NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10831

IN THE MATTER OF:

The Application of Robert L. Bayless for Downhole Commingling, Rio Arriba County, New Mexico.

BEFORE:

MICHAEL E. STOGNER

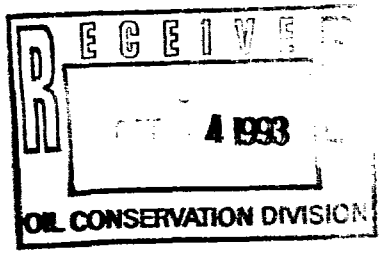
Hearing Examiner

State Land Office Building

Thursday, September 23, 1993

REPORTED BY:

CARLA DIANE RODRIGUEZ
Certified Court Reporter
for the State of New Mexico



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A P P E A R A N C E S

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BY: **B. TOMMY ROBERTS, ESQ.**

I N D E X

E X H I B I T S

EXAMINER STOGNER: Call next case, No. 10831, which is the application of Robert L. Bayless for downhole commingling, Rio Arriba County, New Mexico.

At this time I'll call for appearances.

MR. ROBERTS: Mr. Examiner, my name is Tommy Roberts. I'm an attorney with the Tansey Law Firm in Farmington, New Mexico. I'm appearing on behalf of the Applicant.

I have one witness to be sworn.

EXAMINER STOGNER: Are there any other appearances in this matter? Will the witness please stand to be sworn.

KEVIN H. McCORD

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. ROBERTS:

Q. Would you state your name and place of residence for the record.

A. My name is Kevin McCord, and I live in Farmington, New Mexico.

Q. What is your occupation?

A. I'm a petroleum engineer.

Q. How long have you been a petroleum

engineer?

A. Since 1977.

Q. What is your relationship to the applicant in this case?

A. Robert L. Bayless is a client of mine. I have a consulting engineering business in Farmington, and he's a client.

Q. Are you familiar with the application?

A. Yes, I am.

Q. Have you testified on any prior occasion before the Oil Conservation Division?

A. Yes, I have.

Q. In what capacity?

A. As a petroleum engineer.

Q. At that time, were your qualifications as an expert in the field of petroleum engineering made a matter of record and accepted?

A. Yes.

Q. Have you prepared exhibits in conjunction with your testimony that you will give today?

A. Yes, I have.

MR. ROBERTS: Mr. Examiner, I would tender Mr. McCord as an expert petroleum engineer.

EXAMINER STOGNER: Mr. McCord is so qualified.

Q. Mr. McCord, would you briefly describe the purpose of this application?

A. Robert L. Bayless requests approval to commingle production from the Gallup and the Pictured Cliffs formation within the wellbore of the Simms Com No. 1 well, which is located in the northwest of the southeast of Section 13, Township 30 North, Range 4 West, in Rio Arriba County, New Mexico.

Q. What Gallup and Pictured Cliffs pools are we dealing with here?

A. It's the Cabresto Gallup, and East Blanco Pictured Cliffs field.

Q. Are they both gas pools?

A. Yes, sir.

Q. What is the spacing for both of these pools?

A. 160 acres.

Q. Would this proposed location be a standard location for both pools?

A. Yes.

Q. What is the current status of the well?

A. The well is currently shut in and has

been for many years. It's been uneconomical to hook up, until this point.

Q. Have you previously submitted a written request for administrative approval for downhole commingling in the wellbore of this well?

A. Yes, I have, and that is Exhibit 1.

Q. What was the disposition of that request?

A. It was requested that we come before an Examiner hearing.

Q. I would like for you to refer to what has been marked as Exhibit No. 2, and ask you to identify that exhibit.

A. Exhibit No. 2 is a lease and ownership map in the area surrounding the Simms Com No. 1 well, which is cross-hatched, the spacing unit in the southeast quarter of Section 13. This map also shows the federal and fee leases in the area of this well.

Q. And how is the location of the well depicted on this exhibit?

A. In cross-hatches, southeast quarter of Section 13.

Q. Does it not also depict the ownership of these federal and fee leases?

A. Yes.

Q. What is the ownership of leasehold operating rights in all 160-acre tracts immediately offsetting the southeast quarter of Section 13?

A. Robert L. Bayless is the operator of all the surrounding 160-acre tracts.

Q. Are you familiar with the notice requirements of the Oil Conservation Division applicable to hearings on requests for downhole commingling?

A. Yes, sir.

Q. Based on your understanding of those requirements, was any party entitled, by OCD rules, to receive prior notice of the hearing on this application?

A. No, they were not.

Q. In your opinion, has the applicant complied with these notice requirements?

A. Yes.

Q. Did you notify the Bureau of Land Management of the proposed commingling?

A. Yes, we did. We sent a copy of our original July 22nd letter, which is Exhibit No. 1, requesting the administrative approval to

downhole commingle. We sent a copy of it to the BLM.

Q. Now, would you briefly summarize the operational history of the Simms Com No. 1 well?

A. The Simms Com No. 1 was drilled by Southland Royalty in July of 1981. Southland set 5-1/2 production casing at a total depth of 8731 feet, which penetrates the Gallup interval.

Southland made a completion attempt--excuse me, that's through the Dakota interval. They made a completion attempt in the Dakota, from 8367 to 8683. The Dakota was tested and abandoned by setting a cast-iron bridge plug at 8300 feet.

They then attempted a completion in the Gallup interval from 7541 to 7634 feet. They perforated and fracture-stimulated the well with approximately 88,000 gallons of 30-pound cross-link gel fluid, and 65,000 pounds of 20/40 sand.

Southland then tested this zone in September of 1981, and they conducted a three-hour flow test. This flow test resulted in an AOF of 1251 Mcfd, and this is presented as Exhibit No. 3.

Southland also tested the Pictured Cliffs potential in the well in October of 1983. They set a drillable bridge plug at 4150 feet, and this is the current plug back total depth of the well.

The Pictured Cliffs interval, 3709 to 3715, was perforated and fracture-stimulated with approximately 32,000 gallons of 30-pound cross-link gel fluid, and 25,000 pounds of 20/40 sand.

Bayless did not find a test on this zone, so Bayless conducted an AOF test in July of 1993, and this three-hour flow test resulted in an AOF of 508 Mcfd, and this AOF test is Exhibit No. 4.

Both of these flow tests indicate that the zones have marginal gas production capability. The actual gas sales rate for each zone will be substantially lower than the AOF value due to the sales line pressure in the area. This sales line pressure averages over 300 psi, and, in fact, a compressor may be necessary to produce the wells.

If commingling is granted in this wellbore, the combined rates from these two zones

will make the economics of the well much better to go ahead and produce it.

Q. Is there any significance to the fact that the flow test on the Gallup formation was conducted in 1981 and the flow test on the Pictured Cliffs formation was conducted in 1993?

A. There should not be, in that both tests were initial production tests from each zone. There's been no production from either zone, so it could be expected that the well has the same potential at this point in time, as it did back then.

Q. Can you quantify, in any way, anticipated future production from each zone?

A. Only that this will not be a barn burner of a well. There will be marginal gas production from each zone.

Q. In your opinion, can either of these zones be produced economically on a segregated basis?

A. I don't believe that that would make an awful lot of economic sense, given the low flow rate from each zone.

Q. Describe the quality of the gas you expect to be produced from each of these zones.

A. Well, the quality of the gas produced from both the Gallup and the Pictured Cliffs formations is very similar in the general area of this well.

The average gas gravity for the Pictured Cliffs zone is a .652 gas gravity, with an average BTU value of 1154, while the gas gravity for the Gallup is .628, with an average BTU factor of 10.72.

The gas gravities I just described were obtained from the closest offsetting wells that we could find this data available, and this data is presented as Exhibit 5. The small difference seen in the gas gravity and the BTU content in these wells indicate that the gas produced from both zones is very similar, and, if cross-flow should occur, no to very little damage should occur.

Q. How do bottomhole pressures from each zone compare?

A. From the AOF data presented earlier, the Pictured Cliffs formation had a bottomhole pressure of 1,065 psi at the surface. This calculates to a bottomhole pressure of 1,176 psi at 3712 feet, which is the mid-perf of the

Pictured Cliffs zone.

The Gallup, on the other hand, had a shut-in pressure of 2,431 psi, and its corresponding calculated bottomhole pressure is 2,955 psi at 7588 feet, which is the mid-perf of the Gallup interval.

And, even though the Pictured Cliffs bottomhole pressure is less than 50 percent of the Gallup bottomhole pressure, as I said before, the gas from both zones is very similar, so any cross-flow that may occur should cause no damage to the formation.

Q. What is the likelihood that cross-flow will occur?

A. Given the differences in these pressures, it is possible that it will occur.

Q. Would you anticipate any adverse consequences in the event that cross-flow does occur?

A. No, I would not.

Q. Do you propose a method by which commingled production could be fairly allocated between these zones?

A. Yes. I would propose that the production from the Pictured Cliffs and Gallup

zone be allocated using the ratios of the rate of flow calculated during the AOF tests. I have presented this as Exhibit No. 6.

And, using these tests, 29 percent of the commingled gas production would be allocated to the Pictured Cliffs formation, and 71 percent would be allocated to the Gallup formation.

The quality and therefore the value of the gas from each zone, is approximately the same, so the commingling of this gas will not decrease its sales value.

Q. Are you familiar with the ownership of the working interests, royalty interests, and overriding royalty interests in these two zones?

A. Yes.

Q. Are they common?

A. Yes, they are.

Q. By way of summary, why should this application be granted, in your opinion?

A. Well, the production tests taken on the Pictured Cliffs and Gallup zones indicate that the gas production from the well will be low, and that will result in marginal gas reserves and economics for the well.

Further completion and operational

costs in the well could be substantially reduced by approval of downhole commingling and, therefore, makes an awful lot of sense for this well.

Q. In your opinion, would the granting of this application be in the best interests of conservation and result in the prevention of waste and the protection of correlative rights?

A. Yes.

Q. Were Exhibit Nos. 1 through 6 either prepared by you or at your direction or under your supervision?

A. Yes, they were.

MR. ROBERTS: Mr. Examiner, I would move the admission of Exhibit Nos. 1 through 6, on behalf of the Applicant.

EXAMINER STOGNER: Exhibits 1 through 6 will be admitted into evidence.

MR. ROBERTS: I have no other questions on direct.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. McCord, were you contacted by the Division why this application could not have been done administratively?

A. Yes, sir, and it was due to the 50-percent rule. One pressure was greater than--the Gallup pressure was greater than 50 percent. Excuse me, the Pictured Cliffs pressure was less than 50 percent of the Gallup pressure.

Q. Let me make sure of the pressure rates you're talking about. Are you referring to Exhibits 3 and 4, the rate of flow calculations and the pressure shown?

A. Yes, sir. Shut-in pressure for the Gallup interval, at bottomhole, was 2,955. The pressure for the Pictured Cliffs interval bottomhole was 1,176, which is less than half of the Gallup shut-in pressure. And the same is true, even if you use the surface shut-in pressures.

Q. But that was the only specifications on which it was turned down administratively?

A. Yes, sir, that's correct.

Q. Are either one of these zones making liquid or capable of making condensate?

A. I have quite a bit of experience with the Pictured Cliffs zone in the area, and it definitely does not make condensate. I cannot find any indication that the Gallup zone will

make any condensate; so if it does, it will be very small amounts.

Q. Should condensate be encountered, either if this application was approved or down the line, after it had produced for a while, should it be allocated the same way, or should it all be attributed to the Gallup?

A. Just from knowledge of the area, I think it would make more sense that the condensate should be allocated to the Gallup.

Q. What will be your completion configuration for this well? Will you have tubing in it with two sets of perfs?

A. That's correct. We'll go in and we'll drill out the bridge plug that currently separates the two zones. We will go ahead and run 2-3/8 tubing, set that tubing in the Gallup, and produce all production up the tubing.

Q. Why couldn't you have a dual completion, rather it be conventional, two parallel strings of tubing, or unconventional annular flow of the shallower zone?

A. We could certainly do that by putting a packer in the hole. We would prefer to have a little more latitude to have one zone help the

other produce. I have a feeling the Pictured Cliffs is very, very marginal here.

Q. Usually we have marked in our commingling orders that should the well be shut in, a downhole commingled well be shut in, in excess of seven days, then notification is required.

Should this occur, should there be any special notification requirements, or otherwise, to prevent this well being shut in any longer than that, and subsequent migration of the gas, since we're looking at such a varied pressure range.

A. Well, I think theoretically, even if cross-flow does occur, I think the well has every ability to produce the gas back. So I would, in my feeling, I don't believe it would make an awful lot of difference, since the ownership is the same throughout the area. I would feel that if Gallup gas does truly go into the Pictured Cliffs formation, we bring it back on to production, then the Pictured Cliffs would be more likely to contribute that gas at that time.

Although, I guess, I really don't see that it makes an awful lot of difference.

Q. Neither one of these zones is prorated at this time?

A. Neither one is prorated, that's correct.

EXAMINER STOGNER: I have no other questions of Mr. McCord at this time.

Are there any other questions of this witness? He may be excused.

Mr. Roberts, do you have anything further?

MR. ROBERTS: Nothing further.

EXAMINER STOGNER: Does anybody else have anything further in Case 10831?

This case will be taken under advisement.

(And the proceedings concluded.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10831, heard by me on 23 Dec. 1993.

, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Carla Diane Rodriguez, 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 caused my notes to be transcribed under my personal supervision; 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 October 1, 1993.

CARLA DIANE RODRIGUEZ, RPR
CCR No. 4