STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	)	CASE NO. 11,190
APPLICATION OF MYCO INDUSTRIES, INC.	)	

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

March 2nd, 1995

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, March 2nd, 1995, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

I N D E X

March 2nd, 1995
Examiner Hearing
CASE NO. 11,190

* * *

E X H I B I T S

	Identified	Admitted
Exhibit 1	7	13
Exhibit 2	8	13
Exhibit 3	9	13
Exhibit 4	11	13
Exhibit 5	11	13
Exhibit 6	15	22
Exhibit 7	16	22
Exhibit 8	17	22
Exhibit 9	17, 21	22
Exhibit 10	17	22
Exhibit 11	27	38
Exhibit 12	27	38
Exhibit 13	28	38
Exhibit 14	31	38
Exhibit 15	32	38
Exhibit 16	32	38
Exhibit 17	33	38
Exhibit 18	33	38
Exhibit 19	36	38

* * *

A P P E A R A N C E S

FOR THE DIVISION:

RAND L. CARROLL
Attorney at Law
Legal Counsel to the Division
State Land Office Building
Santa Fe, New Mexico 87504

FOR THE APPLICANT:

LOSEE, CARSON, HAAS & CARROLL, P.A.
300 American Home Building
Post Office Drawer 239
Artesia, New Mexico 88211-0239
By: ERNEST L. CARROLL

* * *

WHEREUPON, the following proceedings were had at 9:15 a.m.:

EXAMINER CATANACH: Call this hearing to order this morning for Docket Number 7-95.

Let me call the continuances first.

(Thereupon, continued and dismissed cases were called.)

EXAMINER CATANACH: At this time we will call Case 11,190.

MR. CARROLL: Application of MYCO Industries, Inc., for compulsory pooling, Eddy County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. CARROLL: Yes, Mr. Examiner, I'm Ernest Carroll of the Artesia law firm of Losee, Carson, Haas and Carroll, and I'm here today on behalf of MYCO Industries, Inc., and I will have three witnesses.

EXAMINER CATANACH: Any additional appearances?

Will the three witnesses please stand to be sworn in?

(Thereupon, the witnesses were sworn.)

MR. ERNEST CARROLL: Mr. Examiner, I first call Doug Hurlbut to the stand.

Are you ready to proceed?

DOUGLAS W. HURLBUT,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. ERNEST CARROLL:

Q. Would you please state your name and residence for the record, sir?

A. Yes, my name is Douglas W. Hurlbut. I'm a resident of Artesia, New Mexico.

Q. And by whom are you employed?

A. I'm employed by MYCO Industries, Inc.

Q. And in what capacity?

A. I'm a petroleum landman.

Q. Mr. Hurlbut, have you had an occasion to testify previous to this date before the Oil Conservation Division as a petroleum landman and had your credentials accepted by them?

A. Yes, they have been.

MR. ERNEST CARROLL: I would tender Mr. Hurlbut as an expert in the field of petroleum landman.

EXAMINER CATANACH: He is so qualified.

Q. (By Mr. Ernest Carroll) Mr. Hurlbut, are you familiar with this Application of MYCO Industries for compulsory pooling?

A. Yes, I am.

Q. You have prepared or -- at least under your supervision has been prepared certain exhibits; is that not true?

A. That is correct.

Q. Exhibit Number 1, are you familiar with that exhibit?

A. Yes, I am.

Q. Would you please identify for the record what Exhibit Number 1 is and then explain it to the Examiner, sir?

A. It's a plat of a land map of Eddy County, New Mexico, and what's outlined in yellow is the proration unit, being the east half of Section 22, Township 18 South, 18 South, 29 East.

Q. All right. And that -- The proposed proration unit that MYCO is seeking to compulsory pool is outlined in yellow; is that correct?

A. Yes, it is.

Q. Is the location of the proposed well marked on this?

A. Yes, it is.

Q. And how is it marked?

A. In red.

Q. All right.

A. And I believe that location is 1980 from the

south line and 660 from the east line.

Q. That is a standard location?

A. Yes, sir.

Q. All right. Now Mr. Hurlbut, have you prepared -- Would you turn to your Exhibit 2, I guess, and then --

A. Right.

Q. -- that is an exhibit of the ownership of the mineral rights under that half section; is that correct?

A. This is correct.

Q. Now, with respect to the group of individuals that are listed here on Exhibit Number 2, I see that there are a group of companies at the top, of which MYCO leads the group, but there are a group -- These are all MYCO- or Yates-related companies, are they not?

A. That's correct.

Q. The next company that is listed is Southland Royalty Company; is that correct?

A. That is correct.

Q. They own a little over 15 percent or almost 16 percent?

A. Correct.

Q. Southland Royalty is the only company that MYCO is actually seeking to force-pool today; is that correct?

A. That's correct.

Q. The other companies, Harvey E. Yates, Jalapeno

and Yates Energy, they have all signed operating agreements with MYCO?

A. Right, they have signed operating agreements and AFEs.

Q. All right. Cibola Energy and the William P. Dooley Estate, they have actually farmed out to the Yates group?

A. This is correct.

Q. Now, with respect to the Southland Royalty interest, have you had contact with Southland or some group representing Southland?

A. Yes, I have.

Q. Who have -- Have you actually been in contact with Southland, or has it been Meridian?

A. Well, when you call -- I mean, they answer the phone, "Meridian Oil Company, Inc.", but Southland is part of the Meridian, and when I've addressed some of my letters, I've sent those directly to Southland Royalty. But they're at the same address, and they have the same people on staff.

Q. Right. You are satisfied, though, in your conversations that you have been talking to the people that control this interest?

A. Correct, correct.

Q. In fact, you have prepared an exhibit, Exhibit 3,

that lists very detailed a number of -- in addition to your letter-writing campaign -- that lists all of the contact that you have had with Southland Royalty concerning this project?

A. That's correct.

Q. Basically what has been the position that Southland has taken with respect to their participation with MYCO in drilling this well?

A. Well, when I first contacted then and -- by letter, of our election to drill a well, and I waited for a period of time before I contacted them on the phone to find out what they would like -- what they were planning on doing.

And they did a basic stall tactic for about a month or so, saying that they were -- they were reviewing that and they were going to have a meeting, and -- with all the managers and they were going to go through all of this and decide what to do.

But they kept pushing that down the road, until finally they told me that they would like to just work a swap or a trade with us on some acreage that was owned by Yates Petroleum Corporation.

And I told them, well, maybe we can do that. So I tried to do a swap and a trade deal, and that didn't seem to work.

And so when I called them and told them that that was not going to work, we couldn't do this swap, you know, we'd still -- we'd want them to either participate or farm out, that's when they told me that if we didn't do the swap, they weren't going to participate or farm out.

Q. Okay. They were aware you have had conversations concerning your filing the Application to force-pool, and they were aware of this and they had acknowledged that in their oral conversations?

A. Oh, sure, yes.

Q. And in addition, the formal notices of sending out the notices of the Application in compliance with the Commission Rule 1207 has been accomplished, has it not?

A. I believe so.

Q. And that's Exhibit Number 4, is it not?

A. Yes, it is.

Q. All right. Now, Exhibit 5 is some of the companies that have joined in. They have signed waivers with respect to appearances at the hearing, have they not?

A. Yes, they have.

Q. And Exhibit 5 contains four waivers, does it? From Cibola, Jalapeno, Yates Energy and Harvey E. Yates?

A. Right.

Q. Now, you have advised that all of the other -- except for the two companies or interests that have farmed

out to the Yates entities, the rest of the parties have signed an operating agreement; is that correct?

A. That's correct.

Q. The operating agreement that has been signed and entered into by all of these other parties on Exhibit 2, what is the overhead rates contained in that joint operating agreement?

A. $5400 for a producing well rate and $540 -- I'm sorry, $5400 for a drilling well rate and $540 for a producing well rate.

Q. To your information, that is the standard rate in this area, is it not?

A. Yes, that's correct.

Q. Now with respect to the operating agreement that has been signed by all these parties, what penalty rates did they agree to?

A. Well, we have in the JOA right now 200- and 500-percent nonconsents.

Q. I see. That is -- The 500 is in excess of what the State statute allows in compulsory pooling?

A. That's correct.

Q. But the parties that have voluntarily signed and entered into this agreement have at least agreed among themselves that the nature of this kind of well and operation at least justifies a heavy penalty, such as the

500 that they have --

A. That's correct, that's correct.

Q. Now, Mr. Hurlbut, the Exhibits 1 through 5, they were either prepared by yourself or under your supervision, and you can vouch for their accuracy, can you not?

A. Oh, yes, sir.

MR. ERNEST CARROLL: Mr. Examiner, I would move admission of Exhibits 1 through 5.

EXAMINER CATANACH: Exhibits 1 through 5 will be admitted as evidence.

EXAMINER CATANACH: I would have no further questions of this witness at this time.

EXAMINATION

BY EXAMINER CATANACH:

Q. Just a couple of questions I have.

Do you anticipate Southland subsequently joining in the well after this hearing?

A. I really don't know. I really -- I don't have any idea.

Q. And they were offered an election to farm out or participate --

A. Yes, they were.

Q. -- in the well?

As far as you know, they didn't have any problems with any of your terms?

A. They never did say.

Q. Okay.

A. They just didn't -- That's not what they wanted to do. They just wanted to do -- you know, they wanted to do an acreage-swap thing, which we -- I tried, and it just wasn't going to work.

EXAMINER CATANACH: Okay, I have nothing further of the witness.

MR. ERNEST CARROLL: We would next call Leo Lammers to the stand.

LEO J. LAMMERS,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. ERNEST CARROLL:

Q. Mr. Lammers, would you state your full name and where you reside?

A. My name is Leo J. Lammers. I reside at 40 Riverside Drive, Roswell, New Mexico.

Q. Mr. Lammers, what occupation are you pursuing at the present time?

A. I'm an independent consulting geologist.

Q. And as a consulting geologist, do you at the present time perform work for MYCO Industries?

A. Yes, I do.

Q. And with respect to the Application that is presently before the Division that is being heard by Examiner Catanach, are you familiar with that Application?

A. Yes, I am.

Q. And have you testified before this date and had your credentials as a petroleum geologist accepted?

A. Yes, I have.

MR. ERNEST CARROLL: Mr. Catanach, I would tender Mr. Lammers as an expert in the field of petroleum geology.

EXAMINER CATANACH: Mr. Lammers is so qualified.

Q. (By Mr. Ernest Carroll) Now, Mr. Lammers, you have worked on this Application, or at least the geological aspects, have you not?

A. Yes.

Q. And you have prepared certain exhibits today?

A. Yes.

Q. The first exhibit I believe you have prepared is Exhibit 6, is it not?

A. That's correct.

Q. And Exhibit 6 basically is a synopsis of what you intend to present as testimony today?

A. Yes.

Q. All right. Sir, if you would, I believe you would like to make a brief statement as to the overall nature of what your findings are with respect to this

proposed Application?

A. Yes, what I would like to do is kind of go through the exhibits and discuss the general nature of them at the beginning, and then go into two of them in detail that are critical to the geology.

Q. All right, if you would proceed then.

A. As mentioned, Exhibit Number 6 is simply a geologic discussion which covers some of the data shown on the maps and also the numbers on some of the wells.

The next exhibit is Exhibit Number 7. It is simply a location plat. It shows the location of the proposed MYCO Reflex Federal Number 1.

It also shows all the surrounding wells in the sections offsetting Section 22. This includes many shallow Turkey Track wells which produce from the Seven Rivers-Queen-Grayburg.

You will note on this exhibit the location of the proposed MYCO Reflex. It is 1980 feet from the south line and 660 feet from the east line of Section 22, and approximately 11 miles southwest of Loco Hills. This represents an orthodox or standard location for the 320-acre proration unit which is colored in yellow, the east half of 22.

The proposed well has got a projected total depth of 11,600 feet in the Mississippian. The primary objective

is the Atoka sand, estimated at about 10,710 feet. Secondary objectives are the Cisco, Strawn and Morrow.

Exhibit Number 8 is the same scale as Exhibit Number 7, and Exhibits 7, 8 and 9 will all be on a scale of one inch equals 2000 feet. You will note on this well that only the wells that went deeper than 10,000 feet are shown.

Exhibit Number 9 is on the same scale, but it is a structure map drawn on top of the Atoka.

And Exhibit Number 10 is a cross-section, going across the Turkey Track-Atoka field. The location of this cross-section is shown on Exhibits 8 and 9.

If we could refer back to Exhibit Number 8 -- and you may want to lay Exhibit Number 10 out, and these will cover the most critical items pertaining to the drilling and the reason for drilling this well.

I mentioned that on Exhibit Number 8 we show only the wells deeper than 10,000 feet. Again, we have the location of the Reflex Number 1 spotted in Section 22. You will note that there is no deep well control to the north and northeast of the proposed location. That is why the contours are dashed in this area.

This isopach map represents the thickness of the Atoka pay sand. If you will refer to the cross-section, it is the interval that is colored in yellow, and the location

of the cross-section running as A-A' and shown on Exhibit Number 8.

You will note that we have a northeast-southwest trending Atoka sandbody. We have projected the proposed well to encounter 22 feet of sand. In this area the Atoka represents beach or bar or offshore island-type sands. They generally trend in a northeast-southwest direction. They parallel the old Atoka shoreline.

The amount of sand -- Or excuse me, the reservoir sand is usually a fine, coarse-grain clear quartz sand. The dryholes and wells with less sand shown on the outline of the sandbody are calcareous and tight.

The risk involved, from a geologic standpoint, is just how far to project the sand to the northeast. From a -- The sandbody has two producing wells located in it. These are the Southland Royalty Empire A Number 1 in the northwest quarter of Section 27. You will note that it has 28 feet of pay. And if we go to the cross-section, it is Well Number 3, and you can see the log characteristics, the porosity and the thickness of the sand, and also the perforated interval at 10,752 feet. This well has produced an estimated 4.1 BCF since going on production in 1980.

The well south of this, in the southwest quarter of Section 27, the Empire Federal Com Number 1, is located in the southwest quarter of 27. It has 12 feet of Atoka

sand, and it is represented by Well Number 4 on the cross-section. This well was originally completed in the Morrow, plugged back to the Atoka, and it has produced an estimated 3.6 BCF since going on line in 1981.

These wells currently produce at an estimated rate of between 500 and 700 MCF per day.

One can see that these two wells have -- present considerable drainage to this Atoka sand pod. The estimated amount of drainage and remaining reserves will be discussed in the engineering testimony by Mr. Muncy.

Q. Mr. Lammers, the proposed well is actually proposed to drill deeper than your primary objection -- objective, excuse me. Do you feel it is a reasonable proposition to drill this well down and seek to have force-pooled the Morrow objective?

A. Yes, it is reasonable to drill deeper, and most prudent operators would do so. And if I could elaborate on that a little bit, I'll cover some of the secondary objectives, and they are the Cisco, the Strawn and the Morrow.

And to get -- We would have to drill about 800 feet deeper to test the Morrow. The Morrow in this part of Eddy County has been an excellent producer, but in this immediate area it has been disappointing, as I can illustrate by showing that all four logs -- or all four

wells on cross-section A-A' drilled to the Morrow, wells Number 1 and 3 -- the Southland 22 and the Southland Empire Federal A Number 1 in 27, both tested dry in the Morrow. The Well Number 4 in the southwest quarter of Section 27, as I mentioned previously, drilled to the Morrow, completed in it and on -- produced only 123 million before they plugged back to the Atoka. The MYCO East Turkey Track Well, which is Well Number 5 on the cross-section, drilled to the Morrow and perforated it, tested, and it has limited behind-pipe reserves in it.

Also, while I'm on the cross-section, you will note that both the Well Number 5 and Number 1 perforated and tested the Atoka. Well Number 5, the Myco East Turkey Track, tested a small flare of gas, and I gave it about four feet of sand, and I have it mapped on the northeast flank of the sandbody.

The Southland Federal 22 Number 1, which I have mapped on the northwest flank of the sandbody in Section 22, I give six feet of sand. It perforated this sand, produced only 7 million before it was abandoned.

Only one other well in this area, what I would consider part of this same sandbody, produced from it, and that is the well in the northeast of 28, the Yates Petroleum Dixon Number 1. It has eight feet of sand, as shown on my map, and it produced only a short time and made

17 million from this Atoka sand.

One can see that the location carries considerable geologic risk and also considerable drainage risk, and these factors certainly must be taken into consideration in the force-pooling hearing.

Q. Well, Mr. Lammers, in connection with that statement, MYCO is requesting that the Commission [*sic*] grant the largest possible penalty, that being a 200-percent penalty. Would you concur that that would be a reasonable penalty under the circumstances presented by your interpretation of the geology?

A. Yes.

Q. Mr. Lammers, do you have any other information that you would like to discuss with the Commission concerning your exhibits?

A. No, I believe that's all.

Q. Each of these exhibits, Exhibits 6 through --

A. Oh, could I -- I didn't discuss Exhibit Number 9. I just want to make one brief statement about that --

Q. All right.

A. -- I'm sorry.

Exhibit Number 9 is a structure map drawn on top of the Atoka sand. It's drawn on the top of the yellow, as on the cross-section, and this simply -- you will notice, we have regional southeast dip, and this simply shows that

this trap is a stratigraphic trap, and structure has little or no bearing on its accumulation.

And that covers Exhibit 9.

Q. All right. Exhibits 6 through 10 were all prepared either by yourself or under your supervision; is that correct?

A. Correct.

MR. ERNEST CARROLL: Mr. Examiner, I would move admission of MYCO's Exhibits 6 through 10.

EXAMINER CATANACH: Exhibits 6 through 10 will be admitted as evidence.

MR. ERNEST CARROLL: And I would pass the witness at this time.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Lammers, the well is going to be drilled to the base of the Morrow; is that correct?

A. We're going into the Mississippian -- upper Mississippian, Chester, probably, go through what we call the Austin cycle.

Q. Into the Mississippian. How far below the base of the Morrow is that -- will you be going?

A. Probably about 300 feet. It will vary, because that's an erosional surface.

Q. For what purpose are you drilling into the

Mississippian?

A. We like to go to that to get, number, one, a good marker bed, so we know for sure we're through the Morrow. And number two, we like to map the thickness of that Barnett or Austin cycle.

Q. Is there a possibility of a completion in the Mississippian?

A. No, I would say no completion. There are no Mississippian completions in this immediate area, and as -- New Mexico generally has very little Mississippian production.

Q. Okay, I just wanted to make sure -- I mean, if the Application is pooling the top of the Cisco to the base of the Morrow --

MR. ERNEST CARROLL: That's right.

Q. (By Examiner Catanach) Have you mapped the Morrow sand in this proration unit?

A. Yes, I have.

Q. What's your opinion of the potential of the Morrow?

A. It has basically four offsetting dryholes, but in this area the Morrow trends in north-south or northwest-southeast channels, narrow, so it's quite possible that a Morrow channel could go through this area, and that would be a prudent reason for going to it.

And just to the south, in 19-29, there are some excellent Morrow wells. And if you project those channels to the north, they would -- they have to go somewhere in this area.

Q. How far away are those wells?

A. Just three or four miles. They would be in Sections 2 and 1 of 19-29. There's some Southland wells down there.

There is one good Morrow producer. The well in 21 is an excellent Morrow well. It's made about 2 BCF. The Southland 21 Federal, I believe it is, has made -- It's going to -- has made about 2.6 BCF, I believe. There are some good Morrow wells in this area.

The Trigg-Jennings Number 1 in the south half of 28 has made 2.5 BCF. The Empire Federal A Number 1 in 21 that I was talking about has made about .4 BCF from the Morrow.

Q. Okay, the well in the west half of Section 22, I believe that's the Empire Federal 22?

A. Yes.

Q. In your opinion, that just didn't encounter enough sand to be a good well?

A. Correct, and if you will -- The gamma ray indicates, if you will look at the gamma ray, it's not near as clean, so it's also tight. It probably has a lot more

fines than the good wells.

Generally, there seems to be like a ten-foot -- you need ten feet of sand cutoff.

The -- to the southwest -- or east there, we have another possible pod, and that well down in Section 36 is still producing from this sand. It hasn't...

But I would say that generally that sand is too thin and tight in the Number 22.

Q. You said you need at least ten feet. Do you have a porosity cutoff?

A. No, I don't really have a porosity cutoff, but -- you can see what -- The average porosity in the best well there is probably 11 percent.

I gave it about -- almost 28 feet at 11 percent. I would not say that I would use 11 percent as a cutoff though.

I think the thickness of the sand is -- seems to go hand in hand with improving reservoir quality, and I think that is -- if you get 22 feet of sand, you're probably going to have 22 feet of pretty good reservoir sand.

EXAMINER CATANACH: Okay, I have nothing further, Mr. Carroll.

MR. ERNEST CARROLL: We would then call Nelson Muncy to the stand.

NELSON MUNCY,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. ERNEST CARROLL:

Q. Would you please state your name and residence, sir?

A. My name is Nelson Muncy, and I reside in Artesia, New Mexico, at 1910 Washington.

Q. By whom are you employed?

A. MYCO Industries, Inc.

Q. And in what capacity?

A. I am an engineer and the operations manager.

Q. Mr. Muncy, have you had occasion to testify prior to this date before the Oil Conservation Division and have your credentials as a petroleum engineer accepted?

A. Yes, sir.

MR. ERNEST CARROLL: I would tender Mr. Muncy as an expert in the field of petroleum engineering.

EXAMINER CATANACH: Mr. Muncy is so qualified.

Q. (By Mr. Ernest Carroll) Now, Mr. Muncy, you are familiar with the Application of MYCO Industries for force-pooling the east half of Section 22, Township 18, Range 29?

A. Yes, I am.

Q. And for today you have prepared certain exhibits,

have you not?

A. Yes, I have.

Q. And these are the exhibits that are contained in the clear binder; is that correct?

A. That is correct.

Q. All right. If you would, Mr. Muncy, begin with your first exhibit. I believe it's Exhibit -- It is hearing Exhibit Number 11; I believe it may be your exhibit number 1. Yours are numbered within the book numerically, beginning with 1A, but if you would -- each time as you refer to your exhibits, please state the Commission hearing Exhibit Number also.

A. I will do that.

Q. All right. If you would start with, then, Commission Exhibit Number 11 and explain what that is?

A. Commission Exhibit Number 11 is a summary of discussion points that I will make here today.

Q. All right. Would you turn to Exhibit Number 12 and would you explain what that is?

A. Exhibit Number 12 is MYCO's AFE to drill the subject well, the Reflex Federal Number 1, located 1980 from the south and 660 feet from the east line in Section 22, Township 18 South, Range 29 East, Eddy County, New Mexico.

Q. Now, Mr. Muncy, the -- Have you reviewed this

particular AFE?

A. Yes, sir, I prepared the AFE and I have reviewed it.

Q. All right. With respect -- This AFE projects a dryhole cost of $398,250 and a completed well cost of $704,950.

You have drilled -- participated by virtue of your employment in wells drilled to the Morrow in this area, have you not?

A. Yes, sir, back in 1990 MYCO drilled the east Turkey Track Federal Com Number 1 in Section 23, Unit K, of 18 South, 29 East. This well is located approximately one mile east of the proposed Reflex Federal Number 1, and I was the engineer in charge of drilling that well, and I also wrote that AFE.

Q. Do these amounts that are depicted on Exhibit Number 12, do they in your professional opinion represent a fair and accurate estimate of the cost of drilling this particular well?

A. In my opinion, they certainly do.

Q. All right. Would you turn to Exhibit 13? What is Exhibit 13?

A. Exhibit 13 in the transparent binder is also my exhibit 2; the Case Exhibit would be Exhibit 13.

This exhibit is comprised of the petroleum

information cards, the *Dwight's* Well Production Histories, and decline curves specifically for the two wells producing from the Atoka sandbody in question here today.

We're talking specifically about the Southland Royalty Empire Federal Com Number 1 located in Unit K, 1980 from the south and west in 27 of 18-29, and the Southland Royalty A Federal Com Number 1 located in Unit C, 660 from the north and 1980 from the west in Section 27.

The well located in K, the Empire Federal Com Number 1, was spudded in 12-29-79, drilled to a TD of 11,700 feet, and completed in the Morrow February the 28th, 1980.

As Mr. Lammers previously pointed out, the Morrow was soon abandoned, in 1980, after producing a mere 123 million cubic feet of gas and some 1600 barrels of condensate.

The well was then recompleted in the Atoka through perfs from 10,763 to -773, and the first Atoka production commenced in 1981, of January.

The cumulative Atoka production through the 1993 year was 3,437,441 MCF, which is equivalent to 3.44 BCF, including 25,000 barrels of condensate and about 900 barrels of water.

Production for the 1994 year on this particular well was not available commercially as recently as last

week. The New Mexico Oil and Gas Engineering Production Records show this well to be temporarily abandoned as of the end of the 1993 year.

I have estimated the 1994 production from this well at approximately 250,000 MCF of gas, after personally making two field inspections of the well site in the past 160 days and talking with the pumper briefly on one occasion at the well site.

The second well in question is the Southland Royalty Empire Federal A Number 1, located in Unit C. This well was spudded May the 3rd, 1980, completed in the Atoka the following July the 7th, 1980, with perfs from 10,752 to -778.

Cumulative production through the 1993 year was some 4,036,572 MCF of gas, or 4.04 BCF, including some 34,000 barrels of condensate and less than 900 barrels of water.

And again, with this particular well, the production for the 1994 year was not publicly available, so I estimated the production at 250,000 MCF of gas, again after making two visits to the well site in the past 160 days and talking to the pumper.

If we combine the production from these two wells in the Atoka, we come up with some 7.47 BCF, almost 60,000 barrels of condensate, and less than 1200 barrels of water

for the production through the 1993 year.

The historical GOR through the 1993 year was 128,000 to 1.

Q. All right. Exhibit Number 14 is merely a compilation of the figures that you've just testified to; is that correct?

A. Yes, Exhibit 14 is divided into -- or is my exhibit 3 in the clear binder.

It's divided into three columns, and what I've done is taken the reported historical production through 1993 for both wells, added the estimated production for 1994 for both wells, and then I've come up with a total estimated production for both wells and summed that number through the 1994 year, that total being 7.9 BCF of gas.

Q. All right. Now, it is MYCO's intention, or at least hopes and intention, to drill into the same producing pool that the Empire A federal Com 1 C and the Empire Federal Com 1 K are in; is that correct?

A. That is correct.

Q. That presents a risk that these two wells could have depleted or may have depleted that reservoir beyond economic limits, does it not?

A. It certainly does.

Q. And you have prepared exhibits now to deal with that problem; is that correct?

A. That is correct.

Q. And specifically, I think your -- it would be Exhibits 15 and 16 deal with that, do they not?

A. Yes, in the clear binder they're exhibits 4 and 5.

Q. All right. Would you deal with those Exhibits 15 and 16 and present that information to the Examiner?

A. Exhibit 4 and 5 take the tabulated yearly wellhead shut-in pressures as reported to the NMOCD by Southland Royalty Company and tie these wellhead shut-in pressures to the cumulative gas production from the first Atoka gas production from both of the wells, and we do this through September of 1993. It's done for the Empire Federal Com Number 1 K and also the Empire Federal A Com Number 1, located in Unit C.

I employed the Integrity Consulting Petroleum Engineering Reservoir Tool Kit, Version 3, by Boone and Clegg, to calculate bottomhole pressures from the reported surface pressures and calculate the compressibility Z factor using a modified version of the Cullender-Smith technique.

I further used the program to calculate the remaining gas reserves for each well as of 10-1-93 by dividing the calculated bottomhole pressures by the compressibility Z factor plotted against cumulative

production, yielding a graphical representation of the material balance calculation of the two wells, in other words, BHP over Z versus cum gas.

My calculations assumed an abandonment wellhead pressure of 100 p.s.i.g.

I have confidence in these calculations and the data, because the pressure production points plotted on a coordinate scale fall on a straight line, and that would be shown by exhibits in the clear binder 6 and 7, which would be Exhibits 17 and 18.

The line -- We plot a straight line with the points, and so this tells me that I have confidence in the calculations, as I previously said, and I feel comfortable that there's no significant water or condensate production affecting the calculations that I made.

Therefore, as of 1-1-95, the beginning of this year, I calculated the recoverable gas in place for the Empire A Federal Com Number 1 C by taking the recoverable gas in place as calculated through 10-1-93, subtracting from that the actual production through September of 1993, the actual production through October and December of 1993, and then the estimated production of the 1994 year that I previously described as being 250,000 MCF. I come up with a total recoverable gas in place with a 100 p.s.i.g. abandonment pressure for the Empire Federal A Com Number 1

C at 1.43 BCF.

I did the same thing for the second well, the Empire Federal Com Number 1 K, to calculate the recoverable gas in place as of 1-1-95. The number that I made in my calculations, Exhibit 5, was some 5.2 BCF. I subtracted from that the actual production as reported through September of 1993. I took the actual production from October through December of 1993, subtracted that, subtracted the estimated production for 1994 of some 250,000 MCF, and can estimate the gas-in-place recoverable with the 100 p.s.i.g. wellhead abandonment pressure on 1-1-95 for the Empire Federal Com 1 K at 2.93 BCF.

These calculations suggest to me that the Atoka sandbody in question, as of the first day of this year, has been depleted approximately 75 percent. In other words, my calculations show that only 25 percent of the recoverable gas in place is remaining.

These calculations show that the recoverable gas in place at the end -- or at the beginning of 1-1-95, the end of the 1994 year, sums up to 2.93 BCF with an abandonment wellhead pressure of 100 p.s.i.g.

Q. All right. Mr. Muncy, with that kind of reserves that you think would be remaining -- and let us suppose that the proposed well does hit this pool, is a good producer -- is there a chance that based upon your

calculation of reserves, that the Reflex would be an economic success, i.e., has a chance to produce sufficient reserves that would justify the drilling of this well?

A. Yes, in my opinion the 2.93 BCF that I've calculated remaining as of the beginning of this year in this Atoka sandbody that we've previously described will be recovered in part by MYCO's proposed Reflex Federal Number 1.

The geology, as previously presented by Mr. Lammers, and my reservoir calculations, suggest that the proposed well should penetrate the Atoka reservoir and recover hydrocarbons.

I would like to caution that the geology and the reservoir engineering are not exact sciences, and there is an inherent risk associated with drilling the proposed well.

If we assume that the two existing Southland Royalty wells, as previously described, continue to produce, I see no reason why that MYCO will not share in the 2.93 BCF and recover at least one-third of the reserves. Therefore, I estimate that Myco should be able to recover .98 BCF of gas from the Atoka.

Q. Mr. Muncy, your Exhibit 19 actually presents an economic analysis of what you've just been testifying to, does it not?

A. It does. Exhibit 19 for the case is the exhibit number 8 in my binder.

This is an economical analysis of the proposed well. We used the David P. Cook program called OGRE to calculate the economics based upon the remaining reserves that -- or the reserves that I have given the Reflex Federal well.

I could start off by talking about some of the parameters that went into the calculation for the economic analysis.

I took the historical GOR of 128,000 to 1 that we calculated through the 1993 year, and projecting that forward to the remaining reserves of some 2.93 BCF of gas, I would estimate that the Atoka sandbody has recoverable condensate in place of some 23,000 barrels.

For the economic calculations, I used a gas price of -- or an oil price, strike that, an oil price of $15. I used a gas price of $1.45 per MCF. The LOE was calculated at $798 per month, MYCO's working interest at 30 percent, thrown against a 75-percent net revenue interest, which yields a 25-percent effective NRI for MYCO. I used no price escalations or working-interest reversions.

The initial gas rate was at 23,000 MCF per month, using the 128,000-to-1 GOR. I used an exponential decline rate of 22 percent. The AFE cost, as we've previously

described, was $704,950. MYCO's 30-percent *pro rata* share works out to $211,485. I assumed a production date of 1-1-95, and these calculations imply no risk factors.

Q. Now, Mr. Muncy, the risks that you have described here, the economic risk, do you feel that this is a risk, though, that a prudent operator would assume and drill this well?

A. The economic risks, exclusive of the 15-percent interest in question, yes.

Q. And Mr. Muncy, the calculations that you have performed are based solely on the Atoka; you have not added anything or detracted with respect to any of the secondary objectives?

A. That is correct.

Q. So if a secondary objective were encountered, that would actually improve the economics substantially, would it not?

A. Absolutely.

Q. Now, Mr. Lammers expressed -- Of course, this well is targeted to the Morrow, a few hundred more feet below the primary objective. Do you share Mr. Lammers' opinion that this well should test the Morrow formation?

A. Absolutely. As a prudent operator, I think we would be failing in our duties as an operator not to test that formation.

Q. All right. And Mr. Muncy, with respect to the concerns that this Commission must always address, that being the prevention of waste and the protection of correlative rights, do you feel that the granting of this Application would in fact further those obligations to prevent waste and protect correlative rights?

A. I certainly do.

Q. Is there anything further that you would like to comment with respect to your exhibits?

A. In summary, the economic calculations that we made are, as we previously described, reasons to drill the well, but they do show that there is inherent risk.

Q. Now, Mr. Muncy, the Application -- and Mr. Lammers' testimony has indicated that MYCO is seeking the maximum penalty of 200 percent allowed by law. Do you concur, and would you recommend that to the Examiner?

A. I would absolutely recommend those numbers.

MR. ERNEST CARROLL: Mr. Examiner, I would move admission of MYCO's Exhibits Number 11 through 19.

EXAMINER CATANACH: Exhibits 11 through 19 will be admitted as evidence.

MR. ERNEST CARROLL: I have no further questions.

EXAMINER CATANACH: I have no questions of this witness. He may be excused.

Is there anything further, Mr. Carroll?

MR. ERNEST CARROLL: I have nothing further.

EXAMINER CATANACH: There being nothing further, Case 11,190 will be taken under advisement.

(Thereupon, these proceedings were concluded at 10:10 a.m.)

* * *

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL March 5th, 1995.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11190, heard by me on March 2 1995.

David R. Catanach, Examiner
Oil Conservation Division