CASE 7409: VIKING PETROLEUM, INC. FOR COMPULSORY POOLING, CHAVES COUNTY, NEW MEXICO

CASE NO.

7409

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,

ETC.

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

COMMISSION HEARING

IN THE MATTER OF:

Application of Harvey E. Yates Company for compulsory pooling, Chaves County, New Mexico. CASE 7390

and

Application of Viking Petroleum, Inc., for compulsory pooling, Chaves County, New Mexico. CASE 7409

BEFORE:

Commissioner Ramey
Commissioner Arnold

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: W. Perry Pearce, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:
Harvey E. Yates Company: Robert Strand, Esq.
HEYCO
Roswell, New Mexico

A P P E A R A N C E S

For Viking Petroleum, Inc.: Arthur Jaramillo, Esq.
JONES, GALLEGOS, SNEAD, & WERTHEIM
Santa Fe, New Mexico 87501

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MR. RAMEY: We'll call next Case 7390.

MR. PEARCE: Application of Harvey E. Yates Company for compulsory pooling, Chaves County, New Mexico.

MR. RAMEY: I wonder if we shouldn't call Case 7409.

MR. PEARCE: That's application of Viking Petroleum, Incorporated, for compulsory pooling, Chaves County, New Mexico.

MR. RAMEY: It will, I think, probably be best to consolidate these cases unless counsel have objections to this.

MR. JARAMILLO: We have no objection.

MR. STRAND: Yes, that's fine.

MR. RAMEY: Okay, we'll write two orders for them but we will consolidate the cases for purposes of taking testimony.

Ask for appearances in these two cases.

MR. STRAND: Mr. Examiner, Robert H. Strand, attorney from Roswell, appearing for Harvey E. Yates Company in Case Number 7390.

MR. RAMEY: How many witnesses do you have, Mr. Strand?

MR. STRAND: Two witnesses, Mr. Chairman.

MR. JARAMILLO: Mr. Examiner, Arthur Jaramillo, Jones, Gallegos, Snead, and Wertheim, substituting for J. E. Gallegos, and representing the applicant Viking Petroleum Company in Case Number 7409.

And we have one witness.

MR. RAMEY: Would all of the witnesses rise at this time, please?

(Witnesses sworn.)

MR. JARAMILLO: Mr. Examiner, it appears as though if perhaps we could begin with some opening statements, we might be able to narrow this scope of the proceedings considerably, or at least I believe I might be able to do that, as well, if I may begin.

MR. RAMEY: All right.

MR. JARAMILLO: Mr. Strand?

MR. STRAND: Certainly.

MR. JARAMILLO: Over the past three weeks it's my understanding that there has been some discussions between my clinet, Viking Petroleum, and the Yates Petroleum Company with respect to trying to work out some kind of an agreement that would be compatible to both parties.

As I understand the wishes of my client

at the present time, we wish to withdraw our application for unitization of the north one-half of Section 18, and we are willing to accede to the unitization of the west half of Section 18 with the following restrictions, which I believe are the crux of the dispute between the Commission today -- before the Commission today.

Viking Petroleum Company is willing to participate in the unitization fully and completely in the test well down through and including the Abo formation.

Now, it's our position, and the evidence that we'll present today will indicate that the present production history in -- with respect to wells in the vicinity of the test well in the proposed unit will indicate that there's not sufficient evidence at the present time to justify a test well deeper than the Abo formation. I believe the application is through the Mississippian.

We believe that that presents an unreasonable and unjustifiable risk to the correlative rights of Viking to drill deeper than the Abo formation, and our first position then would be that we feel that the west one-half could and should be unitized but the test well should be limited to the Abo formation.

Alternatively, if the Commission does grant the unitization of the west one-half down through and

including the Mississippian as applied for by Yates, our position would be that we are ready, willing, and able to participate fully in the costs as correlative right owner, in all costs down through and including completion of the Abo formation.

Our position is that if the unitization is granted as applied for, that there should be a dual completion of the wells, one at the Abo formation and the second at the Mississippian.

Our position with respect to the cost differential between completion of the Abo and completion of the Mississippian would be that those costs should be borne by the applicant, Yates, and they should be entitled to recover their costs but the Commission should not allow the risk factor charge provided for in the statute that the Commission at its discretion may impose, first of all, because that additional cost, we believe, is not justifiable from the production history of the wells in the vicinity; it presents an unreasonable economic risk to a correlative right owner; and our position, therefor, is that if Viking is intent on drilling to these deeper formations, the Mississippian formation, it should bear the risk of that. It should indeed recover its cost for the difference between the Abo and the Mississippian, but no more than that in light of what we be-

lieve the evidence will show is unjustifiable risk in that further exploration.

I think with that, my feeling is that the dispute here is simply whether there is sufficient evidence to justify unitization below the Abo formation, and I think that's primarily the matter before this Commission.

MR. RAMEY: Mr. Strand.

MR. STRAND: Mr. Examiner, I would concur with Mr. Jaramillo's statements as to the situation down through the Abo and the agreements to date, and all of this has been oral discussions, there have been on written agreements as such on it; however, I think the fact remains that there is no agreement as to those depths below the base of the Abo.

I don't think there's any question under the statute whether or not Harvey E. Yates Company as applicant would be entitled to an order of compulsory pooling in such a situation where agreement can't be reached as to those particular mineral interests below the Abo formation.

In my experience before the Division and the Commission, I haven't run into a compulsory pooling order entered that's framed in the manner requested by Mr. Jaramillo, that a particular interest owner be allowed to participate down to a certain depth and then the forced pooling order take

effect below that. There may have been some but I haven't seen them.

I think we would like to proceed at this point because of the fact that we have no written agreements of any kind with our application as stated from the surface through the Mississippian for compulsory pooling of the west half of the section.

As to whether or not Viking wishes to participate in the well, of course, under the normal compulsory pooling order entered, they would have that option anyhow, within thirty days to participate by advancing costs.

But I would oppose any order that would allow them to participate to a certain point and then not participate. Either they participate or they don't; one or the other.

That is our position.

MR. RAMEY: Okay, thank you, Mr. Strand. I think we're back to the start, where we'll hear both cases.

MR. JARAMILLO: All right. Just to frame this issue, I understand Mr. Strand's position that there hasn't been a case, nor to my knowledge has there been a case similar to this. Our position is that the statute is broad enough, though, to allow this Commission to enter such an order allowing the allocation of costs as I've described

to the Commission, and also, I'll save that for closing in referring to the statutes I had reference to.

MR. NUTTER: Now, Mr. Jaramillo, let me get this straight.

Is your client proposing -- well, first of all, you're proposing to dismiss your case, I presume?

MR. JARAMILLO: We're proposing to dismiss our application, yes, sir.

MR. NUTTER: All right. Then you'd leave the Yates case stand but you would wish to participate on a voluntary basis to the Abo, is that it?

MR. JARAMILLO: Well, I think we have two positions in that regard.

We will resist the Yates case, first of all, insofar as it seeks to drill a test well beyond the base of the Abo formation. To the extent the application seeks more than that, we resist it.

Alternatively, if this Commission should decide that it will grant the application as applied for, our position is that we would participate fully in the costs of that test well through and including the Abo formation.

MR. NUTTER: Okay, what you'd want then would be an estimate of costs through the Abo.

MR. JARAMILLO: That's correct.

MR. NUTTER: And an estimate of costs from the Abo to the base of the Penn, or the base of the Mississippian, whatever it is.

MR. JARAMILLO: That is correct.

MR. NUTTER: And then you would make your election, which all of these pooling orders provide. They provide an election that you could pay your costs in advance, and you would advance your share of the costs to the Abo based on that original estimate.

MR. JARAMILLO: That's correct.

MR. NUTTER: But you would resist paying any penalty, being carried from the base of the Abo to the Mississippian?

MR. JARAMILLO: That's correct. Our interpretation of the statute is that this Commission has the authority for allowing the recovery of the difference in that cost to Yates, and in addition to that in its discretion the, what I would call a penalty or addition to that cost up to 200 percent of that difference.

MR. NUTTER: The risk factor.

MR. JARAMILLO: The risk factor.

Our position is that the evidence that we have to present will show that that risk factor is so extreme at this point that there should not be a penalty or risk

factor charge imposed.

In other words, if the well does go through the Mississippian on the basis of what the Commission hears today, then we will pay our share of the cost down through the Abo; Yates will pay its share of the cost down through the Abo, as well as the cost from the Abo to the Mississippian. We hope that to be a dual completion well, which I understand this Commission needs to authorize.

From the first production from the Mississippian, if there is any, Yates would recover all of the difference in the cost from the Abo to the Mississippian from the first production. We will get none.

When that recovery of the cost is made, however, we believe that should be the extent of the relief allowed to Yates in this proceeding, and then we would have our share of the production paid to us from the remainder.

There should be no charge for a risk factor, and again, on the evidence that we'll present today, that it's an unreasonable risk to drill that deep on the information that is available to us today.

MR. STRAND: Mr. Examiner, if I might add a couple of comments.

First of all, we propose to drill the well, the actual location of the well, on a lease that is

owned by Harvey E. Yates Company and several other people that have agreed to the drilling of the well. We have the right to drill that well to any depth we want; to any formation; clear to China, if we want; and if there is no agreement as to the drilling of that well from other interest owners, we are entitled to the compulsory pooling order under the statute. That's my interpretation of it.

Likewise, we will request the full 200 percent risk penalty, and we will present some testimony on that as we go along.

MR. PEARCE: Excuse me, gentlemen, if I may, Mr. Chairman.

From a procedural standpoint, particularly Mr. Jaramillo, is Case 7409 still alive?

MR. JARAMILLO: I'm authorized to withdraw the application in Case 7409 and have that case dismissed.

MR. PEARCE: Okay, and so if that is done, then you will simply be here as an opponent to --

MR. JARAMILLO: That's our procedural posture at this point.

MR. PEARCE: All right.

MR. JARAMILLO: Yes, sir.

MR. NUTTER: As an opponent to a risk factor from the base of the Abo to the Mississippian, really.

MR. JARAMILLO: Yes. And I think insofar as we resist the application to the Mississippian in the first place. They're related but I think they are two distinctly different issues.

MR. RAMEY: Okay, we will dismiss, then, Case 7409 and proceed with Case 7390.

THOMAS J. HALL III

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

DIRECT EXAMINATION

BY MR. STRAND:

Q. Please state your full name for the record.

A. Thomas J. Hall III.

Q. Mr. Hall, where do you reside and what is your occupation?

A. Roswell, New Mexico. I'm an attorney for Harvey E. Yates Company.

Q. Mr. Hall, are you employed by Harvey E. Yates Company on a fulltime basis?

A. Yes, I am.

Q. In that capacity?

A. That's correct.

Q. Would you please state the purpose of the application in Case Number 7390?

A. The application of Harvey E. Yates Company is for compulsory pooling in Chaves County, New Mexico. We seek an order pooling all mineral interests down through the Mississippian formation underlying the west half of Section 18, Township 9 South, Range 27 East, to be dedicated to a well drilled at a standard location thereon.

Also to be considered will be the cost of drilling and completing said well and the allocation of the costs thereof, as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

Q. Mr. Hall, I refer you to what we have marked as Exhibit Number One. Would you please describe that exhibit and its contents?

A. Yes, sir. Exhibit Number One is a land plat of the -- that contains Section 18 of Township 9 South, Range 27 East, and marked thereon is a -- is a rectangle indicating the west half of that section.

Q. Mr. Hall, the proposed location of the well is not marked on that plat. Where is it located?

A. No, sir, it is not. It is 1980 from the north line and 660 from the west line of Section 18, and that would be in the southwest of the northwest of that Section 18.

Q. Mr. Hall, will you state for the record what the ownership of the mineral interest under the west half of that section is?

A. All right, sir. There will be 240 acres of that west half of Section 18 is under State lease L-6775, which is presently owned by Harvey E. Yates Company, and various partners of Harvey E. Yates Company.

The 80 acres in the east half of the northwest quarter is State lease L-6907, which the -- the record title owner is Celeste Grynberg.

Q. Mr. Hall, and the ownership, the mineral ownership under the lands is the State of New Mexico, is that correct?

A. That's correct.

Q. Mr. Hall, would you state somewhat briefly the negotiations, or the tenor of the negotiations, that Harvey E. Yates Company has had with Celeste Grynberg, Jack Grynberg, Viking, or whoever is involved in this thing?

A. Well, sir, they've been -- we have been in negotiations with the -- Mr. Grynberg and Viking Petroleum. Primarily Mr. Grynberg is the -- tells me he is acting as

agent for Viking Petroleum, so our dealings have been primarily with Mr. Grynberg.

We originally proposed a west half location, a west half proration unit in Section 18, which Mr. Grynberg did not agree to. He wanted a north half. We couldn't reach any agreement on that, which precipitated a filing of these two cases.

Since that time we have moved to a point where we had agreed to put together a working interest unit under the whole of Section 18, and Mr. Grynberg eventually came around and told us that he would agree to a west half drilling, and then in the past four or five days we got down to the serious negotiation which Mr. Jaramillo has alluded to that the Viking-Grynberg interest is that they will agree to go to the Abo formation but they will not go deeper than that, and we were not able to reach any sort of a compromise or an agreement below the Abo formation.

Q. Mr. Hall, has there been an agreement, oral or otherwise, as to drilling to the Abo formation?

A. There has not been an agreement that we will drill just to the Abo formation. We have not been able to reach an agreement --

Q. So as it stands at this point --

A. -- on that.

Q -- there is no agreement as to drilling this proposed test well to the Abo or to the Mississippian in any event?

A No, not any, a concrete agreement, no, sir.

Q Are there any lease expiration dates that become relevant?

A Yes, sir, there are. Harvey E. Yates Company's lease expires December 1st of this year. I'm not exactly certain when the Grynberg lease expires. I understand it's sometime in February.

MR. RAMEY: Excuse me, Mr. Hall, you have to have a well started by December 1?

A That's correct. That's correct.

Q Mr. Hall, I refer you to Exhibit Number Two. Would you please describe that exhibit briefly?

A Yes, sir. This is an operating agreement covering Section 18 of Township 9 South, Range 27 East. It is the latest revision of this that -- it covers the whole section. The first one we put together just covered the west half. This one covers the whole Section 18 and it would propose drilling a west half location to the Mississippian formation. Or to a depth of 6350.

Q Mr. Hall, which of the working interest

owners that you've mentioned before have executed that agreement to date?

A. Mr. Seymour Smith and his -- and his brother have, David Smith, have -- have sent us back their ratifications of this agreement.

Q. Are the other interest owners under that agreement, with the exception of Viking Petroleum, affiliated companies with Harvey E. Yates Company?

A. Yes, sir, they are. They're all family companies.

Q. And to your knowledge have those companies agreed verbally to participate under this form of operating agreement?

A. Yes, sir, we're confident that they will go along with us on this.

Q. Mr. Hall, I refer you back to the COPAS form attached to the agreement, which I believe is Exhibit C. Would you please state for the record the supervision rates that are included there, both for drilling purposes and for producing purposes?

A. All right, sir. The drilling well rate is listed as $3550. The producing well rate is $355 per month.

Q. Mr. Hall, I refer to you Exhibits Number Three and Number Four. Will you please just briefly describe

those for the record?

A. Yes, sir. Exhibit Number Three is a communitization agreement on the State of New Mexico form covering a communitization of the northwest quarter of Section 18 for an -- excuse me, covering the Abo formation.

And Exhibit Number Four is a communitization agreement on Section 18 for the Mississippian formation, and it covers the west half of Section 18.

Q. Mr. Hall, have these particular communitization agreements been submitted to Viking Petroleum for their approval?

A. Yes, sir, they were. They were sent to Mr. Grynberg, to Celeste Grynberg, since she is the lessee of record.

Q. Mr. Hall, back to the drilling and producing rates you just testified to previously, in your position with Harvey E. Yates Company do you examine a substantial number of operating agreements?

A. Yes, sir, I do.

Q. And do the majority of those operating agreements involve wells and prospects to be drilled in southeastern New Mexico?

A. Yes, sir, they do.

Q. Are you then familiar personally with

drilling rates, producing rates, in southeast New Mexico, as reflected by these operating agreements?

A. Yes, sir, I am.

Q. Would you state that these particular rates you've testified to are comparable to the rates for like wells?

A. Yes, sir, I would say -- I would say they are.

Q. As found in those operating agreements?

A. Yes, sir.

Q. Mr. Hall, on behalf of the applicant, Harvey E. Yates Company, would you request that these particular drilling and producing rates be made a part of any order entered in this matter?

A. Yes, sir, I would.

Q. I refer you to Exhibit Number Five. Would you please describe that?

A. This is an AFE for the well that we propose to drill in the -- 660 from the west line and 1980 from the north line of Section 18, and it proposes going to a depth of 6350 feet.

Q. Would you state for the record the dry hole costs and the completed costs for that well?

A. The dry hole costs are estimated to

be $446,200 and the completion -- completed well costs are estimated to be $643,175.

Q. Mr. Hall, who prepared that Authority for Expenditure?

A. It was prepared by a petroleum engineer in the employ of Harvey E. Yates Company, Mr. Pat Hardy.

Q. Mr. Hall, in the event an order is entered in this matter, would Harvey E. Yates Company request that it be designated as operator?

A. Yes, sir, we would.

Q. Were Exhibits One through Five prepared by you or under your supervision?

A. Yes, sir, they were.

Q. Or do they reflect materials, to your knowledge, that come from Harvey E. Yates Company files?

A. Yes, sir, they do.

MR. STRAND: That's all I have on direct.

MR. RAMEY: Any questions of Mr. Hall?

MR. JARAMILLO: Yes, Mr. Chairman. May I have a minute, sir?

MR. RAMEY: Sure.

MR. JARAMILLO: Thank you.

CROSS EXAMINATION

BY MR. JARAMILLO:

Q. Mr. Hall, I notice in comparing the original application that was filed with the Division with a letter that was sent to the Division dated October 8th, 1981, the difference that the initial application sought communitization of the Mississippian formation.

A. That's correct.

Q. The modification letter that I refer to has asked for to cover all formations from the surface through the Mississippian formation. What was the reason for this modification in the application by Yates?

A. The original application was an oversight, a mistake on my part in filing the application. I was going to rectify that through that letter.

Q. Well, what do you see as the difference between covering all formations as opposed to simply having unitization of the Mississippian formation?

A. If we didn't -- we we found something in another formation other than the Mississippian, technically it wouldn't be communitized.

A. All right, and when you filed the modification letter did Yates Company have some expectation of finding commercially producable quantities of hydrocarbons

between the surface and the Mississippian formation?

A. Yes, sir, we did.

Q. Was there any particular zone or formation where you thought there would be producable quantities of oil or gas?

A. I wouldn't be able to testify directly because I'm not -- I don't have that expertise or that knowledge. I have been told that we have a good possibility in the San Andres, in the Abo, and Mississippian.

A. All right, and was that part of the reason, then, for modifying --

A. Yes, sir.

Q. -- the application?

A. Yes, sir, it was.

Q. Now, has the company in discussions with respect to this application discussed the potential and the prospective volumes that could be recovered from those formations you've just named?

A. I wouldn't be able to testify directly whether they have or not. I have not been part of any -- any such discussions, no, sir.

Q. All right. And you don't know the position of the company with respect to where they anticipate commercially producable volumes of hydrocarbons to be located

in these prospective zones?

A. I don't think it would be my place to make a supposition on that particular point.

A. All right. Well, my question was simply whether or not you had any information of the company's position on that.

A. Well, I don't feel that I would be a good spokesman for what the company's position would be, because I'm not directly involved with those matters.

MR. STRAND: Mr. Examiner, or Mr. Chairman, we'll have the opportunity to visit with Mr. Thompson at some length about that shortly.

Q. Now, with respect to the negotiations that have been carried on between Yates Petroleum and Jack Grynberg as agent for Viking Petroleum Company, you indicated that there has been no agreement to drill the test well just to the Abo formation, I think you -- was the crux of what you said?

A. Yes, sir. Yes, sir.

Q. All right. You do recognize, though, that by virtue of the agreements -- by virtue of the discussions and negotiations between Yates and Viking there is at least no dispute as to Viking's participation through the completion of the Abo formation in this test well?

A. I would agree with that, yes, sir, there is no dispute on that. But there's no agreement to stop at the Abo or to just limit it to that. That was the basis of my answer.

Q. As well as there not being any agreement to --

A. To go on down.

Q. -- participate further than the Abo.

A. That's correct.

Q. Just to clear up something that I was confused about, with respect to Exhibit Two, the operating agreement.

A. Yes, sir.

Q. I believe I heard you say that that covered all of Section 18, or was I mistaken about that?

A. You were correct. It covers all of Section 18.

A. All right. Why does -- why does the agreement encompass more than the proposed unit that's being sought here?

A. Well, that was in the -- the carrying on of the negotiations with Mr. Grynberg. He had indicated that he would like to talk about putting together a -- he said communitize the whole section. So we agreed that we

would try to put together an operating agreement covering the whole section, and then we would drill -- we want to drill a well in the west half; he wanted to drill one for the north half spacing and he came around eventually to the west half, but he was interested in having an interest in the whole section, so we did that. This is the latest attempt at getting our agreement together.

Q. So that there's no confusion, however, that agreement wouldn't comport with what is being applied for, what this Commission is being asked to grant in your case?

A. No, sir, no, sir, it wouldn't.

Q. The drilling and production rates that you testified about are fairly standard in the industry for that type of service, isn't that correct?

A. I would say so, yes, sir.

Q. In your discussions with Mr. Grynberg, those of Yates and Company, has there ever been any discussion, or has Yates ever prepared or had prepared an AFE form for completion of the well through the Abo formation?

A. No, we haven't. We haven't prepared one through the Abo.

Q. Had there been any discussions as to what the approximate cost of completion through the Abo would

be?

A. We -- we -- I had discussions on -- following my conversations with Mr. Grynberg on Saturday, I talked with our production man and he made an estimate of what he thought it would cost to go to the Abo, based on this AFE.

Q. Do you know what the approximate cost was?

A. As I recall it was $371,000.

Q. All right. Did -- first of all let me ask you if you know whether Yates and Company agreed that was a reasonable estimate for these costs?

A. I would hate to say that it was -- that we would be bound to those right now. I think we'd like to go back and do some work on it. It was Saturday morning and we were trying to get some figures in case we were able to work it out with Jack and he did it very hurriedly, just looking at the AFE and looking at the prognosis of the depths we were -- we were going to.

MR. NUTTER: Mr. Hall, by referring to "Jack" do you mean Mr. Grynberg?

A. Yes, sir, excuse me, Mr. Grynberg.

Q. Well, is it your view, your opinion, that the cost between $371,000 and say $400,000 would be in

the range of the probable cost?

A. I would say that $371,000 is pretty close.

Q. Okay. With respect to the expiration date of this lease, is it that you must start drilling by December 1st?

A. Yes, sir.

Q. Or in six days?

A. Yes, well, we will have to be drilling on December 1st. The lease expires on November the 30th.

Q. All right, and your company is prepared to meet that deadline should an order be granted in one form or another by the Commission?

A. Yes, sir, we are.

Q. All right. Now, the individuals that you testified that were part of the family business with Yates that signed the operating agreement, how many individuals actually signed that?

A. Well, excuse me, I said that the family individuals have not signed it yet, because this was in such a state of flux. We haven't presented it to the actual family members.

I have been, the only non-family partner to this is Mr. Seymour Smith and his brother David in Chicago,

and I have been dealing with Seymour Smith, and he has signed a -- signed the operating agreement. Really he signed one that just had the west half and we have sent him the replacement pages that include these changes and he has agreed to let his signature stand for those, too.

Q. All right, and if only the west half is unitized, which is your application, you'd have to have that modified one more time for an operating agreement to conform.

A. Just to conform to the west half, yes, sir.

Q. All right, so what you're telling us is that while you don't anticipate any difficulty in the Yates family members signing your agreement, there has as yet been no signature on that.

A. That's correct.

MR. JARAMILLO: I have no further questions.

MR. RAMEY: Any other questions of Mr. Hall? He may be excused.

RODNEY O. THOMPSON

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

DIRECT EXAMINATION

BY MR. STRAND:

Q. State your full name for the record.

A. Rodney O. Thompson.

Q. Mr. Thompson, where do you reside and by whom are you employed?

A. Midland, Texas, and I'm employed by Harvey E. Yates Company.

Q. And in what capacity are you employed?

A. I'm a geologist, exploration geologist.

Q. Mr. Thompson, have you testified before the Oil Conservation Division in the past and are your qualifications as an expert witness a matter of record?

A. Yes, sir, I have, and yes, they -- they are.

MR. STRAND: Mr. Examiner, I would tender Mr. Thompson as a qualified expert geologist.

MR. RAMEY: He is so qualified, Mr. Strand.

Q. Mr. Thompson, are you familiar with the

application in Case 7390 that Mr. Hall has testified to?

A. Yes, I am.

Q. And in your capacity as an exploration geologist for Harvey E. Yates Company have you had occasion to study this particular area as to its potential for oil and gas production?

A. Yes, I have.

Q. And as a part of that process have you prepared several exhibits, geological exhibits, that you wish to present here today?

A. Yes, I have.

Q. I refer you to what we've designated as Exhibit Number Six. Would you please describe that in some detail and its relevance to this application?

A. Yes. Exhibit Number Six is a structure map contoured on the top of the pre-Mississippian dolomite. The contour interval is 50 feet and this map shows that regional dip in this area is to the east. The map also shows a reversal in regional dip between the Yates Petroleum Smith "JR" State No. 1 in Section 14 of Township 9 South, Range 26 East, and the Fred Poole Eastland State No. 1 in Section 13 of Township 9 South, Range 26 East, and between the Plains Radio Broadcasting Company Callam (sic) No. 1 in Section 7 of Township 9 South, Range 27 East.

In other words, a reversal in dip at the pre-Mississippian dolomite between the well in Section 14 and the well in Section 13 of 9, 26, and the one in Section 7 of 9, 27.

Now we believe that structural closure is evident at the pre-Mississippian dolomite horizon under our proposed location due to the reversal in regional dip, as well as the fact that the Eastland State No. 1 was completed as a gas well from the pre-Mississippian dolomite interval.

We expect to be structurally flat or possibly even high to the Eastland State No. 1 at the pre-Mississippian dolomite level.

Now this prospect occurs in an established oil producing trend where pre-Mississippian dolomites are productive over small structures similar to the one that we have interpreted under our prospect. These one to four well fields include the Haystack, the Light Cap, the Twin Lakes, the Racetrack, the Chisum, and the White Ranch, for example, and these wells average around 100,000 barrels of oil per well and some wells have produced over 500,000 barrels of oil.

Enserch has also made some recent pre-Mississippian dolomite completions in the southeast of Elkins for over 200 barrels of oil per day.

So we think we're in a good trend for pre-Mississippian dolomite production in that we have good reason through subsurface geology to believe we do have closure at the pre-Mississippian dolomite under our proposed location.

Q. Mr. Thompson, I refer you to Exhibit Number Seven. Would you please describe that and then we can go back and discuss the two of them together.

A. Okay. Exhibit Number Seven is a west/east structural cross section running through the prospect area. The subsea datum used was a -2000 feet.

The cross section shows the development of the pre-Mississippian dolomite, the basal Penn sands, and the Abo sands in this area. Evidence of a structural high at the pre-Mississippian dolomite is shown on the cross section in the Eastland well, where the Mississippian limestone has been eroded away completely. The Eastland well has basal Penn sandstone sitting on pre-Mississippian dolomite and there is no Mississippian limestone in this well, so in other words, there was a -- we interpret a structural high to have been present at the pre-Penn time under the location of the Eastland State Well, as evidenced by the Mississippian lime being eroded away and evidence of that well producing from the pre-Mississippian dolomite, we anticipate structural closure as being some type of trap there.

The Eastland State No. 1 was completed in the pre-Mississippian dolomite for 631,800 cubic feet of gas per day with bottom hole pressures of 2364 pounds.

The Campbell No. 1 on the cross section and the Conkey No. 1 on the cross section here, Phillips State No. 1, and Kitchens No. 1, all on the cross section, all had shows of oil and gas in the pre-Mississippian dolomite.

The Campbell No. 1 on the cross section was completed in the basal Penn sands for a calculated absolute open flow of 4,187,000 cubic feet of gas per day with bottom hole pressures of 2365 pounds.

Now, off of the cross section Fred Poole recently completed the Byron State No. 1 in Section 1 of Township 9 South, Range 26 East. You can see it on the little legend on the right on the cross section, the well in Section 1. This well was completed from the basal Penn sands for a calculated absolute open flow of 4,144,000 cubic feet of gas per day with bottom hole pressures of 2379 pounds.

The Eastland State No. 1 in Section 13 also appears to have commercially productive basal Penn sands that have not been tested and are still behind pipe because they're completed out of the pre-Mississippian dolomite.

Several wells west of our prospect here have made completions in the Abo Sands. The Eastland State

No. 1 had several gas shows while drilling through the Abo Sands. One break and show was in the McConkey sands in the central part of the -- or the middle part of the Abo. You can see around 4900 feet in the Eastland State No. 1 Well on the cross section is what we interpret to be the McConkey sand.

Now, the Elk Oil Company Runyan State No. 1 is located in Section 24 of Township 9 South, Range 26 East. In this well casing was set for the purpose of making a completion in the Abo Sands but the last I heard this well was waiting on a completion unit.

The Abo Sands, however, appear to be noncommercial in the Campbell No. 1 in Section 7, as well as the Byron State No. 1 in Section 1 of Township 9 South, Range 26 East. Small oil shows in the San Andres carbonates have been reported from several wells in the prospect area. The Eastland State No. 1 reported having oil in the pits along with a drilling break while drilling through the San Andres.

So in summary, then, we feel that a well drilled at our proposed location will encounter commercial reserves from both the pre-Mississippian dolomite and the basal Penn sands.

We also have secondary potential reserves from the Abo sandstones and the San Andres carbonates.

Q. Mr. Thompson, could you discuss in a little bit more detail the potential for production from the various zones that Mr. Hall had testified to under questioning from Mr. Jaramillo?

A. Yes.

Q. Particularly the San Andres and also some discussion of production from the Mississippian zone?

A. Uh-huh. Okay, well, Mr. Strand, I believe that our main objective zones will be -- there's a big debate as to what the dolomite is. I call it pre-Mississippian dolomite. It's been labeled in the production books as Fusselman and Montoya in different areas, and just exactly what formation it is is a controversial matter. So I've labeled it as pre-Mississippian dolomite here.

Now, the Mississippian formation itself I feel is not an objective zone. It's -- it has not had production in the area and I think the pre-Mississippian dolomite is our major objective here.

And the Pennsylvanian sandstones are another major objective and they are developed very well in the -- in recent wells that have been drilled, in the Eastland State, the Campbell No. 1, and the Byron State No. 1, and we feel that with our -- we've had lots of experience in this area drilling these basal Pennsylvanian sands, and

as far as completion techniques and types of drilling fluids to use while drilling through these sands. They are very susceptible to formation damage and they have to be treated with great care. We've had analogous sands developed over around the Tatum area where some other companies have been unsuccessful in making completions, but with the proper techniques used, we've been fairly successful at making commercial wells.

I'm talking about type of drilling fluids used with low water loss type of drilling muds, using a polyhydroxaluminum in the drilling mud to prevent clay migration in your kaolinite clays, which are very common in these basal Penn sands and are very easy to -- to be damaged by drilling muds and completion techniques.

In addition we've used recently what's called DV tools and this isolates the Penn Sands, and we've also used it in Mississippian carbonates with good success. And what it does is channels the cement, which also is a low water loss cement of what the standard that's been used in the industry lately.

This DV tool channels cement around the formation and keeps a high hydrostatic head of cement off these sandstones.

We've found that drill stem tests have

shown good pressures and have tapered out after cementing the well, and we think that formation damage in the mud system completion fluids and cement have all combined to -- to be a major factor in damaging these formations.

Q. Mr. Thompson, is it your opinion that there's at least reasonable expectation of obtaining commercial production from each of these zones which you've discussed?

A. Yes, with what we've interpreted, commercial production from the both the basal Penn sands as well as the pre-Mississippian dolomites.

Q. Now, as to those two particular zones, also the San Andres, also the Abo, would you please state for the record what you would anticipate, natural gas production or primarily oil production from each of those zones?

A. I would anticipate natural gas production from each of these zones -- or excuse me, the San Andres -- I'll start from the top. We'll go from younger down.

San Andres I would anticipate oil production. Many of these wells that have been drilled in the area, particularly to the west, have had oil shows through the San Andres, and the operators that I've talked to have felt that with the pressures in the area, the permeability in the carbonates in this area, that these are -- we're talking about 3 to 5 barrel a day San Andres oil wells.

The Abo Sands are a little of a higher risk in the particular -- in the localized area we're at. The sands that are present that have had shows, even in the Eastland Well, have looked to be rather shaley. Now sometimes this shale effect can be just radioactive material in the sands, making them look shaley, but if you look at the good sands in the main Abo trend and all the way in Township 4 South, Range 25 and 26 East, down to Township 7 South, Range 25 and 26 East, these sands look real clean in the gamma rays and they have good gas crossover in the neutron logs.

So I feel that at the Abo location due to the development of the Abo Sands in the well in Section 1 of Township 9, 26, Range 26, and the Campbell Well in Section 7 of Township 9 South, Range 27 East, that a west half location for primarily the Abo, speaking only of the Abo, would be a lower risk location than a north half, due to its better development of the Abo Sands in the Eastman Well in Section 13, and in the Elk Oil Company well in Section 24, Township 9 South, Range 26 East.

Now I expect gas production from these Abo Sands but the risk is higher that these would be commercial.

I expect gas production from the basal Pennsylvanian Sands, and as far as the type of spacing in

Section 18 for those, I wouldn't -- either one would be about the same risk, I would think.

And that would hold true for the pre-Mississippian dolomite also.

Now, that was -- Fred Poole completed his well in the Eastland State No. 1 from the pre-Mississippian dolomite, which was a gas completion. So I would have to go along with a gas completion in that well, too, although this pre-Mississippian dolomite is oil productive in the -- in the area and they didn't -- they didn't run any drill stem tests; they just completed it. They haven't had any oil yet that-- I've heard that maybe we're just looking at a gascap.

Q. Mr. Thompson, with regard to the risk of drilling these types of wells, have you been involved in the drilling of a number of wells in southeastern New Mexico during your tenture as a geologist?

A. Yes, I have.

Q. And are you somewhat familiar anyhow with the -- with the risk involved in drilling these types of well as to the possibilities of losing holes and so on and so forth?

A. Yes, I am, and I think the largest risk in this area is to whether your formation is going to be there or not. Both the Lower Silurian and the Ordivician

units are, as well as the Mississippian, are truncating out over low relief structures in this area, and I think there is some risk attached to -- to our proposed location.

Q. Could you comment at all on mechanical risk involved in drilling the well?

A. Well --

Q. I guess what I'm getting at, Mr. Thompson, is it risky to drill a well to 6000 feet, roughly, as you discussed?

A. Yes, I think it is, as far as completion problems, which is twisting off pipe or -- or getting stuck on drill stem tests is a big problem, because these shales in the Penn blow out into the wellbore and the -- if you're running drill stem tests that's one thing that's easily a good way to -- it would be fairly common to be stuck on that and raise the cost.

Q. In your experience, Mr. Thompson, the deeper, as you drill deeper do you normally experience more risk of losing the well?

A. Yes.

Q. Are you familiar, Mr. Thompson, with the statutory penalty in the State of New Mexico that's involved in compulsory pooling which allows recovery of costs from the nonparticipating interest owner plus 200 percent?

A. Yes.

Q. Are you also familiar with operating agreements and relating to other wells drilled in southeastern New Mexico and what the penalties range on operating agreements?

A. Yes.

Q. Could you please state basically what the penalties range?

MR. JARAMILLO: If I might --

A. Well --

MR. JARAMILLO: If I might interpose an objection to this particular question.

First of all, the statutory penalties has been referred to. I find no reference to penalty in that particular statute and I believe each case is one to be decided on the facts by the particular commission, and my feeling is that any generalization over unspecified contracts is irrelevant and not material here.

MR. STRAND: Mr. Examiner, I may have to rephrase the question but I think it is relevant as to what people entering into voluntary operating agreements relating to wells, for nonconsent operations under those operating agreements, feel the risk penalty should be.

MR. RAMEY: Why don't you rephrase the

question, Mr. Strand, and see if we --

MR. STRAND: See if we can get it straight?

Q. Mr. Thompson, are you familiar with the standard from operating agreement that's used almost exclusively in southeastern New Mexico?

A. I have read the -- read it over before.

Q. Are you aware and are you -- of the fact that there is a provision in all of these operating agreements that provides for a non-operator working interest owner not to consent in the drilling of additional wells or the reworking of wells?

A. Yes, uh-huh.

Q. And are you also familiar with the percentages in operating agreements in southeastern New Mexico that are quite often utilized in these operating agreements?

A. Yes, I am.

Q. Would you please state from your knowledge in general terms what those penalties range from?

A. I would --

MR. JARAMILLO: Mr. Examiner, again, I would have to impose an objection. Mr. Strand himself at the outset of this proceeding said there's not ever been a proceeding before this Commission that he was aware of where the

facts in this particular case arose, which is not a penalty for not going along with the entire project but one where we're willing to go along with a certain percentage.

To simply generalize what the range of standard penalties are in a case not before the Commission simply has no relevancy or materiality to the decision the Commission must make on this case.

MR. STRAND: Mr. Examiner, I'll withdraw that question and ask another one.

MR. RAMEY: All right.

Q. Mr. Thompson, I have here an operating agreement that's designated, I believe it's Exhibit Number Two.

A. Uh-huh.

Q. I am referring to page five of that agreement.

A. Yes.

Q. Which in this particular agreement was to cover all of Section 18, as Mr. Hall testified to.

On page five under Subsection B, Subsequent Operations, under paragraph (b) there's a percentage stated. Will you please state that percentage?

MR. JARAMILLO: Same objection.

MR. RAMEY: This is, I assume, Exhibit

Two that you're talking about?

MR. STRAND: Yes.

MR. RAMEY: I think we can have the witness say what is in Exhibit Two.

A. That would be 300 percent. Do you want me to read the --

Q. I don't know that it's necessary to read the paragraph in. I just want to get something in as to what at least some other parties that have executed this agreement have agreed to.

With that, I need say no more. Nothing further on the matter.

Mr. Thompson, in connection, again, with the risk involved in drilling this particular well, would it be your opinion that the maximum statutory risk penalty allowable of 200 percent would be appropriate?

A. Yes, it would.

Q. And you would request on behalf of the applicant, Harvey E. Yates Company, that such penalty may be made a part of any order entered in this matter?

A. Yes, I would.

Q. Would you also request that that penalty be made a part of any order whether that order relates to compulsory pooling from the surface through the Mississippian

or from the base of the Abo to the lower depth?

A. Yes.

Q. Mr. Thompson, were Exhibits Six and Seven prepared by you or under your supervision?

A. Yes, they were.

MR. STRAND: I have nothing further on direct.

MR. RAMEY: Any questions of Mr. Thompson?

Let's take about a fifteen minute recess.

(Thereupon a recess was taken.)

MR. RAMEY: I had asked if there were any questions of Mr. Thompson and Mr. Jaramillo indicated that he was ready to ask some questions.

MR. JARAMILLO: I have a few and, hopefully, brief questions, Mr. Examiner.

CROSS EXAMINATION

BY MR. JARAMILLO:

Q. Mr. Thompson, let me begin with the structural map which you presented, I believe.

A. Yes.

Q. What's the exhibit number of that?

A. That's the Exhibit Number Six.

Q. Okay. Was the basis of this map seismic or is it subsurface?

A. Subsurface.

Q. It's a subsurface map?

A. Right.

Q. All right. Now, on any kind of a structural map like this isn't it always better in terms of obtaining harder and more clear information to verify it by seismic?

A. Yes. In -- depending on control, it's -- the more information one has in a certain area, of course, the better it is, but one has to look at economics, too, in evaluating an area, and if a person feels confident with the amount of control he has in an area without shooting seismic, then it sometimes is deemed unnecessary.

Q. All right. Now this proposition that you've just been talking about, I assume this applies in terms of lessening risk of an oil and gas operation, that the more information you have available to you in order to estimate the potential for commercial productivity, the better off you are. Would you agree with that?

A. Yes.

Q. All right, and that should not only pertain to verifying structural maps by seismic but also having production history from wells in adjacent or adjoining sections. Is that also true?

A. Yes, that's true developmentwise speaking, but when we're talking about the exploration well it's a different ballgame and very seldom do you have even as much well control as we have in this prospect in lots -- in other areas.

Q. Even in exploration, however, is there not a standard that each operator would apply before entering a venture where in protection of his own interests and those of other working interests are perhaps going to be impacted by that, is there not a standard, some standard, where an operator will say I either do have or I don't have enough data available to me in order to start out on this venture?

A. Well, of course, we'd have to -- I'd have to answer that for our exploration manager himself, but the way I feel that he would answer that is that we do have our standards, but as far as a set standard, I wouldn't -- I would say we have no set standard. We evaluate an area the best way we feel possible and we run economics on the area with what information we have, from trends in the area, or what information we feel that we interpreted having, and we

go from there.

Q. And it's not unusual in the oil and gas industry that working interest owners looking at the same basic data will come to different conclusions as far as measuring the risk that they're willing to accept in certain ventures. Would you agree with that?

A. Yes.

Q. Now, what is an objective zone, I believe you referred to that in your testimony on direct?

A. That would be one-- zones that we feel have commercial production.

Q. And what, would you define what commercial production is as you've testified?

A. That would -- that would be production that is economical to our company to -- to drill a well for the reason of drilling a well and penetrating.

Q. Would that be recovery of costs plus a fair rate of return?

A. It would involve both of those, yes.

Q. As well as --

A. As --

Q. Excuse me, go ahead.

A. As well as other factors, such as we have several different forms that we go by. One is what we

call a risk profile, and of course that involves your formation being present, the type of reserves that you expect in that formation, the amount of risk of the actual reservoir rock being there, and the TD of that well as to AFE costs and costs of operating the well, and when all these are put together and analyzed we determine how much of an interest we would take in a prospect to -- to be -- to have a profitable gain for the company.

Q. All right. Well, the ultimate goal of these factors that you're talking about, though, however, is for you and joint interest owners in the property to recover the cost expended, of course you want to do that --

A. Yes.

Q. -- as well as make a fair rate of return on your investment, correct?

A. Yes, and the line between -- well, rate of return would be -- would be more standard than amount of profit. Some companies, you know, would have a different line for the return on their profits. In other words, their profits in other companies, I would -- I would imagine.

Q. Okay. Now do you consider these factors that we've been talking about in developing your objective zones?

A. Yes.

Q. All right. You've indicated in your testimony today that the Mississippian is not itself an objective zone of Harvey E. Yates and Company in making this application for unitization.

A. That's correct.

Q. You've indicated as well that there's been no production reported from the Mississippian formation.

A. That's -- that's correct, in this immediate area.

Q. All right, so why are --

A. That under this prospect there would not be Mississippian production.

Q. Why then have you applied to this Commission for unitization up to and including the Mississippian formation?

A. Well, that needs to be revised to indicate to penetrate the pre-Mississippian dolomite. We had additional information that we received since that time to warrent us to rephrase that to pre-Mississippian dolomite.

It doesn't make any difference as far as the cost or AFE on the well because TD would be the same.

Q. Would you explain what TD is?

A. Well, our proposed total depth of the well; what your AFE costs are based on; part of what they're

based on, would be the depth of the well.

Q. In any event, some information has recently come to your attention to lead you to conclude that there would be no production in the Mississippian formation at the location where this proposed well is --

A. That's correct.

Q. -- to be drilled?

Now, with respect to the increasing risk factor that you also testified about, that as you drill deeper you increase your risk, is it not true from your experience and knowledge as a petroleum geologist or a geological engineer, that there is also a balance that has to be struck in terms of risk versus the anticipated production that one can reasonable expect to obtain in entering into a venture such as this one?

A. Well, that's correct, and it's a -- quite a range of difference. You may have very low -- and it's mainly involved with number of reserves versus I guess it would be risk, and of course, a high reserve type well versus a high risk will sometimes come out economical where a low reserve well versus a high risk would not, or a low reserve versus a low risk would, you know, and those ranges are variable and set up different between companies.

Q. Is it your opinion as a geological en-

gineer that there are commercially producable reserves of oil and gas in the Abo formation at the site where this proposed well is to be drilled?

A. I would say that the chance of depending only on an Abo well on this location would not be economical when the risk in involved, under including both risk and reserve.

Q. Let me ask you this in two stages, then.

A. Uh-huh.

Q. First, are there reserves of oil and gas in the Abo formation at this location?

A. There -- I have reserves estimated but the -- under the economical line as to being a commercial Abo well.

Q. What is the proposal for this particular well in terms of more than one completion in a different formation, do you know?

A. No, we would -- we generally would, for the sake of making better completions, we would -- I would almost guarantee that we would make a completion out of the pre-Mississippian dolomite first, produce it, and then come on up to the basal Penn Sands rather than running two strings of tubing in the hole and having all kinds of mechanical problems that might develop from that.

So, you know, I can't really say for sure how that would be done, but that's how we've been doing it recently.

Q. Is there not set proposal, then, that --

A. There would be -- there would -- I'm not sure. We'd have to talk with the manager on that.

Q. All right, you're not prepared to testify here today about that?

A. Not really, not as to what we actually would do, if we'd make a dual completion or a single completion and then plug back and come up to the next highest horizon, next lowest horizon.

Q. All right. Did you not testify that there is a lower risk in obtaining a commercially producable oil and gas at this location from the Abo formation than for the north half of Section 18? Was that not your testimony?

A. Yes.

Q. All right, so you do anticipate some production from the Abo formation in this well?

A. I would say if there is production from the Abo a western half location would be better than northern half, according to how this sand development is -- the sand in the Abo is developed in the offsetting wells.

Q. All right, I --

A. There's no sand up to the north in the Fred Poole well.

Q. I detect some --

A. No commercial sand, I should say.

Q. I detect some hesitancy on your part to conclude on a reasonable basis, let's say, that there are commercially producable volumes within the Abo formation under this proposed well.

A. I would say that with the risk involved economically productive Abo gas would be -- or production from the Abo Sands would -- would, according to our analysis at Harvey E. Yates Company, come on uneconomical.

Q. All right. Now, does not your risk increase the deeper that you drill for oil and gas reserves? Was that not your testimony?

A. The risk as far as mechanical problems plus, well, in this area, lower Ordivician rocks, because they're right in an area where they're being truncated and they come and go a lot quicker than, for example, an ABo reef trend, which is, you know, more of a continuous carbonate trend which you can follow for, laterally, for several miles. There are problems with that, too, but, you know, that's a lot less of a risk type venture than -- than these others.

But of course, right where these lower

Ordovician rocks are pinching out are where good traps are developed, too, so that helps your reserve estimate, to that balances the risk out.

Q. Let me have you assume that before this hearing is over there will be some testimony that there is a reasonable probability of there being commercially producable volumes within the Abo formation under the proposed well site here. Is it not true, if -- let me have you assume that as a fact; that one of the risks that you have in drilling below the Abo formation would be risk of losing the Abo well altogether?

A. Well, of course, there would be -- every foot you go after a horizon that your potential after, you know, that would be true for anything, and any deeper you go in a well there's more of a chance of having something go wrong with it.

Q. All right. Are you familiar, Mr. Thompson, of that kind of problem occurring within the vicinity of the wellsite here in Chaves County within the last year or two years?

A. Well, I know from our experience in the -- over to the east of this area, southeast, I should say, in the northern Lea County, where these Pennsylvanian Sands are developed, there is some commercial risk drilling through

these, as well as the Permian Shale in the Wolfcamp formation mainly, where you had trouble running logs because the shales had washed out in your hole, and you have trouble running drill stem tests because of the shale problem. And you have lost ciculation zones in the Pennsylvanian carbonates that were -- that sometimes pipe will get stuck in and raise your mechanical risk problems.

Now as far as the Abo goes, I'm not as familiar with the -- with the risk of mechanical risks in the Abo.

Q. Okay.

A. As I am with the lower horizons.

Q. In terms of trying to decide how deep you should drill a well, what the estimated production of oil and gas would be, is it not true that one would put more emphasis on a well which is located in an adjoining area of the test well than one that would be located farther away? As a general principle is that true?

A. I don't under -- didn't understand that question.

Q. Well, let me -- let me kind of set it out with a foundation question. You do lookto the production in other wells in the same area in making a decision what to drill and how far to drill it.

A. That's correct.

Q. All right, you look at the production from those wells, is that correct, the production history?

A. That's correct, in the local area as well as the regional trend.

Q. All right. Now, the proximity of the wells that you use for comparison, that has some relationship to what you can reasonably expect to find in the test well, as opposed to using a well that may be farther away, is that true as a general proposition?

A. Generally, unless you have reason to believe that what you're looking at, such as a sand or a channel, is more apt to be developed in the -- in the area under your proposed location than it was in the offset wells.

Q. Okay. Let me refer you to -- your attention to the well that I believe you testified to in Section 13, which is to the east, I believe, of the proposed unit.

A. To the west of the unit.

Q. To the west of the proposed unit. That's the Eastland State No. 1?

A. That's correct.

Q. It's your testimony that in looking at the production history, or it was reported to you that that well was completed for 632-million cubic feet per day. Do

you recall that testimony?

A. That's 632,000.

Q. 632,000 --

A. Yes.

Q. -- cubic feet per day.

A. Right.

Q. All right, now is that calculated at absolute open flow?

A. I believe -- I don't know for sure on that. I can't answer that for sure but I think it was. Let me look at my notes that I have in here.

I don't believe that was a COAF reading. I think it was initial production flowed, so it's an IPF.

Q. Okay, so --

A. So I would imagine that a COAF would be higher than that.

Q. Well --

A. A regular 4-point but -- but I'm not sure on it.

Q. All right, you're not certain about whether it was calculated absolute open flow or not?

A. Well, I just, you know, initial production flow.

Q. All right, let me then just have you

assume that that is calculated absolute open flow.

A. I would guess that it isn't. I would guess that it would be just a flow, an IPF.

Q. All right.

A. Not COAF.

Q. Let me just have you assume to the contrary for purposes of my question, then, --

A. Un-huh.

Q. -- and we'll leave that establishment for some further evidence.

The actual gas which delivered would be less than 632,000 cubic feet per day if it was calculated at absolute open flow, is that correct?

A. The gas per day would be less than the 600, yes, that would be correct.

Q. All right, when it's attached to a pipeline you're going to get less than absolute open flow of this gas.

A. Yes.

Q. All right, and is it your opinion that if it is 632,000 cubic feet per day produced at that well in Section 13, that once it's put into the pipeline that will be commercially producable?

A. I think it will if combined with the

techniques that we use to complete our wells as operators, as well as the pressure data that we have, which is very limited up to this point. Two of these wells aren't even hooked up to the pipeline yet.

Q. Have you computed what this would amount to on a per Mcf basis?

A. Per day?

Q. Per day.

A. I haven't personally myself.

Q. Do you have an opinion as to the approximate amount per Mcf that that would be?

A. I would say probably -- I believe that this one has -- has -- is stabilized at around 300 to 400,000 a day now, and that would be from information gathered from, let's see, what Mr. -- Mr. Kelly with Fred Poole.

Q. That's where you obtained this information?

A. Yes, well, part -- part of the pressure information, yes. John Klee, I'm sorry, K-L-E-E.

Q. Okay.

A. John Klee.

Q. You did not verify the 632 in any records of the Oil Conservation Commission?

A. No. That's the -- I don't know if they

have received those yet. That's what they had on their -- on their form, completion form, that's labeled -- let me get that. The Form C-122, and that's to the New Mexico Oil Conservation Commission, so they probably have that.

Q. Okay. In your opinion if this were 632,000 cubic feet per day calculated at absolute open flow, and let me have you assume that the costs being projected for this particular well were computed as against this amount of productivity, would it be your opinion that if that per Mcf amount cost versus production were in the range of $5.00 per Mcf, that that would be a commercially producable gas?

A. Yes.

Q. At $5.00 per Mcf?

A. Yes.

Q. Okay.

A. Especially at 6100 feet, 6200 feet, I guess, where these sands would be at, and really the Fusselman would be at around 6 -- let me look at the cross section here -- we're looking at a depth of 6100 feet. So at those depths and at those gas prices, yes, it -- I'm sure it would be economical.

Q. All right, you're saying that at $5.00 or so an Mcf a producer could sell his gas to a pipeline and recover his costs and a fair profit?

A. I would say to my knowledge, yes. You're talking about, for example, a tight reservoir?

Q. I'm talking about what the estimation is in your opinion of what would be produced at the test well here.

A. I'm not sure if this well is classified as -- or this formation is classified in this area as $5.00 gas, are you?

Q. No. I'm asking if there's a fair comparison, though, that can be made. You've relied on the data from the well at Section 13 --

A. Yes.

Q. -- to support your opinion that there are producable quantities of gas at the proposed site in Section 18.

A. Uh-huh, that's correct.

Q. I'm asking you whether or not there is a valid comparison to be made there.

A. I think there are commercial quantities of gas to be made in the well in Section 13 from the pre-Mississippian dolomite.

Q. And from that you're basing your opinion on the proposed well in Section 18.

A. In Section 13, you mean? The well that

was drilled?

Q. No, I'm talking about the proposed well --

A. Right.

Q. -- here.

A. Okay, that's -- that's what I'm talking about, is that proposed location.

Q. Have you been involved at all in the negotiations between Yates Petroleum or the Yates Company and Viking Petroleum?

A. No, sir.

Q. In this matter? Have you been consulted on the matter?

A. I, yes, I've consulted on portions of the matter, that dealt with me.

Q. All right, were you --

A. And my work.

Q. Were you made aware of the reluctance of Viking Petroleum to participate voluntarily in the drilling below the Abo formation?

A. Yes.

Q. Did you provide any information to Yates to substantiate its position that it was reasonable to do so?

A. Yes.

Q. Do you know, was that in any kind of

written form?

A. It is in a risk analysis form and in variables that we have estimates of for -- it's called a risk profile, is what we call it, and it involves economics -- it involves production as well as risk.

And this was presented to George Yates and with this information he analyzes it and decides on the -- is the well being commercially -- commercial for us to drill or not to this depth.

Q. All right.

A. To test this formation.

Q. You also advised him, I assume, somewhere in the course of your working for him, that there is no, in your opinion, producable volumes of gas within the Mississippian formation.

A. Right.

MR. JARAMILLO: I believe that's all I have, Mr. Hearing Officer.

MR. RAMEY: Any other questions? Mr. Nutter?

QUESTIONS BY MR. NUTTER:

Q. Mr. Thompson, did I hear you make a reference to Abo production in Section 7?

A. No, sir, that well, with the information I have from the logs and the mud logs and the geologist who worked on that well, I believe that the Abo Sands would be noncommercial in that well, the Campbell No. 1.

Q. There is some slight development of the Abo Sands compared to the well to the left on your cross section, however, isn't there?

A. Yes, there are compared to the -- at first the well in Section 1, now, let's see, the Byron, yeah.

Q. I'm comparing the Plains well to the Fred Poole well. The Abo appears to be slightly more developed in the Plains well.

A. Slightly better developed in the Plains than the well in Section 1, correct.

Q. So neither one of those wells -- you mean the well in Section 13.

A. No, I think the Abo Sands in Section 13 are -- are better developed and have a better chance of being commercial than those in the -- the Abo Sands in Section 7.

Q. I see. Okay, now, apparently the Plains well is completed in the basal Pennsylvanian, is that it?

A. That's correct, basal Penn Sand.

Q. And you do have Mississippian section present in that well.

A. There's a small Mississippian section present in the Plains, yes.

Q. Now, in the -- in the Yates Petroleum well in Section 14 --

A. Uh-huh.

Q. -- you also have about 60 to 75 feet of Mississippian section there.

A. That's correct.

Q. But on your cross section you show Mississippian pinching out.

A. That's correct, in the Eastland well.

Q. In theEastland well.

A. Yes, sir.

Q. And also at the proposed location.

A. Correct.

Q. Now on your stick diagram of the proposed location you show this proposed well going down to what I interpret to be the Ordovician or the Ellenburger.

A. That's correct.

Q. In between the dotted lines there.

A. Uh-huh.

Q. But the application is for pooling down to the Mississippian. We're not even talking about pooling the formations that you're projecting the well to, then, are

we?

A No, we're talking about going through the -- at least into the Ordovician, correct.

Q So what are we going to have to have, another hearing to amend, or another advertisement, at least, to amend the application, Mr. Strand?

MR. STRAND: Mr. Examiner, as Mr. Thompson testified to earlier, some of this information came to his attention after the application was filed, and really just within the last few days, which now indicates that the previous total depth that we had indicated on the AFE is really in the Ordovician as opposed to the Mississippian, and it was my intention to go ahead and put on the evidence that we have relating to the Ordovician and then request a readvertisement.

MR. NUTTER: Well, normally in the course of these proceedings we can't enter an order until there has been an advertisement giving us jurisdiction over what we're doing. Is this going to hold you up as far as the deadline on December 1st for starting this well?

MR. STRAND: Mr. Nutter, we have no choice, really, anyhow but to put a cable tool rig on the location and go ahead and hold the lease for that period of time. In fact, it's my understanding that a cable tool rig is being moved out there right now and we, of course, will

get that squared away with the State Land Office and their requirements, but we're doing that right now.

MR. NUTTER: I see, so the December 1st deadline is not as critical as it might appear to be, then.

MR. STRAND: Not really, no, not really.

Q. Mr. Thompson, on this Eastland well --

A. Uh-huh.

Q. -- down there in that perforated interval --

A. Yes.

Q. -- there's no -- you don't see any lime there at all. It's --

A. No, that's dolomite.

Q. There's just a complete absence of the Mississippian lime in that well.

A. That's correct. The mud log on the -- on the J. R. Smith at 6020 to 6065 is a lime and that's verified on the mud log as well as personal communication with geologists at Yates Petroleum.

Now, after obtaining information on the Eastland State No. 1, usually on a neutron -- well, with Schlumberger it's formation density -- when you go -- when you drill into a dolomite your neutron curve and your density curve will show some -- some pretty good separation, as

it does in the Eastland well.

And after verifying with the geologist that worked on this well, Mr. Allen, who's a consultant geologist in Roswell, that was true. They had basal Penn Sands sitting on pre-Mississippian dolomite, and there is also evidence for a structure being there due to that absence of the Mississippian where it was shaved off but was structurally high at Mississippian time.

Q. I see.

MR. NUTTER: I believe that's all.

MR. RAMEY: Any other questions of Mr. Thompson?

MR. JARAMILLO: I have one further question, if I may, Mr. Hearing Examiner.

MR. RAMEY: Okay.

RECROSS EXAMINATION

BY MR. JARAMILLO:

Q. Mr. Thompson, I overlooked asking you before with respect to the Plains Radio well in Section 7 --

A. Yes.

Q. -- do you know how much gas that well has produced? Since its completion in May, I believe?

A. No, I'd better not answer that to be sure.

That question should be directed to someone else or to me at a different time when I can find that out.

I believe that's the only one that's hooked up to the pipeline right now, though.

MR. JARAMILLO: That's all I have. Thank you.

MR. RAMEY: Any other questions?

MR. STRAND: Mr. Examiner, I would move the admission of Exhibits One through Seven for Harvey E. Yates Company.

MR. RAMEY: Exhibits One through Seven will be admitted.

Does that conclude your --

MR. STRAND: Yes.

MR. RAMEY: I haven't excused the witness. He may be excused.

Do you want to put your witness on, Mr. Jaramillo?

MR. JARAMILLO: Yes, Mr. Examiner. On behalf of the intervenor in opposition to this application, we would call a witness, Morris Ettinger.

These are our proposed exhibits.

MORRIS I. ETTINGER

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

DIRECT EXAMINATION

BY MR. JARAMILLO:

Q. Would you state your name, please?

A. Morris Ettinger, E-T-T-I-N-G-E-R.

Q. Mr. Ettinger, what is your business address?

A. It's 1050 - 17th Street, Denver, Colorado, 84265.

Q. What is your business or occupation?

A. I am the exploration manager for Grynberg and Associates.

Q. All right, how long have you been so employed?

A. For about three years.

Q. And what is the general nature and scope of your duties in that capacity?

A. It's exploration and production of oil and gas.

Q. And would you describe what Grynberg and Associates is, please?

A. Grynberg and Associates is a private -- privately held company, and engaged in oil and gas exploration and production.

It has ventures throughout the Rocky Mountains, southeast New Mexico, Mississippi, and other places.

Q. All right, and would you explain for the Commission what the relationship is between Grynberg and Associates and Viking Petroleum?

A. We have a number of joint ventures in a number of states, and this is another case of joint venture.

Q. All right, and what is your relationship to Viking Petroleum?

A. I am agent and consultant of Viking.

Q. All right. Mr. Ettinger, have you appeared and testified before the Oil Conservation Commission on prior occasions --

A. Yes.

Q. -- with respect to matters of geology in connection with properties in southeast New Mexico?

A. Yes.

Q. All right.

MR. JARAMILLO: Mr. Examiner, we tender the testimony of Mr. Ettinger as an expert witness.

MR. RAMEY: He is so qualified.

Q. Mr. Ettinger, so that I can focus your testimony on what I believe are the true issues in this particular case, have I stated the position in opening statement here of Viking Petroleum accurately, that number one, we would accede to the choice of Yates Petroleum in unitizing, with some exceptions I'll talk about, the west half of Section 18? Is Viking in accord with that being the -- at least on the surface, the unit that should be unitized in this case?

A. We'll, yes, Viking will agree to that.

Q. All right. Now, as I understand the disagreement, it is only with respect to how far the test well that's being proposed on the unit should be drilled, is that correct?

A. Correct.

Q. All right, and Viking is taking a position that the drilling of the well should not exceed the base of the Abo formation, is that correct?

A. Yes, only I'll add at this time.

Q. All right, and what is the basis for that particular position?

A. Information, in our opinion, this area is very sketchy. I think the previous testimony showed that. There is a confusion as to the formations, what is what formation, and the data is not readily available, and we feel

that at this time to go ahead and spend this extra money with very little information, very unclear information, is waste of money.

What we prefer to do is drill to the Abo. We recognize the fact that the leases are about to expire and the well should be drilled. We think that San Andres and Abo are good objectives, and as far as the deeper objectives, we should study, wait for more production history, and if we find it, I don't know, in six months from now, justified, we'll drill.

Q All right, Mr. Ettinger, let me go through this data that we're talking about on a step by step basis, if I may, and let me refer you to what's been marked as Exhibit A before you, and I'll ask if you can identify that?

A Yes. Exhibit A is basically showing the area in question, showing Section 18, the lease ownership, the proposed location, and the other wells drilled in the general area.

Q All right. In terms of the data that you're talking about that you feel is incomplete at this time, what relationship does Exhibit A bear to that data that you've referred to? What is the significance of this document?

A Well, we see here that recently, I would

say in probably the last year or less, four wells have been drilled.

Q. Could you refer to those?

A. Going from north to south, there is one well that was, as I understand, just completed in Section 1 of Township 9 South, 26 East; another well is in Section 7 of Township 9 South, 27 East; another well is in Section 13, Township 9 South, 26 East; and another well is in Section 24 of Township 9 South, 26 East.

Q. All right, are these all wells that have been completed of recent times?

A. Yes.

Q. All right. Now, let me refer you to what's been marked as Plaintiff's Exhibit B, and ask you if you can identify that, please?

A. Yes. This is a copy of the producing section in the deeper formation in the Fred Poole Eastland State No. 1 in Section 13.

Q. All right, that's the well that appears on Exhibit A with a checkmark?

A. That's correct.

Q. All right, where was EXhibit B, the information contained on this document obtained?

A. This is the -- we were able to receive

a copy of the log from the operator.

Q. All right, explain what this log is, first of all, Mr. Ettinger.

A. The log is the compensated neutron density log on the righthand side and on the lefthand side it shows the gamma ray and caliper log.

Q. All right, and if you could, explain the significance of this document with respect to the well in Section 13 which you have reference to.

A. Well, it shows that the interval from 6072 to 6082 shows porosity development and this is the zone that was perforated in this well.

Our information, which was obtained from the -- and I must say by telephone -- from the Oil and Gas Conservation Commission of New Mexico, indicates that this zone was completed for 632 Mcf per day of calculated absolute open flow.

Q. All right, that's indicated over on the right-hand side about the middle of Exhibit B?

A. That's right.

Q. All right, is that the same figure that Mr. Thompson had reference to from the same well --

A. Yes, the same number with different classification, so, simply I think that the exact figure is

not known to us.

Q. All right, it's your information from the Commission staff that this was calculated at absolute open flow?

A. This is the information we received over the telephone.

Q. Okay. Now, you've put some particular focus on the well in Section 13. Why is that?

A. Because it's so close to the proposed location.

Q. All right, in the adjoining section.

A. Yes, but it's only about 1300, 1320 feet away.

Q. 1320 feet. All right, Mr. Ettinger, the 632 Mcf per day that's depicted on Exhibit B, what is the significance of that to you in terms of commercial productivity of this well in Section 13?

A. If this is the calculated absolute open flow, I would estimate that the deliverability of this zone won't be more than 100 to 150,000 cubic feet per day, and the real question is how long will it stay at this level.

Q. All right, what is the basis for your opinion?

A. It is experience in the general area.

Q All right, in other words, the absolute productivity this -- this absolute open flow is diminished considerably by the time you attach it to a pipeline and its gas is actually delivered to the pipeline?

A Well, the reason is very simple. When we measure calculated absolute open flow, we really have no back pressure; it's open to the atmosphere.

When we have a pipeline you do have a certain pressure in the pipeline, which could be 100, 150, or even more, and therefor the deliverability would be less.

Q All right, in your opinion is the amount of gas produced as depicted on Exhibit B in this well in Section 13 of commercial productivity?

A I would say, at this stage, I would say no, unless we have some production history to see that the decline is not there or what is the decline.

Q And what inference or conclusion, if any, can you draw with respect to the proposed well in Section 18 from the information you've gathered from the Section 13 well?

A We have the -- this zone, this deeper zone, how commercial it is is very questionable at this time, and therefor we don't think it justified to risk additional something in the order of $250,000, plus the possibility of

losing the entire hole, at this time.

Q. All right, was this position made known to Yates and Company in the negotiations which have transpired between those two companies?

A. I myself did not talk to a representative of Yates but it's my understanding that Mr. Grynberg discussed this with them.

Q. All right, you expressed your opinion on this matter to Mr. Grynberg?

A. Yes.

Q. Now, let me refer you, if I might, to Exhibit C and ask if you can identify that, please?

A. Yes. Exhibit C is simply to show our concern, and as I mentioned before, there is quite a lot of confusion as to the various position formations, but this is a -- information from a well that we have this information, which is located something like 15 miles to the north and west of this proposed location, and this is an example of a reservoir with similar thickness and this is the Penn section in which it shows on the log, even, a much better development than we see in this adjoining well here in Section 13, the Eastland well.

Q. All right, is this also a Penn section?

A. Well, this is, again, I cannot say a yes

or no at this point, but roughly speaking this is a deeper horizon and it's somewhere there.

Q. All right.

A. And what we see here, that this well was tested for 1.55 million.

Q. You're referring to page three of this exhibit?

A. Yes. Absolute, calculated absolute open flow, and here we have the production history.

In March of 1981 it produced 552 Mcf per month. In April, 546; in May, 218; in June, 61; in July, 163; nothing in August, which shows a very rapid decline, and this is our concern.

Q. What in your opinion is the basis for the decline in the well depicted in Exhibit C?

A. Well, it's probably a limited reservoir.

Q. And what relationship and conclusion, if any, can you draw, Mr. Ettinger, between the well as depicted on Exhibit C comparing it to the well in Section 13 as depicted on Exhibit B?

A. We see the same thickness. It could or it could not be the same formation, but until we have more data we are very concerned that the depletion would be so fast that we won't be able even to recover -- this well won't

recover even $10,000 from this formation.

Q The well in --

A. I might add that this is based on $5.00 for tight sand and there is a question whether this objective or reservoir of the proposed location will be classified under tight gas, and therefor the price will be only $3.00 per Mcf, not $5.00.

Q All right. Aside from what's depicted in Exhibits A, B, and C, do you have any other information that you have referred to in reaching an opinion as to the advisability of drilling deeper than the Abo formation at the proposed site?

A. Yes, we have additional concern, and this is based on the drilling and the risk we're taking in drilling deeper. We had a copy of the log from the Elk Oil Company well in Section 24 and based on this log we see that this well was drilled to 6200 feet but they did have mechanical trouble that we know from the operator. They were fighting for about a week until they were able to log the well only to 5120. They couldn't even go below 5120, which is roughly the base of the Abo, indicating that mechanically we take a risk of losing the entire well for a very questionable objective.

As I understand right now, they did set

pipe. They were able to overcome and they did set pipe to 6200 but they don't know what they have from log and that kind of thing. A very unpleasant situation in my opinion.

Q. Now, with respect to the potential risk of losing the well from what you've observed of the Elk Oil well in Section 24, what conclusion do you draw with respect to the proposed well in Section 18?

A. Well, considering everything that we discussed, one, we don't know the productivity of this formation, we even don't know exactly what is this formation. We do take a mechanical risk. We even don't know what will be the price for the gas. We -- this is the first time I saw today this structure map, which indicates a very interesting structure, which in my opinion should be verified further by maybe seismic because we have no control to the east, we don't know how large, really, this structure is, and therefor how economical it might be.

I think at this time to drill to 6350, I think is the proposed depth, it simply, it doesn't justify it to take the risk, this additional risk below the Abo.

Q. In your opinion would that additional risk be unreasonable to prudent joint interest owner and operator of a well?

A. Yes.

Q. All right. Now, Viking Petroleum is not taking a position here, are they, Mr. Ettinger, that ultimately it may be adviseable -- it may well be adviseable to drill a deeper well.

A. Well, what we said that we don't want to drill it now because of lack of information. As information, those various wells would be connected to a pipeline, we would have some production information. We'd probably be able to better define the various reservoirs, correlate the various wells here. At that time we might be very willing to participate.

Q. At present, however, the information has not been sufficient, in your own view and that of Viking Petroleum, to justify the additional expense.

A. Yes.

Q. All right, with respect to dual completion of this well in the event that an order is entered allowing drilling to the deeper formation, what is your opinion as to how that should -- that procedure should be accomplished?

A. I know in some other wells in the area dual completion practice was approved by the Commission, of which the Penn and Abo was dually completed, and I don't see any reason if we find in this well that the two zones can be produced, the Abo and the deeper horizon, why it cannot, the

same practice cannot be utilized.

Q. All right. For purposes of the record, would you explain what dual completion is and how it works and how the production of the -- how the production is measured in terms of the ownership.

A. Well, this can be separated in two horizons and one can be produced from the tubing and the other one through the annulus, so that we can measure each zone, the production from each zone so there won't be any question as to who gets what and whether it's royalty owner or working interest owner or whatever it is.

Q. All right, there's no commingling of the gas from these two formations.

A. That's correct.

Q. All right, and that would provide virtually a mathematical way of computing the various costs and production allocations should there be dual completion.

A. As far as production, yes.

Q. Do you have an opinion, Mr. Ettinger, as to whether or not there is the potential of commercially producable oil or gas from the Abo formation? At the proposed wellsite in Section 18?

A. I think there is.

Q. All right, sufficient that you've recom-

same practice cannot be utilized.

Q. All right. For purposes of the record, would you explain what dual completion is and how it works and how the production of the -- how the production is measured in terms of the ownership.

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A. As far as production, yes.

Q. Do you have an opinion, Mr. Ettinger, as to whether or not there is the potential of commercially producable oil or gas from the Abo formation? At the proposed wellsite in Section 18?

A. I think there is.

Q. All right, sufficient that you've recom-

mended participation in this venture to that extent?

A. Yes.

Q. The ownership interest of Viking in the proposed unit is 25 percent measured by the surface acreage, is that right?

A. Yeah. If we talk about the west half of Section 18 it would be about 25 percent.

Q. Was there anything presented in the testimony of Mr. Thompson that has convinced you that the risk is any more reasonable than your opinion that's been given during your testimony?

A. I would say yes, because I was concerned all the time that we don't have sufficient data. Now I am convinced that Harvey Yates -- is that your oil company?

MR. STRAND: Yes.

A. Doesn't also have sufficient data, so it makes my concern even further that we're going into something we don't know what we can expect.

So it even strengthened my feeling that at this point we shouldn't take this additional risk for drilling deeper.

Q. All right, sir. My question, so it will be clear, what's been presented here today has not been anything that has changed your opinion that there is not yet suf-

ficient information to justify the additional drilling below the Abo formation?

A. Yes.

MR. JARAMILLO: That's all I have, Mr. Examiner.

MR. RAMEY: Any questions of Mr. Ettinger?

MR. STRAND: I have just a few, Mr. Examiner.

CROSS EXAMINATION

BY MR. STRAND:

Q. Mr. Ettinger, I'll ask you the same question that Mr. Jaramillo asked Mr. Thompson. Is it your opinion that competent, reasonable geologists can differ in opinions as to risk, the existance of structure, and so forth and so on?

A. Yes.

Q. You talked some about a dual completion in the well, Mr. Ettinger. Does not a dual completion also involve mechanical risk?

A. Well, anything you do involves mechanical risk but I think it's justified when you consider the alternative and this means to drill another well.

Q. Will it not be less risky to drill the

to the Ordovician and produce that zone, if there is commercial production there, and then plug back up and produce the Abo, as opposed to the dual completion?

A. Let me answer you in this way. If I was convinced that the Mississippian, or whichever it is, is a pretty good potential capable of producing, let's say, a million cubic feet per day, with the Abo producing maybe 200,000 cubic feet per day, I would say it's reasonable, because what we are doing is delaying all the income from the Abo into I don't know how many years to the future, whereas as I see it here, it could very well be that the Abo has better potential than the Mississippian, of course assuming that the Mississippian or the lower had the potential.

So what are we doing is we are doing very low income, we're getting very low income and postponing the real income into some time in the future losing our money because of discount factor and present interest rate. It's a losing proposition.

Q. Mr. Ettinger, assuming for the purposes of this question that there are commercial reserves in the lower zones, whatever they may be, I'm going to ask the question again. Wouldn't normal operator or a prudent operator consider it less risky to plug back to the upper zone than to dual complete the well?

A. Would you repeat again for me?

Q. Assuming, economics not being considered, assuming that there is commercial production, commercial reserves in the lower zones that we're talking about, would not a prudent operator normally plug back up to the next zones as opposed to dual completing the well?

A. Not necessarily.

MR. NUTTER: Mr. Strand, do you mean to produce the lower zone first --

MR. STRAND: Yes.

MR. NUTTER: -- and then plug back?

MR. STRAND: Yes.

A. I would say first of all is comparison between the potential of the two zones and then you decide what is the best method and most economical method of producing. I think what we are doing here is talking about something we don't have the information.

All that we are requesting is that should there be a commercial zone in the deeper zones and should there be also a commercial zone in the Abo, simply to allow, the Commission to allow to produce the two zones, like in many other wells in the area.

Q. How many other dual completions are there in the area?

A. Well, this example I gave is dually completed. The one that I have in Exhibit C is dually completed in the Penn and in the Abo.

Q. How many others?

A. The problem is very often that the Penn was completed, or dually completed, and then it went to nothing and then we were left only with the Abo.

So there are, I would say quite -- I cannot tell you how many, but I know there are -- this is a very accepted practice in oil industry.

Q. Mr. Ettinger, at this time is it your position that Viking and the Grynbergs, whatever the connection, are not willing to participate in the drilling of a well from the surface to the total depth listed on the AFE?

A. If the AFE is as it was presented, no.

Q. At this time you are not willing to participate in the drilling of that well from top to bottom.

A. That is correct.

Q. And you're basing that primarily on the fact that you feel that there is too much risk involved in that.

A. Correct.

MR. STRAND: I don't have anything further right now.

MR. RAMEY: Any other questions of Mr. Ettinger?

MR. JARAMILLO: I have only a few.

REDIRECT EXAMINATION

BY MR. JARAMILLO:

Q. Just to clarify one matter, Mr. Ettinger, on Exhibit C, the well that you had comparison on, where you show on the front cover between March of '81 and August of '81, the production going from 550 to zero, that is production from the Penn formation only, is that correct?

A. That is correct.

Q. And you said that this is a dual completion well. Is there still production from the Abo formation in this well?

A. Yes, my information, yes.

Q. All right, and is that production still commercially producable?

A. Yes.

Q. Now, with respect to the question Mr. Strand just asked you as to whether you agree or do not agree to participate in the well from the surface to the, well, the proposed right now before this Commission is the Mississippian. There is no question, though, that Yates Petroleum is willing

to participate fully in all of the prorated production costs from the surface down through and including the base of the Abo formation.

A. That's what we had today, that they see a potential in San Andres; they see potential in the Abo. They also see potential in the Mississippian where we don't.

Q. So the only area of disagreement is who will pay or whether indeed there should be any drilling below the formation of the Abo.

A. That's correct.

Q. Thank you.

MR. STRAND: A couple more.

MR. RAMEY: Mr. Strand.

RECROSS EXAMINATION

BY MR. STRAND:

Q. Just -- on Exhibit C, the Fred Poole Grynberg Federal No. 1 Well, that says Township 6 South, Range 24 East, Section 13. Now how far away is that?

A. We said about 15 miles or so.

Q. Okay.

MR. STRAND: That's all.

MR. RAMEY: Any other questions of Mr. Ettinger? He may be excused.

Do you have closing statements?

MR. JARAMILLO: Yes, I do.

MR. STRAND: Go right ahead, I'll follow. That's fine.

MR. JARAMILLO: I think I can be brief with this, Mr. Hearing Officer and members of the Commission.

We have basically two propositions that we're promoting by our appearance in opposition and then some not in opposition to this proposal.

First of all, we think that what's before the Commission while it's controverted, I think there's evidence on both sides. The Commission is experienced in matters of this nature and understand risk factors as well as anyone can, and I'm sure far better than most people not totally familiar with the oil and gas industry.

What I would say is this: The evidence indicates that there could be producable volumes of gas -- well, we know not at the Mississippian but perhaps in the strata above that, and the question that has to be decided is do you balance the $272,000 that Yates is asking for participation in by my client as against the estimate of recovering commercial volumes of gas. One's got to make that decision. That decision is now being placed before this Commission because the parties themselves could not agree on that.

Our position is that the evidence has established there just simply isn't sufficient data for a reasonable operator to make that decision now and bind somebody else to go along and to drill to that depth.

Now, because of our second position here that doesn't prohibit this Commission from saying that it finds sufficient evidence that it could or could not be reasonable to go ahead to do it, Yates Petroleum, but this is your risk. You're promoting the venture, you should stand that portion of the risk below the Abo because there is also evidence produced by Viking that that is unreasonable.

Now what I'm proposing is this: I believe that the statutory authority of this Commission is broad enough, I think the statutes are clear, and I'll go through that in a minute, number one, to say that the evidence supports the position that there should be no drilling below the Abo. That should be the order of the Commission.

Number two, if the Commission finds sufficient evidence to justify that deeper venture, then our client, Viking, is willing to participate all the way through and including the completion of the Abo formation. The great majority then of the costs that are set forth in this application, FEA, will be participated in by my client.

From the Abo formation down, though, I

think it's clear and I think it's uncontroverted from both of the geologists that have testified here today, you increase your risk clearly, and here we think you increase your risk substantially and unreasonably, until you have sufficient data to justify the belief that there is commercially producable gas in the deeper formations.

Now if Yates is willing to drill that, as Mr. Strand said in his opening statement, they could drill all the way to China if they want to, and I agree with that. There's no way to stop them from drilling as deep as they want to drill.

But we do have relief from the Commission that if deeper drilling is unreasonable, then the cost between the Abo and the deeper formations should be borne by the party who wants to accept that risk, and the Commission can do that under the statute by simply saying that if there is production from the deeper pool, from the deeper formation, the first production out of those formations would go to reimburse Yates for their cost incurred between the Abo and the Mississippian formation.

The production, if it's a dual completion will be easy, won't be commingled, you'll be able to tell how much should be allocated to them. They will recover their $272,000, if indeed there is production, and their risk will

have been a good one.

If the risk is a bad one and there is no producable gas in the deeper regions, then I think Yates should have to bear that risk and not our client who has looked at the matter, has looked at the evidence and has decided on the basis of it as a reasonable joint interest operator that there's insufficient data for me to say I'm willing to take that risk.

Now, what is the statutory authority for the Commission to be able to make a decision, one, we drill only to the Abo, that's what the order of unitization will provide; or B, Yates you drill to the Mississippian but Viking, you will participate only to the Abo.

I believe that that authority can be found at Sections 70-2-17, which is the statute providing for equitable allocation of production, pooling, and spacing, in this Commission.

At Subsection C of that statute it is provided that the pooling order of the Division shall make definite provision as to any owner, or owners, who elect not to pay his proportionate share in advance for the prorated reimbursements solely out of production to the parties advancing the costs of development and operation. Let me stop there.

In the ordinary case it's someone who's not willing to go along at all. The Commission can say that's fine, you don't have to, but the operator is going to recover his costs from the production.

The statute goes on to say, which shall be limited to the actual expenditures required for such purpose, not in excess of what are reasonable. Now there's discretion vested then in the Commission to decide is this a reasonable expense or not. But which shall include a reasonable charge for supervision, and we have no dispute with the $3500 and the $300 per month for supervision and operation of the well, and may, and note the word may, include a charge for the risk involved in drilling of such well, which charge for risk shall not exceed 200 percent of the nonconsenting working interest owner's pro rata share of the cost of drilling and completing the well.

This Commission may allow that. The statute does not say you shall allow it, and that means to any attorney that this Commission has the discretion to decide under the facts presented here, should they allow such a cost or not. If the Commission decides to allow this drilling to the base of the Mississippian as applied for here, or will be modified to be applied for, there is discretion within the statute to say that we will go along, we being Viking, to

the cost of the production and completion to the Abo, and Yates will pay the difference in that cost.

They will be entitled to recover every penny of the difference in that cost from the first production under this statute, the Commission can order that, and the Commission can also say under this statute that on the evidence before me, before us today, that risk is unreasonable at this time on the evidence that's before the geologists. That being the case, there is not a reasonable expense at this time before the correlative right owner, Viking, to accept those costs.

Therefor I think this Commission can order that on that basis Yates can drill the well, they can recover from the first production their costs, being the difference between the Abo and the completion, and no additional charge for risk should be imposed here because we submit on the evidence that risk is unreasonable. And if it's unreasonable, the statute certainly allows this Commission discretion to disallow that.

Now, if I can refer the Commission to the statutory Unitization Act, Section 70-7-1 and following.

At Section 6 there are six findings that this Commission must make from the evidence before it can enter an order of unitization, and two and possibly three of

those findings are quite important.

The first one is this Commission must find from the evidence that the estimated additional cost, if any, of conducting such operations, being unitized operations, will not exceed the estimated value of the additional oil and gas so recovered, plus a reasonable profit.

I don't think there's sufficient evidence here before this Commission for you to make that finding.

MR. RAMEY: Let me interrupt. Are you talking -- is this the compulsory unitization for secondary recovery?

MR. JARAMILLO: It's the Statutory Unitization Act.

MR. RAMEY: Yeah, I don't think that would be apropo to this particular hearing. This is compulsory pooling to form a standard drilling unit.

MR. JARAMILLO: Well, as I read the statute --

MR. RAMEY: You can go ahead and put it in the record.

MR. JARAMILLO: All right. As I read the statute, Mr. Hearing Examiner, in Section 70-70-8, which provides for ratification and approval, in the event there is no ratification by the interest owners, as there's not here,

Subsection D provides that when a person owning the required percentage of interest in the unit area have approved the plan for operations, and here that's been only the people affiliated with Yates, the interest of all persons in a unit are unitized whether or not those persons have approved the plan of unitization in writing. And to me that sounds like compulsory unitization, and that's what I had understood the purpose for the application by Yates to be in this proceeding.

But in any event, let me say this, that whether these elements must be found in this proceeding does not change the fact that there isn't any evidence here that the interests of the joint interest owners, the correlative right owners here, are being adequately protected with respect to drilling below the Abo formation, and that's essentially the point I want to make.

Whether that's an evidentiary requirement here or simply a matter for the Commission to consider in entering its order.

Very briefly, let me just say that any order that's issued by this Commission by mandate of statute must be one upon which the terms are fair, reasonable, and equitable. I'm sure the Commission is familiar with all the statutes that empower it to have that requirement and that is the power upon which we're invoking in our opposition to

this proceeding here.

Briefly, and in conclusion, let me just say that an order which would compulsorily require Viking to participate in unreasonable costs on the basis of the evidence presented would not be fair and equitable or just in this case. One that would require participation only to the extent of the Abo formation would be because that's uncontested, I believe, at this point as being a reasonable venture for these operators to undertake. The question then is do we allow the deeper formation? If so, what is the rate of return to the operator. It's the operator's risk clearly; they're promoting it; they should bear the brunt of it. They should recover their costs from the first production, but I don't believe there's sufficient justification to carry Viking Petroleum along with those risks when one, it's not voluntarily acceding to those and two, it's not for a good reason. There's insufficient data to justify that and therefor our position is the deeper drilling should not be allowed, or if it is, they should simply be able to recover those additional costs until they are recovered without a penalty or a charge for the risk factor involved.

Thank you.

MR. STRAND: Very quickly. Mr. Examiner, I'd like to go back and start at the beginning on this.

Harvey E. Yates Company proposed a well to the various interest owners under the west half of Section 18, to drill a well to what we thought at that time was the Mississippian. It turns out it's the Ordovician.

There has been no formal agreement with the Viging-Grynberg group that they will participate in the drilling of this well, either to the Abo or all the way. There is no formal agreement at this point.

We filed under the compulsory pooling statute an application for pooling through the Mississippian of the west half of that particular section for a gas well to be dedicated -- or at a standard location.

Up until the time of this hearing there has still been no agreement. The time is running out. We are having to put a spudder on the lease to hold it. We need to go out and drill the well.

There's been testimony here today that the Viking-Grynberg is not willing to take the risk and pay their share of drilling a well to the total depth in the Ordovician, period. That's what he said, Mr. Ettinger said in his testimony, we're not willing to do that. We're not willing to take that risk.

This is just exactly the purpose that the compulsory unitization -- or compulsory pooling statute

was passed for in the first place. It's a policy of the State of New Mexico that they want development of oil and gas reserves in the State of New Mexico. The statute simply says if two interest owners can't agree, then the Commission has the authority, not only the authority but the obligation to enter an order pooling those mineral interests, so that that particular well can be drilled that the application was made for.

It is our position today that an order should be entered in this matter pooling the interests of the Grynberg-Viking group from the surface to the Ordovician, base of the Ordovician, which we will ask that a readvertisement be done so that that is taken care of from a procedural standpoint.

I don't think there's any controversy on the part of HEYCO and Viking that there may be a different formation involved, but we're still talking about drilling a well to 6350 feet.

We would like an order pooling their interest from the surface to the base of the Ordovician. At that point, if the order is entered in the usual form, it will provide that they will have 30 days within which to pay their estimated well costs in advance. We may well settle the thing before that 30 days is up and make some

arrangements relating to different participation below the base of the Abo, but that's a contractual matter between the parties.

But I think the Commission not only has the authority but has the obligation to enter a compulsory pooling order from the surface to the base of the Ordovician.

As to the penalty, the penalty was put in there for the same purpose that, again, that the statutory pooling statute was passed. The Legislature said, well, okay, if somebody doesn't want to participate in drilling this well that the pooling application is applied for, fine; however, then the other party that are agreeable to do it are going to take all the risk, monetary risk, and that's what that risk is talking about, not mechanical risk. The statute refers to financial risk.

We are going to take all of the risk of drilling that well, losing it, or whatever, from a financial standpoint; therefor the statute gives the Commission the authority to provide for a penalty to partially compensate the operator and the interest owners who are drilling the well for taking that risk on behalf of the nonconsenting and nonparticipating parties.

That's the purpose of the risk provision. We have requested, and I think we have had testimony that

justifies the full 200 percent risk penalty, and I would ask that that be included in the order.

And I -- I personally, in reviewing the statute, do not think the Commission has the authority to provide for allowing someone to -- or an interest owner to participate to the base of the Abo formation and then not participate below. I don't think the statute was intended that way. I don't think there's language in there that can be construed that way, and I would request, as I stated before, just a compulsory pooling order from top to bottom, as requested in the application.

MR. RAMEY: Thank you, Mr. Strand.

Does anyone else have anything to add to Case 7390?

If not, we'll take the case under advisement, and we'll have to readvertise the case. We'll continue and readvertise the case.

MR. STRAND: Let's just square away where we're going to readvertise it to, is that --

MR. THOMPSON: Let's see, can we just keep it to 6350 or do you need a formation name?

MR. RAMEY: I think we'll need a formation name.

MR. STRAND: I think so.

MR. THOMPSON: Okay, let's say Ordovician.

MR. STRAND: To the base?

MR. NUTTER: From the surface to the Ordovician.

MR. RAMEY: Okay, so it will be continued and readvertised to pool all mineral interests down through the Ordovician.

Okay.

MR. JARAMILLO: On a procedural point, Mr. Examiner, I did not move the admission of the exhibits. I would do so at this time.

MR. RAMEY: Exhibits A through C will be admitted.

And the hearing is adjourned.

(Hearing concluded.)

C E R T I F I C A T E

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

Sally W. Boyd CSR

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

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

December 28, 1981

Re: CASE NO. 7409
ORDER NO. R-6839

Mr. Arthur Jaramillo
Jones, Gallegos, Snead
& Wertheim
Attorneys at Law
P. O. Box 2228
Santa Fe, New Mexico 87501

Applicant:

~~Viking Petroleum, Inc.~~

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

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 7409
Order No. R-6839

APPLICATION OF VIKING PETROLEUM,
INC. FOR COMPULSORY POOLING,
CHAVES COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 24, 1981, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 22nd day of December, 1981, the Commission, a quorum being present, having considered the record, and being fully advised in the premises,

FINDS:

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

IT IS THEREFORE ORDERED:

That Case No. 7409 is hereby dismissed.

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

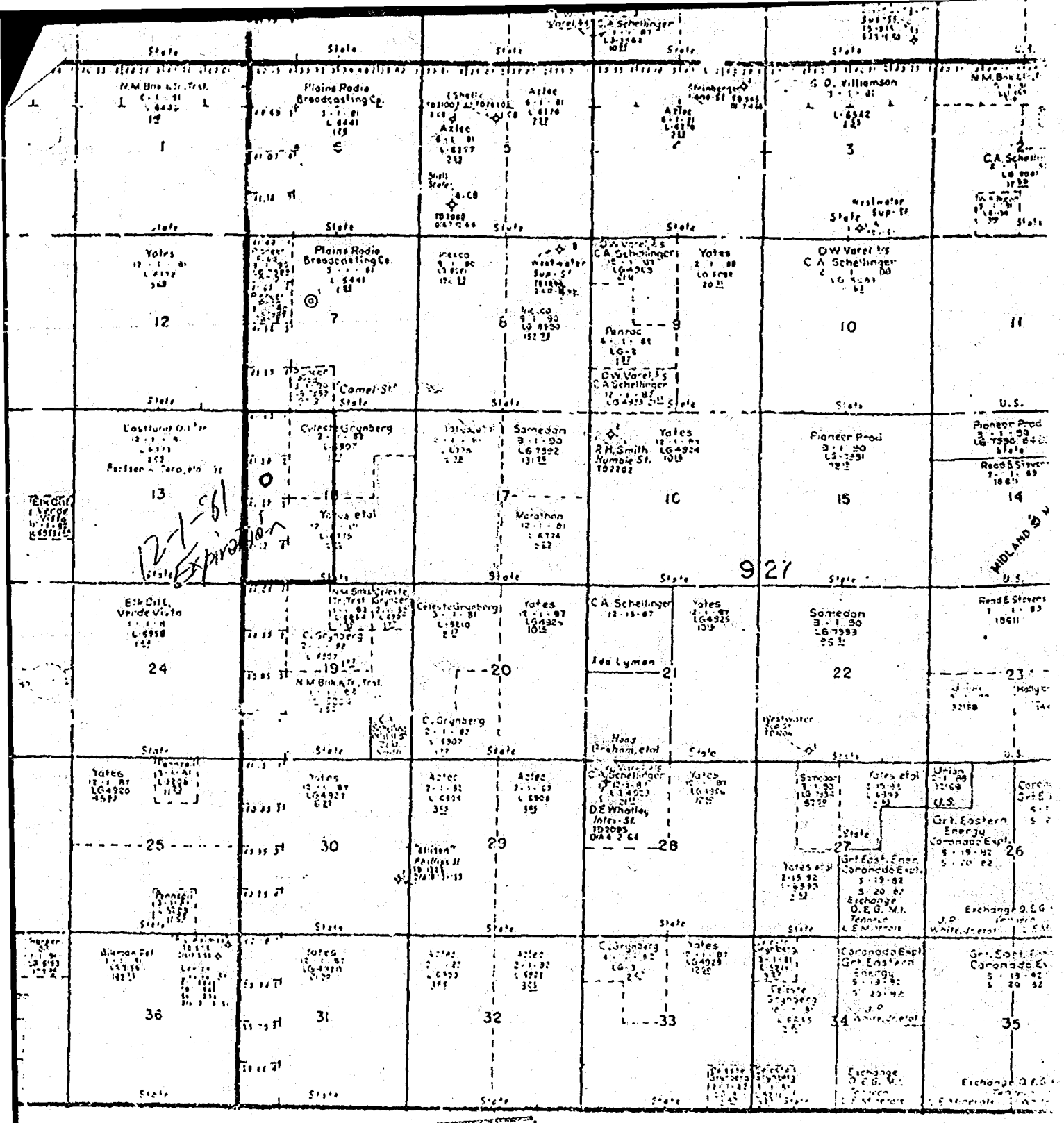
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EMERY C. ARNOLD, Chairman

ALEX J. ARMIJO, Member

JOE D. RAMEY, Member & Secretary

S E A L
fd/



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Case No. 7390 Exhibit No. 1

Submitted by: HEXCO

Hearing Date: 11-24-81

Seymour State #1

Numbers on federal leases indicate following:
(1) Primary term

A.A.P.L. FORM 610 - 1977

MODEL FORM OPERATING AGREEMENT

SEYMOUR STATE
WORKING INTEREST UNIT

OPERATING AGREEMENT

DATED

September 18, 19 81,

OPERATOR HARVEY E. YATES COMPANY

CONTRACT AREA Township 9 South, Range 27 East, N.M.P.M.
Section 18: Lots 1, 2, 3, 4, E/2 W/2, E/2

Containing 645.04 acres, more or less

COUNTY OR PARISH OF CHAVES STATE OF NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 2390 Exhibit No. 2
Submitted by: Heyco
Hearing Date: 11-24-81

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OPERATING AGREEMENT

THIS AGREEMENT, entered into by and between HARVEY E. YATES COMPANY, hereinafter designated and referred to as "Operator", and the signatory party or parties other than Operator, sometimes hereinafter referred to individually herein as "Non-Operator", and collectively as "Non-Operators",

WITNESSETH:

WHEREAS, the parties to this agreement are owners of oil and gas leases and/or oil and gas interests in the land identified in Exhibit "A", and the parties hereto have reached an agreement to explore and develop these leases and or oil and gas interests for the production of oil and gas to the extent and as hereinafter provided:

NOW, THEREFORE, it is agreed as follows:

ARTICLE I.
DEFINITIONS

As used in this agreement, the following words and terms shall have the meanings here ascribed to them:

A. The term "oil and gas" shall mean oil, gas, casinghead gas, gas condensate, and all other liquid or gaseous hydrocarbons and other marketable substances produced therewith, unless an intent to limit the inclusiveness of this term is specifically stated.

B. The terms "oil and gas lease", "lease" and "leasehold" shall mean the oil and gas leases covering tracts of land lying within the Contract Area which are owned by the parties to this agreement.

C. The term "oil and gas interests" shall mean unleased fee and mineral interests in tracts of land lying within the Contract Area which are owned by parties to this agreement.

D. The term "Contract Area" shall mean 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".

E. 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 Contract Area or as fixed by express agreement of the Drilling Parties.

F. The term "drillsite" shall mean the oil and gas lease or interest on which a proposed well is to be located.

G. The terms "Drilling Party" and "Consenting Party" shall mean a party who agrees to join in and pay its share of the cost of any operation conducted under the provisions of this agreement.

H. The terms "Non-Drilling Party" and "Non-Consenting Party" shall mean a party who elects not to participate in a proposed operation.

Unless the context otherwise clearly indicates, words used in the singular include the plural, the plural includes the singular, and the neuter gender includes the masculine and the feminine.

ARTICLE II.
EXHIBITS

The following exhibits, as indicated below and attached hereto, are incorporated in and made a part hereof:

[X] A. Exhibit "A", shall include the following information:
- (1) Identification of lands subject to agreement,
- (2) Restrictions, if any, as to depths or formations,
- (3) Percentages or fractional interests of parties to this agreement,
- (4) Oil and gas leases and/or oil and gas interests subject to this agreement,
- (5) Addresses of parties for notice purposes.

[ ] B. Exhibit "B", Form of Lease.

[X] C. Exhibit "C", Accounting Procedure.

[X] D. Exhibit "D", Insurance.

[X] E. Exhibit "E", Gas Balancing Agreement.

[X] F. Exhibit "F", Non-Discrimination and Certification of Non-Segregated Facilities.

[X] G. Exhibit "G", Escrow Agreement

If any provision of any exhibit, except Exhibit "E", is inconsistent with any provision contained in the body of this agreement, the provisions in the body of this agreement shall prevail.

ARTICLE III.
INTERESTS OF PARTIES

A. Oil and Gas Interests:

If any party owns an unleased oil and gas interest in the Contract Area, that interest shall be treated for the purpose of this agreement and during the term hereof as if it were a leased interest under the form of oil and gas lease attached as Exhibit "B". As to such interest, 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.

B. Interest of Parties in Costs and Production:

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 agreement shall be borne and paid, and all equipment and material acquired in operations on the Contract Area shall be owned by the parties as their interests are shown in Exhibit "A". All production of oil and gas from the Contract Area, subject to the payment of lessor's royalties ~~which will be borne by the Joint Account~~, shall also be owned by the parties in the same manner during the term hereof; provided, however, this shall not be deemed an assignment or cross-assignment of interests covered hereby.

ARTICLE IV.
TITLES

A. Title Examination:

Title examination shall be made on the drillsite of any proposed well prior to commencement of drilling operations or, if the Drilling Parties so request, title examination shall be made on the leases and or oil and gas interests included, or planned to be included, in the drilling unit around such well. The opinion will include the ownership of the working interest, minerals, royalty, overriding royalty and production payments under the applicable leases. At the time a well is proposed, each party contributing leases and or oil and gas interests to the drillsite, or to be included in such drilling unit, shall furnish to Operator all abstracts (including Federal Lease Status Reports), title opinions, title papers and curative material in its possession free of charge. All such information not in the possession of or made available to Operator by the parties, but necessary for the examination of title, shall be obtained by Operator. Operator shall cause title to be examined by attorneys on its staff or by outside attorneys. Copies of all title opinions shall be furnished to each party hereto. The cost incurred by Operator in this title program shall be borne as follows:

~~[ ] Option No. 1: Costs incurred by Operator in procuring abstracts and title examination (including preliminary, supplemental, shut-in gas royalty opinions and division order title opinions) shall be a part of the administrative overhead as provided in Exhibit "C," and shall not be a direct charge, whether performed by Operator's staff attorneys or by outside attorneys.~~

[X] Option No. 2: Costs incurred by Operator in procuring abstracts and fees paid outside attorneys for title examination (including preliminary, supplemental, shut-in gas royalty opinions and division order title opinions) shall be borne by the Drilling Parties in the proportion that the interest of each Drilling Party bears to the total interest of all Drilling Parties as such interests appear in Exhibit "A". Operator shall make no charge for services rendered by its staff attorneys or other personnel in the performance of the above functions.

Each party shall be responsible for securing curative matter and pooling amendments or agreements required in connection with leases or oil and gas interests contributed by such party. The Operator shall be responsible for the preparation and recording of Pooling Designations or Declarations as well as the conduct of hearings before Governmental Agencies for the securing of spacing or pooling orders. This shall not prevent any party from appearing on its own behalf at any such hearing.

No well shall be drilled on the Contract Area until after (1) the title to the drillsite or drilling unit has been examined as above provided, and (2) the title has been approved by the examining attorney or title has been accepted by all of the parties who are to participate in the drilling of the well.

B. Loss of Title:

1. Failure of Title: Should any oil and gas interest or lease, or interest therein, be lost through failure of title, which loss results in a reduction of interest from that shown on Exhibit "A", this agreement, nevertheless, shall continue in force as to all remaining oil and gas leases and interests, and

(a) The party whose oil and gas 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 for drilling, development, operating or other similar costs by reason of such title failure; and

(b) 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 Contract Area by the amount of the interest lost; and

(c) If the proportionate interest of the other parties hereto in any producing well theretofore drilled on the Contract 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 costs and burdens attributable thereto) until it has been reimbursed for unrecovered costs paid by it in connection with such well; and

(d) 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, such amount shall be paid to the party or parties who bore the costs which are so refunded; and

(e) 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 in the same proportions in which they shared in such prior production; and

(f) No charge shall be made to the joint account for legal expenses, fees or salaries, in connection with the defense of the interest claimed by any party hereto, it being the intention of the parties hereto that each shall defend title to its interest and bear all expenses in connection therewith.

2. Loss by Non-Payment or Erroneous Payment of Amount Due: If, through mistake or oversight, any rental, shut-in well payment, minimum royalty or royalty 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 make the required payment secures a new lease covering the same interest within ninety (90) days from the discovery of the failure to make proper payment, which acquisition will not be subject to Article VIII.B., 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 Contract Area on account of ownership of the lease or interest which has terminated. In the event the party who failed to make the required 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:

(a) 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;

(b) Proceeds, less operating expenses, thereafter accrued 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, in the absence of such lease termination, would 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

(c) Any monies, 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 Contract Area or becoming a party to this agreement.

3. Other Losses: All losses incurred, other than those set forth in Articles IV.B.1. and IV.B.2. above, shall not be considered failure of title but shall be joint losses and shall be borne by all parties in proportion to their interests. There shall be no readjustment of interests in the remaining portion of the Contract Area.

ARTICLE V.
OPERATOR

A. DESIGNATION AND RESPONSIBILITIES OF OPERATOR:

HARVEY E. YATES COMPANY shall be the Operator of the Contract Area, and shall conduct and direct and have full control of all operations on the Contract 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 willful misconduct.

B. Resignation or Removal of Operator and Selection of Successor:

1. Resignation or Removal of Operator: Operator may resign at any time by giving written notice thereof to Non-Operators. If Operator terminates its legal existence, no longer owns an interest in the Contract Area, or is no longer capable of serving as Operator, it shall cease to be Operator without any action by Non-Operator, except the selection of a successor. Operator may be removed if it fails or refuses to carry out its duties hereunder, or becomes insolvent, bankrupt or is placed in receivership, by the affirmative vote of two (2) or more Non-Operators owning a majority interest based on ownership as shown on Exhibit "A", and not on the number of parties remaining after excluding the voting interest of Operator. Such resignation or removal shall not become effective until 7:00 o'clock A.M. on the first day of the calendar month following the expiration of ninety (90) days after the giving of notice of resignation by Operator or action by the Non-Operators to remove Operator, unless a successor Operator has been selected and assumes the duties of Operator at an earlier date. Operator, after effective date of resignation or removal, shall be bound by the terms hereof as a Non-Operator. A change of a corporate name or structure of Operator or transfer of Operator's interest to any single subsidiary, parent or successor corporation shall not be the basis for removal of Operator.

2. Selection of Successor Operator: Upon the resignation or removal of Operator, a successor Operator shall be selected by the Parties. The successor Operator shall be selected from the parties owning an interest in the Contract Area at the time such successor Operator is selected. If the Operator that is removed fails to vote or votes only to succeed itself, the successor Operator shall be selected by the affirmative vote of two (2) or more parties owning a majority interest based on ownership as shown on Exhibit "A", and not on the number of parties remaining after excluding the voting interest of the Operator that was removed.

C. Employees:

The number of employees used by Operator in conducting operations hereunder, their selection, and the hours of labor and the compensation for services performed, shall be determined by Operator, and all such employees shall be the employees of Operator.

D. Drilling Contracts:

All wells drilled on the Contract Area shall be drilled on a competitive contract basis at the usual rates prevailing in the area. If it so desires, Operator may employ its own tools and equipment in the drilling of wells, but its charges therefor shall not exceed the prevailing rates in the area 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 are customary and usual in the area in contracts of independent contractors who are doing work of a similar nature.

ARTICLE VI.
DRILLING AND DEVELOPMENT

A. Initial Well:

On or before the 31st day of December, 19 81 Operator shall commence the drilling of a well for oil and gas at the following location:

W/4 NW/4,
Section 18, Township 9 South, Range 27 East.
Chaves County, New Mexico

and shall thereafter continue the drilling of the well with due diligence to a depth adequate to test the Mississippian formation or to a depth of 6,350', whichever is shallower, unless granite or other practically impenetrable substance or condition in the hole, which renders further drilling impractical, is encountered at a lesser depth, or unless all parties agree to complete or abandon the well at a lesser depth. Operators only liability for failure to commence said test well shall be the ipsofacto termination of this agreement.

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 well as a dry hole, it shall first secure the consent of all parties and shall plug and abandon same as provided in Article VI.E.1. hereof.

B. Subsequent Operations:

1. Proposed Operations: Should any party hereto desire to drill any well on the Contract Area other than the well provided for in Article VI.A., or to rework, deepen or plug back 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, the party desiring to drill, rework, deepen or plug back such a well shall 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 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. If a drilling rig is on location, notice of proposal to rework, plug back or drill deeper may be given by telephone and the response period shall be limited to forty-eight (48) hours, exclusive of Saturday, Sunday or legal holidays. Failure of a party receiving such notice to reply within the period above fixed shall constitute an election by that party not to participate in the cost of the proposed operation. Any notice or response given by telephone shall be promptly confirmed in writing.

2. Operations by Less than All Parties: If any party receiving such notice as provided in Article VI.B.1. or VI.E.1. elects not to participate in the proposed operation, then, in order to be entitled to the benefits of this article, the party or parties giving the notice and such other parties as shall elect to participate in the operation shall, within sixty (60) days after the expiration of the notice period of thirty (30) days (or as promptly as possible after the expiration of the forty-eight (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. Operator shall perform all work for the account of the Consenting Parties; provided, however, if no drilling rig or other equipment is on location, and if Operator is a Non-Consenting Party, the Consenting Parties shall either: (a) request Operator to perform the work required by such proposed operation for the account of the Consenting Parties, or (b) designate one (1) of the Consenting Parties as Operator to perform such work. Consenting Parties, when conducting operations on the Contract Area pursuant to this Article VI.B.2., shall comply with all terms and conditions of this agreement.

If less than all parties approve any proposed operation, the proposing party, immediately after the expiration of the applicable notice period, shall advise the Consenting Parties of (a) the total interest of the parties approving such operation, and (b) its recommendation as to whether the Consenting Parties should proceed with the operation as proposed. Each Consenting Party, within forty-eight (48) hours (exclusive of Saturday, Sunday or legal holidays) after receipt of such notice, shall advise the proposing party of its desire to (a) limit participation to such party's interest as shown on Exhibit "A", or (b) carry its proportionate part of Non-Consenting Parties' interest. The proposing party, at its election, may withdraw such proposal if there is insufficient participation, and shall promptly notify all parties of such decision.

The entire cost and risk of conducting such operations shall be borne by the Consenting Parties in the proportions they have elected to bear same under the terms of the preceding paragraph. 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 Article 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 Article, 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 and share of production therefrom until the proceeds of the sale of such share, calculated at the well, or market value thereof if such share is not sold (after deducting production taxes, windfall profits tax, royalty, overriding royalty and other interests existing on the effective date hereof, 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 Article, 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) 300% 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 Article VIII.C., and

300 % of that portion of the cost of newly acquired equipment in the well (to and including the well-head connections), which would have been chargeable to such Non-Consenting Party if it had participated therein.

Gas production attributable to any Non-Consenting Party's relinquished interest upon such Party's election, shall be sold to its purchaser, if available, under the terms of its existing gas sales contract. Such Non-Consenting Party shall direct its purchaser to remit the proceeds receivable from such sale direct to the Consenting Parties until the amounts provided for in this Article are recovered from the Non-Consenting Party's relinquished interest. If such Non-Consenting Party has not contracted for sale of its gas at the time such gas is available for delivery, or has not made the election as provided above, the Consenting Parties shall own and be entitled to receive and sell such Non-Consenting Party's share of gas as hereinabove provided during the recoupment period.

During the period of time Consenting Parties are entitled to receive Non-Consenting Party's share of production, or the proceeds therefrom, Consenting Parties shall be responsible for the payment of all production, severance, gathering and other taxes, windfall profits tax, and all royalty, overriding royalty and other burdens applicable to Non-Consenting Party's share of production.

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, less cost of salvage.

Within sixty (60) days after the completion of any operation under this Article, 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 Party conducting the operations for 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. In determining the quantity of oil and gas produced during any month, Consenting Parties shall use industry accepted methods such as, but not limited to, metering or periodic well tests. 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, in determining when the interest of such Non-Consenting Party shall revert to it as above provided; and if there is a credit balance, it shall be paid to such Non-Consenting Party.

On the first day of the month, following that month in which ~~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 material and equipment in or pertaining thereto, and the production therefrom as such Non-Consenting Party would have been entitled to 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, attached hereto.

Notwithstanding the provisions of this Article VI.B.2., 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 Contract Area is producing, unless such well conforms to the then-existing well spacing pattern for such source of supply.

The provisions of this Article shall have no application whatsoever to the drilling of the initial well described in Article VI.A. except (a) when Option 2, Article VII.D.1., has been selected, or (b) to the reworking, deepening and plugging back of such initial well, if such well is or thereafter shall prove to be a dry hole or non-commercial well, after having been drilled to the depth specified in Article VI.A.

C. Right to Take Production in Kind:

Each party shall have the right to take in kind or separately dispose of its proportionate share of all oil and gas produced from the Contract 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. 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. Any

party taking its share of production in kind shall be required to pay for only its proportionate share of such part of Operator's surface facilities which it uses.

Each party shall execute such division orders and contracts as may be necessary for the sale of its interest in production from the Contract Area, and, except as provided in Article VII.B., shall be entitled to receive payment direct from the purchaser 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 Contract Area, Operator shall have the right, subject to the revocation at will by the party owning it, but not the obligation, to purchase such oil and gas or sell it to others at any time and from time to time, for the account of the non-taking party at the best price obtainable in the area for such production. 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. Any purchase or sale by Operator of any other party's share of oil and gas shall be only for such reasonable periods of time as are consistent with the minimum needs of the industry under the particular circumstances, but in no event for a period in excess of one (1) year. Notwithstanding the foregoing, Operator shall not make a sale, including one into interstate commerce, of any other party's share of gas production without first giving such other party thirty (30) days notice of such intended sale.

In the event one or more parties' separate disposition of its share of the gas causes split-stream deliveries to separate pipelines and or deliveries which on a day-to-day basis for any reason are not exactly equal to a party's respective proportionate share of total gas sales to be allocated to it, the balancing or accounting between the respective accounts of the parties shall be in accordance with any Gas Balancing Agreement between the parties hereto, whether such Agreement is attached as Exhibit "E", or is a separate Agreement.

D. Access to Contract Area and Information:

or its representative

Each party shall have access to the Contract 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, upon request, shall furnish each of the other parties with copies of all forms or reports filed with governmental agencies, daily 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 Contract Area. The cost of gathering and furnishing information to Non-Operator, other than that specified above, shall be charged to the Non-Operator that requests the information.

E. Abandonment of Wells:

1. Abandonment of Dry Holes: Except for any well drilled pursuant to Article VI.B.2., any well which has been drilled under the terms of this agreement and is proposed to be completed as a dry hole shall not be plugged and abandoned without the consent of all parties. Should Operator, after diligent effort, be unable to contact any party, or should any party fail to reply within forty-eight (48) hours (exclusive of Saturday, Sunday or legal holidays) after receipt of notice of the proposal to plug and abandon such well, such party shall be deemed to have consented to the proposed abandonment. All such wells shall be plugged and abandoned in accordance with applicable regulations and at the cost, risk and expense of the parties who participated in the cost of drilling of such well. Any party who objects to the plugging and abandoning such well shall have the right to take over the well and conduct further operations in search of oil and or gas subject to the provisions of Article VI.B.

2. Abandonment of Wells that have Produced: Except for any well which has been drilled or reworked pursuant to Article VI.B.2. hereof for which the Consenting Parties have not been fully reimbursed as therein provided, any well which has been completed as a producer shall not be plugged and abandoned without the consent of all parties. If all parties consent to such abandonment, the well shall be plugged and abandoned in accordance with applicable regulations and at the cost, risk and expense of all the parties hereto. If, within thirty (30) days after receipt of notice of the proposed abandonment of such well, 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 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 related 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. If the interest of the abandoning party is or includes an oil and gas interest, such party shall execute and deliver to the non-abandoning party or parties an oil and gas lease, limited to the interval or intervals of the formation or formations then open to production, for a term of one year and so long thereafter as oil and or gas is produced from the interval or inter-

vals of the formation or formations covered thereby, such lease to be on the form attached as Exhibit "B". The assignments or leases so limited shall encompass the "drilling unit" upon which the well is located. The payments by, and the assignments or leases to, the assignees shall be in a ratio based upon the relationship of their respective percentages of participation in the Contract Area to the aggregate of the percentages of participation in the Contract Area of all assignees. There shall be no readjustment of interest in the remaining portion of the Contract Area.

Thereafter, abandoning parties shall have no further responsibility, liability, or interest in the operation of or production from the well in the interval or intervals then open other than the royalties retained in any lease made under the terms of this Article. Upon request, 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.

ARTICLE VII.
EXPENDITURES AND LIABILITY OF PARTIES

A. 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 Contract Area. Accordingly, the liens granted among the parties in Article VII.B. are 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 the parties liable as partners.

B. Liens and Payment Defaults:

Each Non-Operator grants to Operator a lien upon its oil and gas rights in the Contract Area, and a security interest in its share of oil and or gas when extracted and its interest in all equipment, to secure payment of its share of expense, together with interest thereon at the rate provided in the Accounting Procedure attached hereto as Exhibit "C". To the extent that Operator has a security interest under the Uniform Commercial Code of the State, Operator shall be entitled to exercise the rights and remedies of a secured party under the Code. The bringing of a suit and the obtaining of judgment by Operator for the secured indebtedness shall not be deemed an election of remedies or otherwise affect the lien rights or security interest as security for the payment thereof. In addition, upon default by any Non-Operator in the payment of its share of expense, Operator shall have the right, without prejudice to other rights or remedies, to collect from the purchaser the proceeds from the sale of such Non-Operator's share of oil and or gas until the amount owed by such Non-Operator, to include interest on the deficiency and, if suit is brought to collect any deficiency, reasonable attorney's fees, has been paid. Each purchaser shall be entitled to rely upon Operator's written statement concerning the amount of any default. Operator grants a like lien and security interest to the Non-Operators to secure payment of Operator's proportionate share of expense.

If any party fails or is unable to pay its share of expense within sixty (60) days after rendition of a statement therefor by Operator, the non-defaulting parties, including Operator, shall, upon request by Operator, pay the unpaid amount in the proportion that the interest of each such party bears to the interest of all such parties. Each party so paying its share of the unpaid amount shall, to obtain reimbursement thereof, be subrogated to the security rights described in the foregoing paragraph.

C. Payments and Accounting:

Except as herein otherwise specifically provided, Operator shall promptly pay and discharge expenses incurred in the development and operation of the Contract Area pursuant to this agreement and shall charge each of the parties hereto with their respective proportionate shares upon the expense basis provided in the Accounting Procedure attached hereto as Exhibit "C". Operator shall keep an accurate record of the joint account hereunder, showing expenses incurred and charges and credits made and received.

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 expense 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 expense, together with an invoice for its share thereof. Each such statement and invoice for the payment in advance of estimated expense 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 thirty(30) 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 as provided in Exhibit "C" until paid. Proper adjustment shall be made monthly between advances and actual expense to the end that each party shall bear and pay its proportionate share of actual expenses incurred, and no more.

D. Limitation of Expenditures:

1. Drill or Deepen: Without the consent of all parties, no well shall be drilled or deepened, except any well drilled or deepened pursuant to the provisions of Article VI.B.2. of this Agreement, it being understood that the consent to the drilling or deepening shall include:

~~[ ] Option No. 1: All necessary expenditures for the drilling or deepening, testing, completing and equipping of the well, including necessary tankage and or surface facilities.~~

[X] Option No. 2: All necessary expenditures for the drilling or deepening and testing of the well. When such well has reached its authorized depth, and all tests have been completed, Operator shall give immediate notice to the Non-Operators who have the right to participate in the completion costs. The parties receiving such notice shall have forty-eight (48) hours (exclusive of Saturday, Sunday and legal holidays) in which to elect to participate in the setting of casing and the completion attempt. Such election, when made, shall include consent to all necessary expenditures for the completing and equipping of such well, including necessary tankage and or surface facilities. Failure of any party receiving such notice to reply within the period above fixed shall constitute an election by that party not to participate in the cost of the completion attempt. If one or more, but less than all of the parties, elect to set pipe and to attempt a completion, the provisions of Article VI.B.2. hereof (the phrase "reworking, deepening or plugging back" as contained in Article VI.B.2. shall be deemed to include "completing") shall apply to the operations thereafter conducted by less than all parties.

2. Rework or Plug Back: Without the consent of all parties, no well shall be reworked or plugged back except a well reworked or plugged back pursuant to the provisions of Article VI.B.2. of this agreement, it being understood that the consent to the reworking or plugging back of a well shall include consent to all necessary expenditures in conducting such operations and completing and equipping of said well, including necessary tankage and or surface facilities.

3. Other Operations: Operator shall not undertake any single project reasonably estimated to require an expenditure in excess of Twenty-Five Thousand Dollars ($ 25,000.00) except in connection with a well, the drilling, reworking, deepening, completing, recompleting, 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 to safeguard life and property but Operator, as promptly as possible, shall report the emergency to the other parties. If Operator prepares "Authority for Expenditures" for its own use, Operator, upon request, shall furnish copies of its "Authority for Expenditures" for any single project costing in excess of Fifteen Thousand Dollars ($ 15,000.00).

E. Royalties, Overriding Royalties and Other Payments:

Each party shall pay or deliver, or cause to be paid or delivered, all royalties to the extent of One-Eighth (1/8) due on its share of production and shall hold the other parties free from any liability therefor. If the interest of any party in any oil and gas lease covered by this agreement is subject to any royalty, overriding royalty, production payment, or other charge over and above the aforesaid royalty, such party shall assume and alone bear all such obligations and shall account for or cause to be accounted for, such interest to the owners thereof.

No party shall ever be responsible, on any price basis higher than the price received by such party, to any other party's lessor or royalty owner; and if any such other party's lessor or royalty owner should demand and receive settlements on a higher price basis, the party contributing such lease shall bear the royalty burden insofar as such higher price is concerned.

F. Rentals, Shut-in Well Payments and Minimum Royalties:

Rentals, shut-in well payments and minimum royalties which may be required under the terms of any lease shall be paid by the party or parties who subjected such lease to this agreement at its or their expense. In the event two or more parties own and have contributed interests in the same lease to this agreement, such parties may designate one of such parties to make said payments for and on behalf of all such parties. Any party may request, and shall be entitled to receive, proper evidence of all such payments. In the event of failure to make proper payment of any rental, shut-in well payment or minimum royalty through mistake or oversight where such payment is required to continue the lease in force, any loss which results from such non-payment shall be borne in accordance with the provisions of Article IV.B.2.

Operator shall notify Non-Operator of the anticipated completion of a shut-in gas well, or the shutting in or return to production of a producing gas well, at least five (5) days (excluding Saturday, Sunday and holidays), or at the earliest opportunity permitted by circumstances, prior to taking such action, but assumes no liability for failure to do so. In the event of failure by Operator to so notify Non-Operator, the loss of any lease contributed hereto by Non-Operator for failure to make timely payments

of any shut-in well payment shall be borne jointly by the parties hereto under the provisions of Article IV.B.3.

G. Taxes:

Beginning with the first calendar year after the effective date hereof, 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. Prior to the rendition date, each Non-Operator shall furnish Operator information as to burdens (to include, but not be limited to, royalties, overriding royalties and production payments) on leases and oil and gas interests contributed by such Non-Operator. If the assessed valuation of any leasehold estate is reduced by reason of its being subject to outstanding excess royalties, overriding royalties or production payments, the reduction in ad valorem taxes resulting therefrom shall inure to the benefit of the owner or owners of such leasehold estate, and Operator shall adjust the charge to such owner or owners so as to reflect the benefit of such reduction. Operator shall bill other parties for their proportionate share of all tax payments in the manner provided in Exhibit "C".

If Operator considers any tax assessment improper, Operator may, at its discretion, protest 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. During the pendency of administrative or judicial proceedings, Operator may elect to pay, under protest, all such taxes and any interest and penalty. When any such protested assessment shall have been finally determined, Operator shall pay the tax for the joint account, together with any 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".

Each party shall pay or cause to be paid all production, severance, gathering and other taxes imposed upon or with respect to the production or handling of such party's share of oil and/or gas produced under the terms of this agreement.

H. 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; provided, however, that Operator may be a self-insurer for liability under said compensation laws in which event the only charge that shall be made to the joint account shall be an amount equivalent to the premium which would have been paid had such insurance been obtained. Operator shall also carry or provide insurance for the benefit of the joint account of the parties as outlined in Exhibit "D", attached to and made a part hereof. Operator shall require all contractors engaged in work on or for the Contract 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.

ARTICLE VIII.
ACQUISITION, MAINTENANCE OR TRANSFER OF INTEREST

A. Surrender of Leases:

The leases covered by this agreement, insofar as they embrace acreage in the Contract Area, shall not be surrendered in whole or in part unless all parties consent thereto.

However, should any party desire to surrender its interest in any lease or in any portion thereof, and other parties do not agree or consent thereto, 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. If the interest of the assigning party includes an oil and gas interest, the assigning party shall execute and deliver to the party or parties not desiring to surrender an oil and gas lease covering such oil and gas interest for a term of one year and so long thereafter as oil and/or gas is produced from the land covered thereby, such lease to be on the form attached hereto as Exhibit "B". 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 other than the royalties retained in any lease made under the terms of this Article. 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. The value of all material shall be 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.

Any assignment or surrender made under this provision shall not reduce or change the assignor's or surrendering parties' interest, as it was immediately before the assignment, in the balance of the Contract Area; and the acreage assigned or surrendered, and subsequent operations thereon, shall not thereafter be subject to the terms and provisions of this agreement.

B Renewal or Extension of Leases:

If any party secures a renewal of any oil and gas lease subject to this Agreement, all other parties shall be notified promptly, and shall have the right for a period of thirty (30) days following receipt of such notice in which to elect to participate in the ownership of the renewal lease, insofar as such lease affects lands within the Contract Area, by paying to the party who acquired it their several proper proportionate shares of the acquisition cost allocated to that part of such lease within the Contract Area, which shall be in proportion to the interests held at that time by the parties in the Contract 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 Contract Area to the aggregate of the percentages of participation in the Contract Area of all parties participating in the purchase of such renewal lease. Any renewal lease in which less than all 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, without warranty of title, of its proportionate interest therein by acquiring party.

The provisions of this Article 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 agreement.

The provisions in this Article shall apply also and in like manner to extensions of oil and gas leases.

C. Acreage or Cash Contributions:

While this agreement is in force, if any party contracts for a contribution of cash toward the drilling of a well or any other operation on the Contract 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 tender an assignment of the acreage, without warranty of title, to the Drilling Parties in the proportions said Drilling Parties shared the cost of drilling the well. If all parties hereto are Drilling Parties and accept such tender, such acreage shall become a part of the Contract Area and be governed by the provisions of this agreement. If less than all parties hereto are Drilling Parties and accept such tender, such acreage shall not become a part of the Contract Area. 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 Contract Area.

If any party contracts for any consideration relating to disposition of such party's share of substances produced hereunder, such consideration shall not be deemed a contribution as contemplated in this Article VIII.C.

D. Subsequently Created Interest:

Notwithstanding the provisions of Article VIII.E. and VIII.G., if any party hereto shall, subsequent to execution of this agreement, create an overriding royalty, production payment, or net proceeds interest, which such interests are hereinafter referred to as "subsequently created interest", such subsequently created interest shall be specifically made subject to all of the terms and provisions of this agreement, as follows:

1. If non-consent operations are conducted pursuant to any provision of this agreement, and the party conducting such operations becomes entitled to receive the production attributable to the interest out of which the subsequently created interest is derived, such party shall receive same free and clear of such subsequently created interest. The party creating same shall bear and pay all such subsequently created interests and shall indemnify and hold the other parties hereto free and harmless from any and all liability resulting therefrom.

2. If the owner of the interest from which the subsequently created interest is derived (1) fails to pay, when due, its share of expenses chargeable hereunder, or (2) elects to abandon a well under provisions of Article VI.E hereof, or (3) elects to surrender a lease under provisions of Article VIII.A. hereof, the subsequently created interest shall be chargeable with the pro rata portion of all expenses hereunder in the same manner as if such interest were a working interest. For purposes of collecting such chargeable expenses, the party or parties who receive assignments as a result of (2) or (3) above shall have the right to enforce all provisions of Article VII.B hereof against such subsequently created interest.

E. Maintenance of Uniform Interest:

For the purpose of maintaining uniformity of ownership in the oil and gas leasehold interests covered by this agreement, 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 Contract 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 Contract 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 right 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, at its discretion, may 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 agreement; however, all such co-owners shall have the right to enter into and execute all contracts or agreements for the disposition of their respective shares of the oil and gas produced from the Contract Area and they shall have the right to receive, separately, payment of the sale proceeds thereof.

F. Waiver of Right to Partition:

If permitted by the laws of the state or states in which the property covered hereby is located, each party hereto owning an undivided interest in the Contract Area waives any and all rights it may have to partition and have set aside to it in severalty its undivided interest therein.

~~**G. Preferential Right to Purchase:**~~

Should any party desire to sell all or any part of its interests under this agreement, or its rights and interests in the Contract 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 or substantially all of its assets to a subsidiary or parent company or to a subsidiary of a parent company, or to any company in which any one party owns a majority of the stock.

ARTICLE IX.
INTERNAL REVENUE CODE ELECTION

This agreement is not intended to create, and shall not be construed to create, a relationship of partnership or an association for profit between or among the parties hereto. Notwithstanding any provisions herein that the rights and liabilities hereunder are several and not joint or collective, or that this agreement and operations hereunder shall not constitute a partnership, if, for Federal income tax purposes, this agreement and the operations hereunder are regarded as a partnership, each party hereby affected elects to be excluded from the application of all of the provisions of Subchapter "K", Chapter 1, Subtitle "A", of the Internal Revenue Code of 1954, as permitted and authorized by Section 761 of the Code and the regulations promulgated thereunder. Operator is authorized and directed to execute on behalf of each party hereby affected such evidence of this election as may be required by the Secretary of the Treasury of the United States or the Federal Internal Revenue Service, including specifically, but not by way of limitation, all of the returns, statements, and the data required by Federal Regulations 1.761. Should there be any requirement that each party hereby affected give further evidence of this election, each such party shall execute such documents and furnish such other evidence as may be required by the Federal Internal Revenue Service or as may be necessary to evidence this election. No

such party shall give any notices or take any other action inconsistent with the election made hereby. If any present or future income tax laws of the state or states in which the Contract Area is located or any future income tax laws of the United States contain provisions similar to those in Subchapter "K", Chapter 1, Subtitle "A", of the Internal Revenue Code of 1954, under which an election similar to that provided by Section 761 of the Code is permitted, each party hereby affected shall make such election as may be permitted or required by such laws. In making the foregoing election, each such party states that the income derived by such party from Operations hereunder can be adequately determined without the computation of partnership taxable income.

ARTICLE X.
CLAIMS AND LAWSUITS

Operator may settle any single damage claim or suit arising from operations hereunder if the expenditure does not exceed Five Thousand Dollars ($ 5,000.00) and if the payment is in complete settlement of such claim or suit. If the amount required for settlement exceeds the above amount, the parties hereto shall assume and take over the further handling of the claim or suit, unless such authority is delegated to Operator. All costs and expense of handling, settling, or otherwise discharging such claim or suit shall be at the joint expense of the parties. If a claim is made against any party or if any party is sued on account of any matter arising from operations hereunder over which such individual has no control because of the rights given Operator by this agreement, the party shall immediately notify Operator, and the claim or suit shall be treated as any other claim or suit involving operations hereunder.

ARTICLE XI.
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 reasonable diligence to remove the force majeure situation as quickly as practicable.

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 action, governmental delay, restraint or inaction, 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.

ARTICLE XII.
NOTICES

All notices authorized or required between the parties, and required by any of the provisions of this agreement, unless otherwise specifically provided, shall be given in writing by United States mail or Western Union telegram, postage or charges prepaid, or by teletype, and addressed to the party to whom the notice is given at the addresses listed on Exhibit "A". The originating notice 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, or when sent by teletype. Each party shall have the right to change its address at any time, and from time to time, by giving written notice hereof to all other parties.

ARTICLE XIII.
TERM OF AGREEMENT

This agreement shall remain in full force and effect as to the oil and gas leases and/or oil and gas interests subjected hereto for the period of time selected below; provided, however, no party hereto shall ever be construed as having any right, title or interest in or to any lease, or oil and gas interest contributed by any other party beyond the term of this agreement except pursuant to Article VIII, Part B.

~~( ) Option No. 1: So long as any of the oil and gas leases subject to this agreement remain in force and~~ ~~effect.~~

~~( ) Option No. 2: So long as any of the oil and gas leases subject to this agreement remain or are continued in force as to any part of the Contract Area, whether by production, extension, renewal or otherwise, and/or so long as oil and/or gas production continues from any lease or oil and gas interest~~

X Option No. 2: In the event the well described in Article VI.A., or any subsequent well drilled under any provision of this agreement, results in production of oil and or gas in paying quantities, this agreement shall continue in force so long as any such well or wells produce, or are capable of production, and for an additional period of 180 days from cessation of all production; provided, however, if, prior to the expiration of such additional period, one or more of the parties hereto are engaged in drilling or reworking a well or wells hereunder, this agreement shall continue in force until such operations have been completed and if production results therefrom, this agreement shall continue in force as provided herein. In the event the well described in Article VI.A., or any subsequent well drilled hereunder, results in a dry hole, and no other well is producing, or capable of producing oil and or gas from the Contract Area, this agreement shall terminate unless drilling or reworking operations are commenced within 180 days from the date of abandonment of said well.

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.

ARTICLE XIV.
COMPLIANCE WITH LAWS AND REGULATIONS

A. Laws, Regulations and Orders:

This agreement shall be subject to the conservation laws of the state in which the committed acreage is located, to the valid rules, regulations, and orders of any duly constituted regulatory body of said state; and to all other applicable federal, state, and local laws, ordinances, rules, regulations, and orders. However, non-operators agree to release operator from any and all losses, damages, injuries, claims and causes of action arising out of incident to or resulting directly or indirectly from operator's interpretation or application of rules, rulings, regulations or orders of the Department of Energy, Federal Energy Regulatory Commission or predecessor agencies to the extent operator's interpretation or application of such rules, rulings, regulations or orders were made in good faith. Non-operators further agree to reimburse operator for their proportionate share of any amounts operator may be required to refund, rebate or pay as a result of an incorrect interpretation or application of the above noted rules, rulings, regulations or orders, together with the non-operators' proportionate part of interest and penalties owing by operator as a result of such incorrect interpretation or application of such rules, regulations or orders. Operator shall furnish Non-Operators copies of all notices, forms and other documents received and sent to all government agencies.

B. GOVERNING LAW:

The essential validity of this agreement and all matters pertaining thereto, including, but not limited to, matters of performance, breach, remedies, procedures, rights, duties and interpretation or construction, shall be governed and determined by the law of the state in which the Contract Area is located. If the Contract Area is in two or more states, the law of the state where most of the land in the Contract Area is located shall govern.

ARTICLE XV
OTHER PROVISIONS

A. SUBSTITUTE WELL:

1. If, in the drilling of the Initial Well, Operator loses the hole or encounters mechanical difficulties rendering it impracticable, in the opinion of the Operator, to drill the well to the Objective Depth, then and in any of such events on or before sixty (60) days after completion of the Initial Well, Operator shall have the option to commence the actual drilling of another well (Substitute Well) at a lawful location of Operator's selection on the Unit Area, and prosecute the drilling of said well with due diligence and in a good and workmanlike manner to the Objective Depth. For all purposes of this agreement, the drilling of the Substitute Well shall be considered as the drilling of the Initial Well.

2. Any provision herein concerning the Initial Well shall also apply to the Substitute Well, and any provision herein excepting the Initial Well shall also except the Substitute Well.

3. Any funds remaining in escrow for the Initial Well shall be transferred to the escrow account for the Substitute Well and shall be applied to the costs of said Substitute Well. If these funds are not sufficient to cover the total AFE costs of the Substitute Well, the Operator shall have the option of requiring a Non-Operator to deposit additional funds sufficient to pay its proportionate share, as set out on Exhibit "A", of the total AFE costs for said well in an escrow account set up pursuant to the escrow agreement attached hereto as Exhibit "G". The additional funds will be deposited not less than fifteen (15) days prior to commencement of drilling operations on the Substitute Well.

B. SUBSEQUENT OPERATIONS

If subsequent operations should be undertaken pursuant to Article VI-B, the Operator shall have the option of requiring a Non-Operator to deposit its proportionate share, as set out on Exhibit "A", of the total AFE costs for the proposed operation in an escrow account set up pursuant to the escrow agreement attached here to as Exhibit "G". If a Non-Operator fails to deposit the full amount set out above within thirty (30) days of receipt of the AFE or not less than fifteen (15) days prior to the commencement of the proposed operation, whichever is sooner, that party shall become a Non-Consenting Party under Article VI-B.

ARTICLE XVI.
MISCELLANEOUS

This agreement shall be binding upon and shall inure to the benefit of the parties hereto and to their respective heirs, devisees, legal representatives, successors and assigns.

This instrument may be executed in any number of counterparts, each of which shall be considered an original for all purposes.

IN WITNESS WHEREOF, this agreement shall be effective as of 18th day of September, 19 81.

OPERATOR

ATTEST:

HARVEY E. YATES COMPANY

_____ Secretary

By: _____ President

NON-OPERATORS

ATTEST:

VIKING PETROLEUM, INC.

_____ Secretary

By: _____ President

ATTEST:

CIBOLA ENERGY CORPORATION

_____ Secretary

By: _____ President

WITNESS:

_____

_____
SEYMOUR SMITH

WITNESS:

_____

_____
DAVID SMITH

ATTEST:

EXPLORERS PETROLEUM CORPORATION

_____ Secretary

By: _____ President

ATTEST:

SPIRAL, INC.

_____ Secretary

By: _____ President

ATTEST:

FRED G. YATES, INC.

_____ Secretary

By: _____ President

STATE OF NEW MEXICO)
) SS
COUNTY OF CHAVES)

The foregoing instrument was acknowledged before me this _____ day of _____, 1981, by GEORGE M. YATES, President of HARVEY E. YATES COMPANY, a New Mexico Corporation, on behalf of said corporation.

My Commission Expires:

_____ _____
Notary Public

STATE OF OKLAHOMA)
) SS
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1981, by _____, _____ President of VIKING PETROLEUM, INC., a _____ Corporation, on behalf of said corporation.

My Commission Expires:

_____ _____
Notary Public

STATE OF NEW MEXICO)
) SS
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this _____ day of _____, 1981, by HARVEY E. YATES, JR., President of CIBOLA ENERGY CORPORATION, a New Mexico Corporation, on behalf of said corporation.

My Commission Expires:

_____ _____
Notary Public

STATE OF)
) SS
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1981, by SEYMOUR SMITH.

My Commission Expires:

_____ _____
Notary Public

STATE OF)
) SS
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 1981, by DAVID SMITH.

My Commission Expires:

_____ _____
Notary Public

STATE OF NEW MEXICO)
) SS
COUNTY OF CHAVES)

The foregoing instrument was acknowledged before me this _____ day of _____, 1981, by GEORGE M. YATES, President of EXPLORERS PETROLEUM CORPORATION, a New Mexico Corporation, on behalf of said corporation.

My Commission Expires:

_____ _____
Notary Public

STATE OF NEW MEXICO)
) SS
COUNTY OF CHAVES)

The foregoing instrument was acknowledged before me this _____ day of _____, 1981, by HARVEY E. YATES, President of SPIRAL, INC., a New Mexico Corporation, on behalf of said corporation.

My Commission Expires:

_____ _____
Notary Public

STATE OF NEW MEXICO)
) SS
COUNTY OF CHAVES)

The foregoing instrument was acknowledged before me this _____ day of _____, 1981, by FRED G. YATES, President of FRED G. YATES, INC., a New Mexico Corporation, on behalf of said corporation.

My Commission Expires:

_____ _____
Notary Public

EXHIBIT "A"
ATTACHED TO AND MADE A PART OF THE OPERATING AGREEMENT
DATED SEPTEMBER 18, 1981,
BETWEEN HARVEY E. YATES COMPANY AS OPERATOR
AND VIKING PETROLEUM, INC., ETAL AS NON-OPERATORS

---

1. LANDS SUBJECT TO CONTRACT:

Township 9 South, Range 27 East, N.M.P.M.

Section 18: Lots 1, 2, 3, 4, E/2 W/2, E/2

Containing 645.04 acres, more or less
Chaves County, New Mexico

2. PERCENTAGE INTERESTS OF THE PARTIES TO THIS AGREEMENT:

OWNER	WORKING INTEREST
Viking Petroleum, Inc.	31.005829%
*David A. Smith	8.624271%
Seymour Smith	8.624271%
Cibola Energy Corporation	6.584856%
Spiral, Inc.	2.587281%
Fred G. Yates, Inc.	2.587281%
Explorers Petroleum Corporation	2.587281%
Harvey E. Yates Company	37.398930%
	100.000000%

*David A. Smith also holds a 5% Overriding Royalty Interest under State Lease L-6775

3. OIL AND GAS LEASES AND/OR OIL AND GAS INTERESTS SUBJECT TO THIS AGREEMENT:

a. Oil and Gas Lease dated February 1, 1972 bearing State Lease Number L-6907 between the State of New Mexico as Lessor and Viking Petroleum, Inc., as Lessee covering the following described lands in Chaves County, New Mexico, insofar as said lease is situated in Chaves County, New Mexico:

Township 9 South, Range 27 East, N.M.P.M.

Section 18: E/2 NW/4, W/2 NE/4, NE/4 NE/4

Containing 200.0 acres, more or less

b. Oil and Gas Lease dated December 1, 1971 bearing State Lease Number L-6775 between the State of New Mexico as Lessor and Harvey E. Yates Company as Lessee, covering the following described lands situated in Chaves County, New Mexico:

Township 9 South, Range 27 East, N.M.P.M.

Section 18: Lots 1, 2, 3, 4, E/2 SW/4, SE/4 NE/4, SE/4

Containing 445.04 acres, more or less

4. ADDRESSES OF PARTIES FOR NOTICE PURPOSES:

Viking Petroleum, Inc.
2700 Center Building
2761 East Skelly Drive
Tulsa, Oklahoma 74105

Harvey E. Yates Company
Explorers Petroleum Corporation
Spiral, Inc.
Fred G. Yates, Inc.
P. O. Box 1933
Roswell, New Mexico 88201

Seymour Smith
David A. Smith
105 W. Madison
Chicago, Illinois 60602

Cibola Energy Corporation
P. O. Box 1668
Albuquerque, New Mexico 87103

Kraftbilt 601, BOX 600 TULSA OK 74101

Recommended by the Council of Petroleum Accountants Societies of North America

EXHIBIT "C"

Attached to and made a part of THE OPERATING AGREEMENT
DATED SEPTEMBER 18, 1981,
BY AND BETWEEN HARVEY E. YATES COMPANY AS OPERATOR
AND VIKING PETROLEUM, INC., ETAL, AS NON-OPERATORS

ACCOUNTING PROCEDURE
JOINT OPERATIONS

I. GENERAL PROVISIONS

1. Definitions

"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.

"Joint Account" shall mean the account showing the charges paid and credits received in the conduct of the Joint Operations and which are to be shared by the Parties.

"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.

"First Level Supervisors" shall mean those employees whose primary function in Joint Operations is the direct supervision of other employees and/or contract labor directly employed on the Joint Property in a field operating capacity.

"Technical Employees" shall mean those employees having special and specific engineering, geological or other professional skills, and whose primary function in Joint Operations is the handling of specific operating conditions and problems for the benefit of the Joint Property.

"Personal Expenses" shall mean travel and other reasonable reimbursable expenses of Operator's employees.

"Material" shall mean personal property, equipment or supplies acquired or held for use on the Joint Property.

"Controllable Material" shall mean 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.

2. Statement and Billings

Operator shall bill Non-Operators on or before the last day of each month for their proportionate share of the Joint Account for the preceding month. Such bills will be accompanied by statements which identify the authority for expenditure, lease or facility, and all charges and credits, summarized by appropriate classifications of investment and expense except that items of Controllable Material and unusual charges and credits shall be separately identified and fully described in detail.

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 thirty(30)days after receipt. If payment is not made within such time, the unpaid balance shall bear interest monthly at the rate of twelve percent (12%) 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, plus attorney's fees, court costs, and other costs in connection with the collection of unpaid amounts.

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 Controllable Material as provided for in Section V.

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 Joint Account 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 the Parties or Non-Operators is expressly required under other sections of this Accounting Procedure and if the agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, Operator shall notify all Non-Operators of the Operator's proposal, 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 field employees directly employed on the Joint Property in the conduct of Joint Operations.

(2) Salaries of First Level Supervisors in the field.

(3) Salaries and wages of Technical Employees directly employed on the Joint Property if such charges are excluded from the Overhead rates.

B. Operator's cost of holiday, vacation, sickness and disability benefits and other customary allowances paid to employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II. Such costs 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. 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 costs chargeable to the Joint Account under Paragraphs 2A and 2B of this Section II.

D. Personal Expenses of those employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II.

3. Employee Benefits

Operator's current costs 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 shall be Operator's actual cost not to exceed twenty per cent (20%).

4. Material

Material purchased or furnished by Operator for use on the Joint Property as provided under Section IV. Only such Material shall be purchased for or transferred to the Joint Property as may be required for immediate use and is reasonably practical and consistent with efficient and economical operations. 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 the Parties.

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 the Parties. No charge shall be made to the Joint Account for moving Material to other properties belonging to Operator, unless agreed to by the Parties.

C. In the application of Subparagraphs A and B above, there shall be no equalization of actual gross trucking cost of $200 or less excluding accessorial charges.

6. Services

The cost of contract services, equipment and utilities provided by outside sources, except services excluded by Paragraph 9 of Section II and Paragraph 1. ii of Section III. The cost of professional consultant services and contract services of technical personnel directly engaged on the Joint Property if such charges are excluded from the Overhead rates. The cost of professional consultant services or contract services of technical personnel not directly engaged on the Joint Property shall not be charged to the Joint Account unless previously agreed to by the Parties.

7. Equipment and Facilities Furnished by Operator

A. Operator shall charge the Joint Account for use of Operator owned equipment and facilities at rates commensurate with costs of ownership and operation. Such rates shall include costs of maintenance, repairs, other operating expense, insurance, taxes, depreciation, and interest on investment not to exceed eight per cent (8%) per annum. Such rates shall not exceed average commercial rates currently prevailing in the immediate area of the Joint Property.

B. In lieu of charges in Paragraph 7A above, Operator may elect to use average commercial rates prevailing in the immediate area of the Joint Property less 20%. For automotive equipment, Operator may elect to use rates published by the Petroleum Motor Transport Association.

8. 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 those resulting from Operator's gross negligence or willful misconduct. Operator shall furnish Non-Operator written notice of damages or losses incurred as soon as practicable after a report thereof has been received by Operator.

9. Legal Expense

A. Expense of handling, investigating and settling litigation or claims, discharging of liens, payment of judgments and amounts paid for settlement of claims incurred in or resulting from operations under the agreement or necessary to protect or recover the Joint Property, except that no charge for services of Operator's legal staff or fees or expense of outside attorneys shall be made unless previously agreed to by the Parties. All other legal expense is considered to be covered by the overhead provisions of Section III unless otherwise agreed to by the Parties, except as provided in Section I, Paragraph 3.

B. Expenses incurred by operator in representing the Joint Property at hearings or proceedings before state or federal regulatory or administrative agencies.

10. 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.

11. Insurance

Net premiums paid for insurance required to be carried for the Joint Operations 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 at Operator's cost not to exceed manual rates.

12. 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 in the necessary and proper conduct of the Joint Operations.

III. OVERHEAD

1. Overhead - Drilling and Producing Operations

i. As compensation for administrative, supervision, office services and warehousing costs, Operator shall charge drilling and producing operations on either:

(X) Fixed Rate Basis, Paragraph 1A, or
( ) Percentage Basis, Paragraph 1B.

Unless otherwise agreed to by the Parties, such charge shall be in lieu of costs and expenses of all offices and salaries or wages plus applicable burdens and expenses of all personnel, except those directly chargeable under Paragraph 2A, Section II. 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 the Parties as a direct charge to the Joint Account.

ii. The salaries, wages and Personal Expenses of Technical Employees and/or the cost of professional consultant services and contract services of technical personnel directly employed on the Joint Property shall ( ) shall not (X) be covered by the Overhead rates.

A. Overhead - Fixed Rate Basis

(1) Operator shall charge the Joint Account at the following rates per well per month:

Drilling Well Rate $ 3,550.00
Producing Well Rate $ 355.00

(2) Application of Overhead - Fixed Rate Basis shall be as follows:

(a) Drilling Well Rate

[1] Charges for onshore drilling wells shall begin on the date the 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 suspension of drilling operations for fifteen (15) or more consecutive days.

[2] Charges for offshore drilling wells shall begin on the date when drilling or completion equipment arrives on location and terminate on the date the drilling or completion equipment moves off location or rig is released, whichever occurs first, except that no charge shall be made during suspension of drilling operations for fifteen (15) or more consecutive days

[3] Charges for wells undergoing any type of workover or recompletion for a period of five (5) consecutive days or more shall be made at the drilling well rate. Such charges shall be applied for the period from date workover operations, with rig, commence through date of rig release, except that no charge shall be made during suspension of operations for fifteen (15) or more consecutive days.

(b) Producing Well Rates

[1] An active well either produced or injected into for any portion of the month shall be considered as a one-well charge for the entire month.

[2] Each active completion in a multi-completed well in which production is not commingled down hole shall be considered as a one-well charge providing each completion is considered a separate well by the governing regulatory authority.

[3] An inactive gas well shut in because of overproduction or failure of purchaser to take the production shall be considered as a one-well charge providing the gas well is directly connected to a permanent sales outlet.

[4] A one-well charge may be made for the month in which plugging and abandonment operations are completed on any well.

[5] All other inactive wells (including but not limited to inactive wells covered by unit allowable, lease allowable, transferred allowable, etc.) shall not qualify for an overhead charge.

(3) 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 calendar year preceding as shown by the index of average weekly earnings of Crude Petroleum and Gas Fields Production Workers as published by the United States Department of Labor, Bureau of Labor Statistics, or the equivalent Canadian index as published by Statistics Canada, as applicable. The adjusted rates shall be the rates currently in use, plus or minus the computed adjustment.

10. 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.

11. Insurance

Net premiums paid for insurance required to be carried for the Joint Operations 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 at Operator's cost not to exceed manual rates.

12. 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 in the necessary and proper conduct of the Joint Operations.

III. OVERHEAD

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( ) Percentage Basis, Paragraph 1B.

Unless otherwise agreed to by the Parties, such charge shall be in lieu of costs and expenses of all offices and salaries or wages plus applicable burdens and expenses of all personnel, except those directly chargeable under Paragraph 2A, Section II. 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 the Parties as a direct charge to the Joint Account.

ii. The salaries, wages and Personal Expenses of Technical Employees and/or the cost of professional consultant services and contract services of technical personnel directly employed on the Joint Property shall ( ) shall not (X) be covered by the Overhead rates.

A. Overhead - Fixed Rate Basis

(1) Operator shall charge the Joint Account at the following rates per well per month:

Drilling Well Rate $ 3,550.00
Producing Well Rate $ 355.00

(2) Application of Overhead - Fixed Rate Basis shall be as follows:

(a) Drilling Well Rate

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[2] Charges for offshore drilling wells shall begin on the date when drilling or completion equipment arrives on location and terminate on the date the drilling or completion equipment moves off location or rig is released, whichever occurs first, except that no charge shall be made during suspension of drilling operations for fifteen (15) or more consecutive days

[3] Charges for wells undergoing any type of workover or recompletion for a period of five (5) consecutive days or more shall be made at the drilling well rate. Such charges shall be applied for the period from date workover operations, with rig, commence through date of rig release, except that no charge shall be made during suspension of operations for fifteen (15) or more consecutive days.

(b) Producing Well Rates

[1] An active well either produced or injected into for any portion of the month shall be considered as a one-well charge for the entire month.

[2] Each active completion in a multi-completed well in which production is not commingled down hole shall be considered as a one-well charge providing each completion is considered a separate well by the governing regulatory authority.

[3] An inactive gas well shut in because of overproduction or failure of purchaser to take the production shall be considered as a one-well charge providing the gas well is directly connected to a permanent sales outlet.

[4] A one-well charge may be made for the month in which plugging and abandonment operations are completed on any well.

[5] All other inactive wells (including but not limited to inactive wells covered by unit allowable, lease allowable, transferred allowable, etc.) shall not qualify for an overhead charge.

(3) 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 calendar year preceding as shown by the index of average weekly earnings of Crude Petroleum and Gas Fields Production Workers as published by the United States Department of Labor, Bureau of Labor Statistics, or the equivalent Canadian index as published by Statistics Canada, as applicable. The adjusted rates shall be the rates currently in use, plus or minus the computed adjustment.

B. Overhead - Percentage Basis

(1) Operator shall charge the Joint Account at the following rates:

(a) Development

_____ Percent (%) of the cost of Development of the Joint Property exclusive of costs provided under Paragraph 9 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 9 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.

(2) Application of Overhead - Percentage Basis shall be as follows:
For the purpose of determining charges on a percentage basis under Paragraph 1B 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 the 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 2 of this Section III. All other costs shall be considered as Operating.

2. **Overhead - Major Construction**

To compensate Operator for overhead costs incurred in the construction and installation of fixed assets, the expansion of fixed assets, and any other project clearly discernible as a fixed asset required for the development and operation of the Joint Property, Operator shall either negotiate a rate prior to the beginning of construction, or shall charge the Joint Account for Overhead based on the following rates for any Major Construction project in excess of $ * :

A. * % of total costs if such costs are more than $ * but less than $ *; plus

B. * % of total costs in excess of $ * but less than $1,000,000; plus

C. * % of total costs in excess of $1,000,000.

Total cost shall mean the 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 and workover wells shall be excluded.

*To be negotiated

3. **Amendment of Rates**

The Overhead rates provided for in this Section III may be amended from time to time only by mutual agreement between the Parties hereto if, in practice, the rates are found to be insufficient or excessive.

IV. PRICING OF JOINT ACCOUNT MATERIAL PURCHASES, TRANSFERS AND DISPOSITIONS

Operator is responsible for Joint Account Material and shall make proper and timely charges and credits for all material movements affecting the Joint Property. Operator shall provide all Material for use on the Joint Property; however, at Operator's option, such Material may be supplied by the Non-Operator. Operator shall make timely disposition of idle and/or surplus Material, such disposal being made either through sale to Operator or Non-Operator, division in kind, or sale to outsiders. Operator may purchase, but shall be under no obligation to purchase, interest of Non-Operators in surplus condition A or B Material. The disposal of surplus Controllable Material not purchased by the Operator shall be agreed to by the Parties.

1. **Purchases**

Material purchased shall be charged at the price paid by Operator after deduction of all discounts received. In case of Material found to be defective or returned to vendor for any other reason, credit shall be passed to the Joint Account when adjustment has been received by the Operator.

2. **Transfers and Dispositions**

Material furnished to the Joint Property and Material transferred from the Joint Property or disposed of by the Operator, unless otherwise agreed to by the Parties, shall be priced on the following bases exclusive of cash discounts:

A. New Material (Condition A)

(1) Tubular goods, except line pipe, shall be priced at the current new price in effect on date of movement on a maximum carload or barge load weight basis, regardless of quantity transferred, equalized to the lowest published price f.o.b. railway receiving point or recognized barge terminal nearest the Joint Property where such Material is normally available.

(2) Line Pipe

(a) Movement of less than 30,000 pounds shall be priced at the current new price, in effect at date of movement, as listed by a reliable supply store nearest the Joint Property where such Material is normally available.

(b) Movement of 30,000 pounds or more shall be priced under provisions of tubular goods pricing in Paragraph 2A (1) of this Section IV.

(3) Other Material shall be priced at the current new price, in effect at date of movement, as listed by a reliable supply store or f.o.b. railway receiving point nearest the Joint Property where such Material is normally available.

B. Good Used Material (Condition B)

Material in sound and serviceable condition and suitable for reuse without reconditioning:

(1) Material moved to the Joint Property

(a) At seventy-five percent (75%) of current new price, as determined by Paragraph 2A of this Section IV.

(2) Material moved from the Joint Property

(a) At seventy-five percent (75%) of current new price, as determined by Paragraph 2A of this Section IV, if Material was originally charged to the Joint Account as new Material, or

(b) at sixty-five percent (65%) of current new price, as determined by Paragraph 2A of this Section IV, if Material was originally charged to the Joint Account as good used Material at seventy-five percent (75%) of current new price.

The cost of reconditioning, if any, shall be absorbed by the transferring property.

C. Other Used Material (Condition C and D)

(1) Condition C

Material which is not in sound and serviceable condition and not suitable for its original function until after reconditioning shall be priced at fifty percent (50%) of current new price as determined by Paragraph 2A of this Section IV. The cost of reconditioning shall be charged to the receiving property, provided Condition C value plus cost of reconditioning does not exceed Condition B value.

(2) Condition D

All other Material, including junk, shall be priced at a value commensurate with its use or at prevailing prices. 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. Operator may dispose of Condition D Material under procedures normally utilized by the Operator without prior approval of Non-Operators.

D. Obsolete Material

Material which is serviceable and usable for its original function but condition and/or value of such Material is not equivalent to that which would justify a price as provided above may be specially priced as agreed to by the Parties. Such price should result in the Joint Account being charged with the value of the service rendered by such Material.

E. Pricing Conditions

(1) Loading and unloading costs may be charged to the Joint Account at the rate of fifteen cents (15¢) per hundred weight on all tubular goods movements, in lieu of loading and unloading costs sustained, when actual hauling cost of such tubular goods are equalized under provisions of Paragraph 5 of Section II.

(2) 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 published or listed prices 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 providing such Material, in making it suitable for use, and in moving it to the Joint Property; provided 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 ten 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.

V. 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 a physical inventory with the Joint Account shall be made, and a list of overages and shortages shall be furnished to the Non-Operators within six months following the taking of the inventory. Inventory adjustments shall be made by Operator with the Joint Account for overages and shortages, but Operator shall be held accountable 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 the Parties.

EXHIBIT "D"

Attached to and made a part of
Operating Agreement dated SEPTEMBER 18, 1981,
between Harvey E. Yates Company as Operator,
and the other parties signatory thereto as
Non-Operators.

At all times during the conduct of operations hereunder, Operator shall maintain in force the following insurance:

A. Workmen's Compensation Insurance and Employers' Liability Insurance as required by the laws of the State in which operations are being conducted.

B. Comprehensive General Public Liability in the following:

Bodily Injury:	$200,000 each person
	$300,000 each accident
Property Damage:	$100,000 each accident
	$100,000 aggregate

C. Automobile Public Liability and Property Damage Insurance with limits of not less than $100,000 for any one person injured in any accident and not less than $300,000 for any number of persons injured in one accident, and with not less than $50,000 property damage coverage for one accident.

All premiums paid on such insurance shall be charged to the joint account. Except by mutual consent of the parties, no other insurance shall be maintained for the joint account, and all losses not covered by such insurance shall be charged to the joint account.

EXHIBIT "E"
ATTACHED TO AND MADE PART OF
OPERATING AGREEMENT DATED SEPTEMBER 18, 1981,
BETWEEN HARVEY E. YATES COMPANY AS OPERATOR,
AND VIKING PETROLEUM, INC., ET AL AS
NON-OPERATORS

GAS STORAGE AND BALANCING AGREEMENT

The parties to the Operating Agreement to which this agreement is attached own the working interest in the gas rights underlying the Unit Area covered by such agreement in accordance with the percentages of participation as set forth in Exhibit "A" to the Operating Agreement.

In accordance with the terms of the Operating Agreement, each party thereto has the right to take its share of gas produced from the Unit Area and market the same. In the event any of the parties hereto is not at any time taking or marketing its share of gas or has contracted to sell its share of gas produced from the Unit Area to a purchaser which does not at any time while this agreement is in effect take the full share of gas attributable to the interest of such party, the terms of this agreement shall automatically become effective.

During the period or periods when any party hereto has no market for its share of gas produced from any proration unit within the Unit Area, or its purchaser does not take its full share of gas produced from such proration unit, the other parties shall be entitled to produce each month one hundred percent (100%) of the allowable gas production assigned to such proration unit by the State regulatory body having jurisdiction and shall be entitled to take and deliver to its or their purchaser all of such gas production. All parties hereto shall share in and own the liquid hydrocarbons recovered from such gas by lease equipment in accordance with their respective interests and subject to the Operating Agreement to which this agreement is attached, but the party or parties taking such gas shall own all of the gas delivered to its or their purchaser.

On a cumulative basis, each party not taking or marketing its full share of the gas produced shall be credited with gas in storage equal to its full share of the gas produced under this agreement, less its share of gas used in lease operations, vented or lost, and less that portion such party took or delivered to its purchaser. The Operator will maintain a current account of the gas balance between the parties and will furnish all parties hereto monthly statements showing the total quantity of gas produced, the amount used in lease operations, vented or lost, the total quantity of liquid hydrocarbons recovered therefrom, and the monthly and cumulative over and under account of each party.

At all times while gas is produced from the Unit Area, each party hereto will make settlement with the respective royalty owners to whom they are accountable, just as if each party were taking or delivering to a purchaser its share, and its share only, of total gas production exclusive of gas used in lease operations, vented or lost. Each party hereto agrees to hold each other party harmless from any and all claims for royalty payments asserted by royalty owners to whom each party is accountable. The term "royalty owner" shall include owners of royalty, overriding royalties, production payments and similar interest.

After notice to the Operator, any party at any time may begin taking or delivering to its purchaser its full share of the gas produced from a proration unit under which it has gas in storage less such party's share of gas used in operations, vented or lost. In addition to such share, each party, including the Operator, until it has recovered its gas in storage and balanced the gas account as to its interest, shall be entitled to take or deliver to its purchaser a share of gas determined by multiplying fifty percent (50%) of the interest in the current gas production of the party or parties without gas in storage by a fraction, the numerator of which is the interest in the proration unit of such party with gas in storage and the denominator of which is the total percentage interest in such proration unit of all parties in storage currently taking or delivering to a purchaser.

Each party producing and taking or delivering gas to its purchaser shall pay any and all production taxes due on such gas.

Nothing herein shall be construed to deny any party the right, from time to time, to produce and take or deliver to its purchaser its full share of the allowable gas production to meet the deliverability tests required by its purchaser.

Should production of gas from a proration unit be permanently discontinued before the gas account is balanced, settlement will be made between the underproduced and overproduced parties. In making such settlement, the underproduced party or parties will be paid a sum of money by the overproduced party or parties attributable to the overproduction which said overproduced party received less applicable taxes theretofore paid. Such settlement shall be based upon the price actually received by the parties for overproduction when it occurred of a volume of gas equal to that for which settlement is made.

Nothing herein shall change or affect each party's obligation to pay its proportionate share of all costs and liabilities incurred, as its share thereof is set forth in the Operating Agreement.

This agreement shall constitute a separate agreement as to each proration unit within the Unit Area and shall become effective in accordance with its terms and shall remain in force and effect as long as the Operating Agreement to which it is attached remains in effect, and shall insure to the benefit of and be binding upon the parties hereto, their successors, legal representatives and assigns.

EXHIBIT "F"

ATTACHED TO AND MADE A PART OF
OPERATING AGREEMENT DATED SEPTEMBER 18, 1981,
BETWEEN HARVEY E. YATES COMPANY AS OPERATOR,
AND VIKING PETROLEUM, INC., ET AL AS
NON-OPERATORS.

NONDISCRIMINATION CLAUSE

HARVEY E. YATES COMPANY, hereinafter referred to as "Operator," agrees, unless exempt therefrom, to comply with all provisions of Executive Order 11246, which are incorporated herein by reference, and if Operator has more than 50 employees, Operator must file Standard Form 100 (EEO-1) and develop a written "Affirmative Action Compliance Program" for each of its establishments according to the Rules and Regulations published by the United States Department of Labor in 41 C.F.R., Chapter 60. Operator further hereby certifies that it does not now and will not maintain any facilities provided for its employees in a segregated manner or permit its employees to perform their services at any location under its control where segregated facilities are maintained, as such segregated facilities are defined in Title 41, Chapter 60-1.8, Code of Federal Regulations, revised as of 1/1/69, unless exempt therefrom.

Unless exempt by rules, regulations or orders of the United States Secretary of Labor, issued pursuant to Section 204 of the Executive Order 11246 dated September 24, 1965, during the performance of this contract, the Operator agrees as follows:

"(1) The Operator will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Operator will take affirmative action to ensure the Applicants are employed and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Operator agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting office setting forth the provisions of this nondiscrimination clause.

"(2) The Operator will, in all solicitations or advertisements for employees placed by or on behalf of the Operator, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

"(3) The Operator will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the agency contracting officer, advising the labor union or workers' representative of the Operator's commitments under Section 202 of Executive Order 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

"(4) The Operator will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor.

"(5) The Operator will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

"(6) In the event of the Operator's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations or orders, this contract may be cancelled, terminated or suspended in whole or in part and the Operator may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.

"(7) The Operator will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Operator will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance; provided however, that in the event the Operator becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Operator may request the United States to enter into such litigation to protect the interests of the United States."

EXHIBIT "G"

Attached To and Made a Part of
Operating Agreement
dated September 18, 1981

LETTER ESCROW AGREEMENT

Gentlemen:

This letter supplements the Operating Agreement dated September 18, 1981, covering Lots 1, 2, 3, 4, E/2 W/2, E/2 (All) of Section 18, Township 9 South, Range 27 East, N.M.P.M., Chaves County, New Mexico, and evidences our agreement whereby you will deposit in an interest bearing escrow account to be established at the Security National Bank of Roswell, Roswell, New Mexico, the cash sum of $_____ for your portion of the cost, and expenses in drilling and completing (or plugging and abandoning, if dry) the Seymour State Number 1 Well, as provided for in that Operating Agreement. Upon your approval and acceptance hereof, as hereinafter provided for, you agree to open such account and deposit that sum with said Bank, hereinafter referred to as the "Escrow Agent", and agree that said Escrow Agent may thereafter disburse the same as hereinafter provided for.

Upon the drilling of the well to total depth, as more fully set forth in the Operating Agreement, we as Operator, shall submit our statement to both you and the Escrow Agent for your proportionate part of the drilling costs and related incidental expenses to that time, and said Escrow Agent shall thereupon pay Operator such amount so billed, provided that amount does not exceed the amount on deposit; if the amount so billed exceeds the amount on deposit, the Escrow Agent shall pay over to us that amount on deposit, and you agree to forthwith pay any deficiency. Upon completion of that Well, Operator shall similarly

submit our statement to both you and the Escrow Agent for the additional costs of completing and equipping that well (or plugging and abandoning the same, if it be dry) and said Escrow Agent shall forthwith pay that statement, provided that amount does not exceed the amount on deposit, if the amount so billed exceeds the amount on deposit, the Escrow Agent shall pay over to us that amount on deposit, and you agree to forthwith pay any deficiency.

If the initial drilling operations be abandoned and a Substitute Well be necessary, then any funds remaining on deposit in the Escrow Account following payment of all expenses for the Initial Well shall be retained in said Escrow Account by the Escrow Agent to be applied to expenses incurred in connection with the Substitute Well. If a Substitute Well is drilled pursuant to Article XV-A of the Operating Agreement, you shall deposit with said Escrow Agent all additional sums required to constitute payment in full of your proportionate share of the total AFE costs and expenses not fewer than fifteen (15) days prior to the commencement of the Substitute Well.

If Subsequent Operations should be undertaken pursuant to Article VI-B of the Operating Agreement, you shall deposit with said Escrow Agent all additional sums required to constitute payment in full of your proportionate share of the total AFE costs and expenses within thirty (30) days of your receipt of such AFE by registered or certified mail from Operator, or not fewer than fifteen (15) days prior to the commencement of the proposed operation, whichever event occurs earlier. Should that deposit not be made within that period, you shall become a "Non-Consenting Party" under the Operating Agreement, and Article VI-B heretofore noted.

Upon full payment of such sums as heretofore provided for, and completion of the drilling program as set forth in the Operating Agreement, the Escrow Agent shall return any sums left on deposit with it, together with earned interest if any there be to you.

If this letter correctly sets forth our agreement, please evidence your acceptance on both the original and two copies and return the same to us together with your funds to establish the escrow account. Upon the deposit thereof with the Escrow Agent, said Bank will evidence its acceptance of the escrow, whereupon one fully executed copy of this letter agreement will be returned to you.

Very truly yours,

HARVEY E. YATES COMPANY

By _____

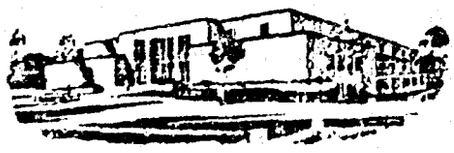
Accepted and agreed to
this _____ day of
November, 1981.

By _____

Acceptance of Escrow:

The Security National Bank of Roswell, Roswell, New Mexico, acknowledged receipt of the cash sum of $_____ and accepts this escrow statement this ____ __ day of November, 1981.

State of New Mexico



Commissioner of Public Lands

ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

COMMUNITIZATION AGREEMENT

STATE OF NEW MEXICO) KNOW ALL MEN BY THESE PRESENTS:
)
COUNTY OF CHAVES)

THAT THIS AGREEMENT* is entered into as of the 15th of October 19 81, by and between the parties subscribing, ratifying or consenting hereto, such parties hereinafter being referred to as "Parties hereto";

WHEREAS, The Commissioner of Public Lands of the State of New Mexico is authorized by the Legislature, as set forth in Sec. 19-10-53, New Mexico Statutes, Annotated, 1978 Laws, in the interest of conservation of oil and gas and the prevention of waste to consent to and approve the development or operation of State lands under agreements made by lessees of oil and gas leases thereon, jointly or severally with other oil and gas lessees of State lands, or oil and gas lessees or mineral owners of privately owned or fee lands, for the purpose of pooling or communitizing such lands to form a proration unit or portion thereof, or well-spacing unit, pursuant to any order, rule or regulation of the New Mexico Oil Conservation Division of the New Mexico Energy and Minerals Department where such agreement provides for the allocation of the production of oil or gas from such pools or communitized area on an acreage or other basis found by the Comaissioner to be fair and equitable.

WHEREAS, the parties hereto, being oil and gas lessees of record, covering lands subject to this agreement, insofar as such leases cover the lands hereinafter described, which leases are more particularly, described in the schedule attached hereto, marked Exhibit "A" and made a part hereof, for all purposes, and

WHEREAS, said leases, insofar as they cover the ABO Formation (hereinafter referred to as "said formation") in and

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Rev. 9-6-79

* This agreement not to be used for helium or carbon dioxide.

under the land hereinafter described cannot be independently developed and operated in conformity with the well-spacing program established for such formation in and under said lands; and

WHEREAS, the parties hereto desire to communitize and pool their respective interests in said leases subject to this Agreement for the purpose of developing, operating and producing hydrocarbons in the said formation in and under the land hereinafter described subject to the terms hereof.

NOW, THEREFORE, in consideration of the premises and the mutual advantages to the parties hereto, it is mutually covenanted and agreed by and between the undersigned as follows:

1. The lands covered by this agreement (hereinafter referred to as "communitized area") are described as follows:

- Township 9 South Range 27 East N.M.P.M.

Northwest Quarter (NW/4) Section 18

CHAVES County, New Mexico

containing 162.70 acres, more or less, and so hereby declare that it is the judgment of the parties hereto that the communitization, pooling and consolidation of the aforesaid land into a single unit for the development and production of hydrocarbons from the said formation in and under said land is necessary and advisable in order to properly develop and produce the hydrocarbons in the said formation beneath said land in accordance with the spacing rules of the Oil Conservation Division of the New Mexico Energy and Minerals Department, State of New Mexico, and in order to promote the conservation of the hydrocarbons in and that may be produced from said formation in and under said lands, and would be in the public interest;

AND, for the purposes aforesaid, the parties hereto do hereby communitize, for proration or spacing purposes only the leases described in Exhibit "A" hereto insofar as they cover hydrocarbons within and that may be produced from the said formation (hereinafter referred to as "Communitized Sub-

stances") beneath the above-described land, into a single communitization, for the development, production, operation and conservation of the hydrocarbons in said formation beneath said lands.

Attached hereto and made a part of this Agreement for all purposes, is Exhibit "A" showing the acreage, and ownership (Lessees of Record) of all lands within the communitized area.

2. The communitized area shall be developed and operated as an entirety with the understanding and agreement between the parties hereto that all communitized substances produced therefrom shall be allocated among the leases described in Exhibit "A" hereto in the proportion that the number of surface acres covered by each of such leases and included within the communitized area bears to the total number of acres contained in the communitized area.

3. Subject to Paragraph 4, the royalties payable on communitized substances allocated to the individual leases and the rentals provided for in said leases shall be determined and paid in the manner and on the basis prescribed in each of said leases. Except as provided for under the terms and provisions of the leases described in Exhibit "A" hereto or as herein provided to the contrary, the payment of rentals under the terms of said leases shall not be affected by this Agreement; and except as herein modified and changed or heretofore amended, the oil and gas leases subject to this agreement shall remain in full force and effect as originally issued and amended.

4. The State of New Mexico hereafter is entitled to the right to take in kind its share of the communitized substances allocated to such tract, and operator shall make deliveries of such royalty share taken in kind in conformity with applicable contracts, laws, and regulations.

5. There shall be no obligation upon the parties hereto to offset any well or wells situated on the tracts of land comprising the communitized area,

nor shall the undersigned be required to measure separately the communitized substances by reason of the diverse ownership of the separate tracts of land comprising the said communitized area; provided, however, that the parties hereto shall not be released from their obligation to protect the communitized area from drainage of communitized substances by wells which may be drilled within offset distance (as that term is defined) of the communitized area.

6. The Commencement, Completion, and Continued operation of production of a well or wells for communitized substances on the communitized area shall be considered as the commencement, completion, continued operation or production as to each of the leases described in Exhibit "A" hereto.

7. The production of communitized substances and disposal thereof shall be in conformity with the allocations, allotments and quotas made or fixed by any duly authorized person or regulatory body under applicable Federal or State laws or statutes. This Agreement shall be subject to all applicable Federal and State laws, executive orders, rules and regulations affecting the performance of the provisions hereof, and no party hereto shall suffer a forfeiture or be liable in damages for failure to comply with any of the provisions of this Agreement if compliance is prevented by or if such failure results from compliance with any such laws, orders, rules and regulations.

8. HARVEY E. YATES COMPANY shall be the Operator of said communitized area and all matters of operation shall be determined and performed by HARVEY E. YATES COMPANY.

9. This Agreement shall be effective as of the date herein-above written upon execution by the necessary parties, notwithstanding the date of execution, and upon approval by the Commissioner of Public Lands, shall remain in full

force and effect for a period of one year from the date hereof and as long thereafter as communitized substances are produced from the communitized area in commercial quantities; provided, however, that prior to production in commercial quantities from the communitized area, and upon fulfillment of all requirements of the Commissioner of Public Lands with respect to any dry hole or abandoned well drilled upon the communitized area, this Agreement may be terminated at any time by mutual agreement of the parties hereto. This agreement shall not terminate upon cessation of production of communitized substances if, within sixty (60) days thereafter, reworking or drilling operations on the communitized area are commenced and are thereafter conducted with reasonable diligence during the period of non-production.

10. Operator will furnish the Oil Conservation Division of the New Mexico Energy and Minerals Department, and the Commissioner of Public Lands, of the State of New Mexico, with any and all reports, statements, notices and well logs and records which may be required under the laws and regulations of the State of New Mexico.

11. It is agreed between the parties hereto that the Commissioner of Public Lands, or his duly authorized representatives, shall have the right of supervision over all operations under the communitized area to the same extent and degree as provided in the oil and gas leases described in Exhibit "A" hereto and in the applicable oil and gas regulations of the State of New Mexico.

12. If any order of the Oil Conservation Division of the New Mexico Energy and Minerals Department, upon which this agreement is predicated or based is in anyway changed or modified, then and in such event said agreement is likewise modified to conform thereto.

13. This Agreement may be executed in any number of counterparts, no one of which needs to be executed by all parties, or may be ratified or consented to by separate instruments, in writing, specifically referring hereto, and shall be binding upon all parties who have executed such a counterpart,

ratification or consent hereto with the same force and effect as if all parties had signed the same document.

14. This Agreement shall be binding upon the parties hereto and shall extend to and be binding upon their respective heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, the parties hereto have executed this agreement as of the day and year first above written.

ATTEST: OPERATOR: HARVEY E. YATES COMPANY

_____ By: _____
Secretary President

LESSEES OF RECORD:

_____
JACK J. GRYNBERG

_____
CELESTE C. GRYNBERG

_____

_____

STATE OF NEW MEXICO)
) SS
COUNTY OF CHAVES)

The foregoing instrument was acknowledged before me this _____ day of November 19X 81 by GEORGE M. YATES XXXXXXXXXXXX President XXXXXX on behalf of HARVEY E. YATES Company.

_____ _____
My Commission Expires NOTARY PUBLIC

STATE OF ____________________)
) SS
COUNTY OF___________________)

The foregoing instrument was acknowledged before me this ____________

day of November , 197X 81 by JACK J. GRYNBERG XXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

___________________________________ ___________________________________

My Commission Expires: NOTARY PUBLIC

STATE OF ____________________)
) SS
COUNTY OF___________________)

The foregoing instrument was acknowledged before me this ____________

day of November , 197X 81 by CELESTE C. GRYNBERG , XXXXXXXXXXXXXX

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

___________________________________ ___________________________________

My Commission Expires: NOTARY PUBLIC

STATE OF____________________)
) SS
COUNTY OF___________________)

The foregoing instrument was acknowledged before me this ____________

day of ________________, 197______ by ______________________________, as Attorney

in Fact on behalf of ____ Company.

___________________________________ ___________________________________

My Commission Expires: NOTARY PUBLIC

STATE OF ____________________)
) SS
COUNTY OF___________________)

The foregoing instrument was acknowledged before me this ____________

day of ________________, 197______ by______________________________, as Attorney

in Fact on behalf of____ Company.

___________________________________ ___________________________________

My Commission Expires: NOTARY PUBLIC

OG-66

EXHIBIT "A"

Attached to and made a part of that Communitization Agreement dated October 15, 1981 by and between Harvey E. Yates Company, Jack J. Grynberg, and Celeste C. Grynberg XXXXXXXXXXXXXXXXXXXXXX XXXXXXX covering the NW/4 Section 18 Township 9 South Range 27 East, CHAVES County, New Mexico

Operator of Communitized Area:

Company HARVEY E. YATES COMPANY

Description of Leases Committed:

Company

Tract No. 1

Lessor:	State of New Mexico acting by and through its Commissioner of Public Lands
Lessee of Record:	HARVEY E. YATES COMPANY
Serial No. of Lease:	L-6775
Date of Lease:	December 1, 1971
Description of Lands Committed:	Lots 1, 2 - Section 18, Township 9 South, Range 27 East
No. of Acres:	82.70

Company:

Tract No. 2

Lessor:	State of New Mexico acting by and through its Commissioner of Public Lands
Lessee of Record:	Jack J. Grynberg & wife, Celeste C. Grynberg
Serial No. of Lease:	L-6907
Date of Lease:	February 1, 1972
Description of Lands Committed:	E/2 NW/4 - Section 18, Township 9 South, Range 27 East
No. of Acres:	80.0

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Tract No. 3

Lessor: State of New Mexico acting by and through its Commissioner of Public Lands

Lessee of Record: _____
Serial No. of Lease: _____
Date of Lease: _____
Description of Lands Committed: _____

No. of Acres _____

_____ Company:

Tract No. 4

Lessor: State of New Mexico acting by and through its Commissioner of Public Lands

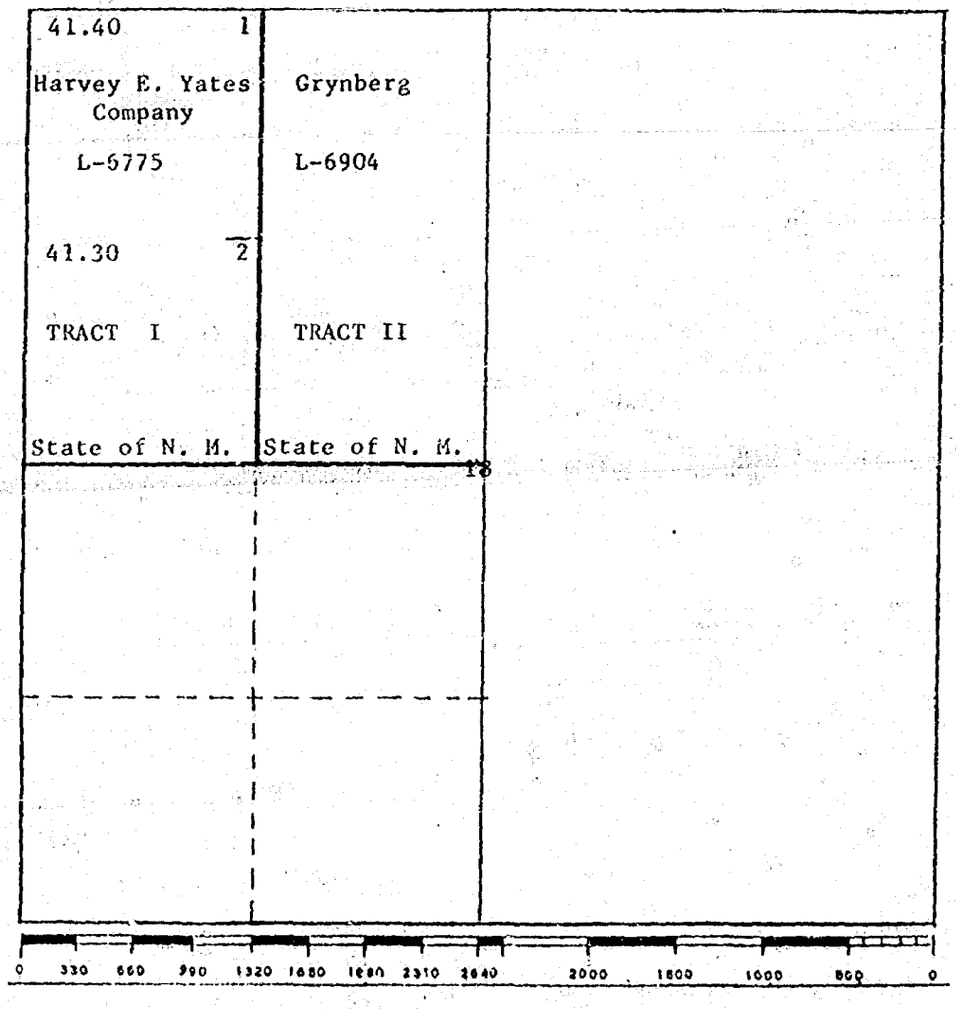
Lessee of Record: _____
Serial No. of Lease: _____
Date of Lease: _____
Description of Lands Committed: _____

No. of Acres: _____

RECAPITULATION

TRACT NO.	NO. OF ACRES COMMITTED	PERCENTAGE OF INTEREST IN COMMUNITIZED AREA
Lease No. 1	82.70	50.829748%
Lease No. 2	80.00	49.170252%
	162.70	100.000000%

R - 27 - E



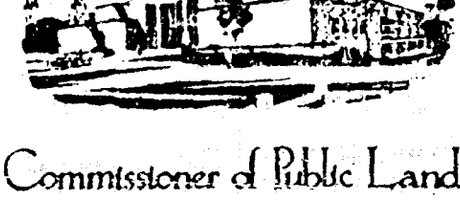
R - 27 - E

ATTACHED TO AND MADE A PART OF THE COMMUNITIZATION AGREEMENT
DATED OCOTBER 15, 1981,
COVERING THE NORTHWEST QUARTER (NW/4)
SECTION 18, T-9S, R-27E, N.M.P.M.
CHAVES COUNTY, NEW MEXICO

ABO FORMATION

SEYMOUR STATE COM #1

State of New Mexico



Commissioner of Public Lands

ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

COMMUNITIZATION AGREEMENT

STATE OF NEW MEXICO)
) KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF CHAVES)

THAT THIS AGREEMENT* is entered into as of the 15th of October 19 81, by and between the parties subscribing, ratifying or consenting hereto, such parties hereinafter being referred to as "Parties hereto";

WHEREAS, The Commissioner of Public Lands of the State of New Mexico is authorized by the Legislature, as set forth in Sec. 19-10-53, New Mexico Statutes, Annotated, 1978 Laws, in the interest of conservation of oil and gas and the prevention of waste to consent to and approve the development or operation of State lands under agreements made by lessees of oil and gas leases thereon, jointly or severally with other oil and gas lessees of State lands, or oil and gas lessees or mineral owners of privately owned or fee lands, for the purpose of pooling or communitizing such lands to form a proration unit or portion thereof, or well-spacing unit, pursuant to any order, rule or regulation of the New Mexico Oil Conservation Division of the New Mexico Energy and Minerals Department where such agreement provides for the allocation of the production of oil or gas from such pools or communitized area on an acreage or other basis found by the Commissioner to be fair and equitable.

WHEREAS, the parties hereto, being oil and gas lessees of record, covering lands subject to this agreement, insofar as such leases cover the lands hereinafter described, which leases are more particularly, described in the schedule attached hereto, marked Exhibit "A" and made a part hereof, for all purposes, and

WHEREAS, said leases, insofar as they cover the MISSISSIPPIAN Formation (hereinafter referred to as "said formation") in and

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 2390 Exhibit No. 4
Submitted by: HEYCO
Hearing Date 11-24-81

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Rev. 9-6-79

* This agreement not to be used for helium or carbon dioxide.

under the land hereinafter described cannot be independently developed and operated in conformity with the well-spacing program established for such formation in and under said lands; and

WHEREAS, the parties hereto desire to communitize and pool their respective interests in said leases subject to this Agreement for the purpose of developing, operating and producing hydrocarbons in the said formation in and under the land hereinafter described subject to the terms hereof.

NOW, THEREFORE, in consideration of the premises and the mutual advantages to the parties hereto, it is mutually covenanted and agreed by and between the undersigned as follows:

1. The lands covered by this agreement (hereinafter referred to as "communitized area") are described as follows:

- Township 9 South, Range 27 East N.M.P.M.

West One-half (W/2) Section 18

Chaves County, New Mexico

containing 325.04 acres, more or less, and so hereby declare that it is the judgment of the parties hereto that the communitization, pooling and consolidation of the aforesaid land into a single unit for the development and production of hydrocarbons from the said formation in and under said land is necessary and advisable in order to properly develop and produce the hydrocarbons in the said formation beneath said land in accordance with the spacing rules of the Oil Conservation Division of the New Mexico Energy and Minerals Department, State of New Mexico, and in order to promote the conservation of the hydrocarbons in and that may be produced from said formation in and under said lands, and would be in the public interest;

AND, for the purposes aforesaid, the parties hereto do hereby communitize, for proration or spacing purposes only the leases described in Exhibit "A" hereto insofar as they cover hydrocarbons within and that may be produced from the said formation (hereinafter referred to as "Communitized Sub-

stances") beneath the above-described land, into a single communitization, for the development, production, operation and conservation of the hydrocarbons in said formation beneath said lands.

Attached hereto and made a part of this Agreement for all purposes, is Exhibit "A" showing the acreage, and ownership (Lessees of Record) of all lands within the communitized area.

2. The communitized area shall be developed and operated as an entirety with the understanding and agreement between the parties hereto that all communitized substances produced therefrom shall be allocated among the leases described in Exhibit "A" hereto in the proportion that the number of surface acres covered by each of such leases and included within the communitized area bears to the total number of acres contained in the communitized area.

3. Subject to Paragraph 4, the royalties payable on communitized substances allocated to the individual leases and the rentals provided for in said leases shall be determined and paid in the manner and on the basis prescribed in each of said leases. Except as provided for under the terms and provisions of the leases described in Exhibit "A" hereto or as herein provided to the contrary, the payment of rentals under the terms of said leases shall not be affected by this Agreement; and except as herein modified and changed or heretofore amended, the oil and gas leases subject to this agreement shall remain in full force and effect as originally issued and amended.

4. The State of New Mexico hereafter is entitled to the right to take in kind its share of the communitized substances allocated to such tract, and operator shall make deliveries of such royalty share taken in kind in conformity with applicable contracts, laws, and regulations.

5. There shall be no obligation upon the parties hereto to offset any well or wells situated on the tracts of land comprising the communitized area,

nor shall the undersigned be required to measure separately the communitized substances by reason of the diverse ownership of the separate tracts of land comprising the said communitized area; provided, however, that the parties hereto shall not be released from their obligation to protect the communitized area from drainage of communitized substances by wells which may be drilled within offset distance (as that term is defined) of the communitized area.

6. The Commencement, Completion, and Continued operation of production of a well or wells for communitized substances on the communitized area shall be considered as the commencement, completion, continued operation or production as to each of the leases described in Exhibit "A" hereto.

7. The production of communitized substances and disposal thereof shall be in conformity with the allocations, allotments and quotas made or fixed by any duly authorized person or regulatory body under applicable Federal or State laws or statutes. This Agreement shall be subject to all applicable Federal and State laws, executive orders, rules and regulations affecting the performance of the provisions hereof, and no party hereto shall suffer a forfeiture or be liable in damages for failure to comply with any of the provisions of this Agreement if compliance is prevented by or if such failure results from compliance with any such laws, orders, rules and regulations.

8. HARVEY E. YATES COMPANY shall be the Operator of said communitized area and all matters of operation shall be determined and performed by HARVEY E. YATES COMPANY.

9. This Agreement shall be effective as of the date herein-above written upon execution by the necessary parties, notwithstanding the date of execution, and upon approval by the Commissioner of Public Lands, shall remain in full

force and effect for a period of one year from the date hereof and as long thereafter as communitized substances are produced from the communitized area in commercial quantities; provided, however, that prior to production in commercial quantities from the communitized area, and upon fulfillment of all requirements of the Commissioner of Public Lands with respect to any dry hole or abandoned well drilled upon the communitized area, this Agreement may be terminated at any time by mutual agreement of the parties hereto. This agreement shall not terminate upon cessation of production of communitized substances if, within sixty (60) days thereafter, reworking or drilling operations on the communitized area are commenced and are thereafter conducted with reasonable diligence during the period of non-production.

10. Operator will furnish the Oil Conservation Division of the New Mexico Energy and Minerals Department, and the Commissioner of Public Lands, of the State of New Mexico, with any and all reports, statements, notices and well logs and records which may be required under the laws and regulations of the State of New Mexico.

11. It is agreed between the parties hereto that the Commissioner of Public Lands, or his duly authorized representatives, shall have the right of supervision over all operations under the communitized area to the same extent and degree as provided in the oil and gas leases described in Exhibit "A" hereto and in the applicable oil and gas regulations of the State of New Mexico.

12. If any order of the Oil Conservation Division of the New Mexico Energy and Minerals Department, upon which this agreement is predicated or based is in anyway changed or modified, then and in such event said agreement is likewise modified to conform thereto.

13. This Agreement may be executed in any number of counterparts, no one of which needs to be executed by all parties, or may be ratified or consented to by separate instruments, in writing, specifically referring hereto, and shall be binding upon all parties who have executed such a counterpart,

ratification or consent hereto with the same force and effect as if all parties had signed the same document.

14. This Agreement shall be binding upon the parties hereto and shall extend to and be binding upon their respective heirs, executors, administrators, successors and assigns.

IN WITNESS WHEREOF, the parties hereto have executed this agreement as of the day and year first above written.

ATTEST: OPERATOR: HARVEY E. YATES COMPANY

_____ BY: _____
Secretary President

LESSEES OF RECORD:

_____
JACK J. GRYNBERG

_____
CELESTE C. GRYNBERG

_____

_____

STATE OF NEW MEXICO)
) SS
COUNTY OF CHAVES)

The foregoing instrument was acknowledged before me this _____ day of November 19~~X~~ 81 by GEORGE M. YATES ~~xxxxxxxxxxx~~ President ~~xx~~ on behalf of HARVEY E. YATES Company.

_____ _____
My Commission Expires NOTARY PUBLIC

STATE OF _____)
) SS
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of November ,19 81 by JACK J. GRYNBERG ,as Attorney in Fact on behalf of Company.

_____ My Commission Expires:

_____ NOTARY PUBLIC

STATE OF _____)
) SS
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of November ,19 81 by CELESTE C. GRYNBERG ,as Attorney in Fact on behalf of Company.

_____ My Commission Expires:

_____ NOTARY PUBLIC

STATE OF_____)
) SS
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of _____,197_____ by _____,as Attorney in Fact on behalf of _____Company.

_____ My Commission Expires:

_____ NOTARY PUBLIC

STATE OF _____)
) SS
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of _____,197_____ by_____,as Attorney in Fact on behalf of_____Company.

_____ My Commission Expires:

_____ NOTARY PUBLIC

OG-66

STATE OF _____)
) SS
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of November ,19X 81 by JACK J. GRYNBERG ,as Attorney in Fact on behalf of Company.

_____ My Commission Expires:

_____ NOTARY PUBLIC

STATE OF _____)
) SS
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of November ,19X 81 by CELESTE C. GRYNBERG ,as Attorney in Fact on behalf of Company.

_____ My Commission Expires:

_____ NOTARY PUBLIC

STATE OF_____)
) SS
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of _____,197_____ by _____,as Attorney in Fact on behalf of _____Company.

_____ My Commission Expires:

_____ NOTARY PUBLIC

STATE OF _____)
) SS
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____ day of _____,197_____ by_____,as Attorney in Fact on behalf of_____Company.

_____ My Commission Expires:

_____ NOTARY PUBLIC

OG-66

EXHIBIT "A"

Attached to and made a part of that Communitization Agreement dated October 15, 1981 by and between Harvey E. Yates Company, Jack J. Grynberg, and Celeste C. Grynberg. xxxxxxxxxxxxxxxxxxxx xxxxxxx covering the W/2 Section 18 Township 9 South Range 27 East, Chaves County, New Mexico

Operator of Communitized Area:

Company HARVEY E. YATES COMPANY

Description of Leases Committed:

Company

Tract No. 1

Lessor:	State of New Mexico acting by and through its Commissioner of Public Lands
Lessee of Record:	HARVEY E. YATES COMPANY
Serial No. of Lease:	L-6775
Date of Lease:	December 1, 1971
Description of Lands Committed:	Lots 1, 2, 3, 4, E/2 SW/4 - Section 18 Township 9 South, Range 27 East
No. of Acres:	245.04

Company:

Tract No. 2

Lessor:	State of New Mexico acting by and through its Commissioner of Public Lands
Lessee of Record:	Jack J. Grynberg & wife, Celeste C. Grynberg
Serial No. of Lease:	L-6907
Date of Lease:	February 1, 1972
Description of Lands Committed:	E/2 NW/4 - Section 18 Township 9 South, Range 27 East
No. of Acres:	80.00

OG-66

Tract No. 3

Lessor: State of New Mexico acting by and through its Commissioner of Public Lands

Lessee of Record: _____
Serial No. of Lease: _____
Date of Lease: _____
Description of Lands Committed: _____

No. of Acres _____

Company: _____

Tract No. 4

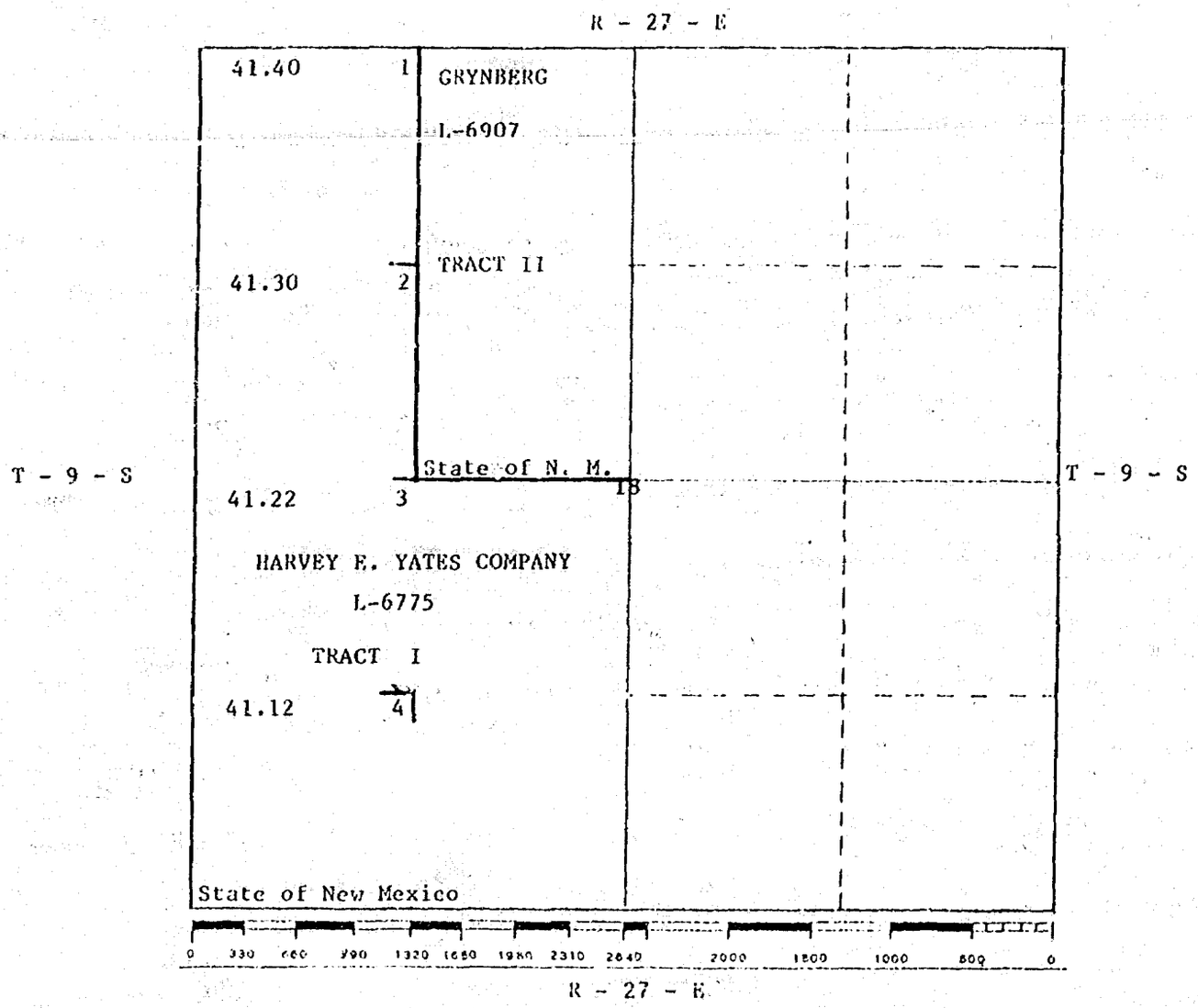
Lessor: State of New Mexico acting by and through its Commissioner of Public Lands

Lessee of Record: _____
Serial No. of Lease: _____
Date of Lease: _____
Description of Lands Committed: _____

No. of Acres: _____

RECAPITULATION

TRACT NO.	NO. OF ACRES COMMITTED	PERCENTAGE OF INTEREST IN COMMUNITIZED AREA
Lease No. 1	245.04	75.387645%
Lease No. 2	80.00	24.612355%
	325.04	100.000000%



ATTACHED TO AND MADE A PART OF THE COMMUNITIZATION AGREEMENT
DATED OCTOBER 15, 1981,
COVERING THE WEST ONE-HALF (W/2)
SECTION 18, T-9S, R-27E, N.M.P.M.
CHAVES COUNTY, NEW MEXICO

MISSISSIPPIAN FORMATION

SEYMOUR STATE COM #1

LEASE HEYCO SEYMOUR STATE WELL NUMBER 1

LOCATION 660' FWL & 1980' FNL, Sec-18, T-9S, R-27E

COUNTY Chaves DEPTH 6350 PRODUCING FORMATION: Penn-Miss

	Producing Well Cost	Dry Hole Cost
Drilling and completion costs		
Intangible drilling costs		
Location	$ 20000	$ 20000
Footage 6350 @ 34.95/ft + tax	230800	230800
Daywork 5 days @ 7700	38500	38500
Surface casing service	4700	4700
Intermediate casing service	9000	9000
Mud, water	35000	35000
Company superviser, engineer	3000	3000
Rentals, coring service	15000	15000
Miscellaneous	25000	25000
Total intangible drilling costs	381000	381000
Intangible formation evaluation cost		
Logs, CND, GR-Caliper, DLL Micro-SFL w/GR & Caliper	16500	16500
DST 2 @ 3500/each	7000	7000
Geological mud logging service	5000	5000
Miscellaneous	4000	4000
Total intangible formation evaluation	32500	32500
Intangible completion costs		
Unit cost 20 days @ 1450/day	29000	
Production casing service	6500	
Completion fluid	2500	
Perforating/production logging	8500	
Treating	25000	
Company supervision	4000	1500
Plugging expense		7500
Miscellaneous	10000	
Total intangible completion costs	85500	9000
Tangible drilling costs and completion costs		
Surface casing 325 of 13 3/8	6250	6250
Intermediate casing 1500 of 8 5/8	14950	14950
Production casing 6350 of 4 1/2	40725	
Production tubing 6300 of 2 3/8	24750	
Casing head	2000	
Tubing head	13000	
Christmas tree	8000	
Subsurface equipment	1500	
Total tangible drilling costs and completion costs	111175	21200
Lease equipment		
Tanks 2, 500 Bbl	10000	
Separator	10000	
Flow lines	3500	
Meter runs	2000	
Pumping unit		
Installation costs	3500	
Total lease equipment	29000	
Total intangible costs	499000	422500
Total tangible costs	111175	21200
Total lease equipment	29000	
Administrative	4000	2500
TOTAL COSTS	$ 643175	$ 446200

Prepared by: Peck Hardee Date: 9/30/81

"It is recognized that the amounts provided for herein are estimated only, and approval of this authorization shall extend to the actual costs incurred in conducting the operations specified, whether more or less than herein set out."

APPROVED BY THE OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 2390 Exhibit No. 5
Company Submitted by HEYCO
Hearing Date 11-24-81

DOCKET: COMMISSION HEARING - TUESDAY - NOVEMBER 24, 1981

9 A.M. - OIL CONSERVATION COMMISSION - ROOM 205 - STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO.

CASE 7042: (Reopened and Readvertised)

In the matter of Case 7042 being reopened pursuant to the provisions of Order R-6659, which order continued indefinitely, the application of Doyle Hartman for the extension of vertical limits of the Langlie mattix Pool, Lea County, New Mexico. All interested parties may appear and present evidence relating to this matter.

CASE 7043: (Rehearing)

Application of Cities Service Company for downhole commingling and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Jalmat and Langlie Mattix production in the wellbores of the following Doyle Hartman wells in Section 19, Township 24 South, Range 37 East: his Adele Sowell Wells Nos. 1 and 2 located in Units I and P, respectively, and his Cities Thomas Wells Nos. 1, 3, and 4 in Units B, H, and G, respectively. Applicant, further seeks approval of the simultaneous dedication of the E/2 of Section 19, for Jalmat production from the above Hartman wells and from its Thomas "A" Wells Nos. 1 and 2, located in Units O and G, respectively. Pursuant to Rule 1222 of the Division Rules and Regulations, applicant requested rehearing of Case No. 7043 after entry of Order No. R-6660 in said case on April 23, 1981.

CASE 7390: (Continued and Readvertised)

Application of Harvey E. Yates Company for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down through the Mississippian formation underlying the W/2 of Section 18, Township 9 South, Range 27 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

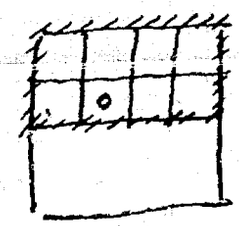
CASE 7409: Application of Viking Petroleum, Inc. for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down through the Pennsylvanian formation underlying the N/2 of Section 18, Township 9 South, Range 27 East, to be dedicated to a well to be drilled in the SE/4 NW/4 of said Section 18. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

BEFORE THE

OIL CONSERVATION DIVISION

ENERGY & MINERALS DEPARTMENT

STATE OF NEW MEXICO



IN THE MATTER OF THE APPLICATION OF VIKING PETROLEUM, INC. FOR DECLARATION OF A COMPULSORY UNIT, N 1/2 SEC. 18, TOWNSHIP 9 SOUTH, RANGE 27E, CHAVES COUNTY, NEW MEXICO

Case No. 7409

A P P L I C A T I O N

The applicant, VIKING PETROLEUM, INC., 2700 Center Building, Tulsa, Oklahoma, by its attorneys Jones, Gallegos, Snead & Wertheim, P.A., hereby requests an order of unitization for an unnamed unit covering 320 acres of land in Chaves County, New Mexico, and in support of its application states:

1. Pursuant to the Statutory Unitization Act (Sec. 70-7-1, et seq., N.M.S.A. 1978) the applicant desires to obtain an order of the Division declaring a drilling unit covering those certain lands upon which the mineral ownership is held by the State of New Mexico, described as follows:

Township 9 South, Range 27 East, N.M.P.M.

Sec. 18: N 1/2 320 acres

2. There presently exists a producing oil well in the E 1/2 NE 1/4 of adjoining section 13; the potentially producing reservoirs have been reasonably defined by that development and development on surrounding acreage.

3. This application seeks unitization to pool all of the subject acreage from the surface down through and including the Pennsylvanian formation.

4. The applicant is the holder of State of New Mexico oil and gas lease L-6907 covering 200 acres of the proposed

unit and being within said Section 18 as follows: NE 1/4 NE 1/4, W 1/2 NE 1/4, E 1/2 NW 1/4. The applicant will be the operator of the unit under a unit agreement and plan of operation customary and usual in the Permian Basin of New Mexico, or as otherwise ordered by the Division.

5. A map of the proposed unit area is attached hereto and marked Exhibit "A" and also illustrates those portions of the unit area under lease to the applicant.

6. The applicant is informed and believes and alleges that in Case No. 7930 before the Division the Harvey E. Yates Company seeks compulsory pooling of the W 1/2 of the subject Section 18, which constitutes an overlap of the lands covered by this application. Applicant is further informed and believes that (a) the Yates application seeks pooling only of the Mississippian formation and (b) proposes a well location in the SW 1/4 NW 1/4 of Section 18 though there is existant a producing well in adjoining Section 13 within the SE 1/4 NE 1/4.

7. If the unit is declared as sought by this application, the applicant will locate the discovery well in the SE 1/4 NW 1/4 of Section 18 and will pool all formations through and including the Pennsylvanian, with the probable producing horizon being the Abo, between the surface and the Pennsylvanian. The unit area and the plan of operation sought by the applicant is superior to the Yates Company application and will result in greater ultimate recovery, the prevention of waste and preferable protection of correlative rights.

WHEREFORE the applicant requests the Division set this matter down for a hearing before an examiner at an early date, give notice as required by law and after hearing enter its Order declaring a cumpulsory unit as described and granting such

further relief as appears proper.

VIKING PETROLEUM, INC.

JONES, GALLEGOS, SNEAD & WERTHEIM, P.A.
Attorneys for Applicant

By _____
J. E. GALLEGOS
P. O. Box 2228
Santa Fe, New Mexico 87501
(505) 982-2691

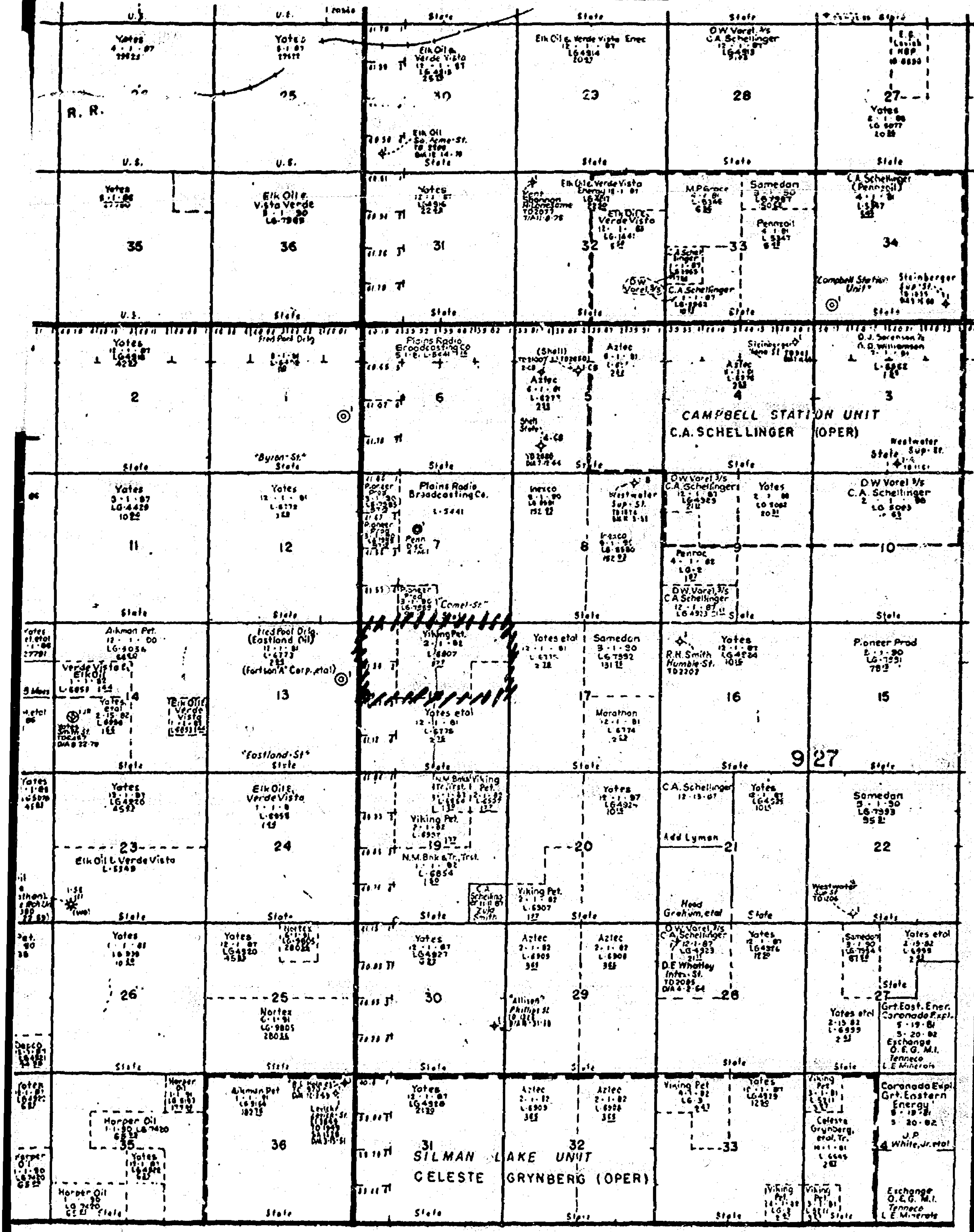

R. R.
CAMPBELL STATION UNIT
C.A. SCHELLINGER (OPER)
SILMAN LAKE UNIT
CELESTE GRYNBERG (OPER)
Plains Radio Broadcasting Co.
Yates
Aztec
Samedon
State

Exhibit "A"

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION ~~DIVISION~~ DIVISION OK

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

CASE NO. ~~7906~~ 7409
Order No. ~~R-6813~~ R-6839

APPLICATION OF VIKING PETROLEUM, INC. ~~BIRD OIL CORPORATION~~ FOR AN ~~UNORTHODOX~~ COMPULSORY POOLING ~~LOCATION~~, ~~SAN JUAN~~ LEA COUNTY, NEW MEXICO.

ORDER OF THE ~~DIVISION~~ COMMISSION

BY THE ~~DIVISION~~ COMMISSION:

This cause came for hearing at 9 a.m. on November ~~4th~~ 24 1981, at Santa Fe, New Mexico, before ~~Examiner Daniel S. Nutter.~~ the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this ~~18th~~ day of November, 1981, the ~~Division~~ Commission ~~Director~~, having considered the record, ~~and the recommendations of the Examiner~~, and being fully advised in the premises,

FINDS:

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

IT IS THEREFORE ORDERED:

That Case No. ~~7380~~ 7409 is hereby dismissed.

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

STATE OF NEW MEXICO COMMISSION
OIL CONSERVATION ~~DIVISION~~

JOE D. RAMEY
DIRECTOR