations, and further information should not be necessary for the Commission to reach a decision. However, the Affidavit of Juanita Jones Wildberger, attached to the Grace Motion, indicates the continued imprudent operations of Mr. Grace.

It will be recalled that Mr. Grace reworked the Grace-Atlantic well in September of 1977, only after being ordered to do so by the Commission. According to the Wildberger Affidavit, a valve to the blowie line was stolen at the time of the rework operations, but interestingly, the same was never replaced. Further, according to the Affidavit, Mr. Hannifin was required to make inquiry in the summer of 1978 as to why the well's production had fallen off. It should be noted that Mr. Hannifin was required to make the inquiry since he had heard nothing from Mr. Grace on the decreasing production status of the well. It is to be noted that Mr. Hannifin could communicate only with Mr. Grace's secretary, who apparently received her instructions and operational expenses through the weekly wiring of funds from the Graces. It should be noted that the operator, Mr. Grace, had taken no steps to correct the declining well production or see if anything could be done about the same prior to Mr. Hannifin's inquiry. It was September of 1978 before any action whatsoever was

taken by Mr. Grace to see if something could be done to improve the production status of the well, and such action occurred only as a result of the urging of the Commission to get the parties together.

Mr. Grace has not changed his methods of operation. Mr. Grace does not "act" as a reasonable, prudent operator should act; he simply "reacts" when forced by unavoidable circumstances or legal compulsion.

As previously stated, the only significance for the Commission in the most recent engineering study, is that once again the operator of the well must exercise his duties as an operator and act to avoid waste and protect the economic interests of the owners of the well. The engineering report recommendations simply reflect the need for an "on the ground" operator to exercise judgment, discretion and diligence.

The findings of facts previously filed herein clearly point out the reasons why Mr. Grace should be removed as operator, and why Mr. Hannifin should be appointed to operate the well. The Commission originally appointed Mr. Grace as operator, and can now remove him from such position for his failure to operate in a prudent manner.

Finally and reluctantly, we respond to the extraneous issues raised in the affidavits of Juanita Jones Wildberger and Clarence Forister, with the attached affidavit of Mr. Hannifin.

We assert once again that the Commission has full information to reach a decision, and such a decision should be made.

Respectfully submitted,

HUNKER - FEDRIC, P.A.

Don M. Fedric

Don M. Fedric
Attorneys for D.L. Hannifin
P.O. Box 1837
Roswell, New Mexico 88201

DMF:dd

I hereby certify that a true copy of the foregoing was mailed this 20th day of December, 1978, to Mr. Larry L. Lamb, P.O. Box 987, Albuquerque, New Mexico 87103, Attorneys for Michael P. Grace, II.

Don M. Fedric
Don M. Fedric

A F F I D A V I T

STATE OF NEW MEXICO)
) ss
COUNTY OF CHAVES)

The undersigned, D.L. HANNIFIN, being first duly sworn upon his oath, states:

During the summer of 1978, noting that the gas production from the Grace-Atlantic Well #1 had once again seriously declined, and having heard nothing from the operator of the well in such regard, I made inquiry with the Carlsbad office of Michael P. Grace, II. I was able to speak only with Mrs. Juanita Jones Wildberger, Mr. Grace's secretary, and she could not give a satisfactory response to my inquiries, except to mention that possibly the well was again loading up with water. I asked if any built-up water was being blown off the well, and was told that the valve to the blowie line had been stolen several months before. I asked why the valve had not been replaced, and was told by Mrs. Wildberger that they were on C.O.D. with all oil well equipment suppliers and she did not have the funds to pay for the valve.

At a later date in the summer, while conducting operations on a well of mine near the Grace-Atlantic #1 Well, I had my crew replace the valve which Mr. Grace could not afford.

I do not know if I talked with the Grace-Atlantic pumper, Mr. Clarence Forister, on more than one occasion, but I do recall calling him after the valve had been replaced and advising that the same had been replaced which would allow for any water which had loaded up in the well to be blown off. I do not have personal knowledge of any flaring of the well, nor did I direct that the well be flared.

D.L. HANNIFIN

SUBSCRIBED AND SWORN TO before me this 20th day of December, 1978.

Notary Public

My commission expires:
9-17-80

ECONOMIC EVALUATION

MICHAEL P. GRACE II #1 GRACE ATLANTIC

EDDY COUNTY, NEW MEXICO

THOMAS M. BERTCH

DECEMBER 13, 1978

THOMAS M. BERTCH
PETROLEUM CONSULTANT
713 622-6918
POST OFFICE BOX 61331
HOUSTON, TEXAS 77208

The Michael P. Grace II #1 Grace Atlantic is estimated to have a future economic recoverable reserve of 1470 MMCF from the Morrow "B" Sand. Current BHP was calculated from the present shut-in pressure plus the weight of the gas column.

The well currently produces into the El Paso Natural Gas Company line during periods of low line pressure and averages 100 MCF/D. The well was tested by blowing to the air and produced 959 MCF/D at a flowing pressure of 290#. Since line pressure fluctuates between 400# and 525#, it is obvious that installation of compression facilities is indicated. Costs have been estimated assuming the initial installation of a two stage compressor which will be higher in cost than a single stage but will handle the well to abandonment without replacement. There is such a compressor currently available in Midland from Compressor Systems and is estimated to cost $5000 to install. They will also furnish complete maintenance and full coverage on insurance.

On the attached table are the estimated future rates of production and future cash flow for this installation. Gas prices were escalated as set forth in the new energy bill and we have escalated operating costs 6% per year. These operating costs can be reduced by leasing the compressor on a lease-purchase plan and eventually buying the compressor.

Initial monthly operating costs include:

Compressor rental	$2200
Insurance	80
Maintenance (95% Guarantee)	650
Pumper	300
Lease Maintenance	70
	$3300

Taxes include severance, conservation tax and emergency school tax.

There is an additional "C" zone Morrow Sand which is productive in this well. However, it is considerably tighter than the "B" zone and will require fracing. Even with stimulation, the productivity and the reserves will be much lower for the "C". Recommended perforations are 11497-507 and 11590-602. Frac recommended is 50,000 gallons with 4 ppg sand. The estimated cost of this recompletion is $60,000 which includes $25,000 for the frac job. It is estimated the well will produce 1 MMCF/D initially and will produce 3000 MMCF ultimately. Payout of the recompletion cost will require 6 weeks and the recompletion will ultimately return 70 to 1.

Respectively submitted,

Thomas M. Bertch

Thomas M. Bertch, P. E.

ESTIMATED FUTURE CASH FLOW
MICHAEL P. GRACE II #1 GRACE ATLANTIC - MORROW "B"
SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO

	MMCF/YR.		DOLLARS					
YEAR	GROSS	NET	INCOME	TAXES	OP.EXP.	W.O.	NET	GAS PRICE(1) $/MCF
1979	360	315.00	333900	24900	36900		272100	1.06
1980	360	315.00	355950	25505	41975	20000	268470	1.13
1981	240	210.00	249900	17350	44495		188055	1.19
1982	180	157.50	200025	13350	47165		139510	1.27
1983	120	105.00	140700	9100	49995	20000	61605	1.34
1984	90	78.75	112613	7025	52995		52593	1.43
1985	70	61.25	92488	5600	56175		30713	1.51
1986	50	43.75	69125	4080	59545		5500	1.58
1987								
TOTAL	1470	1286.25	1554701	106910	389245	40000	1018546	1.20 (Avg)

(1) Operator may apply to FERC for an additional charge for compression.
EPNG assures me they will agree to the increase.
Suggest we apply for 20¢/MCF to cover 2 stage compression.

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR.
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

November 2, 1977

Mr. Joe D. Ramey, Director
New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Hannifin - ~~Grace~~-Atlantic #1
Case No. 5961
Sec. 24, ~~T-22-S~~, R-26-E
Eddy County, New Mexico

File

Dear Mr. Ramey:

We hand you herewith the original of our "Brief of Applicant, D.L. Hannifin" in connection with the above captioned case. We are also mailing copies of the document to opposing counsel.

Respectfully submitted,

HUNKER - FEDRIC, P.A.

George H. Hunker, Jr.

GHH:dd
Enc.

xc: Mr. Michael P. Grace, II
P.O. Box 1418
Carlsbad, New Mexico 88220, w/enc.

xc: Elvin Kanter, Esq.
1111 American Bank of Commerce Bldg.
200 Lomas, NW
Albuquerque, New Mexico 87102, w/enc.

xc: Ms. Lynn Teschendorf, General Counsel
New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501, w/enc.

xc: Mr. D.L. Hannifin, w/enc.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN
FOR AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

BRIEF OF APPLICANT, D.L. HANNIFIN

I.

STATEMENT OF THE CASE

On November 8, 1972, in a consolidated and contested action, the Oil Conservation Commission issued its Order R-4432 appointing Michael P. Grace, II, as Operator of a pooled unit consisting of the S½ of Section 24, Township 22 South, Range 26 East, N.M.P.M., Eddy County, New Mexico, South Carlsbad Morrow Gas Pool, upon which is located the producing well known as the Grace-Atlantic #1.

In May 1977, D.L. Hannifin filed Case No. 5961 before the Commission requesting that Order R-4432 be amended so as to designate him as Operator of the subject well. A hearing was held on June 21, 1977, and an Order was filed (R-5483) denying the Application. Pursuant to Rule 1222, an Application for Rehearing was timely filed by D.L. Hannifin on or about July 15, 1977.

The matter came on for hearing before the Oil Conservation Commission on October 19, 1977, D.L. Hannifin being present and being represented by counsel, and Michael P. Grace, II, appearing by counsel only.

The following were the contentions made by the Applicant:

1. D.L. Hannifin contends that Michael P. Grace, II, has not operated the subject well in a prudent manner.

2. That Grace has permitted and authorized surface waste to occur through the flaring of the subject well.

3. That the flaring of gas as authorized by Grace, constitutes waste and violates the correlative rights of Applicant and royalty owners.

4. That Grace has permitted drainage to occur to the extent that the subject well has lost 350,000,000 cubic feet of gas to offset wells, the closest being the Grace-operated Go-Po-Go #2 located 1,320 feet north of the subject well.

5. That subsurface waste will occur and correlative rights will be violated by reason of the installation by Grace on or about September 16, 1977, of 2-1/16" tubing in the subject well, which said tubing is not competitively sized as related to the 2-7/8" tubing used in the Grace Go-Po-Go #2 Well.

6. That there is communication between the subject well and the Grace Go-Po-Go #2 Well.

7. That some natural gas has been lost to the reservoir by reason of Grace's inefficient production methods.

8. That the correlative rights of owners of interests in the property have not been protected to the extent required by law, in that those owners will not be able to produce without waste their just and equitable share of the gas in the pool.

9. That Applicant is physically present in the State of New Mexico and will obey the orders of the Commission, and is able, capable and willing to prudently operate the subject property.

II.

EVIDENCE

1. The Applicant established that the subject well and the Grace-operated Go-Po-Go #2 Well are completed in the same zones of permeability and porosity; that there is communication between the two wells in the opinion of Applicant's engineering expert.

2. Applicant established that due to the size of the tubing in the Grace-Atlantic Well (prior to the reworking), production was erratic and that 350,000,000 cubic feet of gas had been lost to offsetting wells.

3. Applicant established that the subject well was not prudently operated and that smaller tubing should have been installed 14 months prior to September 1977.

4. Applicant established that Grace's employee illegally flared the subject well continuously for 14 months until the Commission caused the well to be shut-in for remedial work in June 1977.

5. Applicant established the fact that because of the differential in the size of the tubing installed in the two wells, that the Grace-Atlantic #1 Well will not be competitive with the Go-Po-Go #2, that drainage will occur, that correlative rights of property owners will be violated.

6. That Operator, Grace, failed to pay royalty owners, overriding royalty interest owners, and permitted liens to be filed against the property which were not satisfied except under compulsion.

7. That the reworking was excessively expensive and production was lost due to the excessive amount of time taken by Grace to complete the reworking operation.

8. That after reworking of the subject well and the installation of 2-1/16" tubing, a loss of production equal to 17 to 20 million cubic feet of gas per month will occur through drainage to the subject well by offsetting wells.

III.

LAW AND ARGUMENT

It is well settled in New Mexico that an oil and gas lease or an operating agreement creates a fiduciary relationship between the parties. The lessee or operator is required to be equitable. Jack v. Hunt, 75 N.M. 686, 410 P.2d 403.

In our particular case, the order of the Commission and the appointment of Grace creates the fiduciary relationship. The duties owed by the Operator are not only those owed to the

Commission, but encompass the duties owed to non-operating working interest owners and to royalty and to overriding royalty interest owners.

The Commission's powers and duties are explicit. It is to prevent waste and protect correlative rights, and by its orders, to do whatever may be reasonably necessary to carry out the purpose for which the Commission was created. Sec. 65-3-10, NMSA (1953).

The burden of its appointment of Grace as Operator falls on the Commission. In the exercise of its duties and obligations under the conservation laws, the burden falls on the Commission to change operators where it is necessary to prevent waste and protect correlative rights.

Substantial evidence in the record bears out the fact that waste has occurred and is likely to occur in the future. As a practical matter, it has been shown that waste has occurred and correlative rights have not been protected.

The prime objective of the New Mexico conservation statutes relating to gas production is, in the interest of public welfare, to prevent waste of an irreplaceable natural resource. Grace v. Oil Conservation Commission of New Mexico, 531 P.2d 939, 87 NM 205.

By reason of the appearances entered in this matter, the Commission has jurisdiction of the parties. It further has jurisdiction over the subject matter. It is axiomatic that if it had the duty and authority to designate Grace as Operator, then it has the authority and the power to remove him as Operator.

Substantial evidence of waste by Grace has been submitted to the Commission. Substantial evidence of violation of Oil Conservation Commission rules has been submitted to the Commission, with such violation being directly connected to acts of waste. Substantial evidence of the failure of Grace to protect correlative rights, as a result of his acts of waste, has been presented to the Commission. Finally, substantial evidence of generally unacceptable and imprudent operations, to the detriment of all connected with

this well, has been presented to the Commission, so as to raise the presumption that irresponsible past operating techniques and procedures will continue in the future if Grace continues as Operator.

Grace has been neither responsible nor prudent in his operations. He has not given proper consideration to protection of the rights of others. Additionally, he has not been available to the other parties interested in the well, and has not even seen fit to attend either of the hearings on this matter before the Commission.

An operator must practice "utmost good faith" in his dealings with the other interest owners in a well. In the present instance, the other working interest owners, the royalty owners and an overriding royalty interest owner have all asked that the Operator be changed. These interests total more than the ownership interest of Grace in this well, and the position of such other parties is clearly indicative that they do not feel that Grace has acted toward them in utmost good faith.

Under the Commission's authority, it should exercise its power and remove Grace as Operator, so as to clearly state what the Commission expects and demands of a Commission-appointed Operator.

Respectfully submitted,

HUNKER - FEDRIC, P.A.

George H. Hunker, Jr.

Don M. Fedric

Attorneys for D.L. Hannifin
P.O. Box 1837
Roswell, New Mexico 88201
(505) 622-2700

I hereby certify that on this 2nd day of November, 1977, true copies of the foregoing document were mailed to opposing counsel of record.

George H. Hunker, Jr.

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR.
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

May 18, 1978

New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Attn: Mr. Joe D. Ramey, Director

Re: Hannifin - Grace-Atlantic #1
Case No. 5961
Sec. 24, T22S, R26E
Eddy County, New Mexico

Gentlemen:

We enclose proposed Findings of Fact and Conclusions of Law submitted on behalf of the applicant, D. L. Hannifin. We are also transmitting a copy of the same to opposing counsel of record.

Yours very sincerely,

HUNKER-FEDRIC, P.A.

Don M. Fedric

DMF/rp
Enc.
cc: Elvin Kanter, Esq., w/enc.
1111 American Bank of Commerce Bldg.
200 Lomas, N.W.
Albuquerque, New Mexico 87102

cc: Ms. Lynn Teschendorf, General Counsel, w/enc.
NMOCC
P.O. Box 2088
Santa Fe, New Mexico 87501

cc: Mr. D. L. Hannifin, w/enc.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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

CASE NO. 5961

APPLICATION OF D. L. HANNIFIN
FOR AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

REQUESTED FINDINGS OF FACT AND CONCLUSIONS OF LAW
SUBMITTED BY APPLICANT, D. L. HANNIFIN

FINDINGS OF FACT:

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

2. That pursuant to Commission Order R-4432, dated November 8, 1972, the S½ of Section 24, Township 22 South, Range 26 East, N.M.P.M., Eddy County, New Mexico, was pooled to form a standard 320 acre proration unit for the South Carlsbad Morrow Gas Pool, to be dedicated to a well to be drilled at a standard location on said unit.

3. That a well was subsequently drilled on said pooled unit, known as the Grace-Atlantic Well #1, located in Unit J of said Section 24.

4. That the applicant, D. L. Hannifin and Michael P. Grace II are co-owners in said well, owning leasehold estates covering two separate tracts of land within the spacing or proration unit.

5. That both applicant D. L. Hannifin and Michael P. Grace II sought designation by the Commission to be operator of the Grace-Atlantic Well #1 and pursuant to Commission Order R-4432, Michael P. Grace II was designated as the operator of said well and unit.

6. That the applicant seeks amendment of Commission Order R-4432 removing Michael P. Grace II as operator and naming the applicant as operator.

7. That this matter came on for hearing before the Commission on June 21, 1977, and pursuant to such hearing, Order R-5483 was issued in Case 5961 on June 28, 1977, which order denied the application of D. L. Hannifin for amendment of Order R-4432.

8. That pursuant to Commission Rule 1222, an Application for Re-hearing was timely filed by the applicant on or about July 15, 1977.

9. That this matter came on for hearing upon the applicant's Application for Re-hearing before the Commission on October 19, 1977.

10. That the evidence adduced at said hearing established that on April 17, 1973, the Commission had entered an Administrative Order TX39, permitting the said operator, Michael P. Grace II, to use 4¼" tubing in the said well, based on the premise that the said well could be produced from such size tubing without causing waste.

11. That under Administrative Order TX39, the Commission reserved the right to rescind the authority to produce through 4½" tubing, if producing characteristics of said well changed so as to cause waste.

12. That on June 1, 1977, the said operator sought permission from the Commission to flare gas from the said well, from time to time, on the basis that said well was loading up with water.

13. That on June 27, 1977, the Commission rescinded Administrative Order TX39, on the basis that flaring of gas constitutes waste and directed the operator to install new tubing of no greater than 2 7/8" in size in said well by August 1, 1977, so as to prevent waste.

14. That the evidence adduced at said hearing, established that the said operator, Michael P. Grace II, prior to the first hearing of the application to remove and replace the operator on June 21, 1977, and prior to the Commission's rescision of Administrative Order TX39 of June 27, 1977, had flared or vented gas from the said well for a period of at least 14 months without Commission authority or approval.

15. That the operator, Michael P. Grace II, completed rework operations upon said well, by installing tubing in said well of 2 1/16" in size in September of 1977.

16. That the evidence adduced at said hearing established that said well required rework operations and installation of a smaller sized tubing for a period of more than 14 months before the said operator initiated such rework operations, and that such rework operations were not initiated until the Commission by its June 27, 1977, directive, required installation of small tubing.

17. That the evidence established that said operator's failure to rework said well when needed and required has resulted in a loss to said well of recoverable reservoir gas.

18. That the evidence established that the rework efforts of said operator have not fully protected correlative rights of the owners of royalty, overriding royalty and working interests under said well.

19. That the Grace-Atlantic Well #1 and the Go-Po-Go #2 Well, located in the N½ of Section 24, Township 22 South, Range 36 East, N.M.P.M., Eddy County, New Mexico, are completed in and produce from the same gas reservoir, and that both wells have compatible permiability and porosity in the same productive zones.

20. That there is reservoir communication between the said Grace-Atlantic Well #1 and the said Go-Po-Go #2 Well, which well is also operated by Michael P. Grace II, and under which well Michael P. Grace II owns a 75% working interest.

21. That said operator has permitted drainage to occur to the extent that the Grace-Atlantic Well has lost approximately 350,000,000 cu.ft. of reservoir gas to offsetting wells, the closest of which is the said Grace operated Go-Po-Go #2 Well, located 1,320ft. north of the Grace-Atlantic #1 Well.

22. That the Go-Po-Go #2 Well is produced through 2 3/8" tubing. That rework operations on the Grace-Atlantic #1 Well resulted in 2 1/16" tubing being installed in said well.

23. That due to the differential in size of the tubing installed in the Grace-Atlantic #1 Well and the Go-Po-Go #2 Well, the Grace-Atlantic

#1 Well will not be competitive with the Go-Po-Go #2 Well, and drainage will occur from the productive reservoir underlying the Grace-Atlantic #1 Well.

24. That the evidence adduced at said hearing established that said operator, Michael P. Grace II, during his operations, overproduced said well in excess of Commission allowables.

25. That the evidence established that said operator failed to pay royalty owners and one overriding royalty interest owner their share of proceeds from production, except under legal compulsion.

26. That the evidence established that said operator allowed several liens to be filed against the said unit property and said well.

27. That the evidence adduced at the hearing and rehearing established that the royalty owners, the overriding royalty interest owner, and the other working interest owner in the Grace-Atlantic Well #1, concur in applicant's request for a change of operator.

28. That the applicant, D. L. Hannifin, is physically present in the State of New Mexico, and resides in Roswell, New Mexico, while the said operator, Michael P. Grace II, does not apparently reside in the State of New Mexico, and his personal location and residence were not revealed at the hearing, nor would employees of said operator reveal where said operator could be physically contacted and/or located.

29. That the applicant, D. L. Hannifin, a co-owner of the Grace-Atlantic Well #1 and unit, seeking an amendment of Order R-4432, to remove the present operator of said well, Michael P. Grace II, as operator and to designate the applicant, D. L. Hannifin, as operator of said well and unit, has shown sufficient cause for Commission Order R-4432 to be amended.

CONCLUSIONS OF LAW:

1. That pursuant to Section 65-3-14C NMSA (1953 Comp., 1975 Supp.) the Commission is authorized to designate an operator for a spacing and proration unit, and make such orders in connection therewith to

afford to the owners of each tract the opportunity to recover or receive, without unnecessary expense, such owner's fair share of the oil and gas.

2. That pursuant to Section 65-3-10 NMSA (1953 Comp.), the Commission has a duty to prevent waste of oil and gas and protect the correlative rights of owners of interest in oil and gas, and the Commission is empowered to make and enforce rules, regulations and orders to such end, and may do whatever may be reasonably necessary to carry out the purpose for which the Commission was created.

3. That the venting or flaring of gas constitutes economic waste.

4. That an operator of an oil and gas well has a fiduciary relationship with the other interest owners of the well, and the operator must practice utmost good faith in his dealings with said other interest owners.

5. That the operator of a well must conduct his operations prudently, and prudent operations, at a minimum, include: prevention of waste; protection from drainage and protection of the correlative rights of the other interest owners in a well; the employment of reasonable practices in well operations; timely payment of the proceeds from production to other interest owners; protection of other interest owners' rights in the well from liens attributable to the operator, and not related to well operations; and compliance by the operator with New Mexico statutes and rules and regulations of the Commission.

6. That the operator, Michael P. Grace II, has conducted his operations in an imprudent manner, by committing waste through unauthorized flaring of gas; by allowing a loss of recoverable reservoir reserves to occur; by failing to initiate well rework operations when needed and required; by failing to timely pay other interest owners their rightful share of production, except under legal compulsion; by allowing liens against the operator of a non-operating nature to be filed against the well property; and by violating the rules and regulations of the Commission; any one or more of which actions by the operator consitute imprudent operations.

7. That having the authority to appoint the operator of a pooled unit, the Commission also has the authority and the duty to remove and replace an appointed operator where that operator has failed to conduct operations in a prudent manner, and/or has violated the rules and regulations of the Commission.

8. That the application of D. L. Hannifin for the amendment of Commission Order R-4432 is hereby granted.

9. That Michael P. Grace II is hereby removed as operator of the Grace-Atlantic Well #1, located in Unit J, S½ of Section 24, Township 22 South, Range 26 East, N.M.P.M., Eddy County, New Mexico, and the applicant, D. L. Hannifin, is hereby appointed operator of said well. This order shall be effective as of the first day of the month next following the finality thereof.

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

Respectfully submitted,

HUNKER-FEDRIC, P.A.

By: Don M. Fedric

Don M. Fedric
P.O. Box 1837
Roswell, New Mexico 88201
505-622-2700

Attorneys for D.L. Hannifin

I hereby certify that a true copy of the foregoing instrument was mailed to opposing counsel of record this 18th day of May, 1977.

Don M. Fedric
Attorney at Law

Docket No. 21-77

Dockets Nos. 23-77 and 24-77 are tentatively set for hearing on July 6 and July 20, 1977. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: COMMISSION HEARING - TUESDAY - JUNE 21, 1977

10:00 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

CASE 5960: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Corinne Grace and all other interested parties to appear and show cause why the following wells should not be shut-in until they can be operated in such a manner as to prevent injury to neighboring leases or properties, and to protect against contamination of fresh water supplies:

Humble Grace Com Well No. 1 located in Unit P of Section 2, and
Panagra Com Well No. 1 located in Unit B of Section 11, both in
Township 23 South, Range 26 East, Eddy County, New Mexico.

CASE 5961: Application of D. L. Hannifin for amendment of Order No. R-4432, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-4432 to remove the present operator of the pooled proration unit comprising the S/2 of Section 24, Township 22 South, Range 26 East, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico, and to designate applicant as operator of said unit.

****

Docket No. 22-77

DOCKET: EXAMINER HEARING - WEDNESDAY - JUNE 22, 1977

9 A.M. - OIL CONSERVATION COMMISSION 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 5962: Application of Amoco Production Company for a non-standard proration unit, unorthodox locations, and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 320-acre non-standard proration unit comprising Lots 9, 10, 15 and 16 and the SE/4 of Section 2, Township 21 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to applicant's State "C" Tract 11 Wells Nos. 1 and 5 located at unorthodox locations in Units X and I, respectively, of said Section 2.

CASE 5963: Application of Amoco Production Company for a non-standard proration unit and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 240-acre non-standard proration unit comprising the SW/4 and W/2 SE/4 of Section 22, Township 20 South, Range 37 East, Eumont Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to applicant's Gilluly B Federal Lease Well Nos. 7 and 16 at unorthodox locations in Units K and M of said Section 22, respectively.

CASE 4962: (Reopened)

In the matter of Case 4962 being reopened pursuant to the provisions of Order No. R-4538 which order established temporary special pool rules for the Peterson-Pennsylvanian Associated Pool, Roosevelt County, New Mexico. All interested parties may appear and show cause why said temporary special pool rules should not be rescinded.

CASE 5964: Application of Texas Pacific Oil Company, Inc., for non-standard proration units and unorthodox gas well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for two 160-acre non-standard gas proration units comprising the NW/4 of Section 9, and the SW/4 of Section 11, dedicated respectively, to its State "A" A/c-2 Wells Nos. 63 and 62, at unorthodox locations 990 feet from the North line and 2310 feet from the West line of Section 9 and 1980 feet from the South line and 2310 feet from the West line of Section 11, all in Township 22 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico.

CASE 5965: Application of Layton Enterprises, Inc., for a dual completion and salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Elkins State Well No. 1, located in Unit N of Section 1, Township 7 South, Range 28 East, Chaves County, New Mexico, in such a manner as to produce oil from the Cisco formation thru tubing in the production casing and to dispose of produced salt water down the production/intermediate casing annulus into the San Andres and Yeso formations thru the open-hole interval from 1861 feet to approximately 5000 feet.

CASE 5966: Application of J. R. Cone for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blinebry and Tubb production in the wellbore of his Eubanks Well No. 2 located in Unit L of Section 14, Township 21 South, Range 37 East, Lea County, New Mexico.

Memo

From

R. L. STAMETS
TECHNICAL
SUPPORT CHIEF

To

Flare 6-8 hrs each

Hannah will be out in
June 23 Rock Hill Not to
get money to Atty Gen

Grow Lease located in Johnson
Hannah or the Johnson will
Marland
will start drilling
prod problems in 1975
P135

OIL CONSERVATION COMMISSION-SANTA FE

Memo

From

R. L. STAMETS
TECHNICAL
SUPPORT CHIEF

To

[illegible] the
[illegible] rate shutting it in with the
[illegible] hour intervals recovery
[illegible] possible loss of production
[illegible] to [illegible] by [illegible] owners

Pumper Backstrom started
Dec 15, 1975 Flare line already
in when he started,
occasionally he instructions to
flare well

Flare 1-4-77 - 4 days in January
[illegible] days recorded
[illegible] 2 days flare

OIL CONSERVATION COMMISSION-SANTA FE

TELEPHONE 243-2844
AREA CODE 505

LAW OFFICES OF
KANTER & CARMODY, P. A.

ELVIN KANTER
JOHN J. CARMODY, JR.
BARBARA C. EVERAGE

SUITE 111
AMERICAN BANK OF COMMERCE COMPLEX
TWO HUNDRED LOMAS BOULEVARD, NORTHWEST
ALBUQUERQUE, NEW MEXICO 87102

November 2, 1977

Oil Conservation Commission
State of New Mexico
P.O. Box 2088
Santa Fe, New Mexico 87501

RE: Case No. 5961
Grace-Atlantic No. 1 Unit J
§24, T.22 S., R26E
Eddy County, New Mexico
Our File #769.34

Gentlemen:

Enclosed please find the Memorandum of Law of Michael P. Grace, II, for your consideration in the above-referenced matter.

Very sincerely yours,

Elvin Kanter

EK:jf

Enclosure (as indicated)

cc: Hunker-Fedric, P.A.
Mrs. Corinne Grace

BEFORE THE OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO

In the matter of the hearing
called by the Oil Conservation
Commission of New Mexico
for the purpose of considering:

CASE No. 5961

APPLICATION OF D. L. HANNIFIN
for amendment of Order #R-4432,
Eddy County New Mexico.

MEMORANDUM OF LAW IN OPPOSITION TO APPLICATION

MICHAEL P. GRACE, II, by his attorneys, KANTER & CARMODY, P.A., respectfully submits the following Memorandum of Law in opposition to the application of D. L. Hannifin praying that Michael P. Grace, II, be removed as operator of the Grace-Atlantic #1 Well, that D. L. Hannifin be substituted as operator for him, and that Order #R-4432 of the Commission be amended accordingly.

STANDARD OF CONDUCT REQUIRED OF OPERATOR

It is interesting to note at the outset that neither Order #R-4432 (by which Michael P. Grace, II, was designated operator of the unit) nor the Operating Agreement among D. L. Hannifin, Joe Don Cook and Michael P. Grace dated October 30, 1973, a copy of which is included in Exhibit A attached hereto and made a part hereof, nor §65-3-14 N.M.S.A. 1953 Comp., under the authority of which the Commission has jurisdiction of this matter, specifically state the standards of conduct required by the operator of a pooled unit. We hasten to insert at this point that Paragraph 5 on Page 3 of the Operating Agreement provides that the operator, ". . . shall have no liability as operator to the other parties for losses sustained, or liabilities incurred, except such as may result from gross negligence or from breach of provisions of this

agreement". That is, with the exception of a quoted language in the preceding sentence, none of the written materials which define the relationships of the parties and grant authority to this Commission set out in writing a code or standard by which the conduct of an operator can be gauged. Therefore, this memorandum must look to other sources for a definition of that code or standard as did Lynn Teschendorf, Esquire, the Commission's General Counsel, in her Memorandum of Law submitted to the Commission in the hearing on October 19, 1977, and adopted as the memorandum of the counsel for Mr. Hannifin.

There seems to be almost universal agreement that the so-called "prudent operator standard" should apply to the conduct of an ordinary oil and gas lessee with regard to the exploration, development and production of his leasehold. There seems to be no reason, that this standard should not be extended to apply to the "operator" of a pooled unit, as Ms. Teschendorf and Hannifin's attorneys assume, even though there appears to be no decided case or other authority for such extension. The problem, therefore, is to decide what the term "prudent operator" means in the context of this case.

It is submitted that the standard to be applied to the conduct of a "prudent operator" should be "reasonable in light of the circumstances". Ms. Teschendorf quoted from the 1905 case of Bruster vs. Laynon Zinc Company, (8th cir.), 140 F. 801, but somehow failed to quote the sentence from that decision which most succintly describes the standards required of an operator:

> "Whatever, in the circumstances, would be reasonably expected of operators of ordinary prudence, having regard to the interests of both lessor and lessee, is what is required."

This rule, of course, has been adopted by the Supreme Court of the State of New Mexico in Libby vs. DeBaca, 51 N.M. 95, 179, P.2nd, 263 (1947), and State ex rel. Shell Petroleum Corp. vs. Worden, 44 N.M. 400, 103 P.2nd 124 (1940), as was pointed out in the thoughtful opinion of Judge Rogers in Clayton vs. Atlantic Refining Company, 150 F. Supp. (D. N.M. 1957).

This standard, however, seems to have had limited application only to exploration and development activities. The "prudent operator standard" has been applied in all of the cases cited by Ms. Teschendorf and all those found by the undersigned only in situations where the issue was whether or not the lessee or operator had conducted sufficient exploration and development in order to continue as lessee of the property. None of these cases addressed itself to the question of the lessee's or operator's conduct of production operations, as distinguished from exploration and development.

When it comes to the standard of conduct to be applied to the unit operator's actions in the course of production, an entirely different standard appears, as can be inferred from the opposition memorandum of Ms. Teschendorf and Messrs. Hunker and Federic. That memorandum cites the interesting case of West Edmond Hunton Lime Unit vs. Stanolind Oil and Gas Company, 193 F.2nd 818 (10th Cir., 1951). In that case, the Court clearly stated that the unit operator's actions could not be overruled by judicial review unless those actions were "arbitrary and capricious". Since this is the only case cited by the attorneys for Mr. Hannifin and by Ms. Teschendorf to establish a different standard, and since the undersigned could find no other case contradicting it, and since the case appears to be the only one that dealt

with a pooled unit operator's conduct in the course of the producing phase of the unit, it would appear to be the controlling standard. Indeed, a leading commentator suggests that this is the standard of conduct where a contract covering operations exists. 1 Myers, The Law of Pooling and Unitization, 1967 ed., pp. 456 and 457. Therefore, the standard of conduct to be applied to the actions of Michael P. Grace as unit operator in the producing phase of the unit is whether or not his actions were "arbitrary and capricious".

The opposition memorandum correctly states that by virtue of §65-3-14, N.M.S.A. 1953 Comp. this Commission has great authority in setting out the terms of a forced pooling order. [It does not have the authority to dictate the terms of a contract as stated by Ms. Teschendorf; even a quick reading of §65-3-14 clearly shows that no "contract" is authorized, but merely a forced pooling order.] There is no question, therefore, that the forced pooling order (#R-4432) of this Commission could have established that the conduct of the operator of a pooled unit shall be "reasonable under the circumstances"; or it could have stated that the operator may not act in a "arbitrary and capricious manner" or it could have, as the actual Operating Agreement between the parties states, merely said that the operator shall not be guilty of "gross negligence". But the forced pooling order, #R-4432, set no standard whatsoever. Nevertheless, as will be shown below, the conduct of Michael P. Grace, II, can be judged by any of the foregoing standards and he will not be found wanting.

FIDICIARY RELATIONSHIP

Once again the opposition memorandum is correct as far as it goes. While a reading of subsequent paragraphs in 1 Myers,

The Law of Pooling and Unitization, 1967 ed. to those quoted by the opposition memorandum shows that the Courts are by no means unanamous in stating that there is a fidiciary relationship among the participants in a pooled unit, there is little reason why this Commission should not adopt such principles. The problem is that fidicuary principles have absolutely nothing to do with the level of care, skill and diligence to be exercised by the operator in regard to production of the unit.

There is no question that the operator of a unit may not serve his own interest at the expense of the other participants. Indeed, as is indicated by the citations in Ms. Teschendorf's memorandum, neither could the other participants act for their own benefit vis-a-vis the pooled unit at the expense of the operator's interest.

But these principles apply to situations involving the acquisition of new leases, the sale of gas, and other business matters. The implication of Ms. Teschendorf's memorandum is that fidicuary principles apply to such issues as the determination of the diameter of tubing and the flaring of wells in order to stimulate production. It is doubtful that anyone whould explicitly advance such a ludicrous proposition.

In fact the duties of a fiduciary, such as a trustee or a partner, are divided into two categories:

(a) good faith and fair dealing with the person benefiting from his fiduciary responsibilities; and

(b) care, skill and diligence in performing his actual administrative duties in the premises.

Ms. Teschendorf has quoted the correct standards developed by the Courts as to the level of good faith and fair

dealing required of a fiduciary. She has neglected to even raise, much less expound upon, the standards of care, skill and diligence required of a fiduciary. Since this case deals primarily with the latter, rather than the former, set of standards, it is believed to be of the utmost importance that the Commission consider them.

While there appear to be no reported New Mexico cases which deal with the standard of care, skill and diligence required of fiduciaries as opposed to good faith and fair dealing, the general rule as to trustees is stated in 76 Am. Jur. 2d, Trusts §326:

> "Generally, the standard or measure of care, diligence, and skill required of a trustee in the administration of a trust is that of an ordinarily prudent man in the conduct of his private affairs under similar circumstances, and with a similar object in view."

The law, such as there is, concerning standards of care, skill and diligence of partners, appears to be the same. 60 Am. Jur. 2d, Partnership §117.

To summarize, then, the standard of good faith and fair dealing required of a fiduciary is that he not only not cheat his beneficiaries, but also not take any unfair advantage of them. The standard of care, skill and diligence is that of an "ordinarily prudent man" or the "prudent operator" standard referred to in the Brewster case, above.

APPLICATION OF FOREGOING PRINCIPLES TO FACTS

Whatever standard may in general apply to an operator's conduct, this Commision must decide if the actions of Micahel P. Grace, II, have fallen and may in the future fall beneath those standards.

What has Michael P. Grace, II, been accused of? First, he has been accused of operating a well with tubing of too large a diameter. But he did this pursuant to Administrative Order TX-39, dated April 17, 1973, of this Commission. He replaced it with narrower tubing when ordered to do so by letter dated June 27, 1977. Can it be said that operating with 4 1/2 inch tubing in compliance with a Commission order was either "unreasonable" or "arbitrary and capricious" or "unfair"? It is submitted that it is not.

The second thing Michael P. Grace, II, is accused of is of installing tubing of too narrow a diameter. (a case of "damned if you do and damned if you don't".) But Mr. Hannifin himself introduced the evidence of an engineer, I. J. Natour, who stated that narrower tubing (as small as 2 inches in diameter) was just what was needed in the Grace-Atlantic #1 Well; and Mr. Hannifin expressed to this Commission in its June hearing that that is precisely what he would do if he were made operator. Can then the installation of narrower tubing in compliance with the order of the Commission and in accordance with the advice of Mr. Hannifin's first engineer be considered either "unreasonable" or "arbitrary and capricious" or "unfair"? It is submitted that it is not.

The next thing that Michael P. Grace, II, is accused of is flaring the well so as to increase its production. There is no question that he did so and that his intentions were entirely proper: To cause the Grace-Atlantic Well to go into production once again. Again, Mr. Hannifin's own engineer, I. J. Natour, stated that this is an accepted and proper way of causing a well to recommence production if its production has been terminated by the build-up of water in the tube. Everyone thought that the build-up of water was the cause of the Grace-Atlantic #1's going off the line from time to time. That is

why Mr. Natour recommended narrower tubing. Indeed, the Commission accepted this premise as is indicated by the language of Administrative Order TX-39 of April 17, 1973, and its letter of June 27, 1977, which stated, ". . . since the well now makes sufficient water that it must be unloaded by flaring periodically". If it was generally thought that the well's productivity was stopped by water in the tube; and if the accepted method for unloading the water is flaring, then can such flaring be considered either "unreasonable in the circumstances" or "arbitrary and capricious" or "unfair"? It is submitted that it is not.

Finally Michael P. Grace, II, is accused of so operating the Grace-Atlantic #1 Well, in which he owns a 50% working interest, so that a nearby well, which he also operates and in which he has a 75% working interest, will be able to drain the reservoir that would otherwise be drained by the Grace-Atlantic #1 Well. It is interesting to note that no such allegation was made in either the original nor the amended application of Mr. Hannifin. This accusation would therefore appear to be an afterthought. It is also interesting to note that Mr. Hannifin's second engineer could in no way substantiate that there was any evidence whatsoever that there was communication between Grace-Atlantic #1 Well and the Go-Po-Go Well, which he conceded had to exist in order for the latter well to drain the reservoir of the former. Furthermore, each of the wells were shown to have produced over 9 billion cubic feet of gas. Is it reasonable to believe that Michael P. Grace would jeopardize some 4.5 million dollars of personal income on the risky proposition that he might be able to make an extra one-half million to a million dollars

on another well? Given the lack of any scientific reason to believe that Michael P. Grace could have done so if he would have wanted to, and given the fact that Mr. Grace's engineer was of the opinion that it could not have been accomplished even if Grace wanted to, and finally given that Mr. Grace did everything that was reasonable and prudent to keep the Grace-Atlantic on the line under the circumstances accepted by all concerned, can it be argued that Mr. Grace has been "unreasonable in the circumstances" or "arbitrary and capricous" or even that he has violated any "fiduciary duty"? It is submitted that it cannot.

As should be obvious from the foregoing, all the allegations of wrongdoing refer to matters in the past which, by the very nature of things, cannot be repeated. The 4 1/2 inch tubing has narrower tubing inserted in it; there can be no need for flaring in the future. Consequently, Mr. Hannifin has failed to produce even an allegation, much less evidence, of the likelihood that Mr. Grace will do anything unreasonable, arbitrary, capricious or unfair in the future. That is, there is nothing that a change in operator will accomplish except to put Mr. Hannifin in to do the very things that Mr. Grace will do.

IMPAIRMENT OF THE OBLIGATIONS OF CONTRACT

Michael P. Grace, II, was designated operator of the Grace-Atlantic #1 Well by the Commission's Order #R-4432 dated November 8, 1972, which reserved jurisdiction to issue further orders. However, §65-3-14(c) N.M.S.A., 1953 (1975 Supp.) authorizes the owners to voluntarily " . . . pool their interests and develop their lands as a unit". When this is done, the statute does not appear to grant the Commission authority to alter or amend the agreement of the parties such as by changing the operator. Cf. §65-3-14(e), N.M.S.A., 1953 Comp. This does not mean that the Commission may not issue orders adjusting rates of production or ordering the operator designated in the agreement to terminate wasteful individual practices.

Indeed, the statute could not have constitutionally authorized the Commission to alter or amend a valid contract between private parties by changing the operator designated by the contract. Both the Constitution of the United States (Article I, §10) and the Constitution of New Mexico (Article II, §19) prohibit the passing of laws "impairing the obligation of contracts." This prohibition extends to orders having the effect of law issued by state agencies (such as the Oil Conservation Commission). 16 Am Jur 2d Constitution el Law §450.

In this case, by two separate agreements dated October 30, 1973, the parties agreed, among other things, that Michael P. Grace, II, would be the operator of Grace-Atlantic #1 well. See Exhibit A. Indeed, one of the considerations for entering the agreements of October 30, 1973, was that D. L. Hannifin would dismiss his then pending application to amend

Order #R-4432 by removing Mr. Grace as operator and substituting himself. Thus, three fully competent parties, acting voluntarily under no compulsion, entered into two valid contracts. In addition to naming Grace as operator, they increased his monthly overhead allowance from the $135.00 specified in Order #R-4432 to $150.00.

When Hannifin, Cook and Grace signed the agreements contained in Exhibit A they did two things:

(a) They entered contracts which were beyond the power of the State of New Mexico to impair; and

(b) The contracts effectively superseded the Commission Order #R-4432 since, as pointed out above, the statutory authority for forced pooling orders, §65-3-14(a), does not authorize the Commission to force pool when the owners do so voluntarily.

Consequently, Mr. Hannifin has simply gone to the wrong place to get his contracts amended. If he feels there is a basis for reforming them, he should go to the Courts. For surely the Courts will not allow this Commission to alter these contracts in the face of prohibitions of both the federal and state constitution and where there is no statutory authority to do so in the first place.

Respectfully submitted,

KANTER & CARMODY, P.A.

BY _____
Elvin Kanter
Attorneys for Michael P. Grace, II
Suite 1111
200 Lomas Blvd., NW
Albuquerque, New Mexico 87102
243-2844

AGREEMENT

THIS AGREEMENT entered into this 30th day of October, 1973 by and between Dan L. Hannifin and Joe Don Cook, of Roswell, New Mexico, hereinafter referred to as "Hannifin and Cook", and Michael P. Grace II and Corinne Grace, his wife, of Carlsbad, New Mexico, hereinafter referred to as "Grace."

WITNESSETH:

WHEREAS, the parties hereto, desire to resolve, settle and dispose of all past, present and pending legal and economic disputes existing between the parties and pertaining to the respective parties' interests in and to the Grace Atlantic Well No. 1 located in the S/2 of Section 24, Township 22 South, Range 26 East, Eddy County, New Mexico; and

WHEREAS, the parties desire to set forth in this instrument their basic respective rights in and under said Grace Atlantic Well No. 1.

Now, therefore, for and in consideration of the mutual covenants herein provided to be kept by the parties hereto, the parties agree as follows:

I.

That the gross production of Morrow Formation gas and oil from said Grace Atlantic Well No. 1 is and shall be owned by the parties hereto in the following proportions: (See Division Order of even date herewith)

Hannifin and Cook -- 50%

Grace -- 50%

II.

That the respective ownership interests of the parties hereto shall be subject to and shall bear their attributable share of royalty and severance taxes, under the leases creating each respective interest, and the owners thereof shall be responsible for the payment

EXHIBIT A

of royalty and severance taxes attributable to their respective ownership interests. As to present royalty due and payable to royalty owners under said well, the parties agree that Grace shall be responsible for and shall pay all royalty due to all royalty owners to June 26, 1973 at 7:00 o'clock a.m. Thereafter, the parties hereto shall be individually responsible for and shall pay royalty due to the royalty owners under the terms and conditions of their respective oil and gas leases pertaining to the Grace Atlantic Well No. 1, according to the combined division order.

III.

The parties specifically agree and acknowledge, that each respective owner shall have the absolute right to dispose of their share of production from said well without interference by the other party, including the independent sale of their respectively owned production of all products from said well, subject to the operating agreement.

IV.

The parties will execute, coincident herewith:

(a) A Joint Operating Agreement, governing the operations of the Grace Atlantic Well No. 1.

(b) A letter of instruction and authority to the American Bank of Carlsbad, Carlsbad, New Mexico, directing the disbursement of escrow funds presently held by said Bank for the benefit of the parties hereto.

(c) A division order covering the parties' interest in production.

V.

Hannifin and Cook, as a result of the execution hereof, agree to withdraw their Application for Change of Operator of the said Grace Atlantic Well No. 1 presently filed before the New Mexico Oil Conservation Commission, with prejudice as to said Application.

VI.

The parties agree, in the event the Federal Power Commission causes a final order to be issued and implemented requiring either or both of the parties hereto to reimburse any purchaser of production for product overpayment, and if such overpayment is not promptly repaid by the responsible party, that the party hereto failing to make such payment, does hereby authorize any and all purchasers of production to withhold from production proceeds, the sum or sums of money necessary to satisfy said overpayment determination amount.

VII.

Grace agrees to provide Hannifin and Cook with an operating expense statement and copies of invoices for operating costs to be paid by Hannifin and Cook for the period of June 26, 1973 at 7:00 o'clock a.m. through August 25th, 1973 at 7:00 o'clock a.m., for the operation of said well. Operation expenses for each month thereafter shall be governed by the joint operating agreement to be executed by the parties. The parties expressly agree, that legal expenses and other expenses directly related to legal actions (judicial and administrative), which have been incurred by the respective parties hereto and which in any way relate to past, present or pending disputes affecting the said Grace Well No. 1, shall be solely borne and discharged by the party so incurring such costs and expenses. Such legal and related expenses shall not be made a part of operating expenses to be paid by Hannifin and Cook.

VIII.

Grace agrees to immediately account (including price of sale and purchasing party) to Hannifin and Cook for sale of all oil and or other condensate products from said Grace Atlantic Well No. 1, and to pay to Hannifin and Cook their fifty percent of the proceeds therefrom.

IX.

Grace agrees as Operator of said well, to operate said well in a prudent, workman-like manner in accordance with all valid rules and regulations of the New Mexico Oil Conservation Commission, and to obey any final legal orders of the highest court to which said orders or rules may be appealed in the event of appeal therefrom. Each party agrees to pay all taxes, royalties and expenses for which he may be obligated and responsible. Both parties agree to use their best efforts to obtain from the Oil Conservation Commission or other appropriate governmental bodies having jurisdiction thereover, the maximum allowable production from said well.

Executed the day and year hereinabove written.

Dan L. Hannifin

Joe Don Cook

Michael P. Grace, II

Corinne Grace

A.A.P.L. FORM 610

MODEL FORM OPERATING AGREEMENT—1956

Non-Federal Lands

OPERATING AGREEMENT

DATED

October 30, 19 73,
effective as of 7:00 o'clock a.m. August 25, 1973

FOR UNIT AREA IN TOWNSHIP 22 South, RANGE 26 East,

Eddy COUNTY, STATE OF New Mexico.

(GRACE-ATLANTIC #1)

AMERICAN ASSOCIATION OF PETROLEUM LANDMEN
APPROVED FORM. A.A.P.L. NO. 610
MAY BE ORDERED DIRECTLY FROM THE PUBLISHER
ROSS-MARTIN COMPANY, BOX 600, TULSA 74101

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A.A.P.L. FORM 610

OPERATING AGREEMENT

THIS AGREEMENT, entered into this 30th day of October, 19 73, between MICHAEL P. GRACE II

hereafter designated as "Operator", and the signatory parties other than Operator.

WITNESSETH, THAT:

WHEREAS, the parties to this agreement are owners of oil and gas leases covering and, if so indicated, unleased mineral interests in the tracts of land described in Exhibit "A", and all parties have reached an agreement to explore and develop these leases and interests for oil and gas to the extent and as hereinafter provided;

NOW, THEREFORE, it is agreed as follows:

1. DEFINITIONS

As used in this agreement, the following words and terms shall have the meanings here ascribed to them.

(1) The words "party" and "parties" shall always mean a party, or parties, to this agreement.

(2) The parties to this agreement shall always be referred to as "it" or "they", whether the parties be corporate bodies, partnerships, associations, or persons real.

(3) The term "oil and gas" shall include oil, gas, casinghead gas, gas condensate, and all other liquid or gaseous hydrocarbons, unless an intent to limit the inclusiveness of this term is specifically stated.

(4) The term "oil and gas interests" shall mean unleased fee and mineral interests in tracts of land lying within the Unit Area which are owned by parties to this agreement.

(5) The term "Unit Area" shall refer to and include all of the lands, oil and gas leasehold interests and oil and gas interests intended to be developed and operated for oil and gas purposes under this agreement. Such lands, oil and gas leasehold interests and oil and gas interests are described in Exhibit "A".

(6) The term "drilling unit" shall mean the area fixed for the drilling of one well by order or rule of any state or federal body having authority. If a drilling unit is not fixed by any such rule or order, a drilling unit shall be the drilling unit as established by the pattern of drilling in the Unit Area or as fixed by express agreement of the parties.

(7) All exhibits attached to this agreement are made a part of the contract as fully as though copied in full in the contract.

(8) The words "equipment" and "materials" as used here are synonymous and shall mean and include all oil field supplies and personal property acquired for use in the Unit Area.

2. TITLE EXAMINATION, LOSS OF LEASES AND OIL AND GAS INTERESTS

~~A. Title Examination:~~

There shall be no examination of title to leases, or to oil and gas interests, except that title to the lease covering the land upon which the exploratory well is to be drilled in accordance with Section 7, shall be examined on a complete abstract record by Operator's attorney, and the title to both the oil and gas lease and to the fee title of the lessors must be approved by the examining attorney, and accepted by all parties. A copy of the examining attorney's opinion shall be sent to each party immediately after the opinion is written, and, also, each party shall be given, as they are written, a copy of all subsequent supplemental attorney's reports. A good faith effort to satisfy the examining attorney's requirements shall be made by the party owning the lease covering the drillsite.

If title to the proposed drillsite is not approved by the examining attorney or the lease is not acceptable for a material reason, and all the parties do not accept the title, the parties shall select a new drillsite for the first exploratory well; provided, if the parties are unable to agree upon another drillsite, this agreement shall, in that case, come to an end and all parties shall then forfeit their rights and be relieved of obligations hereunder. If a new drillsite is selected, title to the oil and gas lease covering it and to the fee title of the lessor shall be examined, and title shall be approved or accepted or rejected in like manner as provided above concerning the drillsite first selected. If title to the oil and gas lease covering the second choice drillsite is not ~~approved or accepted, other drillsites shall be successively selected and title examined, until a drillsite is cho~~

~~which title is approved or accepted, or until the parties fail to select another drillsite. As in the case of the~~ drillsite first selected, so also with successive choices if the time comes that the parties have not approved title and are unable to agree upon an alternate drillsite, the contract shall, in that case and at that time, come to an end and all parties shall forfeit their rights and be relieved of obligations under this contract.

No well other than the first test shall be drilled in the Unit Area until after (1) the title to the lease covering the lands upon which such well is to be located has been examined by Operator's attorney, and (2) the title has been approved by the examining attorney and the title has been accepted by all of the parties ~~who are to participate in the drilling of the well.~~

B. Failure of Title:

Should any oil and gas lease, or interest therein, be lost through failure of title, this agreement shall, nevertheless, continue in force as to all remaining leases and interests, and

(1) The party whose lease or interest is affected by the title failure shall bear alone the entire loss and it shall not be entitled to recover from Operator or the other parties any development or operating costs which it may have theretofore paid, but there shall be no monetary liability on its part to the other parties hereto by reason of such title failure; and

(2) There shall be no retroactive adjustment of expenses incurred or revenues received from the operation of the interest which has been lost, but the interests of the parties shall be revised on an acreage basis, as of the time it is determined finally that title failure has occurred, so that the interest of the party whose lease or interest is affected by the title failure will thereafter be reduced in the Unit Area by the amount of the interest lost; and

(3) If the proportionate interests of the other parties hereto in any producing well theretofore drilled on the Unit Area is increased by reason of the title failure, the party whose title has failed shall receive the proceeds attributable to the increase in such interests (less operating costs attributable thereto) until it has been reimbursed for unrecovered costs paid by it in connection with such well; and

(4) Should any person not a party to this agreement, who is determined to be the owner of any interest in the title which has failed, pay in any manner any part of the cost of operation, development, or equipment, or equipment previously paid under this agreement, such amount shall be proportionately paid to the party or parties hereto who in the first instance paid the costs which are so refunded; and

(5) Any liability to account to a third party for prior production of oil and gas which arises by reason of title failure shall be borne by the party or parties whose title failed in the same proportions in which they shared in such prior production.

C. Loss of Leases for Causes Other Than Title Failure:

If any lease or interest subject to this agreement be lost through failure to develop or because express or implied covenants have not been performed, or if any lease be permitted to expire at the end of its primary term and not be renewed or extended, or if any lease or interest therein is lost due to the fact that the production therefrom is shut in by reason of lack of market, the loss shall not be considered a failure of title and all such losses shall be joint losses and shall be borne by all parties in proportion to their interests and there shall be no readjustment of interests in the Unit Area. (Joint loss only as to losses occurring after the effective date hereof by reason of acts performed, or not performed, after said date.)

3. UNLEASED OIL AND GAS INTERESTS

If any party owns an unleased oil and gas interest in the Unit Area, that interest shall be treated for the purpose of this agreement as if it were a leased interest under the form of oil and gas lease attached as "Exhibit "B" and for the primary term therein stated. As to such interests, the owner shall receive royalty on production as prescribed in the form of oil and gas lease attached hereto as Exhibit "B". Such party shall, however, be subject to all of the provisions of this agreement relating to lessees, to the extent that it owns the lessee interest.

4. INTERESTS OF PARTIES

Exhibit "A" lists all of the parties, and their respective percentage or fractional interests under this agreement. Unless changed by other provisions, all costs and liabilities incurred in operations under this contract shall be borne and paid, and all equipment and material acquired in operations on the Unit Area shall be owned, by the parties as their interests are given in Exhibit "A". All production of oil and gas from the Unit Area, subject to the payment of lessor's royalties, shall also be owned by the parties in the same manner.

If the interest of any party in any oil and gas lease covered by this agreement is subject to an overriding royalty, production payment, or other charge over and above the usual one-eighth (⅛) royalty, such party shall assume and alone bear all such excess obligations and shall account for them to the owners thereof out of its share of the working interest production of the Unit Area.

5. OPERATOR OF UNIT

MICHAEL P. GRACE II shall be the Operator of the Unit Area, and shall conduct and direct and have full control of all operations on the Unit Area as permitted and required by, and within the limits of, this agreement. It shall conduct all such operations in a good and workmanlike manner, but it shall have no liability as Operator to the other parties for losses sustained, or liabilities incurred, except such as may result from gross negligence or from breach of the provisions of this agreement.

6. EMPLOYEES

The number of employees and their selection, and the hours of labor and the compensation for services performed, shall be determined by Operator. All employees shall be the employees of Operator.

7. TEST WELL

On or before the_____ day of_____, 19____, Operator shall commence the drilling of a well for oil and gas in the following location:

and shall thereafter continue the drilling of the well with due diligence to

unless granite or other practically impenetrable substance is encountered at a lesser depth or unless all parties agree to complete the well at a lesser depth.

Operator shall make reasonable tests of all formations encountered during drilling which give indication of containing oil and gas in quantities sufficient to test, unless this agreement shall be limited in its application to a specific formation or formations, in which event Operator shall be required to test only the formation or formations to which this agreement may apply.

If in Operator's judgment the well will not produce oil or gas in paying quantities, and it wishes to plug and abandon the test as a dry hole, it shall first secure the consent of all parties to the plugging, and the well shall then be plugged and abandoned as promptly as possible.

8. COSTS AND EXPENSES

Except as herein otherwise specifically provided, Operator shall promptly pay and discharge all costs and expenses incurred in the development and operation of the Unit Area pursuant to this agreement and shall charge each of the parties hereto with their respective proportionate shares upon the cost and expense basis provided in the Accounting Procedure attached hereto and marked Exhibit "C". If any provision of Exhibit "C" should be inconsistent with any provision contained in the body of this agreement, the provisions in the body of this agreement shall prevail. Interest on any amount so due shall bear interest at the rate of 10% per anum.

Operator, at its election, shall have the right from time to time to demand and receive from the other parties payment in advance of their respective shares of the estimated amount of the costs to be incurred in operations hereunder during the next succeeding month, which right may be exercised only by submission to each such party of an itemized statement of such estimated costs, together with an invoice for its share thereof. Each such statement and invoice for the payment in advance of estimated costs shall be submitted on or before the 20th day of the next preceding month. Each party shall pay to Operator its proportionate share of such estimate within fifteen (15) days after such estimate and invoice is received. If any party fails to pay its share of said estimate within said time, the amount due shall bear interest at the rate of six percent (6%) per annum until paid. Proper adjustment shall be made monthly between advances and actual cost, to the end that each party shall bear and pay its proportionate share of actual costs incurred, and no more

9. OPERATOR'S LIEN

Operator is given a first and preferred lien on the interest of each party covered by this contract, and in each party's interest in oil and gas produced and the proceeds thereof, and upon each party's interest in material and equipment, to secure the payment of all sums due from each such party to Operator.

In the event any party fails to pay any amount owing by it to Operator as its share of such costs and expense or such advance estimate within the time limited for payment thereof, Operator, without prejudice to other existing remedies, is authorized, at its election, to collect from the purchaser or purchasers of oil or gas, the proceeds accruing to the working interest or interests in the Unit Area of the delinquent party up to the amount owing by such party, and each purchaser of oil or gas is authorized to rely upon Operator's statement as to the amount owing by such party.

In the event of the neglect or failure of any non-operating party to promptly pay its proportionate part of the cost and expense of development and operation when due, the other non-operating parties and Operator, within thirty (30) days after the rendition of statements therefor by Operator, shall proportionately contribute to the payment of such delinquent indebtedness and the non-operating parties so contributing shall be entitled to the same lien rights as are granted to Operator in this section. Upon the payment by such delinquent or defaulting party to Operator of any amount or amounts on such delinquent indebtedness, or upon any recovery on behalf of the non-operating parties under the lien conferred above, the amount or amounts so paid or recovered shall be distributed and paid by Operator to the other non-operating parties and Operator proportionately in accordance with the contributions theretofore made by them.

10. TERM OF AGREEMENT

This agreement shall remain in full force and effect for as long as any of the oil and gas leases subjected to this agreement remain or are continued in force as to any part of the Unit Area, whether by production, extension, renewal or otherwise; provided, however, that in the event the first well drilled hereunder results in a dry hole and no other well is producing oil or gas in paying quantities from the Unit Area, then at the end of ninety (90) days after abandonment of the first test well, this agreement shall terminate unless one or more of the parties are then engaged in drilling a well or wells pursuant to Section 12 hereof, or all parties have agreed to drill an additional well or wells under this agreement, in which event this agreement shall continue in force until such well or wells shall have been drilled and completed. If production results therefrom this agreement shall continue in force thereafter as if said first test well had been productive in paying quantities, but if production in paying quantities does not result therefrom this agreement shall terminate at the end of ninety (90) days after abandonment of such well or wells. It is agreed, however, that the termination of this agreement shall not relieve any party hereto from any liability which has accrued or attached prior to the date of such termination.

11. LIMITATION ON EXPENDITURES

Without the consent of all parties: (a) No well shall be drilled on the Unit Area except any well expressly provided for in this agreement and except any well drilled pursuant to the provisions of Section 12 of this agreement, it being understood that the consent to the drilling of a well shall include consent to all necessary expenditures in the drilling, testing, completing, and equipping of the well, including necessary tankage; (b) No well shall be reworked, plugged back or deepened except a well reworked, plugged back or deepened pursuant to the provisions of Section 12 of this agreement, it being understood that the consent to the reworking, plugging back or deepening of a well shall include consent to all necessary expenditures in conducting such operations and completing and equipping of said well to produce, including necessary tankage; (c) Operator shall not undertake any single project reasonably estimated to require an expenditure in excess of Ten thousand and no/100 ----------Dollars ($ 10,000.00) except in connection with a well the drilling, reworking, deepening, or plugging back of which has been previously authorized by or pursuant to this agreement; provided, however, that in case of explosion, fire, flood, or other sudden emergency, whether of the same or different nature, Operator may take such steps and incur such expenses as in its opinion are required to deal with the emergency and to safeguard life and property, but Operator shall, as promptly as possible, report the emergency to the other parties. Operator shall, upon request, furnish copies of its "Authority for Expenditures" for any single project costing in excess of $ 5,000.00 , and for lesser amounts when prepared for Operator's own use.

12. OPERATIONS BY LESS THAN ALL PARTIES

If all the parties cannot mutually agree upon the drilling of any well on the Unit Area ~~other than the test well provided for in Section 7~~, or upon the reworking, deepening or plugging back of a dry hole drilled at the joint expense of all parties or a well jointly owned by all the parties and not then producing in paying quantities on the Unit Area, any party or parties wishing to drill, rework, deepen or plug back such a well may give the other parties written notice of the proposed operation, specifying the work to be performed, the location, proposed depth, objective formation and the estimated cost of the operation. The parties receiving such a notice shall have thirty (30) days (except as to reworking, plugging back or drilling deeper, where a drilling rig is on location, the period shall be limited to forty-eight (48) hours exclusive of Saturday or Sunday) after receipt of the notice within which to notify the parties wishing to do the work whether they elect to participate in the cost of the proposed operation. Failure of a party receiving such a notice to so reply to it within the period above fixed shall constitute an election by that party not to participate in the cost of the proposed operation.

If any party receiving such a notice elects not to participate in the proposed operation (such party or parties being hereafter referred to as "Non-Consenting Party"), then in order to be entitled to the benefits of this section, the party or parties giving the notice and such other parties as shall elect to participate in the operation (all such parties being hereafter referred to as the "Consenting Parties") shall, within thirty (30) days after the expiration of the notice period of thirty (30) days (or as promptly as possible after the expiration of the 48-hour period where the drilling rig is on location, as the case may be) actually commence work on the proposed operation and complete it with due diligence.

The entire cost and risk of conducting such operations shall be borne by the Consenting Parties in the proportions that their respective interests as shown in Exhibit "A" bear to the total interests of all Consenting Parties. Consenting Parties shall keep the leasehold estates involved in such operations free and clear of all liens and encumbrances of every kind created by or arising from the operations of the Consenting Parties. If such an operation results in a dry hole, the Consenting Parties shall plug and abandon the well at their sole cost, risk and expense. If any well drilled, reworked, deepened or plugged back under the provisions of this section results in a producer of oil and/or gas in paying quantities, the Consenting Parties shall complete and equip the well to produce at their sole cost and risk, and the well shall then be turned over to Operator and shall be operated by it at the expense and for the account of the Consenting Parties. Upon commencement of operations for the drilling, reworking, deepening or plugging back of any such well by Consenting Parties in accordance with the provisions of this section, each Non-Consenting Party shall be deemed to have relinquished to Consenting Parties, and the Consenting Parties shall own and be entitled to receive, in proportion to their respective interests, all of such Non-Consenting Party's interest in the well, its leasehold operating rights, and share of production therefrom until the proceeds or market value thereof (after deducting production taxes, royalty, overriding royalty and other interests payable out of or measured by the production from such well accruing with respect to such interest until it reverts) shall equal the total of the following:

(A) 100% of each such Non-Consenting Party's share of the cost of any newly acquired surface equipment beyond the wellhead connections (including, but not limited to, stock tanks, separators, treaters, pumping equipment and piping), plus 100% of each such Non-Consenting Party's share of the cost of operation of the well commencing with first production and continuing until each such Non-Consenting Party's relinquished interest shall revert to it under other provisions of this section, it being agreed that each Non-Consenting Party's share of such costs and equipment will be that interest which would have been chargeable to each Non-Consenting Party had it participated in the well from the beginning of the operation; and

(B) 200% of that portion of the costs and expenses of drilling, reworking, deepening or plugging back, testing and completing, after deducting any cash contributions received under Section 25, and 200% of that portion of the cost of newly acquired equipment in the well (to and including the wellhead connections), which would have been chargeable to such Non-Consenting Party if it had participated therein.

In the case of any reworking, plugging back or deeper drilling operation, the Consenting Parties shall be permitted to use, free of cost, all casing, tubing and other equipment in the well, but the ownership of all such equipment shall remain unchanged; and upon abandonment of a well after such reworking, plugging back or deeper drilling, the Consenting Parties shall account for all such equipment to the owners thereof, with each party receiving its proportionate part in kind or in value.

Within sixty (60) days after the completion of any operation under this section, the party conducting the operations for the Consenting Parties shall furnish each Non-Consenting Party with an inventory of the equipment in and connected to the well, and an itemized statement of the cost of drilling, deepening, plugging back, testing, completing, and equipping the well for production; or, at its option, the operating party, in lieu of an itemized statement of such costs of operation, may submit a detailed statement of monthly billings. Each month thereafter, during the time the Consenting Parties are being reimbursed as provided above, the Consenting Parties shall furnish the Non-Consenting Parties with an itemized statement of all costs and liabilities incurred in the operation of the well, together with a statement of the quantity of oil and gas produced from it and the amount of proceeds realized from the sale of the well's working interest production during the preceding month. Any amount realized from the sale or other disposition of equipment newly acquired in connection with any such operation which would have been owned by a Non-Consenting Party had it participated therein shall be credited against ~~the total unreturned costs of the work done and of the equipment purchased,~~ to reimbursement in the same manner as production is credited, in determining when the interest of such Non-Consenting Party shall revert to it as above provided; if there is a credit balance it shall be paid to such Non-Consenting Party.

If and when the Consenting Parties recover from a Non-Consenting Party's relinquished interest the amounts provided for above, the relinquished interests of such Non-Consenting Party shall automatically revert to it and from and after such reversion such Non-Consenting Party shall own the same interest in such well, the operating rights and working interest therein, the material and equipment in or pertaining thereto, and the production therefrom as such Non-Consenting Party would have owned had it participated in the drilling, reworking, deepening or plugging back of said well. Thereafter, such Non-Consenting Party shall be charged with and shall pay its proportionate part of the further costs of the operation of said well in accordance with the terms of this agreement and the accounting procedure schedule, Exhibit "C", attached hereto.

Notwithstanding the provisions of this Section 12, it is agreed that without the mutual consent of all parties, no wells shall be completed in or produced from a source of supply from which a well located elsewhere on the Unit Area is producing, unless such well conforms to the then-existing well spacing pattern for such source of supply.

The provisions of this section shall have no application whatsoever to the drilling of the initial test well on the Unit Area, but shall apply to the reworking, deepening, or plugging back of the initial test well after it has been drilled to the depth specified in Section 7, if it is, or thereafter shall prove to be, a dry hole or non-commercial well, and to all other wells drilled, reworked, deepened, or plugged back, or proposed to be drilled, reworked, deepened, or plugged back, upon the Unit Area subsequent to the drilling of the initial test well. Section 12 shall be deemed to include completion attempts also.

13. RIGHT TO TAKE PRODUCTION IN KIND

Each party shall take in kind or separately dispose of its proportionate share of all oil and gas produced from the Unit Area, exclusive of production which may be used in development and producing operations and in preparing and treating oil for marketing purposes and production unavoidably lost. Each party shall pay or deliver, or cause to be paid or delivered, all royalties, overriding royalties, or other payments due on its share of such production, and shall hold the other parties free from any liability therefor. Any extra expenditure incurred in the taking in kind or separate disposition by any party of its proportionate share of the production shall be borne by such party.

Each party shall execute all division orders and contracts of sale pertaining to its interest in production from the Unit Area, and shall be entitled to receive payment direct from the purchaser or purchasers thereof for its share of all production.

In the event any party shall fail to make the arrangements necessary to take in kind or separately dispose of its proportionate share of the oil and gas produced from the Unit Area, Operator shall have the right, subject to revocation at will by the party owning it, but not the obligation, to purchase such oil and gas or sell it to others for the time being, at not less than the market price prevailing in the area, which shall in no event be less than the price which Operator receives for its portion of the oil and gas produced from the Unit Area. Any such purchase or sale by Operator shall be subject always to the right of the owner of the production to exercise at any time its right to take in kind, or separately dispose of, its share of all oil and gas not previously delivered to a purchaser. Notwithstanding the foregoing, Operator shall not make a sale into interstate commerce of any other party's share of gas production without first giving such other party sixty (60) days notice of such intended sale.

14. ACCESS TO UNIT AREA

Each party shall have access to the Unit Area at all reasonable times, at its sole risk, to inspect or observe operations, and shall have access at reasonable times to information pertaining to the development or operation thereof, including Operator's books and records relating thereto. Operator shall, upon request, furnish each of the other parties with copies of all drilling reports, well logs, tank tables, daily gauge and run tickets and reports of stock on hand at the first of each month, and shall make available samples of any cores or cuttings taken from any well drilled on the Unit Area.

15. DRILLING CONTRACTS

All wells drilled on the Unit Area shall be drilled on a competitive contract basis at the usual rates prevailing in the area. Operator, if it so desires, may employ its own tools and equipment in the drilling of wells, but its charges therefor shall not exceed the prevailing rates in the field, and the rate of such charges shall be agreed upon by the parties in writing before drilling operations are commenced, and such work shall be performed by Operator under the same terms and conditions as shall be customary and usual in the field in contracts of independent contractors who are doing work of a similar nature.

16. ABANDONMENT OF WELLS

No well, other than any well which has been drilled or reworked pursuant to Section 12 hereof for which the Consenting Parties have not been fully reimbursed as therein provided, which has been completed as a producer shall be plugged and abandoned without the consent of all parties; provided, however, if all parties do not agree to the abandonment of any well, those wishing to continue its operation shall tender to each of the other parties its proportionate share of the value of the well's salvable material and equipment, determined in accordance with the provisions of Exhibit "C", less the estimated cost of salvaging and the estimated cost of plugging and abandoning. Each abandoning party shall then assign to the non-abandoning parties, without warranty, express or implied, as to title or as to quantity, quality, or fitness for use of the equipment and material, all of its interest in the well and its equipment, together with its interest in the leasehold estate as to, but only as to, the interval or intervals of the formation or formations then open to production. The assignments so limited shall encompass the "drilling unit" upon which the well is located. The payments by, and the assignments to, the assignees shall be in a ratio based upon the relationship of their respective percentages of participation in the Unit Area to the aggregate of the percentages of participation in the Unit Area of all assignees. There shall be no readjustment of interest in the remaining portion of the Unit Area.

After the assignment, the assignors shall have no further responsibility, liability, or interest in the operation of or production from the well in the interval or intervals then open. Upon request of the assignees Operator shall continue to operate the assigned well for the account of the non-abandoning parties at the rates and charges contemplated by this agreement, plus any additional cost and charges which may arise as the result of the separate ownership of the assigned well.

17. DELAY RENTALS AND SHUT-IN WELL PAYMENTS

Delay rentals and shut-in well payments which may be required under the terms of any lease shall be paid by the party who has subjected such lease to this agreement, at its own expense. Proof of each payment shall be given to Operator at least ten (10) days prior to the rental or shut-in well payment date. Operator shall furnish similar proof to all other parties concerning payments it makes in connection with its leases. Any party may request, and shall be entitled to receive, proper evidence of all such payments. If, through mistake or oversight, any delay rental or shut-in well payment is not paid or is erroneously paid, and as a result a lease or interest therein terminates, there shall be no monetary liability against the party who failed to make such payment. Unless the party who failed to pay a rental or shut-in well payment secures a new lease covering the same interest within ninety (90) days from the discovery of the failure to make proper payment, the interests of the parties shall be revised on an acreage basis effective as of the date of termination of the lease involved, and the party who failed to make proper payment will no longer be credited with an interest in the Unit Area on account of the ownership of the lease which has terminated. In the event the party who failed to pay the rental or the shut-in well payment shall not have been fully reimbursed, at the time of the loss, from the proceeds of the sale of oil and gas attributable to the lost interest, calculated on an acreage basis, for the development and operating costs theretofore paid on account of such interest, it shall be reimbursed for unrecovered actual costs theretofore paid by it (but not for its share of the cost of any dry hole previously drilled or wells previously abandoned) from so much of the following as is necessary to effect reimbursement:

(1) Proceeds of oil and gas, less operating expenses, theretofore accrued to the credit of the lost interest, on an acreage basis, up to the amount of unrecovered costs;

(2) proceeds, less operating expenses thereafter incurred attributable to the lost interest on an acreage basis, of that portion of oil and gas thereafter produced and marketed (excluding production from any wells thereafter drilled) which would, in the absence of such lease termination, be attributable to the lost interest on an acreage basis, up to the amount of unrecovered costs, the proceeds of said portion of the oil and gas to be contributed by the other parties in proportion to their respective interests; and

(3) any moneys, up to the amount of unrecovered costs, that may be paid by any party who is, or becomes, the owner of the interest lost, for the privilege of participating in the Unit Area or becoming a party to this contract.

Operator shall attempt to notify all parties when a gas well is shut-in or returned to production, but assumes no liability whatsoever for failure to do so.

~~18. PREFERENTIAL RIGHT TO PURCHASE~~

~~Should any party desire to sell all or any part of its interests under this contract, or its rights and interests in the Unit Area, it shall promptly give written notice to the other parties, with full information concerning its proposed sale, which shall include the name and address of the prospective purchaser (who must be ready, willing and able to purchase), the purchase price, and all other terms of the offer. The other parties shall then have an optional prior right, for a period of ten (10) days after receipt of the notice, to purchase on the same terms and conditions the interest which the other party proposes to sell; and, if this optional right is exercised, the purchasing parties shall share the purchased interest in the proportions that the interest of each bears to the total interest of all purchasing parties. However, there shall be no preferential right to purchase in those cases where any party wishes to mortgage its interests, or to dispose of its interests by merger, reorganization, consolidation, or sale of all of its assets, or a sale or transfer of its interests to a subsidiary or parent company, or subsidiary of a parent company, or to any company in which any one party owns a majority of the stock.~~

19. SELECTION OF NEW OPERATOR

Should a sale be made by Operator of its rights and interests, the other parties shall have the right within sixty (60) days after the date of such sale, by majority vote in interest, to select a new Operator. If a new Operator is not so selected, the transferee of the present Operator shall assume the duties of and act as Operator. In either case, the retiring Operator shall continue to serve as Operator, and discharge its duties in that capacity under this agreement, until its successor Operator is selected and begins to function, but the present Operator shall not be obligated to continue the performance of its duties for more than 120 days after the sale of its rights and interests has been completed.

"Individual Loss"

20. MAINTENANCE OF UNIT OWNERSHIP

For the purpose of maintaining uniformity of ownership in the oil and gas leasehold interests covered by this contract, and notwithstanding any other provisions to the contrary, no party shall sell, encumber, transfer or make other disposition of its interest in the leases embraced within the Unit Area and in wells, equipment and production unless such disposition covers either:

(1) the entire interest of the party in all leases and equipment and production; or

(2) an equal undivided interest in all leases and equipment and production in the Unit Area.

Every such sale, encumbrance, transfer or other disposition made by any party shall be made expressly subject to this agreement, and shall be made without prejudice to the rights of the other parties.

If at any time the interest of any party is divided among and owned by four or more co-owners, Operator may, at its discretion, require such co-owners to appoint a single trustee or agent with full authority to receive notices, approve expenditures, receive billings for and approve and pay such party's share of the joint expenses, and to deal generally with, and with power to bind, the co-owners of such party's interests within the scope of the operations embraced in this contract; however, all such co-owners shall enter into and execute all contracts or agreements for the disposition of their respective shares of the oil and gas produced from the Unit Area and they shall have the right to receive, separately, payment of the sale proceeds thereof.

21. RESIGNATION OF OPERATOR

Operator may resign from its duties and obligations as Operator at any time upon written notice of not less than ninety (90) days given to all other parties. In this case, all parties to this contract shall select by majority vote in interest, not in numbers, a new Operator who shall assume the responsibilities and duties, and have the rights, prescribed for Operator by this agreement. The retiring Operator shall deliver to its successor all records and information necessary to the discharge by the new Operator of its duties and obligations.

22. LIABILITY OF PARTIES

The liability of the parties shall be several, not joint or collective. Each party shall be responsible only for its obligations, and shall be liable only for its proportionate share of the costs of developing and operating the Unit Area. Accordingly, the lien granted by each party to Operator in Section 9 is given to secure only the debts of each severally. It is not the intention of the parties to create, nor shall this agreement be construed as creating, a mining or other partnership or association, or to render them liable as partners.

23. RENEWAL OR EXTENSION OF LEASES

If any party secures a renewal of any oil and gas lease subject to this contract, each and all of the other parties shall be notified promptly, and shall have the right to participate in the ownership of the renewal lease by paying to the party who acquired it their several proper proportionate shares of the acquisition cost, which shall be in proportion to the interests held at that time by the parties in the Unit Area.

If some, but less than all, of the parties elect to participate in the purchase of a renewal lease, it shall be owned by the parties who elect to participate therein, in a ratio based upon the relationship of their respective percentage of participation in the unit area to the aggregate of the percentages of participation in the unit area of all parties participating in the purchase of such renewal lease. Any renewal lease in which less than all the parties elect to participate shall not be subject to this agreement.

Each party who participates in the purchase of a renewal lease shall be given an assignment of its proportionate interest therein by the acquiring party.

The provisions of this section shall apply to renewal leases whether they are for the entire interest covered by the expiring lease or cover only a portion of its area or an interest therein. Any renewal lease taken before the expiration of its predecessor lease, or taken or contracted for within six (6) months after the expiration of the existing lease shall be subject to this provision; but any lease taken or contracted for more than six (6) months after the expiration of an existing lease shall not be deemed a renewal lease and shall not be subject to the provisions of this section.

The provisions in this section shall apply also and in like manner to extensions of oil and gas leases.

24. SURRENDER OF LEASES

The leases covered by this agreement, in so far as they embrace acreage in the Unit Area, shall not be surrendered in whole or in part unless all parties consent.

However, should any party desire to surrender its interest in any lease or in any portion thereof, and other parties not agree or consent, the party desiring to surrender shall assign, without express or implied warranty of title, all of its interest in such lease, or portion thereof, and any well, material and equipment which may be located thereon and any rights in production thereafter secured, to the parties not desiring to surrender it. Upon such assignment, the assigning party shall be relieved from all obligations thereafter accruing, but not theretofore accrued, with respect to the acreage assigned and the operation of any well thereon, and the assigning party shall have no further interest in the lease assigned and its equipment and production. The parties assignee shall pay to the party assignor the reasonable salvage value of the latter's interest in any wells and equipment on the assigned acreage, determined in accordance with the provisions of Exhibit "C", less the estimated cost of salvaging and the estimated cost of plugging and abandoning. If the assignment is in favor of more than one party, the assigned interest shall be shared by the parties assignee in the proportions that the interest of each bears to the interest of all parties assignee. The assignment shall in no event cover any lands outside the Unit Area unless Assignor and Assignee mutually agree thereto.

Any assignment or surrender made under this provision shall not reduce or change the assignors' or surrendering parties' interest, as it was immediately before the assignment, in the balance of the Unit Area; and the acreage assigned or surrendered, and subsequent operations thereon, shall not thereafter be subject to the terms and provisions of this agreement.

25. ACREAGE OR CASH CONTRIBUTIONS

If any party receives while this agreement is in force a contribution of cash toward the drilling of a well or any other operation on the Unit Area, such contribution shall be paid to the party who conducted the drilling or other operation and shall be applied by it against the cost of such drilling or other operation. If the contribution be in the form of acreage, the party to whom the contribution is made shall promptly execute an assignment of the acreage, without warranty of title, to all parties to this agreement in proportion to their interests in the Unit Area at that time, and such acreage shall become a part of the Unit Area and be governed by all the provisions of this contract. Each party shall promptly notify all other parties of all acreage or money contributions it may obtain in support of any well or any other operation on the Unit Area.

26. PROVISION CONCERNING TAXATION

Each of the parties hereto elects, under the authority of Section 761(a) of the Internal Revenue Code of 1954, to be excluded from the application of all of the provisions of Subchapter K of Chapter 1 of Subtitle A of the Internal Revenue Code of 1954. If the income tax laws of the state or states in which the property covered hereby is located contain, or may hereafter contain, provisions similar to those contained in the Subchapter of the Internal Revenue Code of 1954 above referred to under which a similar election is permitted, each of the parties agrees that such election shall be exercised. Each party authorizes and directs the Operator to execute such an election or elections on its behalf and to file the election with the proper governmental office or agency. If requested by the Operator so to do, each party agrees to execute and join in such an election.

Operator shall render for ad valorem taxation all property subject to this agreement which by law should be rendered for such taxes, and it shall pay all such taxes assessed thereon. ~~before they become delinquent.~~ Operator shall bill all other parties for their proportionate share of all tax payments in the manner provided in Exhibit "C".

If any tax assessment is considered unreasonable by Operator, it may at its discretion protest such valuation within the time and manner prescribed by law, and prosecute the protest to a final determination, unless all parties agree to abandon the protest prior to final determination. When any such protested valuation shall have been finally determined, Operator shall pay the assessment for the joint account, together with interest and penalty accrued, and the total cost shall then be assessed against the parties, and be paid by them, as provided in Exhibit "C".

27. INSURANCE

At all times while operations are conducted hereunder, Operator shall comply with the Workmen's Compensation Law of the State where the operations are being conducted. Operator shall also carry or provide insurance for the benefit of the joint account of the parties as may be outlined in Exhibit "D" attached to and made a part hereof. Operator shall require all contractors engaged in work on or for the Unit Area to comply with the Workmen's Compensation Law of the State where the operations are being conducted and to maintain such other insurance as Operator may require.

In the event Automobile Public Liability Insurance is specified in said Exhibit "D", or subsequently receives the approval of the parties, no direct charge shall be made by Operator for premiums paid for such insurance for operator's fully owned automotive equipment.

28. CLAIMS AND LAWSUITS

If any party to this contract is sued on an alleged cause of action arising out of operations on the Unit Area, or on an alleged cause of action involving title to any lease or oil and gas interest subjected to this contract, it shall give prompt written notice of the suit to the Operator and all other parties.

The defense of lawsuits shall be under the general direction of a committee of lawyers representing the parties, with Operator's attorney as Chairman. Suits may be settled during litigation only with the joint consent of all parties. No charge shall be made for services performed by the staff attorneys for any of the parties, but otherwise all expenses incurred in the defense of suits, together with the amount paid to discharge any final judgment, shall be considered costs of operation and shall be charged to and paid by all parties in proportion to their then interests in the Unit Area. Attorneys, other than staff attorneys for the parties, shall be employed in lawsuits involving Unit Area operations only with the consent of all parties; if outside counsel is employed, their fees and expenses shall be considered Unit Area expense and shall be paid by Operator and charged to all of the parties in proportion to their then interests in the Unit Area. The provisions of this paragraph shall not be applied in any instance where the loss which may result from the suit is treated as an individual loss rather than a joint loss under prior provisions of this agreement, and all such suits shall be handled by and be the sole responsibility of the party or parties concerned.

Damage claims caused by and arising out of operations on the Unit Area, conducted for the joint account of all parties, shall be handled by Operator and its attorneys, the settlement of claims of this kind shall be within the discretion of Operator so long as the amount paid in settlement of any one claim does not exceed three thousand five hundred ($3500.00) ~~one thousand ($1000.00)~~ dollars and, if settled, the sums paid in settlement shall be charged as expense to and be paid by all parties in proportion to their then interests in the Unit Area.

29. FORCE MAJEURE

If any party is rendered unable, wholly or in part, by force majeure to carry out its obligations under this agreement, other than the obligation to make money payments, that party shall give to all other parties prompt written notice of the force majeure with reasonably full particulars concerning it; thereupon, the obligations of the party giving the notice, so far as they are affected by the force majeure, shall be suspended during, but no longer than, the continuance of the force majeure. The affected party shall use all possible diligence to remove the force majeure as quickly as possible.

The requirement that any force majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes, lockouts, or other labor difficulty by the party involved, contrary to its wishes; how all such difficulties shall be handled shall be entirely within the discretion of the party concerned.

The term "force majeure" as here employed shall mean an act of God, strike, lockout, or other industrial disturbance, act of the public enemy, war, blockade, public riot, lightning, fire, storm, flood, explosion, governmental restraint, unavailability of equipment, and any other cause, whether of the kind specifically enumerated above or otherwise, which is not reasonably within the control of the party claiming suspension.

30. NOTICES

All notices authorized or required between the parties, and required by any of the provisions of this agreement, shall unless otherwise specifically provided, be given in writing by United States mail or Western Union Telegram, postage or charges prepaid, and addressed to the party to whom the notice is given at the

addresses listed on Exhibit "A". The originating notice to be given under any provision hereof shall be deemed given only when received by the party to whom such notice is directed and the time for such party to give any notice in response thereto shall run from the date the originating notice is received. The second or any responsive notice shall be deemed given when deposited in the United States mail or with the Western Union Telegraph Company, with postage or charges prepaid. Each party shall have the right to change its address at any time, and from time to time, by giving written notice thereof to all other parties.

31. OTHER CONDITIONS, IF ANY, ARE:

(a) In spite of any provision to the contrary appearing in Section 11 hereof, consent to the drilling of a well shall not be deemed as consent to the setting of casing and a completion attempt. After any well drilled pursuant to this agreement has reached its authorized depth, Operator shall give immediate notice to Non-Operator. The party receiving such notice shall have forty-eight (48) hours, excluding Saturdays, Sundays, and legal holidays, in which to elect whether or not they desire to set casing and to participate in a completion attempt. Failure of a party receiving such notice so to reply within the period above fixed shall constitute an election by that party not to participate in the cost of a completion attempt. If all of the parties elect to plug and abandon the well, Operator shall plug and abandon same at the expense of all the parties. If one or more, but less than all, of the parties elect to set pipe and to attempt a completion the provisions of Section 12 shall apply to the operations thereafter conducted by less than all parties.

(b) If any party hereto hereafter should create any overriding royalty, production payment, or other burden against its working interest production and if any other party or parties should conduct non-consent operations pursuant to any provisions of this agreement and, as a result, become entitled to receive the working interest production otherwise belonging to the non-participating party, the party or parties entitled to receive the working interest production of the non-participating party shall receive such production free and clear of burdens against such production which may have been created subsequent to this agreement and the non-participating party creating such subsequent burdens shall save the participating party or parties harmless with respect to the receipt of such working interest production.

(c) The test well on the land subject to this contract was drilled and completed as a gas well producing from the South-Carlsbad Morrow Gas Pool. The parties hereto have elected to take in kind and separately dispose of their respective proportionate shares of all gas and oil produced from the unit area effective as of 7:00 o'clock a.m. June 26, 1973, as a consequence of which each party shall pay or deliver, or cause to be paid or delivered, all royalties, overriding royalties, taxes, or other payments due on its share of such production shall hold the other parties free from liability therefor, and all in the manner more particularly set forth in Section 13 of this contract.

This agreement may be signed in counterpart, and shall be binding upon the parties and upon their heirs, successors, representatives and assigns.

OPERATOR

MICHAEL P. GRACE II

ATTEST:

_____

Michael P. Grace II

NON-
OPERATOR

ATTEST:

_____

D. L. HANNIFIN

ATTEST:

_____

JOE DON COOK

A C K N O W L E D G M E N T S

STATE OF TEXAS)
)
COUNTY OF EL PASO)

BEFORE ME, the undersigned, a Notary Public in and for said county and state, on this day personally appeared Michael P. Grace II, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 31st day of October, 1973.

Janis E. Kuhn
Notary Public in and for
El Paso County, Texas
My Commission Expires June 1, 1975

* * * * * * * * *

STATE OF TEXAS)
)
COUNTY OF EL PASO)

BEFORE ME, the undersigned, a Notary Public in and for said county and state, on this day personally appeared D. L. Hannifin and Joe Don Cook, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this 31st day of October, 1973.

Janis E. Kuhn
Notary Public in and for
El Paso County, Texas
My Commission Expires June 1, 1975

EXHIBIT "A"

To Operating Agreement dated October 30, 1973, effective as of 7:00 o'clock a.m. August 25, 1973, between Michael P. Grace II, as "Operator," and D. L. Hannifin and Joe Don Cook, as "Non-Operator."

1. (a) LANDS SUBJECT TO CONTRACT:

T.22 South R.26 East, N.M.P.M. Eddy County:

Section 24: South ½,

containing 320 acres, more or less.

(b) AS TO FORMATIONS OR DEPTHS:

All mineral interests in the South Carlsbad-Morrow Gas Pool underlying the lands subject to this contract, subject to the rules and regulations of the New Mexico Oil Conservation Commission.

2. PERCENTAGE INTEREST OF PARTIES UNDER AGREEMENT:

Michael P. Grace II and/or Corinne Grace	-- 50% W.I.
D. L. Hannifin	-- 25% W.I.
Joe Don Cook	-- 25% W.I.

3. LEASEHOLD INTERESTS OF EACH PARTY:

(a) Interest Contributed by D. L. Hannifin and Joe Don Cook: Oil and Gas Lease dated July 10, 1972, from Merland, Inc. to D. L. Hannifin, recorded in Book 87 at Page 659, insofar as it covers the Southeast ¼, Section 24, T.22 South, R.26 East, N.M.P.M.

(b) Interest contributed by Michael P. Grace II and/or Corinne Grace:

All oil and gas leasehold estates owned by Michael P. Grace II and/or Corinne Grace whether by lease or by assignment of lease insofar as the same cover the Southwest ¼ Section 24, T.22 South, R.26 East, N.M.P.M. All mineral interests are subject to oil and gas lease.

4. ADDRESSES OF THE PARTIES:

D. L. Hannifin
Joe Don Cook
P. O. Box 182
Roswell, New Mexico 88201

Michael P. Grace, II.
1141 E. Bethany Home Road
Phoenix, Arizona 85014

Exhibit "B" has been intentionally omitted.

Tulsa, Oklahoma 74101

Accountants Societies of North America

EXHIBIT " C "

Attached to and made a part of Operating Agreement dated October 30, 1973, effective Oct. 25, 1973 at 7:00 o'clock a.m., between Michael P. Grace, II, Operator and D. L. Hannifin and Joe Don Cook, Non-Operator.

ACCOUNTING PROCEDURE
JOINT OPERATIONS

I. GENERAL PROVISIONS

1. Definitions

"Joint Account" shall mean the account showing the charges and credits accruing because of the Joint Operations and which are to be shared by the Parties.

"Joint Property" shall mean the real and personal property subject to the agreement to which this Accounting Procedure is attached.

"Joint Operations" shall mean all operations necessary or proper for the development, operation, protection and maintenance of the Joint Property.

"Operator" shall mean the party designated to conduct the Joint Operations.

"Non-Operators" shall mean the parties to this agreement other than the Operator.

"Parties" shall mean Operator and Non-Operators.

"Material" shall mean personal property, equipment or supplies acquired or held for use on the Joint Property.

"Controllable Material" shall be defined as set forth under the subparagraph selected below:

A. [ ] Material which at the time is so classified in the Material Classification Manual as most recently recommended by the Council of Petroleum Accountants Societies of North America.

B. [ ] Material which is ordinarily so classified and controlled by Operator in the conduct of its operations. List shall be furnished Non-Operators upon request.

2. Statements and Billings

Operator shall bill Non-Operators on or before the last day of each month for their proportionate share of costs and expenses for the preceding month. Such bills will be accompanied by statements reflecting the total charges and credits as set forth under the subparagraph selected below:

A. [ ] Statement in detail of all charges and credits to the Joint Account.

B. [ ] Statement of all charges and credits to the Joint Account, summarized by appropriate classifications indicative of the nature thereof.

C. [X] Statement of all charges and credits to the Joint Account, summarized by appropriate classification indicative of the nature thereof, except that items of Controllable Material and unusual charges and credits shall be detailed.

3. Advances and Payments by Non-Operators

~~Unless otherwise provided for in the agreement, the Operator may require the Non-Operators to advance their share of estimated cash outlay for the succeeding month's operation. Operator shall adjust each monthly billing to reflect advances received from the Non-Operators.~~

Each Non-Operator shall pay its proportion of all bills within fifteen (15) days after receipt. If payment is not made within such time, the unpaid balance shall bear interest monthly at the rate of ten per cent (10%) per annum or the maximum contract rate permitted by the applicable usury laws in the state in which the Joint Property is located, whichever is the lesser.

4. Adjustments

Payment of any such bills shall not prejudice the right of any Non-Operator to protest or question the correctness thereof; provided however, all bills and statements rendered to Non-Operators by Operator during any calendar year shall conclusively be presumed to be true and correct after twenty-four (24) months following the end of any such calendar year, unless within the said twenty-four (24) month period a Non-Operator takes written exception thereto and makes claim on Operator for adjustment. No adjustment favorable to Operator shall be made unless it is made within the same prescribed period. The provisions of this paragraph shall not prevent adjustments resulting from a physical inventory of the Joint Property as provided for in Section VII.

5. Audits

A Non-Operator, upon notice in writing to Operator and all other Non-Operators, shall have the right to audit Operator's accounts and records relating to the accounting hereunder for any calendar year within the twenty-four (24) month period following the end of such calendar year; provided however, the making of an audit shall not extend the time for the taking of written exception to and the adjustments of accounts as provided for in Paragraph 4 of this Section I. Where there are two or more Non-Operators, the Non-Operators shall make every reasonable effort to conduct joint or simultaneous audits in a manner which will result in a minimum of inconvenience to the Operator. Operator shall bear no portion of the Non-Operators' audit cost incurred under this paragraph unless agreed to by the Operator.

6. Approval by Non-Operators

Where an approval or other agreement of Non-Operators is expressly required under Paragraphs 5A, 5B, 5A and 8 of Section II, Section III, Section V, Section VI, and Paragraph 4 of Section VII, of this Accounting Procedure and if the agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, the Operator shall notify all Non-Operators and the agreement or approval of a majority in interest of the Non-Operators shall be controlling on all Non-Operators.

II. DIRECT CHARGES

Operator shall charge the Joint Account with the following items:

1. Rentals and Royalties

   Lease rentals and royalties paid by Operator for the Joint Operations.

2. Labor

   A. (1) Salaries and wages of Operator's employees directly employed on the Joint Property in the conduct of Joint Operations.

   (2) Salaries of first-level supervisors in the field if such charges are excluded from overhead rates in Option A of Section III.

   (3) Salaries and wages of technical employees temporarily assigned to and directly employed on the Joint Property if such charges are excluded from overhead rates in Option B of Section III.

   (4) Salaries and wages of technical employees either temporarily or permanently assigned to and directly employed in the operation of the Joint Property if such charges are excluded from overhead rates in Option C of Section III.

   B. Operator's cost of holiday, vacation, sickness and disability benefits and other customary allowances paid to the employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II and Paragraph 1A of Section III; except that in the case of those employees only a pro rata portion of whose salaries and wages are chargeable to the Joint Account under Paragraph 1A of Section III, not more than the same pro rata portion of the benefits and allowances herein provided for shall be charged to the Joint Account. Cost under this Paragraph 2B may be charged on a "when and as paid basis" or by "percentage assessment" on the amount of salaries and wages chargeable to the Joint Account under Paragraph 2A of this Section II and Paragraph 1A of Section III. If percentage assessment is used, the rate shall be based on the Operator's cost experience.

   C. Expenditures or contributions made pursuant to assessments imposed by governmental authority which are applicable to Operator's labor cost of salaries and wages chargeable to the Joint Account under Paragraphs 2A and 2B of this Section II and Paragraph 1A of Section III.

   D. Reasonable personal expenses of those employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II and for which expenses the employees are reimbursed under Operator's usual practice.

3. Employee Benefits

   Operator's current cost of established plans for employees' group life insurance, hospitalization, pension, retirement, stock purchase, thrift, bonus, and other benefit plans of a like nature, applicable to Operator's labor cost chargeable to the Joint Account under Paragraphs 2A and 2B of this Section II and Paragraph 1A of Section III shall be chargeable as indicated in the subparagraph selected below:

   A. [ ] Operator's actual cost.

   B. [X] Operator's actual cost not to exceed fifteen per cent (15%).

4. Material

   Material purchased or furnished by Operator for use on the Joint Property as provided under Section IV. So far as it is reasonably practical and consistent with efficient and economical operation, only such Material shall be purchased for or transferred to the Joint Property as may be required for immediate use; and the accumulation of surplus stocks shall be avoided.

5. Transportation

   Transportation of employees and Material necessary for the Joint Operations but subject to the following limitations:

   A. If Material is moved to the Joint Property from the Operator's warehouse or other properties, no charge shall be made to the Joint Account for a distance greater than the distance from the nearest reliable supply store, recognized barge terminal, or railway receiving point where like material is normally available, unless agreed to by Operator and Non-Operators.

   B. If surplus Material is moved to Operator's warehouse or other storage point, no charge shall be made to the Joint Account for a distance greater than the distance to the nearest reliable supply store, recognized barge terminal, or railway receiving point unless agreed to by Operators and Non-Operators. No charge shall be made to the Joint Account for moving Material to other properties belonging to Operator, unless agreed to by Operator and Non-Operators.

   C. In the application of Subparagraphs A and B above, there shall be no equalization of actual gross trucking costs of $100 or less.

6. Services

   A. The cost of contract services and utilities procured from outside sources other than services covered by Paragraph 8 of this Section II and Paragraph 1B of Section III. The cost of professional consultant services shall not be charged to the Joint Account unless agreed to by Operator and Non-Operators.

   B. Use and service of equipment and facilities furnished by Operator as provided in Paragraph 5 of Section IV.

7. Damages and Losses to Joint Property

   All costs or expenses necessary for the repair or replacement of Joint Property made necessary because of damages or losses incurred by fire, flood, storm, theft, accident, or other cause, except to the extent that the damage or loss could have been avoided through the exercise of reasonable diligence on the part of Operator. Operator shall furnish Non-Operators written notice of damages or losses incurred as soon as practicable after a report thereof has been received by Operator.

8. Legal Expense

   All costs and expenses of handling, investigating, and settling litigation or claims arising by reason of the Joint Operations or necessary to protect or recover the Joint Property, including, but not limited to, attorney's fees, court costs, cost of investigation or procuring evidence and amounts paid in settlement or satisfaction of any such litigation or claims; provided, (a) no charge shall be made for the services of Operator's legal staff or other regularly employed personnel (such services being considered to be Administrative Overhead under Section III), unless agreed to by Operator and Non-Operators, and (b) no charge shall be made for the fees and expenses of outside attorneys unless the employment of such attorneys is agreed to by Operator and Non-Operators.

9. Taxes

   All taxes of every kind and nature assessed or levied upon or in connection with the Joint Property, the operation thereof, or the production therefrom, and which taxes have been paid by the Operator for the benefit of the Parties.

10. Insurance

Net premiums paid for insurance required to be carried on the Joint Property for the protection of the Parties.

In the event Joint Operations are conducted in a state in which Operator may act as self-insurer for Workmen's Compensation and/or Employers Liability under the respective state's laws, Operator may, at its election, include the risk under its self-insurance program and in that event, Operator shall include a charge therefor on the following basis:

.....

.....

.....

11. Other Expenditures

Any other expenditure not covered or dealt with in the foregoing provisions of this Section II, or in Section III, and which is incurred by the Operator for the necessary and proper conduct of the Joint Operations.

III. INDIRECT CHARGES

Operator may charge the Joint Account for indirect costs either by use of an allocation of district expense items plus the rate for administrative overhead, and plus the warehousing charges, all as provided for in Paragraph 1 of this Section III or by combining all three of said items under the rates provided for in Paragraph 2 or 3 of this Section III, as indicated next below:

OPERATOR SHALL CHARGE INDIRECT COSTS TO THE JOINT ACCOUNT UNDER THE TERMS OF:

[ ] Paragraph 1. (District Expense, Administrative Overhead and Warehousing)
[X] Paragraph 2. (Combined Rates - Well Basis)
[ ] Paragraph 3. (Combined Rates - Percentage Basis)

The cost and expense of services from outside sources in connection with matters of taxation, traffic, accounting or matters before or involving governmental agencies shall be considered as included in the overhead rates provided for in the above selected Paragraph of this Section III unless such cost and expense are agreed to by Operator and Non-Operators as a direct charge to the Joint Account.

THE OVERHEAD RATES PROVIDED FOR IN ANY OF THE PARAGRAPHS SELECTED ABOVE

A. [X] shall [ ] shall not include salaries and personal expenses of first-level supervisors in the field.

B. [ ] shall [X] shall not include salaries, wages and personal expenses of technical employees temporarily assigned to and directly employed on the Joint Property, subject to approval by Hannifin and Cook,---*

~~C. [X] shall [ ] shall not include salaries, wages and personal expenses of technical employees either temporarily or permanently assigned to and directly employed in the operation of the Joint Property.~~

*as to all amounts in excess of $7,500.00 expended by Operator in a single calendar year.

1. District Expense, Administrative Overhead and Warehousing

A. District Expense

Operator shall charge the Joint Account with a pro rata portion of the salaries, wages and expenses of Operator's production superintendent and other employees serving the Joint Property and other properties of the Operator in the same operating area, whose time is not allocated directly to the properties, and a pro rata portion of the cost of maintaining and operating a production office known as Operator's ..... office located at or near ..... (or a comparable office if location changed); and necessary sub-offices (if any), maintained for the convenience of the above-described office, and all necessary camps, including housing facilities for employees if required, used in connection with the operations of the Joint Property and other properties in the same operating area. The expense of, less any revenue from, such facilities may, at the option of Operator, include depreciation of investment or a fair monthly rental in lieu of depreciation. Such charges shall be apportioned to all properties served on some equitable basis consistent with Operator's accounting practice.

B. Administrative Overhead

Operator shall charge administrative overhead to the Joint Account at the following rates, which charge shall be in lieu of the cost and expense of all offices of the Operator not covered by Paragraph 1A of this Section III, including salaries, wages and expenses of personnel assigned to such offices. Such charge shall be in addition to the salaries, wages and expenses of employees of Operator authorized to be charged direct as provided in Paragraphs 2 and 8 of Section II. Such charge shall be made on the basis indicated below, either (1) well basis or (2) percentage basis, at the rates shown thereunder.

(1) [ ] Well Basis

RATE PER WELL PER MONTH

Well Depth	DRILLING WELL RATE (Use Total Depth) Each Well	PRODUCING WELL RATE (Use Current Producing Depth) First Five	Next Five	All Wells Over Ten

(2) [ ] Percentage Basis

PERCENTAGE BASIS

Development:

..... Percent (%) of the cost of development of the Joint Property exclusive of costs provided under Paragraph 8 of Section II and all salvage credits.

Operating:

..... Percent (%) of the cost of operating the Joint Property exclusive of costs provided under Paragraphs 1 and 8 of Section II, all salvage credits, the value of injected substances purchased for secondary recovery and all taxes and assessments which are levied, assessed and paid upon the mineral interest in and to the Joint Property.

C. Operator's Warehouse Operating and Maintenance Expense
[ ] Included in district expense
[ ] No charge either direct or indirect
[ ] Percentage basis (describe fully) .....

2. Combined Rates - Well Basis

Operator shall charge the Joint Account for the services covered by Paragraph 1 of this Section III on the basis indicated below:

RATE PER WELL PER MONTH

Well Depth	DRILLING WELL RATE (Use Total Depth) Each Well	PRODUCING WELL RATE (Use Current Producing Depth) First Five	Next Five	All Wells Over Ten
All depths	$1,000.00	$150.00		

3. Combined Rates - Percentage Basis

Operator shall charge the Joint Account for the services covered by Paragraph 1 of this Section III on the basis indicated below:

PERCENTAGE BASIS

A. Development:

..... Percent (%) of the cost of development of the Joint Property exclusive of costs provided under Paragraph 8 of Section II and all salvage credits.

B. Operating:

..... Percent (%) of the cost of operating the Joint Property exclusive of costs provided under Paragraphs 1 and 8 of Section II, all salvage credits, the value of injected substances purchased for secondary recovery and all taxes and assessments which are levied, assessed and paid upon the mineral interest in and to the Joint Property.

4. Application of Administrative Overhead or Combined Rates - Well Basis

The following limitations, instructions and charges shall apply in the application of the rates as provided under either Paragraph 1B (1) or Paragraph 2 of this Section III.

A. Charges for drilling wells shall begin on the date each well is spudded and terminate on the date the drilling or completion rig is released, whichever is later, except that no charge shall be made during the suspension of drilling operations for fifteen (15) or more consecutive days.

B. The status of wells shall be as follows:
(1) Producing gas wells, injection wells for recovery operations, water supply wells utilized for waterflooding operations and salt water disposal wells shall be considered the same as producing oil wells.
(2) Wells permanently shut down but on which plugging operations are deferred shall be dropped from the well schedule at the time the shutdown is effected. Any well being plugged or produced during any portion of the month shall be considered as a producing well for the entire month.
(3) Wells being plugged back, drilled deeper, converted to a source or input well, or which are undergoing any type of workover that requires the use of a drilling rig or workover rig capable of drilling shall be considered the same as drilling wells.
(4) Temporarily shut-down wells, which are not produced or worked upon for a period of a full calendar month, shall not be included in the well schedule, provided however, wells shut in by governmental regulatory body shall be included in the well schedule only in the event the allowable production is transferred to some other well or wells on the Joint Property. In the event of a unit allowable, shut-in wells shall be counted in determining the charge hereunder for such month if said wells contribute allowable production that is actually produced during such month from one or more unit wells as a result of allowable transfer, inclusion in the unit allowable or other circumstances, but the total shut-in well count shall be limited to the minimum number of shut-in wells necessary to provide the contributed allowable actually produced during the month.
(5) Gas wells shall be included in the well schedule if directly connected to a permanent sales outlet even though temporarily shut in due to overproduction or failure of purchaser to take the allowed production.
(6) Wells completed in multiple horizons, shall be considered as a producing well for each separately producing horizon, providing each completion is considered a separate well by governmental or other statewide regulatory authority.

C. The well rates for producing wells shall be applied to the individual leases; provided that, whenever leases covered by this agreement are operated as a unitized project, the well rates shall be applied to the total number of producing wells, irrespective of individual leases.

D. The well rates shall be adjusted as of the first day of April each year following the effective date of the agreement to which this Accounting Procedure is attached. The adjustment shall be computed by multiplying the rate currently in use by the percentage increase or decrease in the average weekly earnings of Crude Petroleum and Gas Production Workers for the last calendar year compared to the preceding calendar year as shown by "The Index of Average Weekly Earnings of Crude Petroleum and Gas Production Workers" as published by the United States Department of Labor, Bureau of Labor Statistics, or the equivalent Canadian Index as published by the Dominion Bureau of Statistics, as applicable. The adjusted rates shall be the rates currently in use, plus or minus the computed adjustment.

5. Application of Administrative Overhead or Combined Rates - Percentage Basis

For the purpose of determining charges on a Percentage Basis under Paragraph 1B (2) or Paragraph 3 of this Section III, Development shall include all costs in connection with drilling, redrilling, deepening or any remedial operations on any or all wells involving the use of drilling crew and equipment; also, preliminary expenditures necessary in preparation for drilling and expenditures incurred in abandoning when well is not completed as a producer; and original cost of construction or installation of fixed assets, the expansion of fixed assets and any other project clearly discernible as a fixed asset, except Major Construction as defined in Paragraph 6 of this Section III. All other costs shall be considered as Operating.

6. Major Construction Overhead--to be negotiated

~~For the construction of compressor plants, water stations, secondary recovery systems, drilling and production platforms, salt water disposal facilities, and other such projects, as distinguished from the more usual drilling~~

~~and producing operations, Operator in addition to the Administrative Overhead or Combined Rates provided for in Paragraph 1, 2 or 3 of this Section III shall either negotiate a rate prior to beginning of construction or shall charge the Joint Account with an additional overhead charge as follows:~~

~~A. Total cost less than $25,000, no charge.~~

~~B. Total cost more than $25,000, but less than $100,000, ... % of total cost.~~

~~C. Total cost of $100,000 or more, ... % of the first $100,000 plus ..... % of all over $100,000 of total cost.~~

~~Total cost shall mean the total gross cost of any one project. For the purpose of this paragraph the component parts of a single project shall not be treated separately and the cost of drilling wells shall be excluded.~~

7. Amendment of Rates

The specific rates provided for in this Section III may be amended from time to time by mutual agreement between the Parties hereto if, in practice, the rates are found to be insufficient or excessive.

IV. BASIS OF CHARGES TO JOINT ACCOUNT

Subject to the further provisions of this Section IV, Operator will procure all Material and services for the Joint Property. At the Operator's option, Non-Operators may supply Material or services for the Joint Property.

1. Purchases

Material purchased and service procured shall be charged at the price paid by Operator after deduction of all discounts actually received.

2. Material furnished from Operator's Warehouse or Other Properties

A. New Material (Condition "A")

(1) Tubular goods, except line pipe, shall be priced on a maximum carload and/or barge load weight basis regardless of quantity transferred and equalized to the lowest prevailing price f.o.b. railway receiving point or recognized barge terminal nearest the Joint Property where such Material is normally available effective at date of transfer.

(2) Line pipe shall be priced at the current replacement cost effective at date of transfer from a reliable supply store nearest the Joint Property where such Material is normally available if the movement is less than 30,000 pounds. If the movement is 30,000 pounds or more, it shall be priced on the same basis as casing and tubing under Subparagraph (1) of this paragraph.

(3) When the Operator has equalized actual hauling costs as provided for in Paragraph 5 of Section II, Operator is permitted to include ten cents (10¢) per hundred-weight on all tubular goods furnished from his stocks in lieu of loading and unloading costs sustained.

(4) Other Material shall be priced at the current replacement cost of the same kind of Material, effective at date of movement and f.o.b. the supply store or railway receiving point nearest the Joint Property where Material of the same kind is normally available.

(5) The Joint Account shall not be credited with cash discounts applicable to prices provided for in this Paragraph 2 of Section IV.

B. Used Material (Condition "B" and "C")

(1) Material in sound and serviceable condition and suitable for reuse without reconditioning, shall be classified as Condition "B" and priced at seventy-five per cent (75%) of the current price of new Material.

(2) Material which is not suitable for its original function until after reconditioning shall be furnished to the Joint Account under one of the two methods defined below:

(a) Classified as Condition "B" and priced at seventy-five per cent (75%) of the current price of new Material. The cost of reconditioning shall be absorbed by the Operator of the transferring property.

(b) Classified as Condition "C" and priced at fifty per cent (50%) of current price of new Material. The cost of reconditioning also shall be charged to the receiving property, provided Condition "C" value, plus cost of reconditioning, does not exceed Condition "B" value.

(3) Obsolete Material or Material which cannot be classified as Condition "B" or Condition "C" shall be priced at a value commensurate with its use. Material no longer suitable for its original purpose but usable for some other purpose, shall be priced on a basis comparable with that of items normally used for such other purpose.

(4) Material involving erection costs shall be charged at applicable percentage of the current knocked-down price of new Material.

3. Premium Prices

Whenever Material is not readily obtainable at prices specified in Paragraphs 1 and 2 of this Section IV because of national emergencies, strikes or other unusual causes over which the Operator has no control, the Operator may charge the Joint Account for the required Material at the Operator's actual cost incurred in procuring such Material, in making it suitable for use, and in moving it to the Joint Property, provided, that notice in writing is furnished to Non-Operators of the proposed charge prior to billing Non-Operators for such Material. Each Non-Operator shall have the right, by so electing and notifying Operator within 10 days after receiving notice from Operator, to furnish in kind all or part of his share of such Material suitable for use and acceptable to Operator.

4. Warranty of Material Furnished by Operator

Operator does not warrant the Material furnished. In case of defective Material, credit shall not be passed to the Joint Account until adjustment has been received by Operator from the manufacturers or their agents.

5. Equipment and Facilities Furnished by Operator

A. Operator shall charge the Joint Account for use of equipment and facilities at rates commensurate with cost of ownership and operation. Such rates shall include cost of maintenance, repairs, other operating expense, insurance, taxes, depreciation, and interest on investment not to exceed six per cent (6%) per annum, provided such rates shall not exceed those currently prevailing in the immediate area within which the Joint Property is located. In lieu of rates based on costs of ownership and operation of equipment, other than automotive, Operator may elect to use commercial rates prevailing in the area of the Joint Property less 20%; for automotive equipment, rates as published by the Petroleum Motor Transport Association may be used. Rates for laboratory services shall not exceed those currently prevailing if performed by

COPAS

outside service laboratories. Rates for trucks, tractors and well service units may include wages and expenses of operator.

B. Whenever requested, Operator shall inform Non-Operators in advance of the rates it proposes to charge.

C. Rates shall be revised and adjusted from time to time when found to be either excessive or insufficient.

V. DISPOSAL OF MATERIAL

The Operator may purchase, but shall be under no obligation to purchase, interest of Non-Operators in surplus Condition "A" or "B" Material. The disposition of surplus Controllable Material, not purchased by Operator, shall be agreed to by Operator and Non-Operators, provided Operator shall dispose of normal accumulations of junk and scrap Material either by transfer or sale from Joint Property.

1. Material Purchased by the Operator or Non-Operators.
   Material purchased by either the Operator or Non-Operators shall be credited by the Operator to the Joint Account for the month in which the Material is removed by the purchaser.
2. Division in Kind
   Division of Material in kind, if made between Operator and Non-Operators, shall be in proportion to the respective interests in such Material. The Parties will thereupon be charged individually with the value of the Material received or receivable. Proper credits shall be made by the Operator to the Joint Account.
3. Sales to Outsiders
   Sales to outsiders of Material from the Joint Property shall be credited by Operator to the Joint Account at the net amount collected by Operator from vendee. Any claim by vendee related to such sale shall be charged back to the Joint Account if and when paid by Operator.

VI. BASIS OF PRICING MATERIAL TRANSFERRED FROM JOINT ACCOUNT

Material purchased by either Operator or Non-Operators or divided in kind, unless agreed to by Operator and Non-Operators shall be priced on the following basis:

1. New Price Defined
   New price as used in this Section VI shall be the price specified for new Material in Section IV.
2. New Material
   New Material (Condition "A"), being new Material procured for the Joint Property but never used, at one hundred per cent (100%) of current new price (plus sales tax if any).
3. Good Used Material
   Good used Material (Condition "B"), being used Material in sound and serviceable condition, suitable for reuse without reconditioning:
   A. At seventy-five per cent (75%) of current new price if Material was charged to Joint Account as new, or
   B. At sixty-five per cent (65%) of current new price if Material was originally charged to the Joint Account as secondhand at seventy-five per cent (75%) of new price.
4. Other Used Material
   Used Material (Condition "C"), at fifty per cent (50%) of current new price, being used Material which:
   A. Is not in sound and serviceable condition but suitable for reuse after reconditioning, or
   B. Is serviceable for original function but not suitable for reconditioning.
5. Bad-Order Material
   Material (Condition "D"), no longer suitable for its original purpose without excessive repair cost but usable for some other purpose at a price comparable with that of items normally used for such other purpose.
6. Junk Material
   Junk Material (Condition "E"), being obsolete and scrap Material, at prevailing prices.
7. Temporarily Used Material
   When the use of Material is temporary and its service to the Joint Property does not justify the reduction in price as provided for in Paragraph 3B of this Section VI, such Material shall be priced on a basis that will leave a net charge to the Joint Account consistent with the value of the service rendered.

VII. INVENTORIES

The Operator shall maintain detailed records of Controllable Material.

1. Periodic Inventories, Notice and Representation
   At reasonable intervals, inventories shall be taken by Operator of the Joint Account Controllable Material. Written notice of intention to take inventory shall be given by Operator at least thirty (30) days before any inventory is to begin so that Non-Operators may be represented when any inventory is taken. Failure of Non-Operators to be represented at an inventory shall bind Non-Operators to accept the inventory taken by Operator.
2. Reconciliation and Adjustment of Inventories
   Reconciliation of inventory with the Joint Account shall be made, and a list of overages and shortages shall be furnished to the Non-Operators. Inventory adjustments shall be made by Operator with the Joint Account for overages and shortages, but Operator shall be held accountable to Non-Operators only for shortages due to lack of reasonable diligence.
3. Special Inventories
   Special Inventories may be taken whenever there is any sale or change of interest in the Joint Property. It shall be the duty of the party selling to notify all other Parties as quickly as possible after the transfer of interest takes place. In such cases, both the seller and the purchaser shall be governed by such inventory.
4. Expense of Conducting Periodic Inventories
   The expense of conducting periodic inventories shall not be charged to the Joint Account unless agreed to by Operator and Non-Operators.

EXHIBIT "D"

Attached to and made a part of that certain
Operating Agreement dated October 30, 1973,
naming Michael P. Grace, II and/or
Corinne Grace as Operator.

INSURANCE

Operator and Operator's contractors and subcontractors shall, during the drilling and completing of any and all well or wells drilled on the Unit Area and during the performance of all operations, carry the following described minimum insurance coverage on the Unit Area.

A. Employer's Liability and Workmen's Compensation Insurance covering Operator's employees and the employees of Operator's contractors and subcontractors engaged in operations under this Agreement, in compliance with the laws of the State of New Mexico.

B. General Public Liability Insurance covering the parties hereto in connection with all operations conducted by Operator or Operator's contractors and subcontractors with Bodily Injury or Death limit of not less than One Hundred Thousand Dollars ($100,000.00) for injury to or death of any one person; not less than Three Hundred Thousand Dollars ($300,000.00) for injury to or death of more than one person resulting from any one accident and for Property Damage with a limit of not less than Fifty Thousand Dollars ($50,000.00) for damage to property for each accident; and

C. Automobile Public Liability and Property Damage Insurance covering the parties hereto in connection with all operations conducted by Operator or Operator's contractors and subcontractors with Bodily Injury or Death limit of not less than One Hundred Thousand Dollars ($100,000.00) for injury to or death of any one person; not less than Three Hundred Thousand Dollars ($300,000.00) for injury to or death of more than one person resulting from any one accident; and for Property Damage with a limit of not less than Fifty Thousand Dollars ($50,000.00) for damage to property for each accident.

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR.
DON M. FEDRIC
ROBERT J. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

November 2, 1977

Mr. Joe D. Ramey, Director
New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Hannifin - Grace-Atlantic #1
Case No. 5961
Sec. 24, T-22-S, R-26-E
Eddy County, New Mexico

Dear Mr. Ramey:

We hand you herewith the original of our "Brief of Applicant, D.L. Hannifin" in connection with the above captioned case. We are also mailing copies of the document to opposing counsel.

Respectfully submitted,

HUNKER - FEDRIC, P.A.

George H. Hunker, Jr.

GHH:dd
Enc.

xc: Mr. Michael P. Grace, II
P.O. Box 1418
Carlsbad, New Mexico 88220, w/enc.

xc: Elvin Kanter, Esq.
1111 American Bank of Commerce Bldg.
200 Lomas, NW
Albuquerque, New Mexico 87102, w/enc.

xc: Ms. Lynn Teschendorf, General Counsel ✓
New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501, w/enc.

xc: Mr. D.L. Hannifin, w/enc.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN
FOR AMENDMENT OF ORDER NO. R-4432,
EDDY COUNTY, NEW MEXICO.

BRIEF OF APPLICANT, D.L. HANNIFIN

I.

STATEMENT OF THE CASE

On November 8, 1972, in a consolidated and contested action, the Oil Conservation Commission issued its Order R-4432 appointing Michael P. Grace, II, as Operator of a pooled unit consisting of the S½ of Section 24, Township 22 South, Range 26 East, N.M.P.M., Eddy County, New Mexico, South Carlsbad Morrow Gas Pool, upon which is located the producing well known as the Grace-Atlantic #1.

In May 1977, D.L. Hannifin filed Case No. 5961 before the Commission requesting that Order R-4432 be amended so as to designate him as Operator of the subject well. A hearing was held on June 21, 1977, and an Order was filed (R-5483) denying the Application. Pursuant to Rule 1222, an Application for Rehearing was timely filed by D.L. Hannifin on or about July 15, 1977.

The matter came on for hearing before the Oil Conservation Commission on October 19, 1977, D.L. Hannifin being present and being represented by counsel, and Michael P. Grace, II, appearing by counsel only.

The following were the contentions made by the Applicant:

1. D.L. Hannifin contends that Michael P. Grace, II, has not operated the subject well in a prudent manner.

2. That Grace has permitted and authorized surface waste to occur through the flaring of the subject well.

3. That the flaring of gas as authorized by Grace, constitutes waste and violates the correlative rights of Applicant and royalty owners.

4. That Grace has permitted drainage to occur to the extent that the subject well has lost 350,000,000 cubic feet of gas to offset wells, the closest being the Grace-operated Go-Po-Go #2 located 1,320 feet north of the subject well.

5. That subsurface waste will occur and correlative rights will be violated by reason of the installation by Grace on or about September 16, 1977, of 2-1/16" tubing in the subject well, which said tubing is not competitively sized as related to the 2-7/8" tubing used in the Grace Go-Po-Go #2 Well.

6. That there is communication between the subject well and the Grace Go-Po-Go #2 Well.

7. That some natural gas has been lost to the reservoir by reason of Grace's inefficient production methods.

8. That the correlative rights of owners of interests in the property have not been protected to the extent required by law, in that those owners will not be able to produce without waste their just and equitable share of the gas in the pool.

9. That Applicant is physically present in the State of New Mexico and will obey the orders of the Commission, and is able, capable and willing to prudently operate the subject property.

II.

EVIDENCE

1. The Applicant established that the subject well and the Grace-operated Go-Po-Go #2 Well are completed in the same zones of permeability and porosity; that there is communication between the two wells in the opinion of Applicant's engineering expert.

2. Applicant established that due to the size of the tubing in the Grace-Atlantic Well (prior to the reworking), production was erratic and that 350,000,000 cubic feet of gas had been lost to offsetting wells.

3. Applicant established that the subject well was not prudently operated and that smaller tubing should have been installed 14 months prior to September 1977.

4. Applicant established that Grace's employee illegally flared the subject well continuously for 14 months until the Commission caused the well to be shut-in for remedial work in June 1977.

5. Applicant established the fact that because of the differential in the size of the tubing installed in the two wells, that the Grace-Atlantic #1 Well will not be competitive with the Go-Po-Go #2, that drainage will occur, that correlative rights of property owners will be violated.

6. That Operator, Grace, failed to pay royalty owners, overriding royalty interest owners, and permitted liens to be filed against the property which were not satisfied except under compulsion.

7. That the reworking was excessively expensive and production was lost due to the excessive amount of time taken by Grace to complete the reworking operation.

8. That after reworking of the subject well and the installation of 2-1/16" tubing, a loss of production equal to 17 to 20 million cubic feet of gas per month will occur through drainage to the subject well by offsetting wells.

III.

LAW AND ARGUMENT

It is well settled in New Mexico that an oil and gas lease or an operating agreement creates a fiduciary relationship between the parties. The lessee or operator is required to be equitable. Jack v. Hunt, 75 N.M. 686, 410 P.2d 403.

In our particular case, the order of the Commission and the appointment of Grace creates the fiduciary relationship. The duties owed by the Operator are not only those owed to the

Commission, but encompass the duties owed to non-operating working interest owners and to royalty and to overriding royalty interest owners.

The Commission's powers and duties are explicit. It is to prevent waste and protect correlative rights, and by its orders, to do whatever may be reasonably necessary to carry out the purpose for which the Commission was created. Sec. 65-3-10, NMSA (1953).

The burden of its appointment of Grace as Operator falls on the Commission. In the exercise of its duties and obligations under the conservation laws, the burden falls on the Commission to change operators where it is necessary to prevent waste and protect correlative rights.

Substantial evidence in the record bears out the fact that waste has occurred and is likely to occur in the future. As a practical matter, it has been shown that waste has occurred and correlative rights have not been protected.

The prime objective of the New Mexico conservation statutes relating to gas production is, in the interest of public welfare, to prevent waste of an irreplaceable natural resource. Grace v. Oil Conservation Commission of New Mexico, 531 P.2d 939, 87 NM 205.

By reason of the appearances entered in this matter, the Commission has jurisdiction of the parties. It further has jurisdiction over the subject matter. It is axiomatic that if it had the duty and authority to designate Grace as Operator, then it has the authority and the power to remove him as Operator.

Substantial evidence of waste by Grace has been submitted to the Commission. Substantial evidence of violation of Oil Conservation Commission rules has been submitted to the Commission, with such violation being directly connected to acts of waste. Substantial evidence of the failure of Grace to protect correlative rights, as a result of his acts of waste, has been presented to the Commission. Finally, substantial evidence of generally unacceptable and imprudent operations, to the detriment of all connected with

this well, has been presented to the Commission, so as to raise the presumption that irresponsible past operating techniques and procedures will continue in the future if Grace continues as Operator.

Grace has been neither responsible nor prudent in his operations. He has not given proper consideration to protection of the rights of others. Additionally, he has not been available to the other parties interested in the well, and has not even seen fit to attend either of the hearings on this matter before the Commission.

An operator must practice "utmost good faith" in his dealings with the other interest owners in a well. In the present instance, the other working interest owners, the royalty owners and an overriding royalty interest owner have all asked that the Operator be changed. These interests total more than the ownership interest of Grace in this well, and the position of such other parties is clearly indicative that they do not feel that Grace has acted toward them in utmost good faith.

Under the Commission's authority, it should exercise its power and remove Grace as Operator, so as to clearly state what the Commission expects and demands of a Commission-appointed Operator.

Respectfully submitted,

HUNKER - FEDRIC, P.A.

George H. Hunker, Jr.

Don M. Fedric

Attorneys for D.L. Hannifin
P.O. Box 1837
Roswell, New Mexico 88201
(505) 622-2700

I hereby certify that on this 2nd day of November, 1977, true copies of the foregoing document were mailed to opposing counsel of record.

George H. Hunker, Jr.

LAW OFFICES OF
HUNKER-FEDRIC, P.A.
210 HINKLE BUILDING
POST OFFICE BOX 1837
ROSWELL, NEW MEXICO 88201

GEORGE H. HUNKER, JR.
DON M. FEDRIC
ROBERT I. WALDMAN

TELEPHONE 622-2700
AREA CODE 505

November 10, 1977

Mr. Joe D. Ramey, Director
New Mexico Oil Conservation Commission
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Hannifin - Grace-Atlantic #1
Case No. 5961
Sec. 24, 22-S, 26-E
Eddy County, New Mexico

Dear Mr. Ramey:

In connection with the above captioned case and on behalf of D.L. Hannifin, we enclose herewith the original of our Response to Grace Memorandum, for your consideration. We are also mailing copies to opposing counsel.

Sincerely yours,

HUNKER - FEDRIC, P.A.

George H. Hunker, Jr.

dd
Enc.

xc: Mr. Michael P. Grace, II
P.O. Box 1418
Carlsbad, New Mexico 88220, w/enc.

xc: Elvin Kanter, Esq.
Suite 1111
200 Lomas Blvd., NW
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xc: Ms. Lynn Teschendorf, General Counsel
New Mexico Oil Conservation Commission, w/enc.

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BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN
FOR AMENDMENT OF ORDER R-4432,
EDDY COUNTY, NEW MEXICO.

RESPONSE TO GRACE MEMORANDUM

1. Standard of Conduct Required of Operator.

At the outset it would appear that Mr. Grace is telling the Commission that he (Grace) could operate the Grace-Atlantic Well in any manner he saw fit to operate it; that he owed no duty to the Commission in the face of its continuing jurisdiction order; that he owed no duty to his non-operators or to the other interest owners under the leases. Grace would have the Commission believe that prudence was no longer required after exploration and development activities had ceased.

Even if the Commission feels that the only standard to be applied in testing Grace's conduct should be the "arbitrary and capricious manner" standard, there is ample evidence that the continued flaring of the well was arbitrary and capricious simply by reason of its illegality. The flaring of gas is not ludicrous; it is not even funny.

2. Respondent's Exhibits.

The Applicant's Attorneys would call attention to the fact that the exhibits attached to the Respondent's Memorandum of Law in Opposition to Application were not introduced in evidence at either hearing before the Commission and should not be considered by the Commission as valid legal evidence. They are not a part of the record, and Applicant objects to these instruments being used by Respondent in his brief. The Commission must rule based upon evidence presented at the hearings. In the event of

an appeal by either party, the appeal will be limited to the record, which will include the transcript and exhibits introduced. Nothing else will be considered on the appeal. Kelley v. Carlsbad Irrigation District, 71 NM 464 (1963).

The Operating Agreement attached by the Respondent as Exhibit "A", is a private agreement between the parties and has nothing to do with the prior appointment by the New Mexico Oil Conservation Commission of an operator under a forced pooled unit. If the Respondent, Grace, contends that the Operating Agreement controls, he can go to court and establish its validity and the fact that it supersedes the authority of the Conservation Commission. Grace cannot have it both ways; that is, an appointment by the OCC which he claims should stay in effect and an agreement which he claims supersedes anything done by the Commission.

Respectfully submitted,
this 10th day of November, 1977,

HUNKER - FEDRIC, P.A.

By _____
George H. Hunker, Jr.
Attorneys for D.L. Hannifin
P.O. Box 1837
Roswell, New Mexico 88201
(505) 622-2700

I hereby certify that on this 10 day of November, 1977, a true copy of the foregoing document was mailed to:

Mr. Elvin Kanter
Atty. for Michael P. Grace, II
Suite 1111
200 Lomas Blvd., NW
Albuquerque, New Mexico 87102.

_____
George H. Hunker, Jr.

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George H. Hunker, Jr.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

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

CASE NO. 5961

APPLICATION OF D.L. HANNIFIN
FOR AMENDMENT OF ORDER R-4432,
EDDY COUNTY, NEW MEXICO.

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COUNTY EDDY, NEW MEXICO FIELD SOUTH CARLSBAD (MORROW)

OPR MICHAEL P. GRACE II

LSE GRACE-ATLANTIC WELL NO. 1

LOC Sec 24, T-22-S, R-26-E (J)
1980 FSL & 1980 FEL of Sec

UNIQUE NO 30-015-20798

MAPS CO-ORD

F. R. 3-24-73 OBJ 12,100'FT SPUD 1-28-73

CTR Big West LAHEE CLASS ELEV D. F. 3191'GR

LOGS SPLS GL

TD 11,768' Sd PBD 11,740' ABD LOC P & A

DAY ZONE	PROD. INTERVAL	IP	BO	W	HRS	CHK	TEST BASIS
Morr	11424-444	GOR	65,232	000	FLWG		

GOR	GTY	GR	GTY GR	BHP	TST DATE	TREATMENT
Dry	,580		2595		3-29-73	Set

CSG 13 3/8 - 375 - 350 7 - 11768 - 500
9 5/8 - 5400 - 1650

COUNTY EDDY, NEW MEX. FIELD SOUTH CARLSBAD (MORROW)

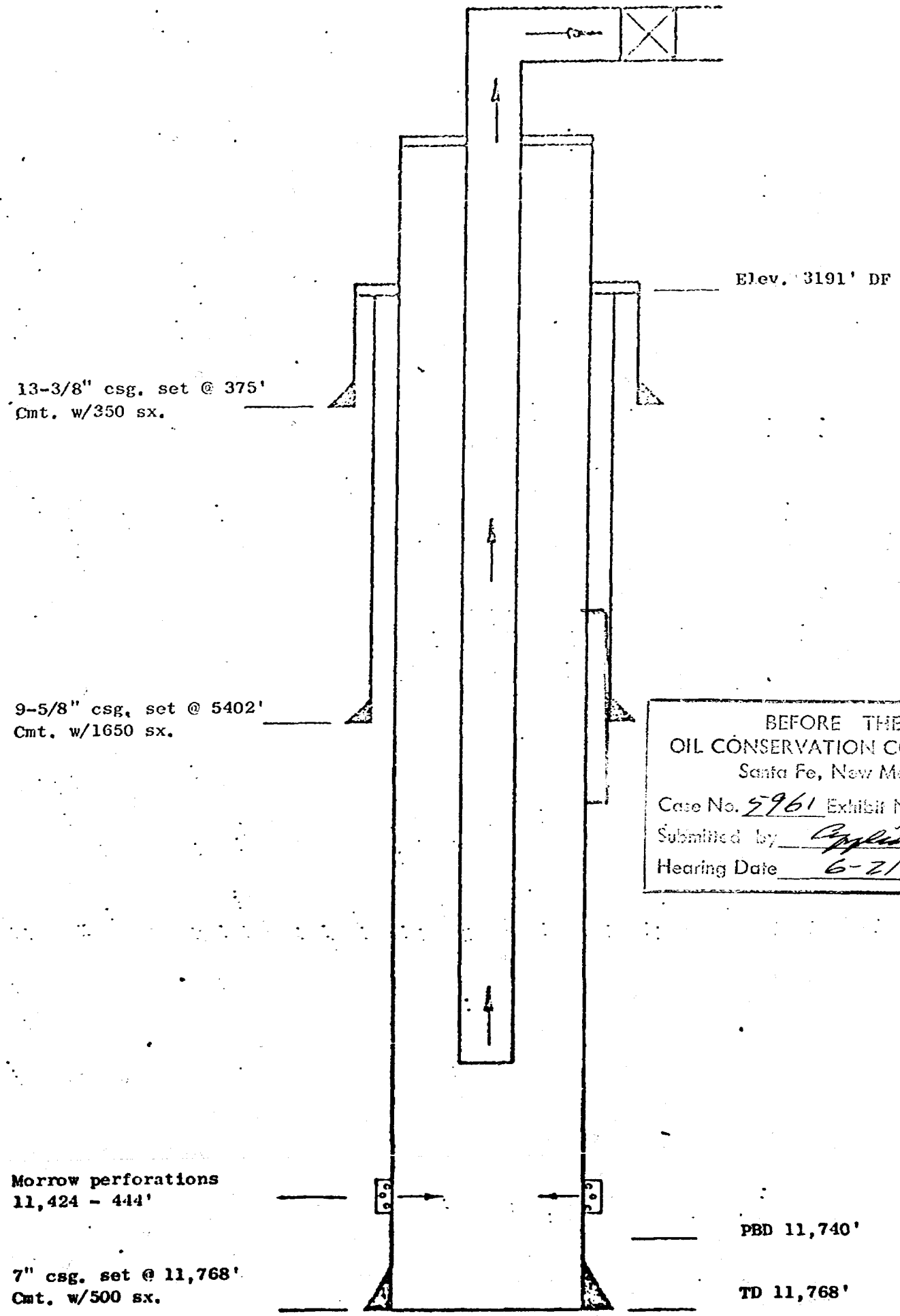
WELL: MICHAEL P. GRACE II #1 GRACE-ATLANTIC ELEV 3191'GR

DATE	WELL RECORD	REACHED T. D.	SPL (LOG) MARKERS
	TD 11,768' Sd PB 11,740'		Del Sd(3927)
	Well flw on SET 20/64" @ 11,439'		B.S.(5225)
	DST 4432-90, op 2 1/5", GTS 18" thru K/		Ist B.S. Sd(6245)
	300' oil, 642' GCM (Sc K/4.0 cfg		2nd B.S. Sd(6570)
	of wtr, 600 cu cf gas 1.2 cfg) 90"		3rd B.S. Sd(7867)
	ISIP 1986, FP 107-444, 380" FSIP 2052		Wolf.(8386)
	HP 2304		Wolfc(8766)
	DST 11412-479 op 90", GTS 5" @ 10,000,000		Morr(11225)
	CFGPD, 1/2" ck, SIP 1909 (Sc K/ 24.0 cfg) 75" ISIP 3419, FP 3262-3267,		Strawn(10583)
			Morr(11002)
	120" FSIP 3419, HP 5545-5545		U/Miss(11350)
	DST 11477-620, op 2', GTS 28" @ 300,000		
	CFGPD, 1/2" ck, SIP 375, R/668' GCM		
	(Sc K/4.0 cfg) 60" ISIP 4808, FP		
	241-745, 3' FSIP 4808		
	Pf 80/11424-444; 72' SIDP 2581, FOUR POINT:		
	F/4,637,000 CFGPD 30 12/64 TP 2578		
	F/6,054,000 CFGPD 30" 17/64 TP 2363		
	F/9,435,000 CFGPD 30" 23/64 TP 2525		Log TD 11,777
	F/12,956,000 CFGPD 30 27/64 TP 2473		(4-4-73)

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 5961 Exhibit No. 1
Submitted by Applicant
Hearing Date 6-21-77

MICHAEL P. GRACE II
GRACE-ATLANTIC No. 1

1980' FSL & 1980' FEL
Section 24, T-22S, R-26E
Eddy County, New Mexico



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 5961 Exhibit No. 2
Submitted by Applicant
Hearing Date 6-21-77

GAS PRODUCTION FROM GRACE-ATLANTIC NO. 1 WELL in S½ Section 24, Township 22 South, Range 26 East, Eddy County, New Mexico, PER REPORTS OF N. M. O&G ENGINEERING COMMITTEE FOR PERIOD COMMENCING JANUARY 1976

January, 1976	27,536 M.C.F.
February, 1976	105,906 M.C.F.
March, 1976	148,176 M.C.F.
April, 1976	134,114 M.C.F.
May, 1976	94,608 M.C.F.
June, 1976	74,148 M.C.F.
July, 1976	77,626 M.C.F.
August, 1976	63,451 M.C.F.
September, 1976	90,064 M.C.F.
October, 1976	68,711 M.C.F.
November, 1976	44,670 M.C.F.
December, 1976	66,983 M.C.F.
January, 1977	47,102 M.C.F.
February, 1977	45,820 M.C.F.
March, 1977	22,936 M.C.F.

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 5961 Exhibit No. 3
Submitted by Applicant
Hearing Date 6-21-77

D. L. HANNIFIN
P. O. BOX 182
ROSWELL, NEW MEXICO 88201

505-623-4618

D. L. Hannifin - Atlantic #1

Estimated Cost to replace 4½" tubing with 2 3/8" tubing and to perforate and treat lower morrow zone.

Kill Truck 28.00 per hr. x 4 hrs.	112.00
2% KCL Water @1.40 per bbls. x 425 bbls	595.00
Pulling Unit for 4 days @100 per hr. x 40 hrs.	4,500.00
2 3/8" N80 Tubing 2.5131 per ft. x 11530 ft.	28,976.04
2000 gal. 7½% Acid	2,500.00
75,000 to 100,000 ft. Nitrogen	1,500.00
Perforating - 36 holes 2 per ft./11584-90, 11498-505, 11486-90	3,000.00
Miscellaneous (Packers, tubing heads, etc.)	5,000.00
	$46,183.04

$46,183.04

Sincerely,

D. L. Hannifin

DLH:jl

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 5961 Exhibit No. 4
Submitted by Applicant
Hearing Date 6-21-77

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 5961 Exhibit No. 5
Submitted by Applicant
Hearing Date 6-21-77

Analysis and Prediction of Minimum Flow Rate for the Continuous Removal of Liquids from Gas Wells

R. G. Turner, SPE-AIME, Baker Oil Tools, Inc.
M. G. Hubbard, SPE-AIME, U. of Houston
A. E. Dukler, U. of Houston

Introduction

Gas phase hydrocarbons produced from underground reservoirs will, in many instances, have liquid phase material associated with them, the presence of which can affect the flowing characteristics of the well. Liquids can come from condensation of hydrocarbon gas (condensate) or from interstitial water in the reservoir matrix. In either case, the higher density liquid phase, being essentially discontinuous, must be transported to the surface by the gas. In the event the gas phase does not provide sufficient transport energy to lift the liquids out of the well, the liquids will accumulate in the wellbore. The accumulation of the liquid will impose an additional back pressure on the formation that can significantly affect the production capacity of the well. In low pressure wells the liquid may completely kill the well; and in the higher pressure wells there can occur a variable degree of slugging or churning of the liquids, which can affect calculations used in routine well tests. Specifically, the calculated bottom-hole pressures used in multirate backpressure tests will be erroneous if the well is not removing liquids on a continuous basis, and gas:liquid ratios observed during such a test may not be correct.

Several authors[1,3,8,14] have suggested methods to determine if the flow rate of a well is sufficient to remove liquid phase material. Vitter[14] and Duggan[1] proposed that wellhead velocities observed in the field would be adequate for keeping wells unloaded. Jones[8] and Dukler[3] presented analytical treatments resulting in equations for calculating, from physical properties, the minimum necessary flow rate. An analysis of these studies indicates the existence of two proposed physical models for the removal of gas well liquids: (1) liquid film movement along the walls of the pipe and (2) liquid droplets entrained in the high velocity gas core. Although there probably is a continuous exchange of liquid between the gas core and the film, they will be treated separately for the purposes of this study. The development and comparison of these separate models with experimental data will permit the determination of which, if either, is the controlling mechanism for the removal of liquids from gas wells.

The Continuous Film Model

Liquid phase accumulation on the walls of a conduit during two-phase gas/liquid flow is inevitable due to the impingement of entrained liquid drops and the condensation of vapors. The movement of the liquid on the wall is therefore of interest in the analysis of liquid removal from gas wells. If the annular liquid film must be moved upward along the walls in order to keep a gas well from loading up, then the minimum gas flow rate necessary to accomplish this is of primary interest. The analysis technique used follows Dukler[2] and Hewitt[5] and involves describing the profile of the velocity of a liquid film moving upward on the inside of a tube. The minimum rate of gas flow required to move the film upward is then calculated.

From an analysis of two models — in one, the movement observed is of a liquid film on the wall of a tubular conduit where the liquid is moved upward by interfacial shear, and in the other it is of the entrained liquid drops in a vertically upward flowing gas stream — it is evident that the minimum condition required to unload a gas well is that which will move the largest liquid drops that can exist in a gas stream.

This page of Petroleum Transactions, AIME follows pages 1360. The intervening non-Transactions pages appeared in Journal of Petroleum Technology.

The results of this analysis are presented in Fig. 3 and Table 1, and the mathematical film flow model is developed in the Appendix.

Entrained Drop Movement

The existence of liquid drops in the gas stream presents a different problem in fluid mechanics, namely, that of determining the minimum rate of gas flow that will lift the drops out of the well. Since the drop is a particle moving relative to a fluid in the gravitational field, particle mechanics may be employed to determine this minimum gas flow rate.

A freely falling particle in a fluid medium (Fig. 1) will reach a terminal velocity, which is the maximum velocity it can attain under the influence of gravity alone, i.e., when the drag forces equal the accelerating (gravitational) forces. This terminal velocity is therefore a function of the size, shape and density of the particle and of the density and viscosity of the fluid medium.

By a transformation of coordinates, a drop of liquid being transported by a moving gas stream becomes a free falling particle and the same general equations apply. If the gas were moving at a velocity sufficient to hold a drop in suspension (i.e., motionless relative to the conduit), then the gas velocity (the relative velocity between the gas and the drop) would be equal to the free fall terminal velocity of the drop. Since any further increase in the gas velocity would make the drop move upward, the limiting gas flow velocity for upward drop movement is the terminal free settling velocity of the drop.

$$v_t = \sqrt{\frac{2\,g\,m_p\,(\rho_p - \rho)}{\rho_p\,\rho\,A_p\,C_d}} \quad . \quad . \quad . \quad . \quad . \quad . \quad (1)$$

The general free settling velocity equation (Eq. 1) shows dependence on the densities of the phases and on the mass and projected area of the particle. Since the surface tension of the liquid phase acts to draw the drop into a spheroidal shape, Eq. 1 can be rewritten in terms of the drop "diameter" (Eq. 2).

$$v_t = 6.55 \sqrt{\frac{d\,(\rho_L - \rho_g)}{\rho_g\,C_d}} \quad . \quad . \quad . \quad . \quad . \quad (2)$$

Eq. 2 shows that the larger the drop, the higher the terminal velocity, all other things equal. Hence, the larger the drop, the higher the gas flow rate necessary to remove it. The problem, therefore, requires determining the diameter of the largest drop that can exist in a given flow field, and then calculating the terminal velocity of this largest drop. This will insure the upward movement of all drops in the gas stream.

Hinze[6] showed that liquid drops moving relative to a gas are subjected to forces that try to shatter the drop, while the surface tension of the liquid acts to hold the drop together. He determined that it is the antagonism of two pressures, the velocity pressure, $v^2\,\rho_g/g_c$, and the surface tension pressure, σ/d, that determines the maximum size a drop may attain. The ratio of these two pressures is the Weber number $N_{We} = v^2\,\rho_g\,d/\sigma g_c$. Hinze showed that if the Weber number exceeded a critical value, a liquid drop would shatter. For free falling drops, the value of the critical Weber number was found to be on the order of 20 to 30. If the larger of the observed values is used, a relationship between the maximum drop diameter and the velocity of a liquid drop is obtained.

$$d_m = \frac{30\,\sigma\,g_c}{\rho_g\,v_t^2} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (3)$$

Substituting the maximum diameter expression into Eq. 2, the terminal velocity equation becomes

$$v_t = \frac{1.3\,\sigma^{1/4}\,(\rho_L - \rho_g)^{1/4}}{C_d^{1/4}\,\rho_g^{1/2}} \quad . \quad . \quad . \quad . \quad . \quad (4)$$

The solution of Eq. 4 requires a knowledge of the interfacial tension and the drag coefficient. The interfacial tension can be obtained with sufficient accuracy from handbooks, since it appears to the fourth root. The drag coefficient is influenced by the drop shape and the Drop Reynolds number, $N_{Re} = d\,\rho_g\,v/\mu_g$. A correlation of C_d vs N_{Re} for spheres[11] shows that for a N_{Re} range from 1,000 to 200,000 the drag coefficient is approximately constant (the Newton's law region). For typical field conditions,[1,12] the particle Reynolds number ranges from 10^4 to 10^5, based on the drop size prediction of Eq. 3. This is the range where the drag coefficient is relatively constant at a value of 0.44. If this value is used, and the coefficient is corrected to allow the use of the values of surface tension in dynes per centimeter, Eq. 4 reduces to

$$v_t = 17.6\,\frac{\sigma^{1/4}\,(\rho_L - \rho_g)^{1/4}}{\rho_g^{1/2}} \quad . \quad . \quad . \quad . \quad (5)$$

Eq. 5 may be used to calculate the minimum gas flow velocity necessary to remove liquid drops.

Comparisons with Field Data

The film and drop models have been tested independently with field data obtained from gas wells producing liquids. A small portion of the data was the result of tests performed specifically to determine the minimum lift flow rate. Because of the limited range of conditions involved, these data were insufficient; therefore, previously published data[1,12] and conventional-well test data were combined with them to form the current test data matrix.

Included in the data matrix are the two most common flow geometries, standard production tubing in API sizes, and annular completions where the gas is flowed between the casing and the tubing (as in single-tubing-string dual completions).

The conduit sizes included in the data range from 1.750 in. ID (2⅛ in. OD) for tubing to 8 in. for casing. Several annular areas are included, with both 5½-in. and 7-in. OD casings being represented.

Liquid phase material included salt water and condensate, ranging in API gravity from 43° to 70°.

Some of the data were incomplete for the purpose of this investigation, and it was necessary to estimate the values of some properties.

Interfacial tension is not usually determined in routine analysis and it was therefore not obtainable for the individual well fluids. The surface tension of the hydrocarbon liquids was estimated from a correlation based on molecular weight.[10]

Virtually all of the data were incomplete in that the *bottom-hole temperatures* were not reported. In these cases, estimates were made from area geothermal gradient charts, since the location and depth of the wells were known.

The *density of the liquid phase and gravity of the gas* are very important to the developments and, unfortunately, were not available for most of the data. However, the data that were insufficient in this respect did contain the liquid:gas ratio. It is generally true that in wells that produce a small quantity of liquid, the liquid will be clear, very light (high API gravity), and volatile and there will be a correspondingly light (low gravity) gas. And a rich well with a high liquid:gas ratio will generally have more dense liquid and gas phases. Based on these principles and on a knowledge of the ranges of these quantities normally encountered in the field, approximations were made. In the case of water, the specific gravity was taken to be 1.08.

The use of data collected primarily for purposes other than to determine the minimum lift velocity requires a special technique. The conditions (pressure, temperature, tubing size, etc.) of a datum point are used to calculate minimum flow rates by each of the models. The calculated rates are then compared with the observed rate. If the observed rate is known to be adequate, then it should be higher than a properly calculated minimum. If the observed rate is not adequate, then it should be lower than the calculated minimum. Sufficient data should provide statistical validation or invalidation of the mathematical models. An IBM 7094 computer was programmed to test the data in both the film and drop models. Eq. 5 was used to calculate gas velocities in developing the drop model, and integration of Eq. A-3 in the Appendix was performed for the film model calculations. The results are shown graphically in Figs. 2 and 3 and are listed on Table 1.

The figures are constructed in such a way that if a well's actual test flow rate equals its minimum calculated flow rate for liquid removal, the datum point will plot on the diagonal. If the method for calculating the minimum flow rate is accurate, then all wells that are tested at conditions near load-up (shown as circles on the graphs) should plot near this diagonal. Wells that unload easily during a test (shown as squares) should plot above the diagonal and those that do not unload (shown as triangles) should plot below the line. The ability of a given analytical model to achieve this data separation is a measure of its validity.

The drop model (Fig. 2) shows a good separation of the adequate and inadequate flow rates; however, the calculated minima are, in most cases, too low. This can be attributed to the use of drag coefficients for solid spheres rather than for oscillating liquid drops in the development of Eq. 5, and to the fact that the mathematical development predicts stagnation velocity, which must be exceeded by some finite quantity to guarantee removal of the largest drops. Another contributing factor could be the Critical Weber number, which was established for drops falling in air experimentally and not for conditions that

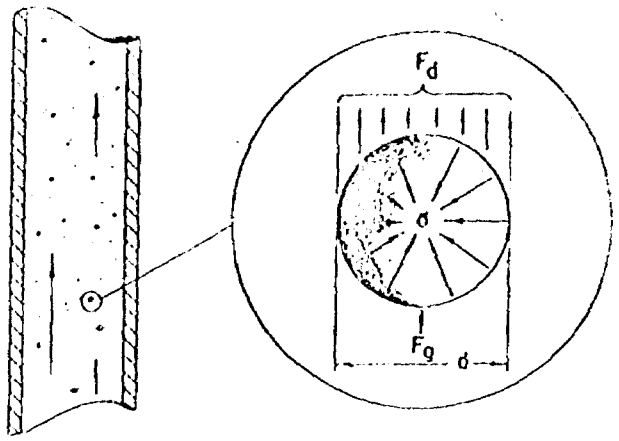


Fig. 1---Entrained drop movement.

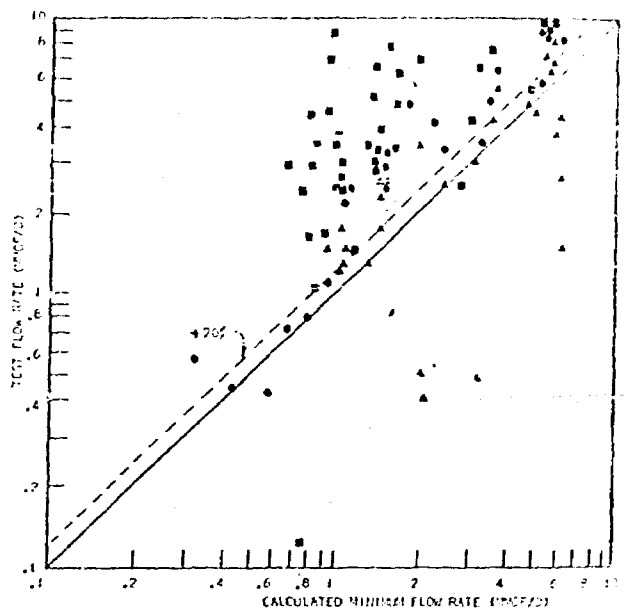


Fig. 2—The drop removal model.

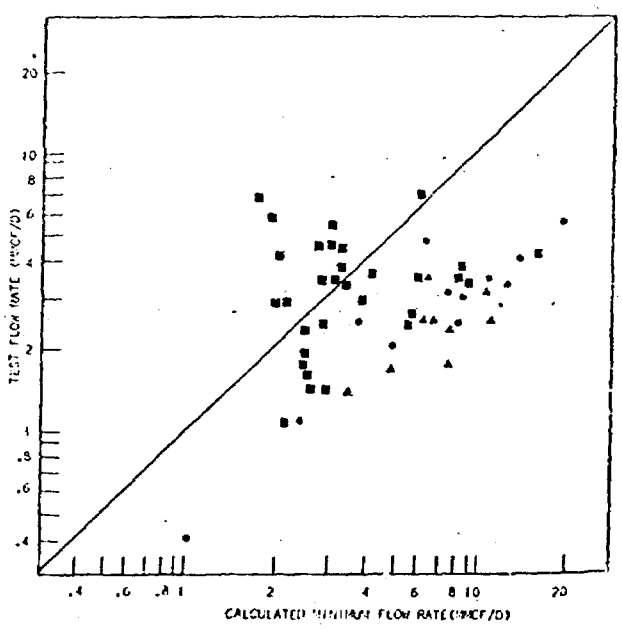


Fig. 3—The film movement model.

TABLE 1—DATA AND PREDICTIONS OF MINIMUM GAS FLOW RATE FOR UNLOADING GAS WELLS

Producing Depth (ft)	Wellhead Pressure (psi)	Condensate Gravity (°API)	Condensate Make (bbl/MM)	Water Make (bbl/MM)	Tubing ID (inches)	Tubing OD (inches)	Casing ID (inches)	Test Flow (Mcf/D)	Drop Model (Mcf/D)	Film Model (Mcf/D)	Status During Test
6404	725	63.8	6.0	0.	2.441			775	779		Near L.U.
6739	400		0.	18.0	1.995			417	583	1098	Near L.U.
6529	108	64.3	9.6	12.4	2.041			568	306		Near L.U.
6700	540	70.8	10.5	10.5	1.995			712	661		Near L.U.
6770	450	61.0	11.3	0.	1.995			442	419		Near L.U.
11200	3607	61.0	37.4	0.	1.995			1525	1156	3453	Loaded Up
11200	3434	61.0	37.4	0.	1.995			2926	1150	3866	Unloaded
11340	3773	58.0	36.8	0.	1.995			2494	1158	3811	Questionable
11340	3660	58.0	36.8	0.	1.995			3726	1142	4235	Unloaded
11416	3340	56.4	130.8	0.	2.992			2611	2412	13028	Loaded Up
11416	3295	56.4	130.8	0.	2.992			3264	2401	14199	Questionable
11416	3280	56.4	130.8	0.	2.992			4095	2395	15511	Questionable
11417	3540	56.4	113.5	0.	2.441			1814	1635	7247	Loaded Up
11417	3330	56.4	113.5	0.	2.441			2915	1600	8551	Questionable
11426	3525	55.0	106.9	0.	1.995			1792	1108	4780	Loaded Up
11426	3472	55.0	106.9	0.	1.995			2572	1085	5410	Unloaded
11355	3338	55.0	117.6	0.	2.441			2261	1623	7952	Loaded Up
11355	3245	55.0	117.6	0.	2.441			2503	1610	8212	Questionable
11355	3092	55.0	117.6	0.	2.441			3351	1574	8992	Unloaded
11390	3556	55.0	104.3	0.	1.995			2069	1091	4916	Questionable
11390	3455	55.0	104.3	0.	1.995			2703	1082	5505	Unloaded
8690	3665	60.0	68.3	0.	2.441			2542	1660	6867	Loaded Up
8690	3644	60.0	68.3	0.	2.441			3182	1654	7439	Questionable
8690	3615	60.0	68.3	0.	2.441			3890	1648	8040	Unloaded
8840	3212	60.0	54.8	0.	2.441			2547	1604	6057	Loaded Up
8840	3025	60.0	54.8	0.	2.441			3517	1569	6580	Unloaded
11850	8215	67.5	10.8	0.	2.441			3472	1956	6495	Loaded Up
11850	7950	67.5	10.8	0.	2.441			4896	1941	6524	Questionable
11850	7405	67.5	10.8	0.	2.441			6946	1930	6676	Unloaded
6995	2335	65.0	17.9	0.	1.995			1116	936	2563	Questionable
6995	2226	65.0	17.9	0.	1.995			1959	910	2504	Unloaded
5725	2182	70.0	2.5	0.		4.500	6.184	5501	3767		Loaded Up
5725	2175	70.0	2.5	0.		4.500	6.184	6405	3757		Questionable
5725	2169	70.0	2.5	0.		4.500	6.184	7504	3747		Unloaded
5515	1590	65.0	13.1	0.	3.958			3009	3281	10983	Loaded Up
5515	1550	65.0	13.1	0.	3.958			3551	3233	10820	Questionable
5515	1520	65.0	13.1	0.	3.958			4150	3195	10711	Unloaded
6180	1245	67.0	10.3	0.		2.875	6.184	4441	4920		Loaded Up
6180	1184	67.0	10.3	0.		2.875	6.184	4843	4793		Loaded Up
6180	1117	67.0	10.3	0.		2.875	6.184	5513	4649		Unloaded
6031	1958	62.5	24.8	0.		2.875	6.184	8185	5931		Loaded Up
6031	1938	62.5	24.8	0.		2.875	6.184	9039	5902		Questionable
6031	1913	62.5	24.8	0.		2.875	6.184	9897	5857		Unloaded
5962	2040	65.0	31.8	0.		2.875	6.184	6702	6082		Loaded Up
5962	1993	65.0	31.8	0.		2.875	6.184	8210	6015		Questionable
5962	1953	65.0	31.8	0.		2.875	6.184	9289	5957		Unloaded
5906	2284	67.5	15.1	0.		3.500	6.184	7109	5580		Loaded Up
5906	2271	67.5	15.1	0.		3.500	6.184	8406	5559		Questionable
5906	2256	67.5	15.1	0.		3.500	6.184	9747	5535		Unloaded
5934	2352	70.0	3.7	0.		3.500	6.184	6361	5641		Loaded Up
5934	2338	70.0	3.7	0.		3.500	6.184	8057	5671		Questionable
5934	2223	70.0	3.7	0.		3.500	6.184	9860	5485		Unloaded
5934	2003	70.0	3.7	0.		3,500	6.184	11767	5212		Unloaded
6850	2042	65.0	26.7	0.		4.500	6.184	4124	3613		Loaded Up
6850	1818	65.0	26.7	0.		4.500	6.184	4998	3412		Questionable
6850	1600	65.0	26.7	0.		4.500	6.184	6423	3199		Unloaded
7346	1835	52.7	27.8	0.4	1.995			8672	1239		Unloaded
7346	2421	52.7	27.8	0.4	1.995			6654	1407		Unloaded
7346	2705	52.7	27.8	0.4	1.995			5136	1467		Unloaded
7346	2884	52.7	27.8	0.4	1.995			3917	1502		Unloaded
8963	5056	43.9	7.5	1.4	1.995			3376	1770		Unloaded
8963	4931	43.9	7.5	1.4	1.995			4830	1732		Unloaded
8963	4786	43.9	7.5	1.4	1.995			6221	1705		Unloaded
8963	4575	43.9	7.5	1.4	1.995			7792	1659		Unloaded
5294	1902	71.0	30.9	0.	1.995			1138	851	2276	Unloaded

exist in gas wells. Analysis of the data reveals that the total contribution of these factors requires an upward adjustment of approximately 20 percent. Instead of being distributed as individual contributions among the pertinent parameters in the development, this value is lumped in the constant of Eq. 5 to produce Eq. 6.

$$v_t = 20.4 \frac{\sigma^{1/4} (\rho_L - \rho_g)^{1/4}}{\rho_g^{1/2}} \quad . \quad . \quad . \quad . \quad (6)$$

Since the contributing factors are individually obtained from experimental correlations, their adjustment, in this case, to fit the specific data does not alter or affect the rigor of the development.

The predictions of the film model (Fig. 3) do not provide as clear a definition between the adequate and inadequate rates as do those of the drop model. Additionally, the theoretical development for the film model indicates that the minimum lift velocity depends upon the gas:liquid ratio. Analysis of the available field data shows no such dependence in the range of liquid production associated with most gas wells (1 to 100 bbl/MMcf). The drop model, on the other hand, is independent of a liquid rate. This indicates that the film model does not represent the controlling liquid transport mechanism.

The data were tested for the minimum flow rate that would be required at the top and the bottom of the conduit. The results indicated that the wellhead conditions were, in most instances, controlling (i.e., required the higher flow rate). This is fortunate, since it allows the use of the more easily obtained surface data.

Since in some of the field observations the wells were known to be unloading, but the film model predicted the gas rates to be inadequate, it appears that the liquids can be continuously removed by liquid drop movement alone. It is of interest, therefore, to know what happens to a film that is not moving upward with the gas. If the liquid film moves downward,

TABLE 1 (Contd.)—DATA AND PREDICTIONS OF MINIMUM GAS FLOW RATE FOR UNLOADING GAS WELLS

Producing Depth (ft)	Wellhead Pressure (psi)	Condensate Gravity (°API)	Condensate Make (bbl/MM)	Water Make (bbl/MM)	Tubing ID (inches)	Tubing OD (inches)	Casing ID (inches)	Test Flow (Mcf/D)	Drop Model (Mcf/D)	Film Model (Mcf/D)	Status During Test
5294	1737	71.0	0.9	0.	1.995			1712	814		Unloaded
5294	1480	71.0	0.9	0.	1.995			2473	750		Unloaded
5294	1246	71.0	0.9	0.	1.995			2965	686		Unloaded
5234	1895	71.7	54.1	0.	1.995			1797	875	2652	Unloaded
5234	1861	71.7	54.1	0.	1.995			2502	859	2863	Unloaded
5234	1784	71.7	54.1	0.	1.995			3460	832	3108	Unloaded
5234	1680	71.7	54.1	0.	1.995			4439	803	3309	Unloaded
7639	2814	53.5	3.3	1.0	1.750			1596	1216		Unloaded
7639	2582	53.5	3.3	1.0	1.750			2423	1176		Unloaded
7639	2104	53.5	3.3	1.0	1.750			3598	1070		Unloaded
7639	1575	53.5	3.3	1.0	1.750			4410	918		Unloaded
7475	2783	52.4	3.4	0.	1.750			2939	834	2155	Unloaded
7475	2655	52.4	3.4	0.	1.750			4140	817	2097	Unloaded
7475	2406	52.4	3.4	0.	1.750			5820	770	1953	Unloaded
7475	2205	52.4	3.4	0.	1.750			6871	746	1884	Unloaded
7546	2574	52.2	4.1	0.6	1.750			1943	899		Unloaded
7546	2224	52.2	4.1	0.6	1.750			2910	833		Unloaded
7546	1839	52.2	4.1	0.6	1.750			3742	755		Unloaded
7546	1509	52.2	4.1	0.6	1.750			4485	683		Unloaded
7753	2611	52.6	5.5	0.	1.995			3436	1082	2954	Unloaded
7753	2527	52.6	5.5	0.	1.995			4471	1058	2881	Unloaded
8162	2556	56.7	7.7	0.	1.995			1550	1026	2801	Unloaded
8162	2415	56.7	7.7	0.	1.995			1804	996	2697	Unloaded
8162	2149	56.7	7.7	0.	1.995			2385	941	2512	Unloaded
8162	1765	56.7	7.7	0.	1.995			2949	856	2246	Unloaded
7810	2862	52.2	5.0	0.		2.375	4.974	3024	5098		Unloaded
7810	2823	52.2	5.0	0.		2.375	4.974	3863	5045		Loaded Up
7531	760	54.9	46.1	45.1	2.441			1247	1148		Loaded Up
7531	704	54.9	31.6	40.8	2.441			1313	1099		Loaded Up
7531	822	54.9	26.7	26.3	2.441			1356	1197		Loaded Up
7531	1102	54.9	26.1	23.8	2.441			1365	1419		Loaded Up
7531	552	54.9	25.1	22.3	2.441			1607	958		Near L.U.
3278	315	50.0	10.0	0.	7.386			5740	5093	19974	Loaded Up
3278	422	50.0	10.0	0.	7.386			3890	5923		Loaded Up
3278	459	50.0	10.0	0.	7.386			2780	6186		Loaded Up
3278	484	50.0	10.0	0.	7.386			1638	6359		Loaded Up
5080	500	50.0	14.0	0.		2.375	4.974	400	2184		Loaded Up
7200	500	0.	0.	5.0		2.375	4.052	800	1726		Loaded Up
6776	660	0.	0.	3.5		2.375	6.276	4300	6367		Loaded Up
3077	280	0.	0.	28.0		2.375	4.974	500	2083		Loaded Up
2250	210	0.	0.	24.0		2.375	6.276	470	3248		Loaded Up

it is then moving countercurrent to the gas and "flooding" occurs. This is a condition in which the film thickens and bridges the tube, causing film break-up and slugging, which leads to the production of drops and to increased entrainment. The flooding of the film, along with the activity of the liquid at discontinuities such as the coupling recess, provides an ample source of liquid drops for transport by the drop mechanism.

Application to Field Design

For field application it is highly desirable to have a simple method of determining the minimum flow rate necessary to insure continuous liquid removal. Although the equations required to calculate this rate are not particularly complex, a slide rule or logarithm tables are necessary. It is worthwhile, therefore, to investigate methods of simplifying the equations.

Since drop removal is the limiting liquid removal mechanism, Eq. 6 for terminal drop velocity will be used for the field application. The grouping of parameters is such that we can simplify the equation to a relationship suitable for graphical solution.

Since the fourth root of the surface tension of low molecular weight hydrocarbons varies only slightly with changes in molecular weight and temperature, a consolidation of the $\sigma^{1/4}$ term into a constant for condensates is indicated. For water, another constant may be used. (Values of 20 dynes/cm for condensate and 60 dynes/cm for water were chosen.) The liquid phase density for condensates will vary between 51.5 lb mass/cu ft (40° API) and 43.8 lb mass/cu ft (70° API). Therefore, the liquid phase density for condensates (the fourth root of which is also used) may be treated as a constant (45 lb mass/cu ft). Water will also have a relatively constant density (67 lb mass/cu ft).

This leaves two equations (one each for water and condensate) in which the terminal velocity is a function of the gas phase density. Gas density is a function of the pressure, temperature, and gas gravity. An investigation of the relative impact of variations of these parameters in ranges normally encountered in gas wells shows that gas gravity and absolute temperature have less effect than do variations in pressure. Further simplification is possible by using an average value of gas gravity (0.6) and gas temperature (120°F). This yields Eqs. 7 and 8, which are the gas velocity equations for water and condensate, respectively.

$$v_g\,(\text{water}) = \frac{5.62\,(67 - 0.0031p)^{1/4}}{(0.0031p)^{1/2}} \quad . \quad (7)$$

$$v_g\,(\text{condensate}) = \frac{4.02\,(45 - 0.0031p)^{1/4}}{(0.0031p)^{1/2}} \quad . \quad (8)$$

The interdependence of flow rate and pressure, due to reservoir deliverability, precludes having a direct minimum flow rate calculation for a particular well. However, a minimum flow rate for a particular set of conditions (pressure and conduit geometry) can be calculated using Eqs. 7 and 8 and Eq. 9.

$$q_g\,(\text{MMcf/D}) = \frac{3.06\,p\,v_g\,A}{T\,z} \quad . \quad . \quad . \quad . \quad . \quad (9)$$

Eqs. 7 through 9 allow the construction of a nomograph for direct solution of these equations (Fig. 4). Fig. 4 allows consideration of all values in the foregoing equations except the gas deviation factor z.

The nomograph is used by starting at the pressure of interest, going vertical to the proper line, then horizontal to the edge of the grid. This is the minimum gas velocity. From this point a line is drawn through the p/T line to the intermediate line, and from this line through the flow area line to the qz line.

For accurate flow rates, the deviation factor for the existing conditions should be divided into the qz term. The sample problem shown in Fig. 4 was for a hypothetical well with a wellhead pressure of 1,150 psia, producing through a 5½-in., 15.5-lb × 2⅜-in., 4.5-lb casing-tubing annulus (0.11 sq ft) and a wellhead temperature of 140°F, producing salt water along with the gas. The grid portion of the nomograph shows a required minimum gas velocity of 8.2 ft/sec, and subsequent progression through the nomograph shows a qz product of 5.4 MMcf/D. For these conditions a deviation factor of approximately 0.88 would exist, and the resulting minimum required flow rate would be 6.15 MMcf/D.

Conclusion

The minimum flow conditions necessary to remove liquids from gas wells are those that will provide a gas velocity sufficient to remove the largest drops that can exist. This velocity can be calculated using particle and drop break-up mechanics. The equation derived must be adjusted upward by approximately 20 percent to insure removal of all drops. The gas flow rate required to produce this velocity may be calculated and compared with existing conditions to determine the adequacy or inadequacy of the particular flow test. The derived equations are not limited to tubing, but can be used in annular and other flow geometries also. The gas:liquid ratio does not influence the minimum lift velocity in the observed ranges of liquid production up to 130 bbl/MMcf, and the liquid may be water and/or condensate. If both liquids are present, the properties of the denser of the two should be used in the equation, since the higher density material will be the controlling factor.

Nomenclature

A = flow area of conduit, sq ft
A_p = projected area, sq ft
C_d = drag coefficient
d = diameter of conduit, ft
d_p = diameter of liquid drop, ft
d_m = maximum diameter of liquid drop, ft
g_c = gravitational constant = 32.17 lb mass ft/lb force sec²
g = local acceleration of gravity, ft/sec²
k = constant = 0.36
h = film thickness, ft
m_p = mass of falling particle, lb mass
N_{Re} = Reynolds number = $\rho\,d\,v/\mu$
N_{We} = Weber number = $\rho\,v^2\,d/\sigma\,g_c$
p = pressure, lb force/sq in
q_g = gas flow rate, MMcf/D
T = temperature, °R

v = velocity, ft/sec
v_t = terminal velocity of free falling particle, ft/sec
w_L = liquid phase flow rate, lb mass/sec
y_m^+ = dimensionless distance parameter evaluated at center of conduit
z = gas deviation factor

$\left(\frac{\Delta p}{\Delta x}\right)_{TP}$ = two-phase pressure drop, lb force/sq ft/ft
μ_g = gas phase viscosity, lb mass/ft sec
μ_L = liquid phase viscosity, lb mass/ft sec
ρ_g = gas phase density, lb mass/cu ft
ρ_L = liquid phase density, lb mass/cu ft
ρ_p = density of particle, lb mass/cu ft
σ = interfacial tension, dynes/cm
τ = shear stress, lb force/sq ft
τ_0 = shear stress at the wall, lb force/sq ft
τ_i = shear stress at the gas/liquid interface, lb force/sq ft
$\phi = (y_m^+ - 60)/22$

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APPENDIX

Film Model Development

The co-current vertical upward flow of gas core-liquid film systems has been studied in several laboratory investigations, and its theoretical understanding has advanced to a point where mathematical modeling is possible. The approach presented here is after Hewitt[5] and his treatment of the Dukler[2] analysis.

In an annular liquid film (thickness h) on the walls of a vertical tube, the transport in the upward direction is a result of the interfacial shear (τ_i) of the moving gas on the surface of the liquid (Fig. 5). This motion is resisted by the action of gravity and wall friction. At any point y distance from the wall, there

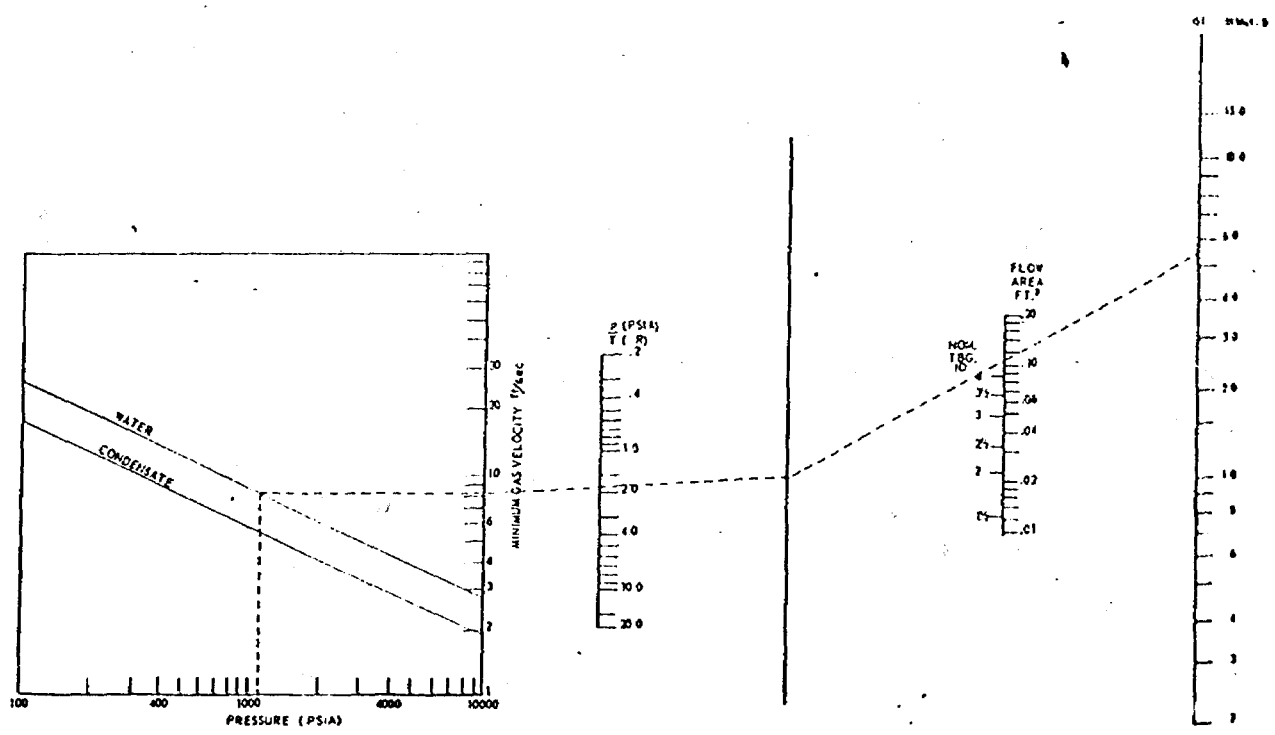


Fig. 4—Minimum flow rate nomograph.

exists a velocity v and a shear stress τ. The resisting shear stress at the wall is τ_0. A steady-state force balance shows that at any point y,

$$\frac{\tau}{\tau_0} = 1 + \frac{y \rho_L g}{\tau_0 g_c} \quad \ldots\ldots\ldots \quad (A\text{-}1)$$

In dimensionless form, Eq. A-1 becomes

$$\frac{\tau}{\tau_0} = 1 + y^+ \frac{\sigma^3}{\eta} \quad , \quad \ldots\ldots\ldots \quad (A\text{-}2)$$

where

$$\sigma^3 = \frac{h^3 \rho_L^2 g}{\eta^2 \mu_L^2}$$

$$y^+ = \frac{v^* y \rho_L}{\mu_L} \quad \text{(dimensionless distance parameter)}$$

$$v^* = \sqrt{\frac{\tau_0 g_c}{\rho_L}} \quad \text{("friction" velocity)}$$

$$v^+ = \frac{v}{v^*} \quad \text{(dimensionless velocity parameter)}$$

$$\eta = \frac{h v^* \rho_L}{\mu_L} \quad \text{(dimensionless film thickness)}$$

Eq. A-2 is the shear stress distribution as a function of the distance from the wall of the tube. By using the Gill and Scher[1] momentum transport hypothesis (eddy viscosity equation) and Eq. A-2, the dimensionless velocity distribution in the flow stream is obtained.

$$v^+ = \int_0^{y^+} \frac{2\left(1 + y \frac{\sigma^3}{\eta}\right)}{1 + \sqrt{1 + 4k^2 y^{+2}\left(1 - e^{\frac{-\phi y^+}{y^+ m}}\right)^2 \left(1 + y^+ \frac{\sigma^3}{\eta}\right)}} dy^+ \quad \ldots\ldots\ldots \quad (A\text{-}3)$$

The velocity distribution in the liquid film can then be integrated to find the liquid-phase flow rate:

$$w_L = \pi d \mu_L \int_0^{\eta} v^+ dy^+ \quad \ldots\ldots \quad (A\text{-}4)$$

Eqs. A-3 and A-4 may be used to evaluate the minimum gas flow rate required to move the film steadily upward. For this application it is necessary to establish the relationship between the shear stresses and the gravitational forces in the film at the minimum condition of upward flow. Since the interfacial shear (τ_i) provides the motivating force for moving the film upward, and the gravitational shear stress, $h \rho_L g/g_c$, and the shear stress at the wall (τ_0) are resisting movement, the minimum flow condition for film movement will be when the interfacial shear (τ_i) approaches the

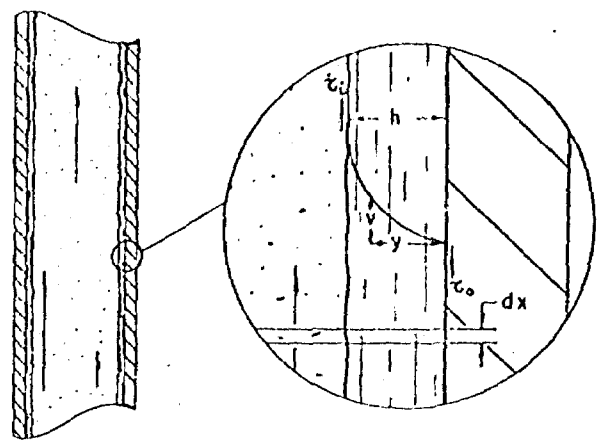


Fig. 5—Liquid film movement.

value of the gravitational "shear" and the shear stress at the wall (τ_0) approaches zero.

The ratio $\frac{h \rho_L g/g_c}{\tau_i} = X$ approaches 1.0 (i.e., the gravitational shear stress approaches the interfacial shear stress) at the limiting condition. For the purpose of analysis, X must be slightly less than 1 (i.e., the interfacial shear must be slightly larger than the gravitational shear stress, and τ_0 must be greater than zero).

If it is assumed that $X = 0.99$ at the minimum gas flow rate condition, it is possible to evaluate the necessary parameters to integrate Eqs. A-3 and A-4. The relationships utilized are

$$\sigma^3 = \frac{X}{1 - X}; \quad \frac{\beta}{\eta^{2/3}} = \frac{1}{X^{2/3}(1 - X)^{2/3}}$$

where

$$\beta = \frac{F d \rho_L^{2/3} g^{1/3}}{4 \mu_L^{2/3}}; \quad F = \frac{\frac{\Delta p}{\Delta x} - \rho_g \frac{g}{g_c}}{\rho_L \frac{g}{g_c}}.$$

$\Delta p/\Delta x - \rho_g(g/g_c)$ = the two-phase pressure drop = $(\Delta p/\Delta x)_{TP}$. A modification of the Martinelli[2] two-phase pressure drop correlation is employed to evaluate the $(\Delta p/\Delta x)_{TP}$.

The calculation procedure to test the development against field data requires numerical integration and iteration. A computer program was written to perform these calculations and the results are shown in Table 1 and Fig. 3. **JPT**

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MINIMUM FLOW RATE CALCULATIONS

TUBING PRESS.		FLOW AREA-FT.	TEMP.	Z FACTOR			MCF/D WATER	MCF/D CONDENSATE
50,000	2 3/8	0.022	520.00	1.00	40.82	26.42	260.00	168.00
100,000		0.022	520.00	1.00	28.84	18.67	368.00	238.00
200,000		0.022	520.00	1.00	20.37	13.18	520.00	336.00
250,000		0.022	520.00	1.00	18.21	11.78	581.00	375.00
300,000		0.022	520.00	1.00	16.61	10.74	636.00	411.00
350,000		0.022	520.00	1.00	15.37	9.93	687.00	444.00
400,000		0.022	520.00	1.00	14.37	9.29	734.00	474.00
450,000		0.022	520.00	1.00	13.54	8.75	778.00	502.00
500,000		0.022	520.00	1.00	12.84	8.29	819.00	529.00
550,000		0.022	520.00	1.00	12.23	7.90	859.00	554.00
600,000		0.022	520.00	1.00	11.71	7.55	896.00	578.00
650,000		0.022	520.00	1.00	11.24	7.25	933.00	601.00
700,000		0.022	520.00	1.00	10.83	6.98	967.00	624.00
750,000		0.022	520.00	1.00	10.45	6.74	1001.00	645.00
800,000		0.022	520.00	1.00	10.11	6.52	1033.00	665.00
850,000		0.022	520.00	1.00	9.81	6.32	1064.00	685.00
900,000		0.022	520.00	1.00	9.52	6.13	1094.00	705.00
1000,000		0.022	520.00	1.00	9.02	5.81	1152.00	741.00
1250,000		0.022	520.00	1.00	8.05	5.17	1284.00	825.00
1500,000		0.022	520.00	1.00	7.32	4.70	1402.00	899.00
2000,000		0.022	520.00	1.00	6.30	4.03	1609.00	1029.00
50,000	2 7/8	0.032	520.00	1.00	40.82	26.42	390.00	252.00
100,000		0.032	520.00	1.00	28.84	18.67	551.00	357.00
200,000		0.032	520.00	1.00	20.37	13.18	779.00	504.00
250,000		0.032	520.00	1.00	18.21	11.78	870.00	563.00
300,000		0.032	520.00	1.00	16.61	10.74	953.00	616.00
350,000		0.032	520.00	1.00	15.37	9.93	1029.00	665.00
400,000		0.032	520.00	1.00	14.37	9.29	1099.00	710.00
450,000		0.032	520.00	1.00	13.54	8.75	1165.00	752.00
500,000		0.032	520.00	1.00	12.84	8.29	1227.00	792.00
550,000		0.032	520.00	1.00	12.23	7.90	1286.00	830.00
600,000		0.032	520.00	1.00	11.71	7.55	1343.00	866.00
650,000		0.032	520.00	1.00	11.24	7.25	1397.00	901.00
700,000		0.032	520.00	1.00	10.83	6.98	1449.00	934.00
750,000		0.032	520.00	1.00	10.45	6.74	1499.00	966.00
800,000		0.032	520.00	1.00	10.11	6.52	1547.00	997.00
850,000		0.032	520.00	1.00	9.81	6.32	1594.00	1027.00
900,000		0.032	520.00	1.00	9.52	6.13	1639.00	1055.00
1000,000		0.032	520.00	1.00	9.02	5.81	1725.00	1110.00
1250,000		0.032	520.00	1.00	8.05	5.17	1923.00	1236.00
1500,000		0.032	520.00	1.00	7.32	4.70	2100.00	1347.00
2000,000		0.032	520.00	1.00	6.30	4.03	2410.00	1541.00
50,000	3 1/2	0.048	520.00	1.00	40.82	26.42	575.00	374.00
100,000		0.048	520.00	1.00	28.84	18.67	818.00	529.00
200,000		0.048	520.00	1.00	20.37	13.18	1155.00	747.00
250,000		0.048	520.00	1.00	18.21	11.78	1291.00	835.00
300,000		0.048	520.00	1.00	16.61	10.74	1413.00	913.00
350,000		0.048	520.00	1.00	15.37	9.93	1526.00	986.00
400,000		0.048	520.00	1.00	14.37	9.29	1630.00	1053.00
450,000		0.048	520.00	1.00	13.54	8.75	1726.00	1116.00
500,000		0.048	520.00	1.00	12.84	8.29	1820.00	1175.00
550,000		0.048	520.00	1.00	12.23	7.90	1908.00	1231.00
600,000		0.048	520.00	1.00	11.71	7.55	1992.00	1285.00
650,000		0.048	520.00	1.00	11.24	7.25	2072.00	1336.00
700,000		0.048	520.00	1.00	10.83	6.98	2149.00	1386.00
750,000		0.048	520.00	1.00	10.45	6.74	2223.00	1433.00
800,000		0.048	520.00	1.00	10.11	6.52	2295.00	1479.00
850,000		0.048	520.00	1.00	9.81	6.32	2364.00	1523.00
900,000		0.048	520.00	1.00	9.52	6.13	2431.00	1565.00
1000,000		0.048	520.00	1.00	9.02	5.81	2559.00	1647.00
1250,000		0.048	520.00	1.00	8.05	5.17	2853.00	1833.00
1500,000		0.048	520.00	1.00	7.32	4.70	3115.00	1999.00
2000,000		0.048	520.00	1.00	6.30	4.03	3575.00	2285.00
50,000	4 1/2	0.085	520.00	1.00	40.82	26.42	1025.00	663.00
100,000		0.085	520.00	1.00	28.84	18.67	1449.00	938.00
200,000		0.085	520.00	1.00	20.37	13.18	2047.00	1324.00
250,000		0.085	520.00	1.00	18.21	11.78	2288.00	1479.00
300,000		0.085	520.00	1.00	16.61	10.74	2504.00	1619.00
350,000		0.085	520.00	1.00	15.37	9.93	2704.00	1747.00
400,000		0.085	520.00	1.00	14.37	9.29	2889.00	1866.00
450,000		0.085	520.00	1.00	13.54	8.75	3062.00	1977.00
500,000		0.085	520.00	1.00	12.84	8.29	3226.00	2083.00
550,000		0.085	520.00	1.00	12.23	7.90	3381.00	2182.00
600,000		0.085	520.00	1.00	11.71	7.55	3529.00	2277.00
650,000		0.085	520.00	1.00	11.24	7.25	3671.00	2368.00
700,000		0.085	520.00	1.00	10.83	6.98	3808.00	2455.00
750,000		0.085	520.00	1.00	10.45	6.74	3939.00	2539.00
800,000		0.085	520.00	1.00	10.11	6.52	4066.00	2620.00
850,000		0.085	520.00	1.00	9.81	6.32	4188.00	2698.00
900,000		0.085	520.00	1.00	9.52	6.13	4307.00	2774.00
1000,000		0.085	520.00	1.00	9.02	5.81	4535.00	2919.00
1250,000		0.085	520.00	1.00	8.05	5.17	5055.00	3248.00
1500,000		0.085	520.00	1.00	7.32	4.70	5520.00	3541.00
2000,000		0.085	520.00	1.00	6.30	4.03	6333.00	4049.00

FA-1648

WARRANT OF LEVY AND LIEN

STATE OF NEW MEXICO
EMPLOYMENT SECURITY COMMISSION
505 MARQUETTE AVE., N.W.
P. O. BOX 1928 — ALBUQUERQUE, NEW MEXICO 87103

06 8568-1

TO: SHERIFF, EDDY COUNTY, NEW MEXICO.

You are hereby directed to levy upon and sell the real and personal property of
Michael P. Grace II

Carlsbad, New Mexico 88220

for the purpose of satisfying contributions, interest and penalties due to the Employment Security Commission of the State of New Mexico, and costs, pursuant to the provisions of the Unemployment Compensation Law of New Mexico (Sections 59-9-1 to 59-9-29, N.M.S.A. 1953).

A statement of the amount of contributions, interest and penalties due is as follows:

Quarter Ending	Wages Paid	Contributions	Interest To Date	Penalties 59-9-15 (b)	Penalties 59-9-7.3	Total
12/31/75 *	$ 100,000.00	$ 1,800.00	$ 126.00	$ 180.00	$ 95.00	$ 2,201.00
3/31/76 *	100,000.00	2,400.00	96.00	240.00	125.00	2,861.00
				Total Due		$ 5,062.00
				Sheriff: Add Costs		

* Contributions estimated pursuant to Section 59-9-15 (b).

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
BY Betty Noble
Asst Sec'y

You are further directed and commanded to make return of this warrant to the Employment Security Commission of New Mexico within thirty days of the receipt hereof and also to file with the County Clerk of Your county within five days after receipt hereof, a copy of this warrant so that the same shall become a lien upon all property, real and personal, of
Michael P. Grace II

Carlsbad, New Mexico 88220

TO:

You are ordered to reveal and to surrender forthwith the property or rights to property of the taxpayer in your possession, provided that, upon your written agreement to surrender such property or the proceeds thereof on the date certain when the taxpayer's right to it would otherwise mature, you may retain possession until such date.

This warrant is issued by virtue of the authority of Section 59-9-15 of the Unemployment Compensation Law of New Mexico.

WITNESS the hand and seal of the Employment Security Commission of New Mexico, this 30th day of July, A. D. 19 76.

EMPLOYMENT SECURITY COMMISSION
OF NEW MEXICO

By: Harold R. Conway
HAROLD R. CONWAY
ESC Associate Division Director

352

INDEXED

STATE OF NEW MEXICO
COUNTY OF..... } ss.

I, ..., Sheriff of .....
County, New Mexico, do hereby certify that I have filed a copy of this warrant with the County Clerk of said county in accordance with the law, on the ..... day of ..... 19.....

I further certify that on the ..... day of ..... 19..... the following described property, belonging to .....
.....
was levied upon, to-wit:

The above described property is now held in trust at .....
.....

Signed at ....., New Mexico, on the ..... day of
..... A. D. 19 .....

..... SHERIFF
By ..... DEPUTY.

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 3 day of August 19 Th at 2:00 o'clock P. M. and duly recorded in Book 131 page 351 of the Records of Miscellaneous

GERALDINE MAHAFFEY, County Clerk
By Lorene Davis Deputy

848

FX-1644

WARRANT OF LEVY AND LIEN

STATE OF NEW MEXICO
EMPLOYMENT SECURITY COMMISSION
505 MARQUETTE AVE., N.W.
P. O. BOX 1928 — ALBUQUERQUE, NEW MEXICO 87103

06 8568-1

TO: SHERIFF, EDDY COUNTY, NEW MEXICO.

You are hereby directed to levy upon and sell the real and personal property of

Michael P. Grace II

Carlsbad, New Mexico 88220

for the purpose of satisfying contributions, interest and penalties due to the Employment Security Commission of the State of New Mexico, and costs, pursuant to the provisions of the Unemployment Compensation Law of New Mexico (Sections 59-9-1 to 59-9-29, N.M.S.A. 1953).

A statement of the amount of contributions, interest and penalties due is as follows:

Quarter Ending	Wages Paid	Contributions	Interest To Date	Penalties 59-9-15 (b)	Penalties 59-9-7.3	Total
12/31/75 *	$ 100,000.00	$ 1,800.00	$ 198.00	$ 180.00	$ 95.00	$ 2,273.00
3/31/76 *	100,000.00	2,400.00	192.00	240.00	125.00	2,957.00
6/30/76	13,451.85	442.83	22.14	44.28	27.14	536.39
9/30/76	19,738.03	473.71	9.47	47.37	28.69	559.24

* Estirated (Now Final).

Total Due $ 6,325.63

Sheriff: Add Costs _____

You are further directed and commanded to make return of this warrant to the Employment Security Commission of New Mexico within thirty days of the receipt hereof and also to file with the County Clerk of Your county within five days after receipt hereof, a copy of this warrant so that the same shall become a lien upon all property, real and personal, of

Michael P. Grace II

Carlsbad, New Mexico 88220

TO: .....

You are ordered to reveal and to surrender forthwith the property or rights to property of the taxpayer in your possession, provided that, upon your written agreement to surrender such property or the proceeds thereof on the date certain when the taxpayer's right to it would otherwise mature, you may retain possession until such date.

This warrant is issued by virtue of the authority of Section 59-9-15 of the Unemployment Compensation Law of New Mexico.

WITNESS the hand and seal of the Employment Security Commission of New Mexico, this 22nd day of November, A. D. 19 76.

EMPLOYMENT SECURITY COMMISSION
OF NEW MEXICO

By: Florentino Montoya

FLORENTINO MONTOYA
ESC Division Director for Unemployment Insurance

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY

BY _____

INDEXED

STATE OF NEW MEXICO
COUNTY OF ..... } ss.

I, ..., Sheriff of .....
County, New Mexico, do hereby certify that I have filed a copy of this warrant with the County Clerk of said county in accordance with the law, on the ..... day of ..... 19.....

I further certify that on the ..... day of ..... 19..... the following described property, belonging to .....
.....
was levied upon, to-wit:

The above described property is now held in trust at .....
.....

Signed at ....., New Mexico, on the ..... day of
..... A. D. 19.....

..... SHERIFF
By ..... DEPUTY.

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 24 day of Nov. 19 76 at 1:20 o'clock P. M., and duly recorded in Book 140 page 848 of the Records of Miscellaneous
GERALDINE MAHAFFEY, County Clerk
By Laura Davis Deputy

ES-1648

WARRANT OF LEVY AND LIEN

STATE OF NEW MEXICO
EMPLOYMENT SECURITY COMMISSION
401 BROADWAY, N.E.
P. O. BOX 1928 — ALBUQUERQUE, NEW MEXICO 87103

06 8568-1

TO: SHERIFF, EDDY COUNTY, NEW MEXICO.

You are hereby directed to levy upon and sell the real and personal property of

Michael P. Grace II

Carlsbad, New Mexico 88220

for the purpose of satisfying contributions, interest and penalties due to the Employment Security Commission of the State of New Mexico, and costs, pursuant to the provisions of the Unemployment Compensation Law of New Mexico (Sections 59-9-1 to 59-9-29, N.M.S.A. 1953).

A statement of the amount of contributions, interest and penalties due is as follows:

Quarter Ending	Wages Paid	Contributions	Interest To Date	Penalties 59-9-15 (b)	Penalties 59-9-7.3	Total
12/31/75 *	$ 100,000.00	$ 1,800.00	$ 252.00	$ 180.00	$ 95.00	$ 2,327.00
3/31/76 *	100,000.00	2,400.00	264.00	240.00	125.00	3,029.00
6/30/76	18,451.85	442.84	35.43	44.28	27.14	549.69
9/30/76	19,738.03	473.71	23.69	47.37	28.68	573.45
12/31/76	10,303.28	247.28	4.95	24.73	12.36	289.32
					Total Due	$ 6,768.46
					Sheriff: Add Costs	

* Estimated (Now Final).

You are further directed and commanded to make return of this warrant to the Employment Security Commission of New Mexico within thirty days of the receipt hereof and also to file with the County Clerk of Your county within five days after receipt hereof, a copy of this warrant so that the same shall become a lien upon all property, real and personal, of

Michael P. Grace II

Carlsbad, New Mexico 88220

TO:

You are ordered to reveal and to surrender forthwith the property or rights to property of the taxpayer in your possession, provided that, upon your written agreement to surrender such property or the proceeds thereof on the date certain when the taxpayer's right to it would otherwise mature, you may retain possession until such date.

This warrant is issued by virtue of the authority of Section 59-9-15 of the Unemployment Compensation Law of New Mexico.

WITNESS the hand and seal of the Employment Security Commission of New Mexico, this 10th day of March, A. D. 19 77.

EMPLOYMENT SECURITY COMMISSION
OF NEW MEXICO

By Harold R. Conway
HAROLD R. CONWAY
ESC Associate Division Director

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY

BY Betty Wilkes

516.

INDEXED

STATE OF NEW MEXICO
COUNTY OF..... } ss.

I, ..., Sheriff of .....
County, New Mexico, do hereby certify that I have filed a copy of this warrant with the County Clerk of said county in accordance with the law, on the .....day of..... 19.....

I further certify that on the .....day of .....19..... the following described property, belonging to .....

.....

was levied upon, to-wit:

The above described property is now held in trust at .....

.....

Signed at ....., New Mexico, on the..... day of

..... A. D. 19.....

..... SHERIFF

By ..... DEPUTY.

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 14 day of March
19 77 at 10:00 o'clock A M. and duly recorded in Book 143
page 515 of the Records of Miscellaneous

GERALDINE MAHAFFEY, County Clerk
By Vera T. Allred Deputy

NOTICE OF LIEN

NOTICE IS HEREBY GIVEN that MERLAND, INC., whose address is 112 North Canyon Street, Carlsbad, New Mexico 88220, owns a .093750 interest in the products severed from the Grace-Atlantic Well No. 1 by Michael P. Grace, II, which well is designated as Production Unit No. SLC 61-333-77367 by the Oil and Gas Accounting Commission and is located on the following described land in Eddy County, New Mexico:

S½ Section 24, Township 22 South, Range 26 East.

Products severed from said Production Unit have been and are now or may be taken, received and purchased by El Paso Natural Gas Company; and the above named interest owner has a purchase money security interest in and lien upon such products and the proceeds thereof to secure payment of the purchase price for the period of 16 April 1973 to 26 June 1973 at 7 A.M. under the provisions of the Oil and Gas Products Lien Act Section 61-10-1, et seq., N.M.S.A. 1953, as amended.

DATED this 23rd day of October, 1973.

MERLAND, INC.

By Mary Frances Merchant - President
Mary Frances Merchant, President

STATE OF NEW MEXICO)
) SS
COUNTY OF EDDY)

The foregoing instrument was acknowledged before me this 23rd day of October, 1973, by Mary Frances Merchant, President of Merland, Inc., a New Mexico corporation, on behalf of said corporation.

Don B. Mc Laning
Notary Public

My Commission Expires:

10 April 1974

64591

STATE OF NEW MEXICO
COUNTY OF EDDY

FILED OCT 23 1973 IN MY OFFICE
At 3:00 o'clock P. M.
GERALDINE MAHAFFEY, Co. Clk
By _____ Deputy

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 23 day of October 1973 at 3:00 o'clock P.M. and duly recorded in Book 102 page 873 of the Records of Miscellaneous
GERALDINE MAHAFFEY, County Clerk
By Juanita Reynolds, Deputy

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
BY Betty Nichols
West Seg

NOTICE OF LIEN

NOTICE IS GIVEN that W. E. WALLING, whose address is 6014 Oxford, Lubbock, Texas 79413, owns an interest the the products severed from the Grace Atlantic Well No. 1 by MICHAEL P. GRACE II and CORINNE GRACE, which well is designated as Production Unit No. 14834 by the Oil and Gas Accounting Commission and is located on the following lands in Eddy County, New Mexico:

S½ Section 24, Township 22 South,
Range 26 East, N.M.P.M.

The percentage interest of the Claimant is 4.5629%.

Products severed from said production unit have been and are now or may be taken, received and purchased by EL PASO NATURAL GAS COMPANY; and the Claimant has a purchase money security interest in and lien upon such products and the proceeds thereof to secure payment of the purchase price for the period from 1 Mar. 1976 at 7:00 a.m. to 1 September 1976 at 7:00 a.m. under the provisions of the Oil and Gas Products Lien Act, Section 61-10-1 et seq., N.M.S.A.

Under the terms of said statute, the Claimant herein is an "Interest Owner", MICHAEL P. GRACE II and CORINNE GRACE are "Operators", and EL PASO NATURAL GAS COMPANY is "First Purchaser".

DATED this 15 day of October 1976.

W. E. Walling
W. E. WALLING

STATE OF NEW MEXICO)
: ss.
COUNTY OF E D D Y)

The foregoing instrument was acknowledged before me this 15 day of October 1976 by W. E. WALLING.

Notary Public

My Commission Expires:

18 Aug 1979

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 15 day of Oct 1976 at 1:05 o'clock P. M., and duly recorded in Book 139 page 931 of the Records of Miscellaneous

GERALDINE MANAFEE, County Clerk
By Mary B. Belinda Deputy

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
BY Betty Nicks
Asst. Secy

NOTICE OF LIEN

NOTICE IS GIVEN that E. W. Douglass and Cleo C. Douglass, his wife, whose address is 1113 Tracy Place, Carlsbad, New Mexico 88220, own an interest in the products severed from the Grace Atlantic Well No. 1 by MICHAEL P. GRACE II and CORINNE GRACE, which well is designated as Production Unit No. 14834 by the Oil and Gas Accounting Commission and is located on the following lands in Eddy County, New Mexico:

S½, Section 24, Township 22 South,
Range 26 East, N.M.P.M.

The percentage of the claimaints is .1670%.

Products severed from said production unit have been and are now or may be taken, received and purchased by El Paso Natural Gas Company; and the claimants have a purchase money security interest in and lien upon such products and the proceeds thereof to secure the payment of the purchase price for the period from 1 May 1975 at 7:00 a.m. to 1 October 1976 at 7:00 a.m. under the provisions of the Oil and Gas Products Lien Act, Section 61-10-1 et seq, N.M.S.A.

Under the terms of said statute, the claimants herein are "Interest Owners", Michael P. Grace II and Corinne Grace are "Operators" and El Paso Natural Gas Company is "First Purchaser".

DATED this 28 day of October 1976.

E. W. Douglass
E. W. Douglass

Cleo C. Douglass
Cleo C. Douglass

STATE OF NEW MEXICO)
) ss.
COUNTY OF E D D Y)

The foregoing instrument was acknowledged before me this 28 day of October 1976 by E. W. Douglass and Cleo C. Douglass, his wife.

Notary Public

My Commission Expires:

[illegible]-07-79

79379

STATE OF NEW MEXICO
COUNTY OF EDDY

FILED OCT 28 1976 IN MY OFFICE
AT 7:30 P.M.
GERALDINE MAHAFFEY, Co. Clk
Deputy

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 28 day of Oct 1976 at 3:30 o'clock P.M. and duly recorded in Book 140 page 98 of the Records of Miscellaneous
GERALDINE MAHAFFEY, County Clerk
By Geraldine Boyd Deputy

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
BY Betty Wilks
Asst Sec'y

NOTICE OF CLAIM

NOTICE IS HEREBY GIVEN that W. E. Walling, whose address is 6014 Oxford, Lubbock, Texas 79413, owns an interest in the products severed from the Grace Atlantic Well No. 1 by Michael P. Grace II and Corinne Grace, which well is designated as Production Unit No. 14834 by the Oil and Gas Accounting Commission, and is located on the following lands in Eddy County, New Mexico:

S½ Section 24, Township 22 South, Range 26 East, N.M.P.M.

The percentage interest of the claimant is 4.5629%.

Products severed from said production unit have been and are now, or may be taken, received and purchased by El Paso Natural Gas Company; and the above-named interest owner has a purchase money security interest in and lien upon such products and the proceeds thereof, to secure payment of the purchase price for the period from 1 September 1976 at 7:00 a.m. to 1 November 1976 at 7:00 a.m. under the provisions of the Oil and Gas Products Lien Act, Section 61-10-1, et seq, N.M.S.A., as amended.

Under the terms of said statute, the claimant herein is an "interest owner", Michael P. Grace II and Corinne Grace are "Operators" and El Paso Natural Gas Company is "First Purchaser."

DATED this 17th day of November 1976.

W. E. Walling

STATE OF TEXAS :

COUNTY OF Lubbock :

The foregoing instrument was acknowledged before me this 20th day of November 1976, by W. E. Walling.

NOTARY PUBLIC LUBBOCK COUNTY, TEXAS

Notary Public

My Commission Expires:

6-3-

79739

STATE OF NEW MEXICO
COUNTY OF EDDY

FILED NOV 23 1976 IN MY OFFICE
At 2:05 o'clock P M.
GERALDINE MAHAFFEY, Co. Clerk
Deputy

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 23 day of November 1976 at 2:05 o'clock P.M. and duly recorded in Book 140 Page 824 of the Records of Miscellaneous

GERALDINE MAHAFFEY, County Clerk
By Leoni C. Boyd Deputy

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
BY Betty Abel
Authorized

QCD

NOTICE OF CLAIM

NOTICE IS HEREBY GIVEN that W. E. Walling, whose address is 6014 Oxford, Lubbock, Texas 79413, owns an interest in the products severed from the Grace Atlantic Well No. 1 by Michael P. Grace II and Corinne Grace, which well is designated as Production Unit No. 14834 by the Oil and Gas Accounting Commission, and is located on the following lands in Eddy County, New Mexico:

S½ Section 24, Township 22 South, Range 26 East, N.M.P.M.

The percentage interest of the claimant is 4.5629%.

Products severed from said production unit have been and are now, or may be taken, received and purchased by El Paso Natural Gas Company; and the above-named interest owner has a purchase money security interest in and lien upon such products and the proceeds thereof, to secure payment of the purchase price for the period from 1 November 1976 at 7:00 a.m. to 1 January 1977 at 7:00 a.m. under the provisions of the Oil and Gas Products Lien Act, Section 61-10-1, et seq, N.M.S.A., as amended.

Under the terms of said statute, the claimant herein is an "interest owner", Michael P. Grace II and Corinne Grace are "Operators" and El Paso Natural Gas Company is "First Purchaser."

DATED this 1st day of February 1977.

W. E. Walling
W. E. Walling

STATE OF TEXAS :

COUNTY OF Lubbock :

The foregoing instrument was acknowledged before me this 2 day of February 1977, by W. E. Walling.

Mary Ann Jones
Notary Public

My Commission Expires:

June 1, 1977

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 3rd day of February 1977 at 2:50 o'clock P M., and duly recorded in Book 142 Page 149 of the Records of Miscellaneous

GERALDINE MAHAFFEY, County Clerk
By Carrie C. Boyd Deputy

81017

STATE OF NEW MEXICO
COUNTY OF EDDY

FILED FEB -3 1977 In the Office
At 2:50 P M.
GERALDINE MAHAFFEY, Co. Clerk
By _____ Deputy

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
BY Betty Wicks
Asst Secy

NOTICE OF LIEN

NOTICE IS HEREBY GIVEN THAT Atlantic Richfield Company, whose address is Box 2819, Dallas, Texas, 75221, owns a .0625 interest in the products severed from the Grace Atlantic Well No. 1 by Michael P. Grace II, and Corinne Grace, present address unknown, which well is designated as Production Unit No. 14834 by the Oil and Gas Accounting Commission and is located on the following described land in Eddy County, New Mexico:

S½ Section 24, Township 22 South, Range 26 East, N.M.P.M.

Products severed from said Production Unit have been and are now or may be taken, received and purchased by El Paso Natural Gas Company; and the above named interest owner has a purchase money security interest in and lien upon such products and the proceeds thereof to secure payment of the purchase price, state royalty and taxes for the months of November 1973, through March 1977, under the provisions of the Oil and Gas Products Lien Act, Section 61-10-1, et seq., N.M.S.A. 1953 Comp.

DATED: March 24, 1977.

ATLANTIC RICHFIELD COMPANY

By Harold L. Hensley
Attorney in Fact

STATE OF NEW MEXICO)
: ss
COUNTY OF CHAVES)

The foregoing instrument was acknowledged before me this 24th day of March 1977, by Harold L. Hensley, as attorney in fact for Atlantic Richfield Company, on behalf of said corporation.

Mary Ann Hayes
Notary Public

My Commission Expires:
9/9/79

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 25 day of March 1977 at 1:00 o'clock P.M. and duly recorded in Book 143 page 896 of the Records of Miscellaneous
GERALDINE MAHAFFEY, County Clerk
By Frances J. Samel Deputy

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
BY Betty Nell
Asst Sec'y

NOTICE OF CLAIM

NOTICE IS HEREBY GIVEN that W. E. Walling, whose address is 6014 Oxford, Lubbock, Texas 79413, owns an interest in the products severed from the Grace Atlantic Well No. 1 by Michael P. Grace II and Corinne Grace, which well is designated as Production Unit No. 14834 by the Oil and Gas Accounting Commission, and is located on the following lands in Eddy County, New Mexico:

S½ Section 24, Township 22 South, Range 26 East, N.M.P.M.

The percentage interest of the claimant is 4.5629%.

Products severed from said production unit have been and are now, or may be taken, received and purchased by El Paso Natural Gas Company; and the above-named interest owner has a purchase money security interest in and lien upon such products and the proceeds thereof, to secure payment of the purchase price for the period from 1 January 1977 at 7:00 a.m. to 1 March 1977 at 7:00 a.m. under the provisions of the Oil and Gas Products Lien Act, Section 61-10-1, et seq, N.M.S.A., as amended.

Under the terms of said statute, the claimant herein is an "interest owner", Michael P. Grace II and Corinne Grace are "Operators" and El Paso Natural Gas Company is "First Purchaser."

DATED this 7th day of April 1977.

W. E. Walling

STATE OF TEXAS :

COUNTY OF Lubbock :

The foregoing instrument was acknowledged before me this 8 day of April 1977, by W. E. Walling.

Notary Public

My Commission Expires:

June 1, 1977

S1843

STATE OF NEW MEXICO
COUNTY OF EDDY

FILED APR 11 1977 IN MY OFFICE
At 1:10 o'clock P M.
GERALDINE MAHAFFEY, Co. Clerk
By Cumi C Boyd Deputy

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 11 day of April 1977 at 1:10 o'clock P M., and duly recorded in Book 144 on 292 of the Records of Miscellaneous

GERALDINE MAHAFFEY, County Clerk
By Cumi C Boyd Deputy

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY

BY Betty Nolen

NOTICE OF LIEN

NOTICE IS HEREBY GIVEN THAT Atlantic Richfield Company, whose address is Box 2819, Dallas, Texas, 75221, owns a .0625 interest in the products severed from the Grace Atlantic Well No. 1 by Michael P. Grace II, and Corinne Grace, present address unknown, which well is designated as Production Unit No. 14834 by the Oil and Gas Accounting Commission and is located on the following described land in Eddy County, New Mexico:

S½ Section 24, Township 22 South, Range 26 East, N.M.P.M.

Products severed from said Production Unit have been and are now or may be taken, received and purchased by El Paso Natural Gas Company; and the above named interest owner has a purchase money security interest in and lien upon such products and the proceeds thereof to secure payment of the purchase price, state royalty and taxes for the months of April 1977, through May 1977, under the provisions of the Oil and Gas Products Lien Act, Section 61-10-1, et seq., N.M.S.A. 1953 Comp.

DATED: May 17, 1977.

ATLANTIC RICHFIELD COMPANY

By J. Douglas Foster
Attorney in Fact

STATE OF NEW MEXICO)
: ss
COUNTY OF CHAVES)

The foregoing instrument was acknowledged before me this 17th day of May, 1977, by J. Douglas Foster, as attorney in fact for Atlantic Richfield Company, on behalf of said corporation.

Notary Public

My Commission Expires: 82380

LINDA C. SCHUPPERT NOTARY PUBLIC STATE OF NEW MEXICO

September 22, 1980

STATE OF NEW MEXICO
COUNTY OF EDDY

FILED MAY 19 1977 IN MY OFFICE
At 1:10 o clock P. M.
GERALDINE MAHAFFEY, Co. Clerk
By _____ Deputy

STATE OF NEW MEXICO
County of Eddy } ss.

FILED MAY 19 1977 FOR RECORD
at 1:10 o'clock P. M. and was duly recorded in Book 135 of Records of Misc. Pages 535
Geraldine Mahaffey, County Clerk
Karen Davis Deputy

CERTIFIED TO BE A TRUE AND CORRECT COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
BY Betty Bell
Abstracting

NOTICE OF LIEN

NOTICE IS HEREBY GIVEN that E. W. Douglass and Cleo C. Douglass, his wife, whose address is 1113 Tracy Place, Carlsbad, New Mexico 88220, own an interest in the products severed from the Grace Atlantic Well No. 1 by Michael P. Grace II and Corinne Grace, which well is designated as Production Unit No. 14834 by the Oil and Gas Accounting Commission, and is located on the following lands in Eddy County, New Mexico:

S½ Section 24, Township 22 South, Range 26 East, N.M.P.M.

The percentage of the claimants is .1670%.

Products severed from said production unit have been and are now, or may be taken, received and purchased by El Paso Natural Gas Company; and the above-named claimants have a purchase money security interest in and lien upon such products and the proceeds thereof, to secure payment of the purchase price for the period from 1 January 1977 at 7:00 a.m. to 1 April 1977 at 7:00 a.m. under the provisions of the Oil and Gas Products Lien Act, Section 61-10-1, et seq, N.M.S.A., as amended.

Under the terms of said statute, the claimants herein are "interest owners", Michael P. Grace II and Corinne Grace are "Operators" and El Paso Natural Gas Company is "First Purchaser."

DATED this 26 day of May 1977.

E. W. Douglass
E. W. Douglass

Cleo C. Douglass
Cleo C. Douglass

STATE OF NEW MEXICO:
COUNTY OF E D D Y :

The foregoing instrument was acknowledged before me this 26 day of May 1977, by E. W. Douglass and Cleo C. Douglass, his wife.

[illegible]
Notary Public

My Commission Expires:
19 Aug 79

82461

STATE OF NEW MEXICO
COUNTY OF EDDY.
FILED MAY 26 1977 IN MY OFFICE
At 11:20 o'clock A M.
GERALDINE MAHAFFEY, Co. Clerk
By Cumi C Boyle Deputy

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 26 day of May 1977 at 11:20 o'clock A.M. and duly recorded in Book 145 page 671 of the Records of Miscellaneous
GERALDINE MAHAFFEY, County Clerk
By Cumi C Boyle Deputy

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
BY Betty Heil
Asst. Sec'y

EDDY COUNTY JUDGMENT DOCKET, FIFTH JUDICIAL DISTRICT COURT, N. M.

Case No.	NAME OF PARTIES		DATE OF JUDGMENT			DATE OF DOCKETING		
	Judgment Debtors	Judgment Creditors	Month	Day	Year	Month	Day	Year
31347	Michael P. Grace, II and Corrine Grace, his wife	Vann Tool Company, a New Mexico corporation	July	26	1976	July	26	1976

AMOUNT OF JUDGMENT						Rate of Int.	Where Entered		HOW SATISFIED AND REMARKS
Damages		Costs		Total			Book	Page	
Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.				
31,633	61	32	35			12%	96	35	Losee & Carson, P.A.
2,847	02	Interest from Oct. 15, 1975							P. O. Drawer 239
		7,908	00	Attorneys Fees					Artesia, New Mexico 88210
				42,420	98	12%			

STATE OF NEW MEXICO
County of Eddy

FILED JUL 26 1976 FOR RECORD

at 2:45 o'clock A. M. and was duly recorded in Book Misc. of Records of Page 192

Geraldine Mahaffey, County Clerk

Fran Davis Deputy

STATE OF NEW MEXICO,
County of Eddy. } ss.

I, FRANCES M. WILCOX Clerk of the Fifth Judicial District Court of the State of New Mexico, within and for the County of Eddy aforesaid, certify the foregoing to be a true Transcript of the Docket of a judgment of said Court, now of record in my office.

Witness my hand and the seal of said Court, this 26th day of July 19 76

FRANCES M. WILCOX
DISTRICT COURT CLERK

By Mary B. Chinn
DEPUTY

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY

By Betty Lee

685

EDDY COUNTY JUDGMENT DOCKET, FIFTH JUDICIAL DISTRICT COURT, N. M.

Case No.	NAME OF PARTIES		DATE OF JUDGMENT			DATE OF DOCKETING		
	Judgment Debtors	Judgment Creditors	Month	Day	Year	Month	Day	Year
31747	Michael P. Grace, dba							
	Grace Oil Company	I & W, Inc.	Sept.	14	1976	Sept.	14	1976

AMOUNT OF JUDGMENT						Rate of Int.	Where Entered		HOW SATISFIED AND REMARKS
Damages		Costs		Total			Book	Page	
Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.				
3,441	59	28	00	3469	59	6%	96	332	

STATE OF NEW MEXICO
County of Eddy } ss.

FILED OCT - 4 1976 FOR RECORD

at 9:35 o'clock A.M. and was duly recorded in Book 232 of Records of Eddy County, New Mexico, Page 685

Geraldine Mahaffey, County Clerk

By Betty Abel Asst Dep

STATE OF NEW MEXICO,
County of Eddy. } ss.

I, Frances M. Wilcox Clerk of the Fifth Judicial District Court of the State of New Mexico, within and for the County of Eddy aforesaid, certify the foregoing to be a true Transcript of the Docket of a judgment of said Court, now of record in my office.

Witness my hand and the seal of said Court, this 30th day of September 1976

Frances M. Wilcox
DISTRICT COURT CLERK

By Gay G. Chisum
DEPUTY

CERTIFIED TO BE A TRUE AND CORRECT COPY OF THE ORIGINAL GUARANTY TITLE COMPANY

BY Betty Abel Asst Sec'y

FILED IN OFFICE

Nov 4 9 58 AM 1976

STATE OF NEW MEXICO COUNTY OF VALENCIA

IN THE DISTRICT COURT

H. O. McCARTY & MARGE McCARTY, d/b/a A & M DRILLING COMPANY,

Plaintiffs

vs. NO. 19432

W. R. GRACE & CO., A Connecticut Corp. & MICHAEL P. GRACE, d/b/a GRACE EXPLORATION & GRACE NUCLEAR,

Defendants

JUDGMENT

THIS MATTER coming on for hearing at the request of the Plaintiffs and the Plaintiffs appearing by and through their counsel of record, BRANCH & COLEMAN, P.A. (Turner W. Branch), and the Defendant, Michael P. Grace, d/b/a Grace Exploration and Grace Nuclear, appearing ~~by and through his attorneys, Bamberger, Franklin & Lines, P.A., (Cameron Graham,~~ not and the Court having read the pleadings, hearing the evidence and arguments of counsel and the Court being duly advised in the premises, FINDS:

IT IS THEREFORE ORDERED, ADJUDGED AND DECREED that the Plaintiffs, H. O. McCarty and Marge McCarty, d/b/a A & M Drilling Company, take Judgment against Michael P. Grace and the other named Defendants in the sum of $10,000.00/100 plus costs and attorney fees provided for in the Settlement Agreement entered into by and between the parties on September 12, 1976 in the sum of $2,000.00/100.

HON. GEORGE PEREZ, DISTRICT JUDGE

CERTIFIED TO BE A TRUE AND CORRECT COPY OF THE ORIGINAL GUARANTY TITLE COMPANY

I, Lydia Cardenas, Clerk of the District Court of Eddy County, New Mexico, hereby certify that the foregoing is a true, correct and full copy of the document filed herewith as entered of record in my office.

Dated this 4th day of November 1976

LYDIA CARDENAS

Lydia Cardenas
Clerk of the District Court

By Cheryl Johnston Deputy

ENTERED
Book No. 61
Page No. 67

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 18 day of November, A. D. 1976 at 1:40 o'clock P. M., and duly recorded in Book 140, Page 763 of the Records of Miscellaneous of said County.

GERALDINE MAHAFFEY, County Clerk By Teresa Davis Deputy

LEA COUNTY JUDGMENT DOCKET, FIFTH JUDICIAL DISTRICT COURT, N. M.

Case No.	NAME OF PARTIES		DATE OF JUDGMENT			DATE OF DOCKETING		
	Judgment Debtors	Judgment Creditors	Month	Day	Year	Month	Day	Year
37658	Michael P. Grace and Corrine Grace	Sherman Power Tongs, Inc.	Dec.	14	1976	Dec.	14	1976

AMOUNT OF JUDGMENT						Rate of Int.	Where Entered	
Damages		Costs		Total			Book	Page
Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.			
2,030	99	32	35	2,063	34	12%		

HOW SATISFIED AND REMARKS

Martin and Martin - Attorneys for Judgment Creditors

Carlsbad, New Mexico

STATE OF NEW MEXICO
County of Eddy } ss.

FILED DEC 22 1976 FOR RECORD

at 9:50 o'clock A. M. and was duly recorded in Book 227 of Records of Miscellaneous Pages 534

Geraldine Yabbley, County Clerk

Deputy

STATE OF NEW MEXICO
County of Lea } ss.

I, Pat Ater Clerk of the Fifth Judicial District Court of the State of New Mexico, within and for the County of Lea aforesaid, certify the foregoing to be a true Transcript of the Docket of a judgment of said Court, now of record in my office.

Witness my hand and the seal of said Court, this 20th day of December 19 76

PAT ATER
DISTRICT COURT CLERK

By Deputy

534

CERTIFIED TO BE A TRUE AND CORRECT COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY

1037

Judgment Docket, Fifth Judicial District Court; Lea County, New Mexico

CASE NO.	NAMES OF PARTIES		DATE OF JUDGMENT			DATE OF DOCKETING		
	JUDGMENT DEBTORS	JUDGMENT CREDITORS	MONTH	DAY	YEAR	MONTH	DAY	YEAR
37656	MICHAEL P. GRACE and CORINNE GRACE	EDDINS-WALCHER COMPANY, a corporation	Jan.	10	1977	Jan.	10	1977

AMOUNT OF JUDGMENT						RATE OF INT.	WHERE ENTERED		REMARKS
DAMAGES DOLLS.	CTS.	COSTS DOLLS.	CTS.	TOTAL DOLLS.	CTS.		BOOK	PAGE	
$6,301	.45			$6,301	.45	6%			L. George Schubert, attorney for Judgment Creditors P.O. Box 796 Hobbs, New Mexico

State of New Mexico, }
County of Lea } ss.

I, PAT ATER Clerk of the District Court of the County of Lea in the State of New Mexico, do hereby certify the foregoing to be a true Transcript of the Docket of a judgment of said Court, now of record in my office.

Witness my hand and the seal of said Court, this 12th day of January ,19 77

PAT ATER
Clerk of the District Court
By Eleanor Jamagin Deputy

CERTIFIED TO BE A TRUE AND CORRECT
COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
BY Betty Nelson
Asst Sec'y

STATE OF NEW MEXICO, County of Eddy, ss. I hereby certify that this instrument was filed for record on the 19 day of January, A. D. 19 77 at 1:25 o'clock P M., and duly recorded in Book 141, Page 1037 of the Records of said County.
GERALDINE MAHAFFEY, County Clerk By Deputy

JUDGMENT DOCKET,

UNITED STATES DISTRICT COURT

District of New Mexico

Case Number	NAMES OF PARTIES		ATTORNEY FOR CREDITOR
	Judgment Debtor	Judgment Creditor	
76 326	Michael P. Grace and Corrine	Ormsbee Development Company,	Andrew M. Ives, Jr.
	Grace, his wife, individually;	a Wyoming corporation	Bigbee, Carpenter & Crout
	Corrine Grace d/b/a Grace Oil		P.O. Box 669
	and Gas Company		Santa Fe, New Mexico 87501

DATE OF JUDGMENT			DATE OF DOCKETING			AMOUNT OF JUDGMENT						Rate of Interest	Where Entered		HOW SATISFIED, REMARKS
Month	Day	Year	Month	Day	Year	DAMAGES Dollars	DAMAGES Cents	COSTS Dollars	COSTS Cents	TOTAL Dollars	TOTAL Cents		Book	Page	
JANUARY	17	1977	JANUARY	17	1977	218,600	00			218,600	00	6%			

I, JESSE CASAUS, Clerk of the United States District Court, District of New Mexico, do hereby certify that the foregoing is a true transcript of the docket of a judgment of said Court, now of record in my office.

Witness my hand and the seal of said Court this 25th day of JANUARY 1977

Jesse Casaus
Clerk

By _____ Deputy

STATE OF NEW MEXICO
County of Eddy
FILED
JAN 31 1977
at 2 o'clock P.M. and was recorded in Book 302 Page 330 of Records of said County
Gerald Mahaffey, County Clerk
By Betty Ann Lacy Deputy

CERTIFIED TO BE A TRUE AND CORRECT COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
By Betty Ann Lacy

330

JUDGMENT DOCKET,

UNITED STATES DISTRICT COURT

District of New Mexico

Case Number	NAMES OF PARTIES		ATTORNEY FOR CREDITOR
	Judgment Debtor	Judgment Creditor	
CIV 75-626			
CIV 75-656			
CIV 76-701			
Consolidated			

DATE OF JUDGMENT			DATE OF DOCKETING			AMOUNT OF JUDGMENT						Rate of Interest	Where Entered		HOW SATISFIED, REMARKS
Month	Day	Year	Month	Day	Year	DAMAGES Dollars	DAMAGES Cents	COSTS Dollars	COSTS Cents	TOTAL Dollars	TOTAL Cents		Book	Page	
April	7	1977	April	7	1977										SEE ATTACHED CERTIFIED COPY OF
															STIPULATED JUDGMENT FOR ALL
															INFORMATION

I, JESSE CASAUS, Clerk of the United States District Court, District of New Mexico, do hereby certify that the foregoing is a true transcript of the docket of a judgment of said Court, now of record in my office.

Witness my hand and the seal of said Court this 18th day of APRIL 19 77

JESSE CASAUS

Clerk

By _____

Deputy

CERTIFIED TO BE A TRUE AND CORRECT COPY OF THE ORIGINAL
GUARANTY TITLE COMPANY
By _____

633

UNITED STATES DISTRICT COURT

DISTRICT OF NEW MEXICO

FILED
UNITED STATES DISTRICT COURT
ALBUQUERQUE, NEW MEXICO
APR 7 1977

IRVING RAPAPORT, d/b/a FOUR CORNERS EXPLORATION COMPANY,

Plaintiff and Defendant-In-Interpleader,

vs.

MICHAEL P. GRACE and CORRINE GRACE, his wife,

Defendants and Defendants-In-Interpleader,

and

TRANSWESTERN PIPELINE COMPANY, a Delaware corporation,

Garnishee and Plaintiff-In-Interpleader,

vs.

E. S. GREAR, CLAUDE McCAUSLAND, DOROTHY S. CARLSON, PARDUE FARMS, a partnership, LEONA STAGNER and FIRST NATIONAL BANK OF DENVER, a national banking association,

Defendants-In-Interpleader.

No. Civil 75-626

AND

E. S. GREAR, CLAUDE McCAUSLAND, DOROTHY S. CARLSON, PARDUE FARMS, a partnership, and LEONA STAGNER,

Plaintiffs,

vs.

TRANSWESTERN PIPELINE COMPANY, a corporation, and MICHAEL P. GRACE, II and CORRINE GRACE,

Defendants.

No. Civil 76-656

AND

GABY BINGHAM, an incompetent person, by LEONARD T. MAY, hér guardian; BERTHA LOVE, LAVITA LOVE STORY and LAVITA LOVE STORY, Trustee,

Plaintiffs,

vs. No. Civil 76-701 M.
CONSOLIDATED

MICHAEL P. GRACE,II,and CORRINE GRACE, TRANSWESTERN PIPELINE COMPANY, a corporation; E. S. GREAR; D. L. HANNIFIN; JOYCE E. HANNIFIN: NEILSON ENTERPRISES, INC., a corporation; and TEXAS OIL AND GAS CORPORATION, a corporation,

Defendants.

and

ATLANTIC RICHFIELD COMPANY, a corporation,

Intervenor.

and

ORMSBEE DEVELOPMENT COMPANY, a Wyoming corporation,

Intervenor.

STIPULATED JUDGMENT

THIS MATTER coming before the Court on the Stipulation of all parties to the above captioned causes, the Court being fully advised in the premises and finding that all the parties have agreed to settle all the issues raised by the above captioned causes, and, further, that all the parties agree that the monies deposited with the Albuquerque National Bank, pursuant to Court Order should be distributed as set forth in this Order.

IT IS, THEREFORE, ORDERED, ADJUDGED AND DECREED as follows:

1. That the Clerk of the Court disburse the monies previously deposited with the Court as follows:

A. $36,792.14, which is inclusive of costs, interest and attorneys' fees, to McCormick and Forbes, in trust for E. S. Grear, CLAUDE McCAUSLAND, DOROTHY S. CARLSON, PARDUE FARMS, a partnership and LEONA STAGNER.

B. $36,161.48, which is inclusive of costs, interest and attorneys' fees, to McRae and Messina, in trust for IRVING RAPAPORT, d/b/a FOUR CORNERS EXPLORATION COMPANY.

C. $17,513.43, which is inclusive of costs, interest and attorneys' fees to Shuler and Diamond, in trust for LEONARD T. MAY, Guardian for GABY BINGHAM, BERTHA LOVE, LAVITA LOVE STORY and LAVITA LOVE STORY, Trustee.

D. $ 3,750.00 , to Modrall, Sperling, Roehl, Harris & Sisk, in trust for TRANSWESTERN PIPELINE COMPANY, representing attorneys' fees and costs incurred by the Plaintiff In Interpleader.

E. $477.26 to the Commissioner of Public Lands of the State of New Mexico representing royalties owed to the State of New Mexico for January production.

F. $2,484.23 to the Oil and Gas Accounting Division of the State of New Mexico representing taxes due on January production.

G. $1,973.47, which is inclusive of costs, interest, and attorneys' fees, to Losee and Carlson, in trust for NEILSON ENTERPRISES.

H. $1,973.47, which is inclusive of costs, interest and attorneys' fees, to Losee and Carlson, in trust for TEXAS OIL AND GAS COMPANY.

I. $3,070.20, which is inclusive of costs, interest and attorneys' fees, to McCormick and Forbes, in trust for D. L. HANNIFIN.

J. The sum of $5,131.54, which is inclusive of costs, interest and attorneys' fees to Jennings, Christy and Copple, in trust for MAE LOUISE SANBORN and EMILY HULQUIST.

K. The sum of $11,241.46, which is inclusive of costs, interest and attorneys' fees to Hinkle, Cox, Eaton, Coffield and Hensley, in trust for ATLANTIC RICHFIELD COMPANY.

L. The sum of $7,000.00 to Lamb, Metzgar, Franklin & Lines, P.A.

2. In order to provide for payment of amounts still owing to unrepresented royalty owners, and ORMSBEE DEVELOPMENT COMPANY and ATLANTIC RICHFIELD COMPANY, and to insure that in the future royalty owners are paid any amounts owed from future production, an escrow account is hereby established. ATLANTIC RICHFIELD COMPANY will act as the escrow agent and will disburse all remaining funds in the Court Registry including those due on or about March 23, 1977, and all future funds received from TRANSWESTERN PIPELINE in the following manner:

A. The funds remaining in Court Registry after payment of all amounts set forth in paragraph 1, sections A through L of this Order, will be paid over to ATLANTIC RICHFIELD COMPANY, which will make the following disbursements.

First: Payment of all taxes, State royalties and other royalties due and owing as a result of the March 23, 1977 TRANSWESTERN PIPELINE payment. Second, the unrepresented royalty owners will be paid all royalties due and owing to them up to and including the March 23, 1977 TRANSWESTERN payment. The checks issued in payment of the amounts owed will indicate that receipt and acceptance represents full and complete satisfaction of all claims held by the royalty owner against the Defendants Grace or any other person or corporation arising from non-payment of past royalties. Third, the balance of the Court fund held by ATLANTIC RICHFIELD COMPANY will be paid to Bigbee, Stephenson, Carpenter & Crout, in trust for ORMSBEE DEVELOPMENT COMPANY, to be applied to the sum of $221,487.87 representing a judgment held by ORMSBEE DEVELOPMENT COMPANY against the Defendants Grace (Civil Docket 76-326; U.S. District Court for the District of New Mexico), which is accruing interest at the rate of eight (8%) percent per annum from November 11, 1976 and attorneys' fees and costs incurred in garnishing TRANSWESTERN PIPELINE COMPANY in this proceeding.

B. All future receipts from TRANSWESTERN PIPELINE COMPANY commencing with those due on or about April 23, 1977, will be disbursed as follows: First, to satisfy all taxes, State royalties and other royalties owed on current production. Second, the balance or "net proceeds" will be divided equally between ORMSBEE DEVELOPMENT COMPANY and ATLANTIC RICHFIELD COMPANY for so long as all claimants payable hereunder remain unpaid. Payments made to ATLANTIC RICHFIELD COMPANY are to be applied to a balance of unpaid royalties in a minimum amount of $106,774.19, subject to audit and confirmation. In addition to being applied to the aforementioned sum owed to ORMSBEE DEVELOPMENT COMPANY by the Defendants Grace, the payments made to Ormsbee Development Company shall be applied to the

following additional sums due from the Graces:

(a) AAA Fishing and Rental Tool Company, Inc. in the amount of $13,420.41.

(b) F. W. Davis in the amount of $6,783.83.

(c) Ingersoll-Rand Corporation in the amount of $944.84.

All of the above sums bear interest at the rate of eight (8%) percent per annum from November 11, 1976. The firm of Bigbee, Stephenson, Carpenter & Crout shall provide to the escrow agent a letter specifying the exact manner in which all four of the above obligations are to be satisfied out of the payments being made pursuant to this judgment. Third; after payment in full of all of the claimants identified in this Judgment, the "net proceeds" shall be paid monthly to the Defendants Grace or their assignee.

This escrow arrangement shall remain in effect until such time as it is mutually agreed to terminate it by the consent of all beneficiaries of the escrow account, the Defendants Grace and TRANSWESTERN PIPELINE COMPANY. All expenses of administration of the escrow account shall be payable out of the "net proceeds" remaining after payment of taxes, State royalties and royalties.

3. Upon payment of the sums specified herein all parties shall file releases of lien on all properties for which foreclosure was sought in the various complaints consolidated herein. By acceptance of the sums provided herein, all parties agree to forego any actions to terminate any leases, farmout agreements, division orders, or other contractual relations which they may have with the Defendants Grace regarding the wells which are the subject of this action arising out of the failure to pay royalties prior to the entry of this Judgment from production from said wells.

4. Upon full and complete payment of the sums specified herein all of the actions in this Consolidated proceeding shall be dismissed with prejudice and TRANSWESTERN PIPELINE COMPANY and

the Defendants Grace be released and forever discharged from any and all claims and demands whatsoever by reason of the acts alleged in the complaints in this consolidated proceeding.

5. Transwestern Pipeline Company is undertaking no obligation to insure that title information is correct. Transwestern Pipeline Company is absolved from any liability for the accuracy of distributions or the identity or extent of interest claimants, royalty claimants, garnishees or owners.

6. Transwestern Pipeline Company is hereby directed to deliver the proceeds for all wells, the proceeds of which were interpleaded, in the future, to Atlantic Richfield Company. All liability of Transwestern Pipeline Company ceases for such proceeds upon delivery to Atlantic Richfield Company. The compliance of Transwestern Pipeline Company with this order and the delivery of proceeds to Atlantic Richfield Company now and in the future absolves Transwestern Pipeline Company of any liabilities it may have to claimants, owners, royalty owners and garnishees.

7. Transwestern Pipeline Company is hereby released from any past liability, if any, resulting from payment of proceeds from the wells involved in this action to Grace Oil Company or Michael or Corrine Grace.

8. The leases for those wells involved in this action and the Gas Purchase Agreement whereby Transwestern Pipeline Company has purchased and will in the future purchase gas from those wells are hereby acknowledged and the validity thereof is ratified.

9. In the event of any future garnishment of Transwestern Pipeline Company by a creditor of Michael Grace, Corrine Grace and/or Grace Oil Company, Transwestern Pipeline Company is hereby authorized to interplead payments coming due after the date of the service of the writ of garnishment upon Transwestern

Pipeline Company, and Atlantic Richfield Company, as escrow agent, is hereby authorized to represent all parties in the dispute between the garnishor of such action and those receiving payments from Atlantic Richfield Company out of the escrowed funds.

10. To the extent they are not provided for in the amounts specified in this Judgment, all parties will bear their own costs in this proceeding.

UNITED STATES DISTRICT JUDGE

AGREED AND CONSENTED TO BY:

IRVING RAPAPORT, d/b/a FOUR CORNERS EXPLORATION COMPANY

BY

MICHAEL P. GRACE, II, and CORRINE GRACE, his wife

BY

TRANSWESTERN PIPELINE COMPANY, a Delaware corporation

BY

E. S. GREAR, CLAUDE McCAUSLAND, DOROTHY S. CARLSON, PARDUE FARMS, a partnership and LEONA STAGNER

BY

GABY BINGHAM, an incompetent person by LEONARD T. MAY, her guardian; BERTHA LOVE, LAVITA LOVE STORY and LAVITA LOVE STORY, Trustee

BY

ENERGY RESOURCES CORPORATION
and ORMSBEE DEVELOPMENT COMPANY

BY _____

D. L. HANNIFIN and JOYCE HANNIFIN

BY _____

NEILSON ENTERPRISES, INC. and
TEXAS OIL AND GAS CORPORATION,

BY _____

ATLANTIC RICHFIELD COMPANY

BY _____

CERTIFIED a True Copy of the original filed in this office,
Joseph E. Stell, District Court Clerk
By _____ Deputy

STATE OF NEW MEXICO
County of Eddy } ss.

FILED APR 21 1977 FOR RECORD

at 1:30 o'clock P M. and was duly recorded in Book 174 of Records of Miscellaneous Pages 699

Geraldine Mahaffey, County Clerk
Charlene G. Wright Deputy

June 1977

Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Cases No. 4819 and 4836

Gentlemen:

I am informed that D. L. Hannifin of Roswell, New Mexico, has filed an application to amend Order No. 4432 so as to remove Michael P. Grace II as the operator and have Mr. Hannifin appointed in that capacity.

I am the owner of approximately 126 mineral acres in the SW¼ of Section 24, Township 22 South, Range 26 East. The lease which I executed to Sinclair Oil and Gas Company was farmed out to Michael P. Grace II and he is therefore the owner of the working interest as to my lease.

I have been in almost constant litigation with Mr. Grace for the past 3 years in order to collect royalties due me. I do not believe that Mr. Grace should continue as operator and I support the application of Mr. D. L. Hannifin to be substituted as operator of the Grace-Atlantic Well.

Very truly yours,

W. E. Walling

W. E. Walling

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 5961 Exhibit No. 9
Submitted by applicant
Hearing Date 6-21-77

Ex. 9

E. W. DOUGLASS, CONSULTANT
CHEMICAL AND METALLURGICAL
ENGINEERING AND APPRAISAL
1113 TRACY PLACE
CARLSBAD, NEW MEXICO

15 June 1977

Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Case Nos. 4819 and 4836

Gentlemen:

I am the owner of approximately 4.2752 acres of minerals in the SW¼ of Section 24, Township 22 South, Range 26 East. This mineral interest was leased to Michael P. Grace. A proration unit covering all the SW¼ of said Section 24 was formed and the Grace Atlantic No. 1 Well was later drilled. My leased mineral interest entitles me to .1670% of the oil and gas produced.

I am informed that D. L. Hannifin of Roswell, New Mexico has filed an application to be named as the operator of the Grace Atlantic No. 1 Well in place of Michael P. Grace.

In my opinion, Mr. Hannifin is more capable of operating the well as is Mr. Grace and I hope you will see fit to grant the application of Mr. Hannifin.

Very truly yours,

E. W. Douglass

E. W. Douglass

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 594 Exhibit No. 10
Submitted by D. L. Hannifin
Hearing Date 6-21-77

64.10

Case 5961

DON G. McCORMICK
JAY W. FORBES
THOMAS L. MAREK
ROGER E. YARBRO
JOHN M. CARAWAY

McCORMICK AND FORBES
ATTORNEYS AT LAW
BUJAC BUILDING
P. O. BOX 1718
CARLSBAD, NEW MEXICO 88220

TELEPHONE 885-3144
AREA CODE 505

25 May 1977

Set for June 21, 1977
OCC Conf. Room
@ 10:00 A.M.

Mr. Joe D. Ramey, Director
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Cases Nos. 4819 and 4836

Dear Mr. Ramey:

Enclosed in triplicate is Application for Amendment to Order No. R-4432 to Change Operator of Pooled Proration Unit, which we are filing on behalf of O. L. Hannifin.

Will you please see that a Notice of Hearing is prepared and published as required by Rule 1205. We do not know the whereabouts of Michael P. Grace, but he has a Post Office box in Carlsbad which is 1418.

You will please note that we request a hearing before the entire Commission. We are anxious to have this hearing set as soon as proper notice can be given and the prescribed time elapses.

Will you kindly acknowledge receipt of this application.

Very truly yours,

Don G. McCormick

DGM:abm
cc - Mr. D. L. Hannifin

Case 5961

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASES NOS. 4819 and 4836

APPLICATION OF D. L. HANNIFIN FOR
COMPULSORY POOLING, EDDY COUNTY,
NEW MEXICO.

APPLICATION OF MICHAEL P. GRACE II
AND CORINNE GRACE FOR COMPULSORY
POOLING, EDDY COUNTY, NEW MEXICO.

APPLICATION FOR AMENDMENT TO ORDER NO. R-4432
TO CHANGE OPERATOR OF POOLED PRORATION UNIT

COMES now D. L. Hannifin and states:

1. The name of the applicant is D. L. Hannifin and his address is J. P. White Building, Roswell, New Mexico, 88201.

2. The area affected by the order sought lies in the South Carlsbad Morrow Pool, Eddy County, New Mexico, and in particular is the following described land:

S½ Section 24, Township 22 South, Range 26 East, N.M.P.M.

3. On 8 November 1972 in this consolidated action, the Commission issued its order No. R-4432 wherein among other things, it designated Michael P. Grace II as the operator of the pooled unit on which there is located and is producing a gas well known as the Grace Atlantic No. 1.

4. The applicant seeks to have said Order No. R-4432 amended by removing Michael P. Grace II as operator and by naming the applicant as operator. As grounds for the same, applicant states:

(a) The said Michael P. Grace has departed the State of New Mexico and his whereabouts are unknown. It is impossible for the applicant or other interested parties to communicate with him.

(b) The said Michael P. Grace II has not operated the

Case 5961

said well as a prudent operator.

(c) He does not have adequate skilled personnel to attend to said well.

(d) He is committing waste to the irreparable damage of applicant and mineral owners by blowing off an excessive amount of gas to dispell the encoraching water.

(e) The said Michael P. Grace has failed to timely pay the royalty owners under the leases which he holds, and has also failed to pay various contractors who have performed work for him. As a result the said Michael P. Grace II has been involved in extensive litigation which embarrasses the title of all mineral owners under said proration unit to their great detriment.

(f) Due to the numerous liens filed by royalty owners and also by judgment creditors, the said Michael P. Grace II is financially unable to provide necessary repairs and equipment for the proper operation of said well, thereby causing its production to prematurely decrease.

5. Applicant and Joe Don Cook are owners of one-half of the working interest in said well and proration unit.

WHEREFORE, applicant prays that a hearing be held before the entire Commission and upon such hearing, that Michael P. Grace II be removed as operator and the applicant named as operator.

McCORMICK and FORBES

By _____
Don G. McCormick
P. O. Box 1718
Carlsbad, New Mexico 88220
Attorneys for Applicant

OIL CONSERVATION COMMISSION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

June 27, 1977

COPY

Michael P. Grace II
Box 1418
Carlsbad, New Mexico 88220

Attention: Ms. Juanita L. Jones

Gentlemen:

On April 17, 1973, Administrative Order TX-39 was issued permitting the use of 4½-inch tubing in your Grace Atlantic Well No. 1, located in Unit J of Section 24, Township 22 South, Range 26 East, South Carlsbad-Morrow gas pool, Eddy County, New Mexico. This Order in part states, "Inasmuch as the gas produced from this well is very dry (gas-liquid ratio reported TSTM on 4-point test), it appears that this well can be produced in the manner proposed without causing waste. You are therefore granted the requested exception. The Commission does reserve the right, however, to rescind this authority if at any time it appears that the producing characteristics of the well have so changed that this method of production is causing or may cause waste."

Since the well now makes sufficient water that it must be unloaded by flaring periodically (your letter of June 1, 1977), and since the flaring of gas constitutes waste, Administrative Order TX-39 is hereby rescinded.

You are hereby directed to install tubing, maximum size to be no greater than 2 7/8-inch, in this well by August 1, 1977. Tubing perforations are to be set within 250 feet of the top of the pay.

Please contact the Oil Conservation Commission's district office at Artesia at least 24 hours before commencing work on the well.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Michael P. Grace II
Corinne Grace
P. O. BOX 1418
CARLSBAD, NEW MEXICO 88220

June 1, 1977

Mr. Joe D. Ramey
Director
Oil Conservation Commission
State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

April

We respectfully request permission to flare the following wells from time to time as they are loading up with water. The three wells are as follows:

38,644

Grace Atlantic #1 - Michael P. Grace, Operator - Section 24, T22S, R26E, Eddy County — 21 mcf

Carlsbad Grace #1 - Corinne Grace, Operator - Section 36, T22S, R26E, Eddy County — 10 / 0

LaCueva #1- Corinne Grace, Operator - Section 6, T23S, R26E Eddy County — 482 / 0

Thank you.

Sincerely yours,

Juanita Jones

Juanita L. Jones

jlj

LAW OFFICES OF
KANTER & CARMODY, P. A.

ELVIN KANTER
JOHN J. CARMODY, JR.
BARBARA C. EVERAGE

JUN 24 1977
OIL CONSERVATION COMM.

TELEPHONE 243-2844
AREA CODE 505

SUITE IIII
AMERICAN BANK OF COMMERCE COMPLEX
TWO HUNDRED LOMAS BOULEVARD, NORTHWEST
ALBUQUERQUE, NEW MEXICO 87102

June 23, 1977

Oil Conservation Commission
State of New Mexico
Box 2088
Santa Fe, New Mexico 87501

RE: Cases No. 5960 and No. 5961
Our File #A769.34

Gentlemen:

This office represents Michael P. Grace II and Corinne Grace, owners of interests in the wells covered by the above-referenced cases, which were heard on June 21, 1977.

Apparently notice of the hearings were mailed to the Graces on June 10, 1977; and Don G. McCormick, Esquire, mailed notice of the hearing on case number 5961 on June 10, 1977. Both notices arrived in the office of the Graces in Carlsbad, New Mexico on June 13, 1977. At that time the Graces were not present in the office and the office manager was also away from the office on business. The office manager, Mrs. Juanita Jones, returned to the office on June 21 and did not come across either your notice or the letter of Mr. McCormick until the morning of June 22, 1977.

We have been informed that that the commission took the two cases under advisement and have not rendered a decision on them.

Under the circumstances, we respectfully request that the Oil Conservation Commission grant the Graces the right to present evidence on these two issues and to cross examine witness who may have appeared on June 21, 1977. We base this request, first, on grounds of fairness. The Graces did not have actual notice of the hearing until after it had already been held, due to inadvertance on the part of

the young secretary in their office. Secondly, the provisions of Section 65-3-20 N.M.S.A. 1953 may not have been complied with. The Commission, itself, of course, would be able to determine what "reasonable notice" would be in the circumstances of this case. (That is, whether there were extinuating circumstances that required holding the hearing within ten (10) days after the notice was mailed.) In addition, there is some question as to whether the minimum ten (10) days notice was actually given since the notice arrived in the Graces' office only eight (8) days prior to the hearing date.

Could the Commission please examine this matter in light of the facts presented above and in view of the provisions of Section 65-3-20 N.M.S.A. 1953 and let this office know if it can grant any relief to the Graces?

Very sincerely yours,

EK/pw

cc: Mrs. Corinne Grace

NEW MEXICO
OIL CONSERVATION COMMISSION

FIELD TRIP REPORT

DATE 5-27-77

Name of Employee Lelan Mermis

Time of Departure 8:30 AM Time of Return 4:30 PM

Miles Travelled 162

In the space below please indicate purpose of trip, activities performed, listing wells or leases visited.

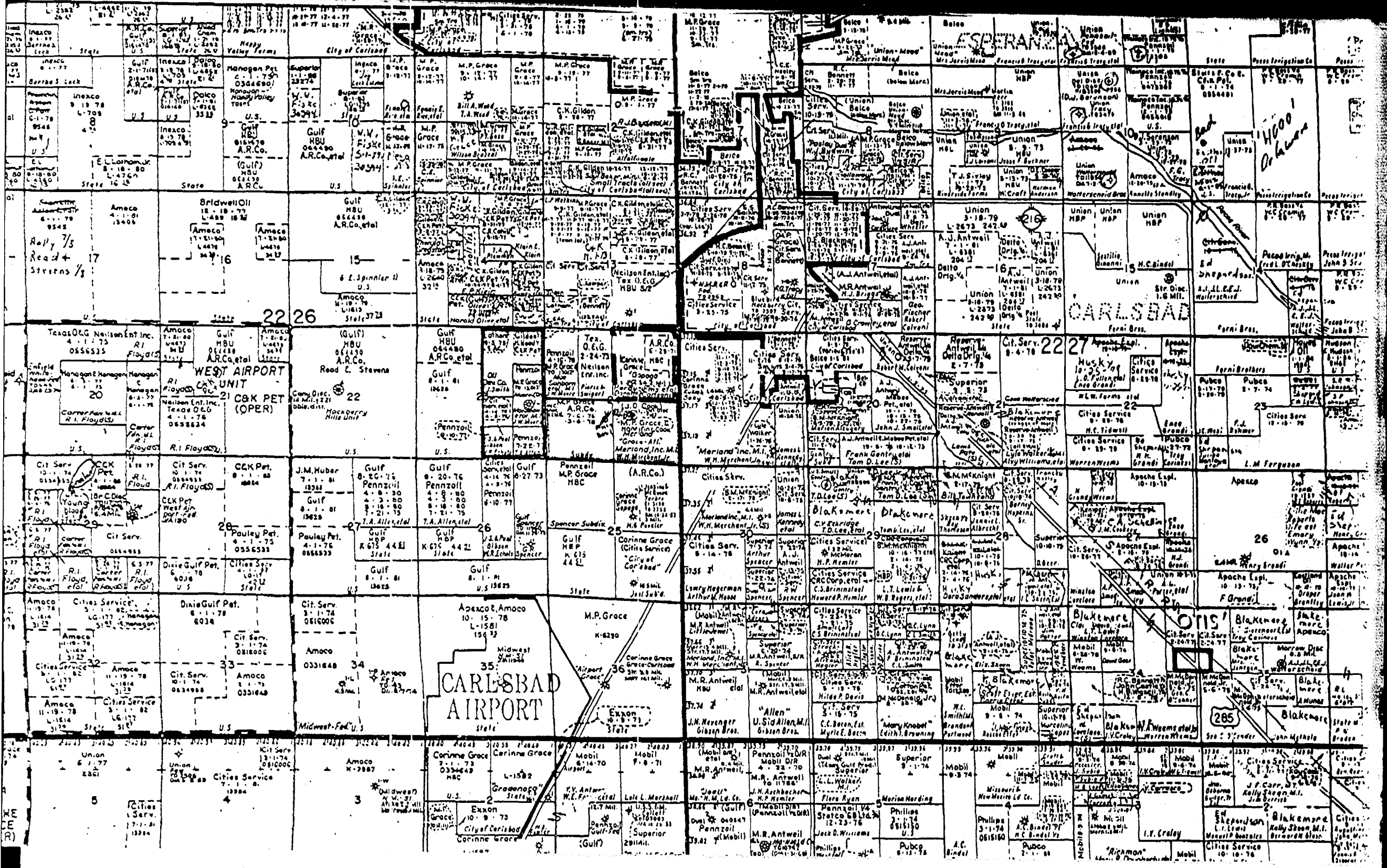
Met with Mr. James Shuler, a lawyer, in Carlsbad. We went to Corinne Grace Humble Grace #1-2-23-26 & Panagra #1-11-23-26. We took pictures of these locations. Check first report for details. Also checked Corinne Grace Gopogo #2-24-22-26. Tank running over. Gopogo #1 & City of Carlsbad #1-25-22-26. OK. Gradonoco #1-2-23-26. OK.

M.P. Grace Grace Atlantic #1-24-22-26. Flaring Gas.

CK John Yates Elliot Parcell T Btry. 13-19-28. They built a bigger dike around pit area. Also picked up a lot of junk, but did not clean up between tank & pit. I called them back & told him it was not good enough. I also told them that more clean up was needed around Caroline T Btry. 28-19-28.

RECEIVED
JUN - 8 1977
OIL CONSERVATION COMM.
ARTESIA, OFFICE

Lelan Mermis
Employee's Signature
District #II


CARLSBAD
AIRPORT
WEST AIRPORT UNIT
C&K PET (OPER)
CARLSBAD
Midwest-Fed
Exxon
Gulf
Amoco
Cities Service
Union
Pennzoil
Mobil
Superior
Pubco
Corinne Grace
Apexco
Blakemore
Sheppard
Pecos Irrigation Co.
Pecos Irrigation Co. John B. Sheppard
Pecos Irrigation Co. W. C. Scrugham
Pecos Irrigation Co. W. C. Scrugham et al
Pecos Irrigation Co. W. C. Scrugham et ux

Case 5961

DON G. McCORMICK
JAY W. FORBES
THOMAS L. MAREK
ROGER E. YARBRO
JOHN M. CARAWAY

McCORMICK AND FORBES
ATTORNEYS AT LAW
BUJAC BUILDING
P. O. BOX 1718
CARLSBAD, NEW MEXICO 88220

TELEPHONE 885-3144
AREA CODE 505

2 June 1977

Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Ms. Lynn Teschendorf,
General Counsel

Dear Lynn:

I received your letter of 31 May 1977 in which you stated that you had received the application of D. L. Hannifin and that a hearing before the full Commission had been tentatively set for 21 June 1977.

We would like confirmation of this date at the earliest time, as we must arrange for witnesses. We anticipate that our application will be resisted by Mr. Grace. If you think it wise to set a date somewhat later in order for the issues to be joined, it might be a good idea. In any event, we would like ten days' or two weeks' notice of the final date of the hearing.

Very truly yours,

Don G. McCormick

DGM:hmhe
cc: D. L. Hannifin
Jerry L. Tweed

DRAFT

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 5961

Order No. R-5483

APPLICATION OF D.L. HANNIFIN FOR AMENDMENT OF ORDER NO. R-4432, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 10 a.m. on June 21, 1977, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this _____ day of June, 1977, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, D.L. Hannifin, is a co-owner of the Michael P. Grace II, Grace-Atlantic Well No. 1, located in Unit J of Section 24, Township 22 South, Range 26 East, NMPM, South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico.

(3) That said well is the unit well for a certain gas spacing and proration unit, said unit comprising the S/2 of said Section 24.

(4) That the S/2 of said Section 24 was pooled by Commission Order No. R-4432, dated November 8, 1972, to form a standard 320-acre proration unit for the South Carlsbad-Morrow Gas Pool, to be dedicated to a well to be drilled at a standard location on said unit.

(5) That a well was subsequently drilled on said pooled unit, being the well described in Finding No. (2) above.

(6) That Michael P. Grace II was designated by Commission Order No. R-4432 as the operator of the above-described well and unit.

(7) That the applicant herein, D.L. Hannifin, a co-owner of the aforesaid well and unit, seeks the amendment of said Order No. R-4432 to remove the present operator of said well and unit, Michael P. Grace II, as operator, and to designate the applicant, D.L. Hannifin, as operator of said well and unit.

(8) That the applicant has failed to show sufficient cause for the hereinabove described amendment of Commission Order No. R-4432, and such amendment should be denied.

IT IS THEREFORE ORDERED:

(1) That the application of D.L. Hannifin for the amendent of Commission Order No. R-4432 is hereby denied.

(2) Jurisdiction

DONE at

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION COMMISSION

~~BEFORE THE OIL CONSERVATION COMMISSION~~
~~OF THE STATE OF NEW MEXICO~~

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

CASE NO. 5961
Order No. R-5483-A

APPLICATION OF D. L. HANNIFIN
FOR AN AMENDMENT OF ORDER NO.
R-4432, EDDY COUNTY, NEW MEXICO.

REHEARING

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 10:00 a.m. on June 21, 1977, and for rehearing at 9:00 a.m. on October 19, 1977, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this_____day of April, 1978, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearings, and being fully advised in the premises:

FINDS:

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

(2) That Commission Order No. R-4432 entered November 8, 1972, compulsorily pooled the S/2 of Section 24, Township 22 South, Range 26 East, NMPM, to form a standard 320-acre proration unit for the South Carlsbad-Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon.

(3) That said order designated Michael P. Grace II as the operator of said pooled unit and proposed well.

(4) That Michael P. Grace II subsequently completed the Grace-Atlantic Well No. 1 located in Unit J of said Section 24 as a producing gas well in said South Carlsbad-Morrow Gas Pool.

(5) That the applicant, herein, D. L. Hannifin, is a co-owner in said Grace-Atlantic Well No. 1.

(6) That D. L. Hannifin seeks the amendment of ~~said~~ Order No. R-4432 to remove Michael P. Grace II ~~as~~ as operator of ~~said~~ the pooled unit and ~~designate~~ the Grace-Atlantic Well No. 1 and ~~designation of~~ to designate D. L. Hannifin as operator thereof.

(7) That Michael P. Grace II originally completed said Grace Atlantic Well No. 1 utilizing four and one-half inch casing as tubing.

(8) That Michael P. Grace II later requested an exception to Rule 107(d)(2) and 107(d)(3) of Commission Rules and Regulations for use of such tubing.

(9) That ~~said~~ Administrative Order TX-39 was entered on April 17, 1973, and stated in part:

"Inasmuch as the gas produced from this well is very dry (gas-liquid ratio reported TSTM on 4-point test), it appears that this well can be produced in the manner proposed without causing waste. You are therefore granted the requested exception. The Commission does reserve the right, however, to rescind this authority if at any time it appears that the producing characteristics of the well have so changed that this method of production is causing or may cause waste."

(10) That ~~at~~ sometime during 1975, ~~said~~ the well began to experience production problems.

(12) That prior to December 15, 1975, ~~said~~ the well was equipped with a ~~"blooey"~~ "blooie" line which could be used to flare gas, or vent gas, fluids, and any other material ~~to be blown~~ to the atmosphere ~~therethrough~~.

(11) That ~~said~~ the well commenced producing water or some other material that impeded or totally restricted the flow of gas from the well.

(13) That water or other material ~~said~~ which impeded production could not be lifted or cleared from the wellbore efficiently through the four and one-half inch tubing.

(14) That in order to clear the wellbore of ~~said~~ the water or other material to restore production, the well was flared or vented to the atmosphere.

(15) That gas ~~which~~ escaped to the atmosphere during the flaring or venting ~~is wasted~~ process allowing constitutes waste.

(16) That the evidence presented demonstrated that said well was flared approximately 4 days per month.

(17) That flaring or venting gas without Commission approval is a violation of the Commission's Rules and Regulations.

(18) That Michael P. Grace II did allow the flaring or venting of gas from said well without Commission approval and did violate Rule 404(a) of the Commission's Rules and Regulations.

(19) That rather than flaring or venting gas from said well to clear the wellbore of ~~said~~ fluids or other material, Michael P. Grace II as operator should have, within a reasonable period of time after production problems commenced, equipped said well with smaller diameter tubing which would more efficiently clear the wellbore of water or other material.

(20) That 90 days to 6 months following the onset of production problems would have been a reasonable period of time in which to equip said well with smaller diameter tubing.

Partial (17) & (18) (on last page)

(22) That Michael P. Grace II did in fact ~~only~~ equip the well with ~~the tubing~~ smaller diameter tubing only after the Commission rescinded Administrative Order ~~No.~~ TX-39.

Case No.
Order No. R-

(23) That Michael P. Grace II did not equip said well with smaller diameter tubing until September, 1977, at least 20 months after the onset of said production problems.

(24) That said well has flowed at a reasonable sustained rate of production since the installation of the smaller diameter tubing.

(25) That Michael P. Grace II, by allowing said well to produce at an impeded or totally restricted rate for an unreasonable period of time did, in all probability, allow gas that would otherwise be recovered by said well to migrate from the proration unit to another well or wells on other proration units within the same pool.

(26) That Section 65-3-14(c) paragraph 2, New Mexico Statutes Annotated, 1953 Compilation, concerning compulsory pooling states in part that:

> "All orders effecting such pooling shall be made after notice and hearing, and shall be upon such terms and conditions as are just and reasonable and will afford to the owner or owners of each tract or interest in the unit the opportunity to recover or receive without unnecessary expense his just and fair share of the oil or gas, or both."

(27) That operations allowing gas to migrate from said Grace-Atlantic Well No. 1 to other proration units in the same pool denies the owners of the pooled unit dedicated to said well the opportunity to recover or receive their just and fair share of the gas from said pool.

(28) That Michael P. Grace II withheld certain royalty interest payments due from production from ~~said~~ the well and ~~said~~ the pooled unit and did in fact ~~only~~ make the payments only after federal court action. by the royalty interest owners.

Case No.
Order No. R-

(28) That such action denied the owners of such royalty interest the opportunity to recover or receive without "unnecessary expense" their just and fair share of the production from said pool.

(29) That Michael P. Grace II as operator of said well did cause waste to occur therefrom, did operate said well in such a manner as to cause owners of interest in the pooled unit to not recover or receive without unnecessary expense their just and fair share of the oil, gas, or both from the South Carlsbad Morrow Gas Pool, ~~said pool~~, and did not operate the well with reasonable diligence, in a prudent and workmanlike manner, having regard for the interests of all owners of interest in the well and pooled unit.

(30) That Commission Order No. R-4432 should be amended to designate D. L. Hannifin as operator of the subject ~~said~~ well and unit.

IT IS THEREFORE ORDERED

(1) That effective at 7:00 o'clock a.m. on (date signed), 1978, Order (2) of Commission Order No R-4432 is hereby amended to read in its entirety as follows:

"(2) That D.L. Hannafin ~~Michael P. Grace II~~ is hereby designated the operator of the subject well and unit."

(2) Jurisdiction