



(Witness sworn.)

JACK COLE

called as a witness, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. ERREBO:

Q Will you state your name, please?

A Jack Cole.

Q And by whom are you employed, and in what capacity?

A I am employed by Mountain States Petroleum Corporation as petroleum geologist.

Q Where are you located, Mr. Cole?

A Farmington.

Q Have you ever testified before this Commission before as a geologist?

A No, sir.

Q Will you briefly give the Commission a resume of your background of education and experience as a geologist?

A I hold a bachelor of science from the University of New Mexico as a geologist, and I was employed by El Paso Natural Gas Company as both an exploration geologist and development geologist. I have been a consultant for approximately one year, and am presently employed by Mountain States Petroleum.

Q And your work as a geologist after leaving school did

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include not only exploration geology but development geology; is that correct?

A That's correct.

Q Are you familiar with the application of Mountain States in this matter?

A Yes, sir.

Q And are you familiar with the well which they propose to drill?

A Yes, sir.

Q I will now refer you to the exhibit which has been marked Exhibit No. 1 and ask you to identify it.

A Well, this is New Mexico Oil Conservation Commission Form C128.

Q That is a well acreage dedication, is it not?

A Yes, sir.

Q That applies to the well and unit which is the subject of this hearing?

A Yes.

Q Has this plat been filed with the Commission, do you know?

A I don't know if it has been filed in this office.

Q As a matter of fact, you have just gone with Mountain States recently, have you not?

A That is true.

Q In any event, if it has not been filed you do have a copy

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here and you will file it?

A That's correct.

Q What is the acreage included within the non-standard unit which you propose? By that I mean the amount.

A 183 acres, more or less.

Q And it is contained within what governmental division or subdivision?

A It is all of Section 31, Township 26 North, Range 2 West.

Q Is that an irregular division?

A Yes, sir; that section is a fractional section. It is approximately one quarter of the size of a normal section.

MR. ERREBO: May it please the Commission, in February there was a hearing held on another unit immediately north of this unit proposed, along this township line, and I have here Exhibit No. 1 of that hearing, which was a General Land Office plat which I would like to incorporate by reference. That is in Case 1886 and that plat shows the acreage and amount of acreage which is involved here today.

MR. UTZ: It may be incorporated.

Q (By Mr. Errebo) Now, what, to your knowledge, Mr. Cole, is the necessity for the hearing insofar as the well location is concerned?

A Well, this section is only 1501 feet wide, and the normal location, Pictured Cliffs location, is 990 from the boundary line



with 200 foot margin in which we could normally go down to 790 feet. However, to locate in the middle of this section, as close to the middle as possible, we get 751 feet from the east and west boundaries.

Q So, therefore, it is physically impossible to locate a well on this section and still be in compliance with applicable well location rules?

A That is correct.

Q Now, I notice that your application shows the well to be located 1050 feet from the north line of the section whereas your Exhibit No. 1 shows the well located 825 feet from the north line. Do you have any explanation for that?

A There is a rather high, sharp mesa, at which we are located at the foot of. By getting 825 feet from the north line, it is just about a topographic impossibility to locate 1050 from the north.

Q And 825 feet is the closest you could get?

A Yes, sir.

Q Actually the 825 feet falls within the location of requirements which are applicable, does it not?

A To my knowledge it does.

Q Do you have any knowledge as to whether any efforts have been made by Mountain States to communitize the acreage within this section?

A I believe it has been communitized.

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Q This section consists of four lots, does it not, each approximately 45 acres apiece?

A Yes, sir.

Q Do you have any knowledge of the ownership of those lots?

A I believe that Lots 1, 2 and 3 belong to Mountain States Corporation, and Lot 4 is on farm-out from Humble or belongs to Humble and has been communitized.

Q Do you know whether these leases are fee, Federal or State lands?

A Federal.

Q They are Federal.

Mr. ERREBO: If the Commission please, for the record I prepared the communitization on this several months ago, and the last I heard the Mountain States had obtained the signature of all parties, including the U.S.G.S. and Department of Interior in Washington, to the communitization agreement. I am not certain that is the case; that is my information.

Q Now, what is the proposed spacing for the depth to which you propose to drill this well?

A Normally there is 160 acres dedicated to a Pictured Cliffs

Q And this is not Pine Lake-Pictured Cliffs pool?

A I believe the north boundary of the pool is the north boundary of Section 31.

Q You were so informed by the Aztec Office of the Commission;



is that correct?

A Yes, sir.

Q Do you know of any respect in which correlative rights of any party would be damaged or violated by the granting of this application?

A No, sir.

MR. ERREBO: May it please the Commission, I would like to offer in evidence Exhibits No. 1 and 2.

MR. UTZ: Without objection the Exhibits No. 1 and 2 will be entered in the record.

MR. ERREBO: That is all we have.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Cole, do you know of any dry holes being drilled in or around the south end of this unit?

A I believe there -- by this unit, you mean Section 31?

Q Yes, sir.

A I believe there are some dry holes south and east of Section 31, but I do not know to what depth they have been drilled, nor do I know how recently those wells were drilled, which certainly would have some bearing with reference to the completion methods now being employed in this area.

Q Do you know whether or not these wells were drilled through the Pictured Cliffs?



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A No, sir; I do not. I would assume so.

Q There wouldn't be much else to look for except Pictured Cliffs at the shallowest depths?

A That would be the shallowest.

Q I believe you stated this unit was outside the boundaries of the Pine Lake Pool?

A Yes. The Aztec office informed me this would be an extension to the Pine Lake Pool, and that it would be taken into the pool within 60 days after completion.

Q Why did you locate your well in Lot 1 rather than 2 or 3?

A Because there is that mesa which is located predominantly in Lots 2 and 3 and extends into the extreme southern part of Lot 1, and we felt that the shallower drilling depth as well as the accessibility -- actually, the accessibility is the main problem; it would be almost impossible to scale that mesa with any heavy equipment which would be involved in the drilling of this well.

Q How far south does the mesa go?

A I believe it goes pretty well into Lot 4, but I am not certain.

Q If you could conveniently get on Lot 4, would you recommend it to your company to drill a well on that lot?

A No, sir.

Q Why not?

A We are offsetting with this well the one which was com-



pleted, which is shown on the plat which has been offered in evidence. I believe the location, 790 from the south line of Section 30; that well is presently on test, but it had a potential for approximately 11.5 million, and on tests, producing average per day for the past couple of weeks over five million, and also in Section 29, in the southwest quarter, Cabot Carbon recently completed a 10-1/2 million well in there, and we would naturally like to get as close to those two wells as possible.

Q You don't think you will get a very good well in Lot 4?

A I don't know the date when those wells were drilled southeast of this area. I don't know whether they were fraced or not, and, as the Commission I am sure is aware, there is an appreciable difference between the fracing methods and methods previously employed in the old days, and I don't -- I believe for all practical purposes the north part of the unit is the most practical location.

Q Even in the older days, if they were prolific they would have got some kind of a well?

A Some kind.

Q Do you have any contours that would show the producing contours of Pine Lake Pool?

A Do you mean initial potential contours or --

Q Contours on top of Pictured Cliffs.

A No, I don't have any with me.

Q Do you have those available?



A Which would show the string on top of Pictured Cliffs in this area? I don't have any prepared. I don't have them in the preliminary work as far as figuring approximate depth on this well. I do it in association with other members of the company, and the string of the Pictured Cliffs in this area is approximately in a northwest-southeast manner.

Q What do you expect to top the Pictured Cliffs at in this location?

A I don't have those figures. As I recall it would be around 3800 feet, but that is an approximation.

Q Do you know of any producing wells as low as that in this particular trend, or, more correctly, as high as that?

A As I say, I don't have those figures readily available.

Q Could you supply us with some Pictured Cliff contours across this local area here to show where the producing contours might play out?

A I believe so.

Q Would you supply the Commission with that? How long would it take you?

A Oh, I am going back to Farmington in the morning. I can have them to you within a week.

Q All right, sir.

A Would you prefer them here or the Aztec office?

Q Here.



MR. UTZ: Any other questions of the witness?

MR. ERREBO: I have another question or so.

REDIRECT EXAMINATION

BY MR. ERREBO:

Q Mr. Cole, if you were recommending the drilling of an offset well on this fractional section, would you be more anxious to drill that well in the north half of the section or the south half?

A You mean Section 31?

Q Yes.

A North half.

Q And that is why, because you have a producing well already immediately offsetting it to the north?

A That is correct.

Q It would be rather poor judgment would it not to drill in the south half of that section?

A I am firmly convinced it would be; yes, sir.

Q That would be actually true even if these other wells down to the southeast had never been drilled; isn't that correct?

A That's correct. Even if those wells had made as much as five or six million I would still prefer to get near these bigger wells.

Q As you stem out in the development of a pool it is desirable not to step out any farther than you have to?

A That's correct.

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Q Have you been out on the location and seen the area of this Section 31; have you actually seen it?

A Yes, sir, briefly.

Q This is a mesa, and you say it exists primarily covering Lots 2 and 3?

A Yes.

Q Now, that is a mesa which has sides, I assume, which are rocky and which slope down; is that correct?

A That is correct.

Q If you locate a well on Sections 2 or 3, then you are going to have to get on top of that mesa; is that right?

A Yes, sir.

Q Is there any way to get up on it that you know of that is feasible?

A No feasible way we have seen.

Q Therefore, if you get down into the north half, Lot 4, are you still in the immediate vicinity of the mesa as far as the broken rock and other debris is concerned?

A I don't know what the exact limit of the top of that mesa is as far as how far it extends into Section 4.

Q Actually, then, that would leave you with a choice between locating your well in Sections 1 or Section 4?

A That is true, but the main road down there, we have a well, of course, in Section 30, and it is just a simple matter, would just

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mean one mile of road.

Q If you located your well where?

A Where we expect to locate it.

Q Because you already have a road in there?

A We have a road almost to the location; yes, sir.

Q Are you familiar with this general area of the San Juan Basin?

A Yes, sir.

Q How does this area compare with other areas that you have seen in the nature of the terrain?

A It is very rough country, and very rough to drill in. It is seasonal drilling.

Q Have you seen any terrain rougher than that country? -- Well, I am not trying to get you to compare degrees of roughness. All I want you to do is state whether or not this is very rough country compared to that in other places?

A Yes, it is. There have been times when rigs have been forced to shutdown there as long as a month.

MR. ERREB O: That is all.

RECROSS EXAMINATION

BY MR. PAYNE:

Q How did you get up on this mesa, sir, on your location?

A We drove down to the southwest, as I recall, but I am not quite sure, and the mesa is easily visible.



Q Mr. Cole, even if this tract was as flat as a table, where would you drill your well, saying nothing about topography?

A I would drill the well as close to the center of Lot 1 as I could get it.

Q That would be because you feel that you get a better well by drilling to the north?

A Yes, sir.

Q You feel you might possibly get a dry hole in Lot 4?

A I don't know whether we would get a dry hole. It is a matter of being able to offset the good production that we have. That is abnormal Pictured Cliffs production, and it appears as though -- I am not certain of this -- but all indications lead to a fracture pattern in there within the Pictured Cliffs, and we would like to stay as close to that as possible.

Q Would you recommend dedicating dry acreage to any gas-oil in this pool?

A I am not quite clear as to what you mean there. Do you mean, if I thought we would get a dry hole in Lot 4 we should dedicate it to the well, also? Of course, we can't be certain of a dry hole in 4. We are dedicating 183 acres to this well, we propose to, rather than the normal 160, so --

Q At the present time the Pine Lake-Pictured Cliffs pool is not prorated, is it?

A I don't know.

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MR. UTZ: Other questions?

MR. ERREBO: That is all we have.

MR. UTZ: Statements in this case?

Case will be taken under advisement. You may be excused.



STATE OF NEW MEXICO )  
 )  
COUNTY OF BERNALILLO ) ss

I, JUNE PAIGE, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 10th day of June, 1960.

*June Paige*  
Notary Public-Court Reporter

My commission expires:

May 13, 1964

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. *1884*, heard by me on *June 1*, 1960.  
*[Signature]*, Examiner  
New Mexico Oil Conservation Commission

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