Case No.

7279

Application

Transcripts

Small Exhibits

ETC

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

EXAMINER HEARING

IN THE MATTER OF:

Application of BCO, Inc., for dowhole commingling, Rio Arriba County, New Mexico. CASE 7279

BEFORE: **Daniel S. Nutter**

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: **W. Thomas Kellahin, Esq.**
KELLAHIN & KELLAHIN
500 Don Gaspar
Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

MR. NUTTER: The hearing will come to order, please.

We'll call next Case Number 7279.

MR. PADILLA: Application of BCO, Inc., for downhole commingling, Rio Arriba County, New Mexico.

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of Kellahin and Kellahin, Santa Fe, New Mexico, appearing on behalf of the applicant, and I have one witness to be sworn.

(Witness sworn.)

HARRY L. BIGBEE

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Bigbee, for the record, would you please state your name and address?

A My name is Harry L. Bigbee. My oil office address is 135 Grant Avenue, Santa Fe, New Mexico.

Q Mr. Bigbee, what is your relationship with the applicant, BCO, Inc.?

A. I am the sole stockholder, Chairman of the Board. My son, Bob Bigbee, who is here, is the President and Chief Executive Officer.

Q. Mr. Bigbee, have you previously testified as an expert witness on behalf of the applicant in other hearings before the Oil Conservation Division?

A. Well, the Commission has permitted me, Mr. Nutter has, whether I'm an expert or not, but he's allowed me to qualify and I have qualified for your record purposes. Somewhat differential about being an expert with people like Tom Dugan here, who really know that basin.

MR. KELLAHIN: Mr. Nutter, we tender Mr. Bigbee as a practical oil and gas operator with expertise with regards to the downhole commingling of his proposed wells.

MR. NUTTER: Mr. Bigbee is so qualified.

A. Thank you, sir.

Q. Mr. Bigbee, I'd like to direct your attention to what we've marked and shown the Examiner as Applicant Exhibit Number One and first of all have you identify for me the first BCO well that was the subject of a previous commingling case back in October of 1976.

A. Yes. If you'll hand me the Order of the Commission, I will call your attention to Exhibit Number

One and you will see in Section 10 in the northwest quarter the well Dunn No. 2 marked, which you might for your convenience circle. There's also the 110 and the Dunn 1 in Section 10, but we're referring to the Dunn 2.

In Case Number 5736, Order No. R-5310 was issued in that proceeding. BCO, Inc., applied to commingle the Gallup and the Dakota. At that time we were.

That has been done on the Dunn No. 2. Your order that I just referred to is the order of the Commission that granted that, and I have the production and other matters, material there, too.

Q All right, sir, would you identify for the Examiner the additional three wells that are the subject of this application for which you seek downhole commingling?

A Yes. In the east half of Section 3, actually the southeast quarter, you will see what is marked BCO Dunn No. 3. That is one of the wells before this Commission.

In the northwest quarter of Section 2 you will see BCO H-4, and right below that in the southwest quarter you'll see the H No. 3.

Those are the three wells before the Commission at this hearing.

The other two wells in Section 2, the

H-2 and H-1, are old Gallup wells, marginal producers that have been drilled more than ten years ago and which BCO operates and I own the lease.

Q. Mr. Bigbee, what two pools recognized by the Commission do you desire to commingle the production from?

A. The Dakota, which is the Basin Dakota, and the Gallup, which is the Lybrook Gallup.

Q. Okay. Let me direct your attention back to the BCO Dunn No. 2 Well in Section 10, and with regards to that well show you what we've marked as Exhibits Number Two and Exhibit Number Three.

A. Yes.

Q. If you'll look at Exhibit Number Two, which is the Basin Dakota production from that well, if you can direct Mr. Nutter's attention to what the production has been for that zone.

A. Yes. I might call your attention to the order I referred to, has the provision which I think maybe is one of the first provisions that was put in but which I notice is carried forward, that provides for an agreement between the operator and the Commission as to the allocation of production.

Such an agreement was made and the

figures I will report reflect that provision, as reported to the Commission.

On Exhibit Number Two, which is the Basin Dakota, the Dunn No. 2, we --

Q. Excuse me for a moment. To refresh Mr. Nutter's memory, would you tell us what the allocation was between the two zones?

A. I may have to -- if I am incorrect, my son will tell me, but the Greenhorn was allocated in there, which we are not applying for, it was agreed that no production would be allocable to the Greenhorn.

It was agreed that the Gallup production -- that the oil production, that all oil would be credited to the Gallup, and that a 6000-to-1 oil/gas ratio would be applied. So we have taken the oil that was produced from the well, even though it may be a small amount of that may have come from the Dakota formations, it has all been credited to the Gallup, and that amount of gas that is computed by multiplying the 6000-to-1 gas/oil ratio, has been reported as the Gallup gas, and that leaves the Dakota formations, which include the first three Dakota formations, which are sometimes referred to as Dakota I, II, III, sometimes referred to as Dakota A, B, C, but which I'm in the habit of referring to as the first zone under the Greenhorn as the Upper Graneros; the second

zone under the Greenhorn, the Lower Graneros; and the third zone is what I refer to as the First Dakota. I'll use any terminology the Commission suggests, and I'll use the last, if agreeable.

Q. Exhibits Two and Three, then, reflect the allocation of production pursuant to the agreement with the Division?

A. That's right.

Q. All right, sir.

A. And that is the production we have reported and has been in turn reprinted by the Oil and Gas Commission in its regular statistics, which we've Xeroxed out, as you'll recognize, and it speaks for themselves.

Exhibit Number Two is a Basin Dakota oil production, gas production, as so computed.

Exhibit Number Three is a Gallup production, as so computed under the agreement.

Q. All right. Let me direct your attention now to the BCO Well H-3 in Section 2, and have you describe what the current status of that well is.

A. Yes. The H-3 was drilled through the third member of the Dakota, which I've just referred to and defined what it was. We -- we fracd, hydraulic or water fracd, light gel, sand frac, the -- that Dakota and the Upper

Graneros which is the first Dakota member. We made an excessive amount of water.

We did the same on the Dunn 3 and the H-4 at this point. All have made an excessive amount of water.

To try to find out if the water which I determined was coming from the third Dakota member, and we put a bridge plug between that and the top, the upper one that was open. We cut off all the water and the production has been only oil with a small gas ratio and we lost all the water when we did that.

On, if I may continue just a little bit, get them all three together, on the Dunn 3, if I may, that was the first one we did. We did it the same as I referred to here. We made an excessive amount of water. We were able to flow that for some period of time and we made up to 5-700 barrels of water a day. It was an amazing thing. And I went and put a bridge plug on it, just like I referred to, cutting that member off; however, we had split tubing on that and before winter caught up with us, we were unable to determine whether I had cut all the water off of the Upper Dakota.

We left the H-4 in the condition, we merely left it, actually I put -- injected nitrogen in it so there'd be no commingling between the zones, I thought, and left it for spring, and I intend to be testing those

separately within the next week.

But it also made a very excessive amount of water. I am assuming that while there will be differences between the wells, that we will find that all three will be somewhat comparable to the H-3, where I have tested them, although I anticipate a little more gas and a little more oil possibly, but we don't know until we test them.

Q. In relation to your completion of the wells, Mr. Bigbee, where is the base of the tubing string in relation to the perforations?

A. The base of the tubing string is immediately even with or slightly below the lowest perforation in each well. That's where I put the tubing string in all three of them. That is my custom.

MR. NUTTER: That would be the Dakota perforations.

A. That is right. The Gallup has not yet been opened, so on the Dunn 3 and the, for instance, the Dunn 3 and H-3, where I've cut off that third member, it will be below the upper Graneros lowest perforation. The lowest perforation I'm going to produce is where the tubing will be.

MR. NUTTER: All right.

Q. Is the working interest and royalty

and overriding royalty interest common between the Basin Dakota and the Lybrook Gallup Pools, Mr. Bigbee, in all three wells?

A. Yes, it is. There is no overriding royalty.

Q. Now why have you sought approval of downhole commingling for these three wells?

A. Same reason I did on the Dunn 2. If I wasn't able to produce the Gallup and the Dakota together, one or the other would not be commercial and the oil or gas would not be able to be economically produced, in my opinion.

And would not justify drilling of another well, so if we're to recover the maximum oil and gas, it does in my opinion require commingling.

Q. All right, sir. Let me direct your attention to Exhibit Number Four.

A. Yes.

Q. And have you identify that for us.

A. Exhibit Number Four is an exhibit prepared by my son from our records showing by months and days the production of each of these wells before the Commission; that is, the Dunn 3, the H-3, and the H-4.

You will keep in mind that the production shown on the H-4 does not involve the third Dakota member and

only the upper member and is producing only the oil and we've gotten very little water problem, and it shows what that -- that upper zone will produce by itself.

Q. Do you have a recommendation to the Examiner as to how to establish allocation between the two pools for each of the wells?

A. I would recommend that exactly the same procedure be used as was done in Case Number 5736, Order No. R-5310, which I believe is the method the Commission prefers, also.

Q. Were Exhibits One through Four compiled under your direction and supervision, Mr. Bigbee?

A. They were.

Q. And to the best of your knowledge, information, and belief, is the information depicted on those exhibits true and accurate?

A. It is.

Q. And in your opinion, will approval of this application be in the best interest of conservation, the prevention of waste, and the protection of correlative rights?

A. It certainly will.

MR. KELLAHIN: If the Examiner please, we'd move the introduction of Exhibits One through Four.

MR. NUTTER: Applicant's Exhibits One through Four will be admitted in evidence.

CROSS EXAMINATION

BY MR. NUTTER:

Q. Mr. Bigbee, do you have any production in here at the present time that's Gallup only?

A. No, not of these three wells.

Q. No, of any other wells in this general area?

A. Yes. I have -- I have the Dunn 2, which we have furnished you on a commingled basis. We are also operating the H-1 and H-2, which are the two closest Gallup wells to it. Those are old Gallup wells and I think that the production averages approximately on each well, approximately two barrels a day and approximately 30 Mcf a day. Four barrels a day total; 60 Mcf a day total. That's a little on the high side, if anything.

Q. 30 Mcf a day with two barrels would be a gas/oil ratio of 15,000 cubic feet per well, per barrel.

A. I think that's what it is down there. It's much higher than on the -- at least we think it is. We know what it is down here and that is right.

Q. Well now, this 6000-to-1 that was used

on the allocation formula for the Dunn 2, was that the ratio of that well prior to the commingling?

A. Yes, it was, and also was determined by the offsetting well, Campos 110, which you will see on Exhibit Number One, which we have operated since about 1961.

The Campos 24, which is in Section 4, we've operated --

Q. Now where is that Campos 110?

A. 110 is --

Q. Oh, yeah, it's right near the Dunn 2.

A. It's right here. It's the closest --

Q. Right.

A. -- offset, I believe. And we have operated that well and we have the experience on that and that was reasonable, that was part of the basis as I understood the agreement was made, on how to properly allocate, was after an examination of the applicable wells that were offsetting the Dunn 2.

Q. Well, it would appear that that 6000-to-1 may be low for allocation of gas for these wells up here that we're talking about today, the Dunn 3 and the H-3 and4, wouldn't it?

A. I would say this. I have no reason to believe that 6000-to-1 is not accurate for the Dunn 2. I

know what it is for the H-1 and H-2, which are the closest wells.

Q. Right, it's --

A. It is common in that area that if --

Q. And that's 15,000.

A. That is 15,000, and so it will only be after we open the Gallup to whether we see we have -- Might call your attention to it, as I understand it, what is called the Grace well in Section 9 on Exhibit One, --

Q. Right.

A. -- which is in -- I understand that is basically gas well, that was --

Q. In the Gallup?

A. Yeah, Ben No. 1, your report. However, there has been variances, but that is on a particular high, and I do not think it's applicable to the other wells. It has a much higher gas ratio than the 110, the Vandenburg in Section 11, the Byron wells in Sections 3 and 4, and the BCO wells in 2 and 4, and I believe there has now recently been some wells drilled in 5, 6, and 32 on the far side, and I think their gas ratios as reported is less than the 6000-to-1 I show. There is a variance.

Q. Well now, to get off the gas/oil ratio, now the formula that we used on the Dunn No. 2 allocated all

of the oil to the Gallup with no oil allocated to the Dakota.

A. That's right.

Q. And yet your Exhibit Number Four shows that we are making oil from the Dakota in these three wells.

A. That's right.

Q. So I don't think that allocation formula that we had before is going to be applicable to these three wells.

A. I think it needs a little more study, because if I wanted to take you one step further, in the Dunn No. 2 we had gas in the third Dakota.

Q. Uh-huh.

A. In the -- in the Dunn No. 3, which is closest to that, we have water.

Q. Water.

A. We had water. This is a difference in the wells, and I might point out that paragraph two of your order, that upon completion of the well applicant shall consult with supervisor of the Aztec District Office of the Commission to determine allocation, which was what is done.

Q. Uh-huh.

A. Now, while I pointed out that the production statistics related to the allocation formula, some of those prior to the order on the Dakota would relate to

when we were producing the Dakota by itself.

Q. Uh-huh.

A. Now I'm not saying at this moment at all, don't intend to, that that formula is sacred and that we have any strong feeling on it.

Q. Uh-huh.

A. It was the best we knew. The Dakota was produced separately for a period of time.

Q. Uh-huh.

A. We then completed the Gallup, brought it in, got the information we did, and pursuant to this order opened them up. I think we brought it in. It may have been produced for a short time by itself. So there was specific information on that well.

Q. Uh-huh.

A. The wells we drilled last year are not like the Dunn No. 2, unfortunately. I have water instead of gas in that Lower Dakota.

Q. Yes.

A. And I have very significant oil in that Upper Graneros.

Q. Uh-huh.

A. That we did not have on the other. There is a difference.

Q. I don't think we can use this same formula. I think you'll probably have to --

A. I don't think you can, either.

Q. I think you're going to -- after you open up the Gallup, you're going to have to consult with the Aztec Office again.

A. I think so.

MR. KELLAHIN: There's no reason for us not to, Mr. Nutter. The only reason it was presented is to refresh your memory on what had happened with the previous well.

MR. NUTTER: Right.

MR. KELLAHIN: We would propose that once those zones are open we go back to the District Office and abide by whatever allocation they come up with.

A. It is very, very clear on this H-3, which we've got significant information on, on the Dakota, that what we're producing there is a low gas ratio oil zone. So, obviously, the Dunn 2 formula is not going to be applicable.

And we have significant production on that H No. 3. We've produced 1090 barrels of oil. That's certainly less than a 4000-to-1 ratio as we estimated. We're not able to buck the gas line there so we know, we do have that information on this well, and we know that that

6000-to-1 would not be the right ratio to use here.

Q. That H-3 is the best of the three wells, isn't it?

A. I'm not sure at all. That's just the one I got to and it was the last well I completed, and I had the experience of trying to bring in the other two, so I went right ahead before moving my pulling unit, took my plug after it acted the same, and saw what it was.

Q. I see.

A. I actually saw indications, if I had to compare with two zones commingled, the H-3 showed more oil while commingled than while swabbing and flowing it, we used both nitrogen and pulling units and got it to flowing, it looked like it had less gas than the commingled Dakota on the H-3 and more oil.

On the other hand, the Dunn 3 showed more gas than either one, so until I actually break out this third zone, it -- both -- all of those zones made over 500 barrels of water a day before I cut off and tested to see if I could eliminate all my water.

Q. Yeah.

A. By cutting off the H-3.

Q. Now was any test at all made in the Gallup when you were drilling the well?

A. No. No.

Q. You have the logs, though. Does it look like there's a Gallup pay there?

A. It does look like there's a Gallup pay. The logs are very comparable to the H-1 and H-2, which are offsetting. I hope modern -- the present way of completing wells will result in a better well than those or it won't pay completion costs.

Q. Okay.

MR. NUTTER: Are there any further questions of Mr. Bigbee? He may be excused.

Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case Number 7279?

We'll take the case under advisement.

(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

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 7279, heard by me on 6/17 1981.

, Examiner
Oil Conservation Division

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

July 2, 1981

Mr. Thomas Kellahin
Kellahin & Kellahin
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: CASE NO. 7279
ORDER NO. R-6719

Applicant:

BCO, Inc.

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD x

Other

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

EXAMINER HEARING

IN THE MATTER OF:

Application of BCO, Inc., for dowhole commingling, Rio Arriba County, New Mexico. CASE 7279

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: W. Thomas Kellahin, Esq.
KELLAHIN & KELLAHIN
500 Don Gaspar
Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

MR. NUTTER: The hearing will come to order, please.

We'll call next Case Number 7279.

MR. PADILLA: Application of BCO, Inc., for downhole commingling, Rio Arriba County, New Mexico.

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of Kellahin and Kellahin, Santa Fe, New Mexico, appearing on behalf of the applicant, and I have one witness to be sworn.

(Witness sworn.)

HARRY L. BIGBEE

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Bigbee, for the record, would you please state your name and address?

A. My name is Harry L. Bigbee. My oil office address is 135 Grant Avenue, Santa Fe, New Mexico.

Q. Mr. Bigbee, what is your relationship with the applicant, BCO, Inc.?

A. I am the sole stockholder, Chairman of the Board. My son, Bob Bigbee, who is here, is the President and Chief Executive Officer.

Q. Mr. Bigbee, have you previously testified as an expert witness on behalf of the applicant in other hearings before the Oil Conservation Division?

A. Well, the Commission has permitted me, Mr. Nutter has, whether I'm an expert or not, but he's allowed me to qualify and I have qualified for your record purposes. Somewhat differential about being an expert with people like Tom Dugan here, who really know that basin.

MR. KELLAHIN: Mr. Nutter, we tender Mr. Bigbee as a practical oil and gas operator with expertise with regards to the downhole commingling of his proposed wells.

MR. NUTTER: Mr. Bigbee is so qualified.

A. Thank you, sir.

Q. Mr. Bigbee, I'd like to direct your attention to what we've marked and shown the Examiner as Applicant Exhibit Number One and first of all have you identify for me the first BCO well that was the subject of a previous commingling case back in October of 1976.

A. Yes. If you'll hand me the Order of the Commission, I will call your attention to Exhibit Number

One and you will see in Section 10 in the northwest quarter the well Dunn No. 2 marked, which you might for your convenience circle. There's also the 110 and the Dunn 1 in Section 10, but we're referring to the Dunn 2.

In Case Number 5736, Order No. R-5310 was issued in that proceeding. BCO, Inc., applied to commingle the Gallup and the Dakota. At that time we were.

That has been done on the Dunn No. 2. Your order that I just referred to is the order of the Commission that granted that, and I have the production and other matters, material there, too.

Q. All right, sir, would you identify for the Examiner the additional three wells that are the subject of this application for which you seek downhole commingling?

A. Yes. In the east half of Section 3, actually the southeast quarter, you will see what is marked BCO Dunn No. 3. That is one of the wells before this Commission.

In the northwest quarter of Section 2 you will see BCO H-4, and right below that in the southwest quarter you'll see the H No. 3.

Those are the three wells before the Commission at this hearing.

The other two wells in Section 2, the

H-2 and H-1, are old Gallup wells, marginal producers that have been drilled more than ten years ago and which BCO operates and I own the lease.

Q. Mr. Bigbee, what two pools recognized by the Commission do you desire to commingle the production from?

A. The Dakota, which is the Basin Dakota, and the Gallup, which is the Lybrook Gallup.

Q. Okay. Let me direct your attention back to the BCO Dunn No. 2 Well in Section 10, and with regards to that well show you what we've marked as Exhibits Number Two and Exhibit Number Three.

A. Yes.

Q. If you'll look at Exhibit Number Two, which is the Basin Dakota production from that well, if you can direct Mr. Nutter's attention to what the production has been for that zone.

A. Yes. I might call your attention to the order I referred to, has the provision which I think maybe is one of the first provisions that was put in, but which I notice is carried forward, that provides for an agreement between the operator and the Commission as to the allocation of production.

Such an agreement was made and the

figures I will report reflect that provision, as reported to the Commission.

On Exhibit Number Two, which is the Basin Dakota, the Dunn No. 2, we --

Q. Excuse me for a moment. To refresh Mr. Nutter's memory, would you tell us what the allocation was between the two zones?

A. I may have to -- if I am incorrect, my son will tell me, but the Greenhorn was allocated in there, which we are not applying for, it was agreed that no production would be allocable to the Greenhorn.

It was agreed that the Gallup production -- that the oil production, that all oil would be credited to the Gallup, and that a 6000-to-1 oil/gas ratio would be applied. So we have taken the oil that was produced from the well, even though it may be a small amount of that may have come from the Dakota formations, it has all been credited to the Gallup, and that amount of gas that is computed by multiplying the 6000-to-1 gas/oil ratio, has been reported as the Gallup gas, and that leaves the Dakota formations, which include the first three Dakota formations, which are sometimes referred to as Dakota I, II, III, sometimes referred to as Dakota A, B, C, but which I'm in the habit of referring to as the first zone under the Greenhorn as the Upper Graneros; the second

zone under the Greenhorn, the Lower Graneros; and the third zone is what I refer to as the First Dakota. I'll use any terminology the Commission suggests, and I'll use the last, if agreeable.

Q. Exhibits Two and Three, then, reflect the allocation of production pursuant to the agreement with the Division?

A. That's right.

Q. All right, sir.

A. And that is the production we have reported and has been in turn reprinted by the Oil and Gas Commission in its regular statistics, which we've Xeroxed out, as you'll recognize, and it speaks for themselves.

Exhibit Number Two is a Basin Dakota oil production, gas production, as so computed.

Exhibit Number Three is a Gallup production, as so computed under the agreement.

Q. All right. Let me direct your attention now to the BCO Well H-3 in Section 2, and have you describe what the current status of that well is.

A. Yes. The H-3 was drilled through the third member of the Dakota, which I've just referred to and defined what it was. We -- we fracd, hydraulic or water fracd, light gel, sand frac, the -- that Dakota and the Upper

Graneros, which is the first Dakota member. We made an excessive amount of water.

We did the same on the Dunn 3 and the H-4 at this point. All have made an excessive amount of water.

To try to find out if the water which I determined was coming from the third Dakota member, and we put a bridge plug between that and the top, the upper one that was open. We cut off all the water and the production has been only oil with a small gas ratio and we lost all the water when we did that.

On, if I may continue just a little bit, get them all three together, on the Dunn 3, if I may, that was the first one we did. We did it the same as I referred to here. We made an excessive amount of water. We were able to flow that for some period of time and we made up to 5-700 barrels of water a day. It was an amazing thing. And I went and put a bridge plug on it, just like I referred to, cutting that member off; however, we had split tubing on that and before winter caught up with us, we were unable to determine whether I had cut all the water off of the Upper Dakota.

We left the H-4 in the condition, we merely left it, actually I put -- injected nitrogen in it so there'd be no commingling between the zones, I thought, and left it for spring, and I intend to be testing those

separately within the next week.

But it also made a very excessive amount of water. I am assuming that while there will be differences between the wells, that we will find that all three will be somewhat comparable to the H-3, where I have tested them, although I anticipate a little more gas and a little more oil possibly, but we don't know until we test them.

Q. In relation to your completion of the wells, Mr. Bigbee, where is the base of the tubing string in relation to the perforations?

A. The base of the tubing string is immediately even with or slightly below the lowest perforation in each well. That's where I put the tubing string in all three of them. That is my custom.

MR. NUTTER: That would be the Dakota perforations.

A. That is right. The Gallup has not yet been opened, so on the Dunn 3 and the, for instance, the Dunn 3 and H-3, where I've cut off that third member, it will be below the upper Graneros lowest perforation. The lowest perforation I'm going to produce is where the tubing will be.

MR. NUTTER: All right.

Q. Is the working interest and royalty

and overriding royalty interest common between the Basin Dakota and the Lybrook Gallup Pools, Mr. Bigbee, in all three wells?

A. Yes, it is. There is no overriding royalty.

Q. Now why have you sought approval of downhole commingling for these three wells?

A. Same reason I did on the Dunn 2. If I wasn't able to produce the Gallup and the Dakota together, one or the other would not be commercial and the oil or gas would notnbe able to be economically produced, in my opinion.

And would not justify drilling of another well, so if we're to recover the maximum oil and gas, it does in my opinion require commingling.

Q. All right, sir. Let me direct your attention to Exhibit Number Four.

A. Yes.

Q. And have you identify that for us.

A. Exhibit Number Four is an exhibit prepared by my son from our records, showing by months and days the production of each of these wells before the Commission; that is, the Dunn 3, the H-3, and the H-4.

You will keep in mind that the production shown on the H-4 does not involve the third Dakota member and

only the upper member and is producing only the oil and we've gotten very little water problem, and it shows what that -- that upper zone will produce by itself.

Q. Do you have a recommendation to the Examiner as to how to establish allocation between the two pools for each of the wells?

A. I would recommend that exactly the same procedure be used as was done in Case Number 5736, Order No. R-5310, which I believe is the method the Commission prefers, also.

Q. Were Exhibits One through Four compiled under your direction and supervision, Mr. Bigbee?

A. They were.

Q. And to the best of your knowledge, information, and belief, is the information depicted on those exhibits true and accurate?

A. It is.

Q. And in your opinion, will approval of this application be in the best interest of conservation, the prevention of waste, and the protection of correlative rights?

A. It certainly will.

MR. KELLAHIN: If the Examiner please, we'd move the introduction of Exhibits One through Four.

MR. NUTTER: Applicant's Exhibits One through Four will be admitted in evidence.

CROSS EXAMINATION

BY MR. NUTTER:

Q. Mr. Bigbee, do you have any production in here at the present time that's Gallup only?

A. No, not of these three wells.

Q. No, of any other wells in this general area?

A. Yes. I have -- I have the Dunn 2, which we have furnished you on a commingled basis. We are also operating the H-1 and H-2, which are the two closest Gallup wells to it. Those are old Gallup wells and I think that the production averages approximately on each well, approximately two barrels a day and approximately 30 Mcf a day. Four barrels a day total; 60 Mcf a day total. That's a little on the high side, if anything.

Q. 30 Mcf a day with two barrels would be a gas/oil ratio of 15,000 cubic feet per well, per barrel.

A. I think that's what it is down there. It's much higher than on the -- at least we think it is. We know what it is down here and that is right.

Q. Well now, this 6000-to-1 that was used

on the allocation formula for the Dunn 2, was that the ratio of that well prior to the commingling?

A. Yes, it was, and also was determined by the offsetting well, Campos 110, which you will see on Exhibit Number One, which we have operated since about 1961.

The Campos 24, which is in Section 4, we've operated --

Q. Now where is that Campos 110?

A. 110 is --

Q. Oh, yeah, it's right near the Dunn 2.

A. It's right here. It's the closest --

Q. Right.

A. -- offset, I believe. And we have operated that well and we have the experience on that and that was reasonable, that was part of the basis as I understood the agreement was made, on how to properly allocate, was after an examination of the applicable wells that were offsetting the Dunn 2.

Q. Well, it would appear that that 6000-to-1 may be low for allocation of gas for these wells up here that we're talking about today, the Dunn 3 and the H-3 and4, wouldn't it?

A. I would say this. I have no reason to believe that 6000-to-1 is not accurate for the Dunn 2. I

know what it is for the H-1 and H-2, which are the closest wells.

Q. Right, it's --

A. It is common in that area that if --

Q. And that's 15,000.

A. That is 15,000, and so it will only be after we open the Gallup to whether we see we have -- Might call your attention to it, as I understand it, what is called the Grace well in Section 9 on Exhibit One, --

Q. Right.

A. -- which is in -- I understand that is basically gas well, that was --

Q. In the Gallup?

A. Yeah, Ben No. 1, your report. However, there has been variances, but that is on a particular high, and I do not think it's applicable to the other wells. It has a much higher gas ratio than the 110, the Vandenburg in Section 11, the Byron wells in Sections 3 and 4, and the BCO wells in 2 and 4, and I believe there has now recently been some wells drilled in 5, 6, and 32 on the far side, and I think their gas ratios as reported is less than the 6000-to-1 I show. There is a variance.

Q. Well now, to get off the gas/oil ratio, now the formula that we used on the Dunn No. 2 allocated all

of the oil to the Gallup with no oil allocated to the Dakota.

A. That's right.

Q. And yet your Exhibit Number Four shows that we are making oil from the Dakota in these three wells.

A. That's right.

Q. So I don't think that allocation formula that we had before is going to be applicable to these three wells.

A. I think it needs a little more study, because if I wanted to take you one step further, in the Dunn No. 2 we had gas in the third Dakota.

Q. Uh-huh.

A. In the -- in the Dunn No. 3, which is closest to that, we have water.

Q. Water.

A. We had water. This is a difference in the wells, and I might point out that paragraph two of your order, that upon completion of the well applicant shall consult with supervisor of the Aztec District Office of the Commission to determine allocation, which was what is done.

Q. Uh-huh.

A. Now, while I pointed out that the production statistics related to the allocation formula, some of those prior to the order on the Dakota would relate to

when we were producing the Dakota by itself.

Q. Uh-huh.

A. Now I'm not saying at this moment at all, don't intend to, that that formula is sacred and that we have any strong feeling on it.

Q. Uh-huh.

A. It was the best we knew. The Dakota was produced separately for a period of time.

Q. Uh-huh.

A. We then completed the Gallup, brought it in, got the information we did, and pursuant to this order opened them up. I think we brought it in. It may have been produced for a short time by itself. So there was specific information on that well.

Q. Uh-huh.

A. The wells we drilled last year are not like the Dunn No. 2, unfortunately. I have water instead of gas in that Lower Dakota.

Q. Yes.

A. And I have very significant oil in that Upper Graneros.

Q. Uh-huh.

A. That we did not have on the other. There is a difference.

Q. I don't think we can use this same formula. I think you'll probably have to --

A. I don't think you can, either.

Q. I think you're going to - after you open up the Gallup, you're going to have to consult with the Aztec Office again.

A. I think so.

MR. KELLAHIN: There's no reason for us not to, Mr. Nutter. The only reason it was presented is to refresh your memory on what had happened with the previous well.

MR. NUTTER: Right.

MR. KELLAHIN: We would propose that once those zones are open we go back to the District Office and abide by whatever allocation they come up with.

A. It is very, very clear on this H-3, which we've got significant information on, on the Dakota, that what we're producing there is a low gas ratio oil zone. So, obviously, the Dunn 2 formula is not going to be applicable.

And we have significant production on that H No. 3. We've produced 1090 barrels of oil. That's certainly less than a 4000-to-1 ratio as we estimated. We're not able to buck the gas line there so we know, we do have that information on this well, and we know that that

6000-to-1 would not be the right ratio to use here.

Q That H-3 is the best of the three wells, isn't it?

A I'm not sure at all. That's just the one I got to and it was the last well I completed, and I had the experience of trying to bring in the other two, so I went right ahead before moving my pulling unit, took my plug after it acted the same, and saw what it was.

Q I see.

A I actually saw indications, if I had to compare with two zones commingled, the H-3 showed more oil while commingled than while swabbing and flowing it, we used both nitrogen and pulling units and got it to flowing, it looked like it had less gas than the commingled Dakota on the H-3 and more oil.

On the other hand, the Dunn 3 showed more gas than either one, so until I actually break out this third zone, it -- both -- all of those zones made over 500 barrels of water a day before I cut off and tested to see if I could eliminate all my water.

Q Yeah.

A By cutting off the H-3.

Q Now was any test at all made in the Gallup when you were drilling the well?

A. No. No.

Q. You have the logs, though. Does it look like there's a Gallup pay there?

A. It does look like there's a Gallup pay. The logs are very comparable to the H-1 and H-2, which are offsetting. I hope modern -- the present way of completing wells will result in a better well than those or it won't pay completion costs.

Q. Okay.

MR. NUTTER: Are there any further questions of Mr. Bigbee? He may be excused.

Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case Number 7279?

We'll take the case under advisement.

(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

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 7279, heard by me on 6/17 1981.

, Examiner
Oil Conservation Division

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

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

CASE NO. 7279
Order No. R-6719

APPLICATION OF BCO, INC. FOR
DOWNHOLE COMMINGLING, RIO ARRIBA
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 17, 1981, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 1st day of July, 1981, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, BCO, Inc., is the owner and operator of the Dunn Well No. 3 located in Unit I of Section 3 and State H Wells Nos. 3 and 4, located in Units H and D, respectively, of Section 2, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico.

(3) That the applicant seeks authority to commingle Lybrook-Gallup and Basin-Dakota production within the wellbores of the above-described wells.

(4) That from the Basin-Dakota zone, the subject wells are capable of low marginal production only.

(5) That from the Lybrook-Gallup zone, the subject wells are expected to be capable of low marginal production only.

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the wells are not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject wells are shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the wells, applicant should consult with the supervisor of the Aztec district office of the Division and determine an allocation formula for each of the production zones.

IT IS THEREFORE ORDERED:

(1) That the applicant, BCO, Inc., is hereby authorized to commingle Lybrook-Gallup and Basin-Dakota production within the wellbores of the Dunn Well No. 3 located in Unit I of Section 3 and State Wells Nos. 3 and 4, located in Units M and D, respectively, of Section 2, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico.

(2) That the applicant shall consult with the Supervisor of the Aztec district office of the Division and determine an allocation formula for the allocation of production to each zone in each of the subject wells.

(3) That the operator of the subject wells shall immediately notify the Division's Aztec district office any time the wells have been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

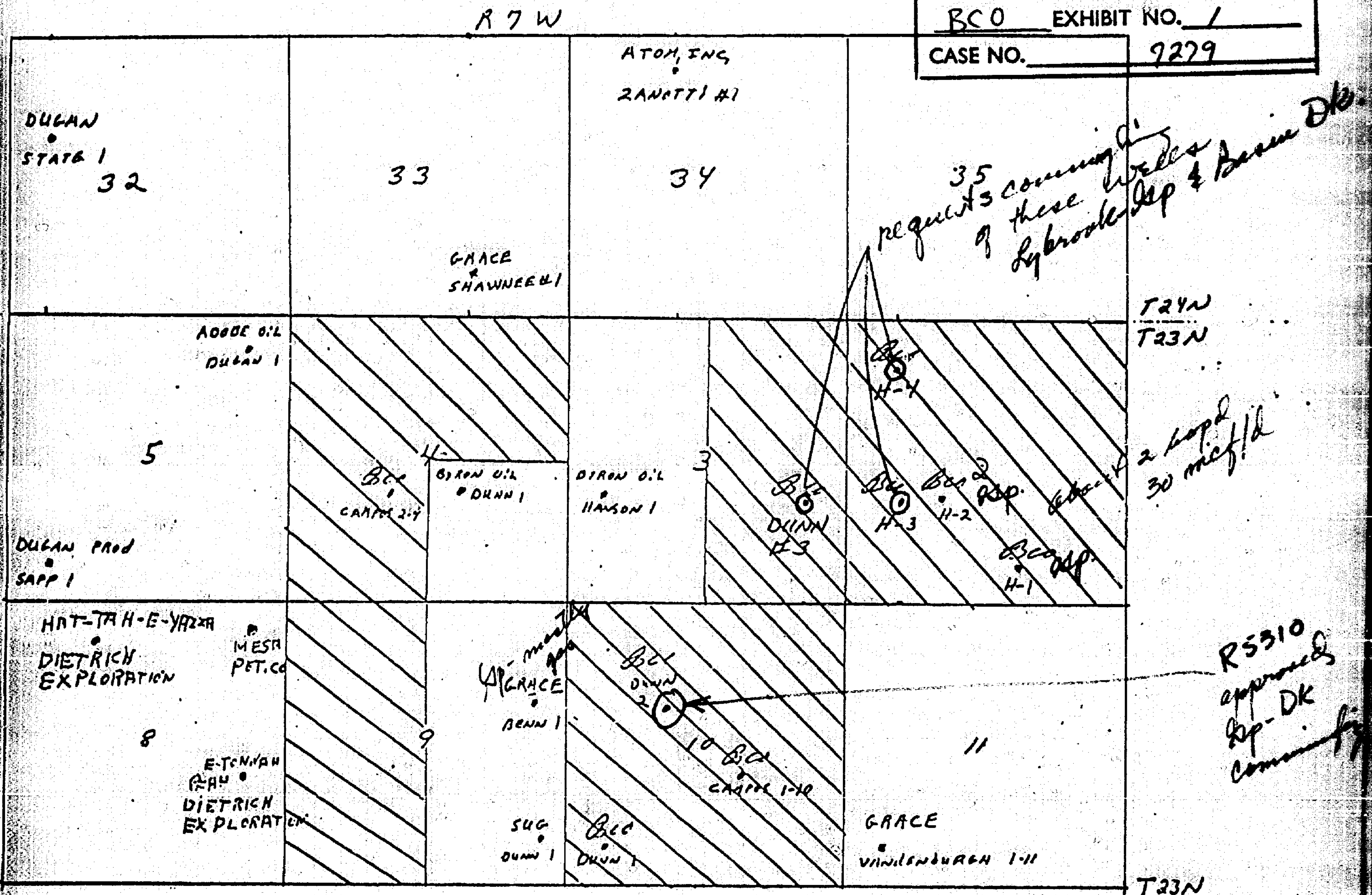
SEAL

fd/

BCO, Inc.

Case #7279

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
BCO EXHIBIT NO. 1
CASE NO. 7279



R 7 W
DUGAN
STATE 1
32
33
ATOM, INC
ZANETTI #1
34
35
requests commingling of these wells Lybrook Gallup & Basin Dk.
GRACE
SHAWNEE #1
T24N
T23N
ADOBE OIL
DUGAN 1
5
4
BYRON OIL
DUNN 1
BYRON OIL
HANSON 1
3
BCO
CAMPOS 2-4
DUNN #3
H-4
H-3
H-2
H-1
about 2 bopd 30 mcf/d
DUGAN PROD
SAPP 1
HAT-TAH-E-YAZZA
DIETRICH EXPLORATION
MESA PET. CO
8
9
GRACE
BENN 1
DUNN 2
10
CAMPOS 1-10
11
R5310 approved Gallup-DK commingling
DIETRICH EXPLORATION
SUG
DUNN 1
DUNN 1
GRACE
VANDENBURGH 1-11
T23N

BCO, INC

BASIN DAKOTA

Case # 7279

CONTINUED BASIN DAKOTA (PRORATED GAS)

	WELL S T R	JAN.	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YR-CUM	CUM TO
1977	BCO INCORPORATED DUNN 2F1023N 7W GAS	8934	6698	6492	8338	6883	6447		5598	5880	5855	5951	5407	72385	72385
1978	2F1023N 7W GAS	3571	4753	5643	4047	3303	6262	6817	6169	5733	5605	3796	4489	60992	135377
1979	2F1023N 7W GAS	4301	4264	2862	2260	4274	3079	3267	3409	2309	3106	2964	2533	39506	172883
1980	2F1023N 7W GAS	2645	1766	1577	2333	1845	1447	1783	336	1314		1398	1520	17822	190757

		MCF	
HIGHEST	PRODUCTION	8934	Jan 1977
AVERAGE	PRODUCTION	3974	48 MONTHS

no prod to Greenhorn

Dunn # 2 Dakota

Gp - all oil with gas based on 6000 to 1 on gas

Dk - no oil ~~and~~ and the rest of gas.

BEFORE EXAMINER NUTTER

OIL CONSERVATION DIVISION

BCO EXHIBIT NO. 2

CASE NO. 7279

BCO, INC. LYBROOK GALLUP Case # 7279

LYBROOK GALLUP MULTI-COUNTY GP 5N TO 6N

Year	WELL S T R		JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YR-PROD MP	ACCUM.
1974	DUNN 1H1023N 7W / 2F1023N 7W	OIL / GAS / OIL								oil / Gas MCF	40	140 / 840	175 / 1050	205 / 1230	560P / 3120	560 / 3120
1977	2F1023N 7W	OIL / GAS	197 / 1097	134 / 804	158 / 948	161 / 965	187 / 1122	168 / 1008	4598	158 / 948	140 / 847	136 / 816	116 / 696	115 / 693	1655P / 14518	2203 / 17638
1978	DUNN 2F1023N 7W	OIL / GAS	127 / 762	111 / 666	58 / 588	110 / 660	112 / 672	109 / 654	123 / 738	116 / 696	108 / 648	110 / 660	99 / 594	73 / 438	1296P / 7776	3499 / 25714
1979	DUNN 2F1023N 7W	OIL / GAS	97 / 582	88 / 528	80 / 480	73 / 438	90 / 540	80 / 480	82 / 492	84 / 504	107 / 642	133 / 789	77 / 462	75 / 450	1063P / 6378	4562 / 31792
	DUNN 2F1023N 7W	OIL / GAS	69 / 414	68 / 408	75 / 450	65 / 390	62 / 372	50 / 300	80 / 480	96 / 576	108 / 648	96 / 186	67 / 402	72 / 432	908P / 5058	5470 / 36850

	MONTH	BbLS	GAS
HIGHEST PRODUCTION	12-78	205	1230
AVERAGE PRODUCTION	51 MONTHS	107	723

Dunn # 2
Gallup

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
BCO EXHIBIT NO. 3
CASE NO. 7279

Bco, Dnc Case # 7279

	1	2	3	4
	Month	# Days Produced	Oil Produced	Gas Produced
Dunn #3	10-80	3	36	0
	11-80	12	121	944
	12-80	14	69	1833
	1-81	3	39	0
	2-81	0	0	0
	3-81	0	0	0
	4-81	0	0	0
	5-81	0	0	0
Total Dunn 3		34	265	2777
H #3	10-80	0	0	0
	11-80	4	72	720
	12-80	25	309	1000
	1-81	24	177	531
	2-81	28	181	543
	3-81	31	131	393
	4-81	30	121	363
	5-81	30	99	297
Total H #3		172	1090	3847
H #4	10-80	0	0	0
	11-80	7	120	1260
	12-80	0	0	0
	1-81	0	0	0
	2-81	0	0	0
	3-81	0	0	0
	4-81	10	91	351
	5-81	7	57	114
Total H #4		24	274	1725

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
BCO EXHIBIT NO. 4
CASE NO. 7279

BCO, Inc.

Case #7279

R 7 W

DUGAN
STATE 1

32

33

GRACE
SHAWNEE 1

ATOM, INC
ZANATTI #1

34

35

T24N
T23N

Exh. bit 4
Case 7279

ADOBE O.I.L
DUGAN 1

5

BCo
1
CAMPBELL 2-4

BYRON O.I.L
DUNN 1

BYRON O.I.L
HANSON 1

3

BCo
DUNN
#3

BCo
H-4

BCo
H-3

BCo
2
11-2

BCo
H-1

DUGAN PROD
SAPP 1

HAT-TAH-E-YAZZA
DIETRICH
EXPLORATION

MESTA
PET. CO

8

E-TENNAH
CAH
DIETRICH
EXPLORATION

9

GRACE
BENN 1

SUG
DUNN 1

BCo
DUNN 2

10

BCo
CAMPBELL 1-10

BCo
DUNN 1

11

GRACE
VANDENBURGH 1-11

T23N

BCO, INC

BASIN DAKOTA

Case # 7279

CONTINUED BASIN DAKOTA (PRORATED GAS)

WELL S T R		JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YR-TOTAL OR AVERAGE	PROD YR
1977	BCO INCORPORATED NUMAN 2F 1023N 7W GAS	8934	6698	6492	8338	6883	6447		5598	5880	5855	5953	5407	72385	72385
1978	2F 1023N 7W GAS	3571	4753	5443	4847	3383	6262	6817	6169	5735	5605	3796	4408	60962	133347
1979	2F 1023N 7W GAS	4381	4264	2862	2260	4274	3879	3267	3409	2309	3106	2964	2533	39508	172855 1979
1980	2F 1023N 7W GAS	2665	1766	1577	2333	1245	1447	1783	336	1314		1298	1528	17812	190667 1980

	MCF	
HIGHEST PRODUCTION	8934	Jan 1977
AVERAGE PRODUCTION	3974	48 MONTHS

Exhibit 2

BCO, INC. LYBROOK GALLUP Case # 7279

LYBROOK GALLUP MULTI-COUNTY GP 5N TO 6M

	WELL S T R		JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YR-PROD	ACCUM.	
1974	DUNN 1M1023N 7W 2F1023N 7W	OIL GAS OIL									48	140 840	175 1050	205 1230	548P 3120	548	3120
1977	2F1023N 7W	OIL GAS	132 1097	134 904	158 948	161 965	187 1122	168 1008	4596	158 948	140 849	136 816	116 696	115 693	1655P 14518	2203 17638	1977
1978	DUNN 2F1023N 7W	OIL GAS	127 762	111 666	98 588	110 660	112 672	109 654	123 738	116 696	108 648	110 660	99 594	73 438	1296P 7776	3499 25414	1978
1979	DUNN 2F1023N 7W	OIL GAS	97 582	88 528	80 480	73 438	90 540	80 480	82 492	84 504	107 642	133 789	77 462	75 450	1063P 6378	4562 31792	
	DUNN 2F1023N 7W	OIL GAS	69 414	68 408	75 450	65 390	62 372	50 300	80 480	96 576	108 648	94 186	67 402	72 432	908P 5058	5470 36850	

Oil Gas MCF

	MONTH	BBLS	GAS
HIGHEST PRODUCTION	12-78	205	1230
AVERAGE PRODUCTION	51 MONTHS	107	723

Exhibit 3

Bcc, Onc Case # 7279

		1 Month	2 # Days Produced	3 Oil Produced	4 Gas Produced
2	Dunn #3	10-80	3	36	0
3		11-80	12	121	944
4		12-80	14	69	1833
5		1-81	3	39	0
6		2-81	0	0	0
7		3-81	0	0	0
8		4-81	0	0	0
9		5-81	0	0	0
10	Total Dunn 3		34	265	2777
11					
12	H #3	10-80	0	0	0
13		11-80	4	72	720
14		12-80	25	309	1000
15		1-81	24	177	531
16		2-81	28	181	543
17		3-81	31	131	393
18		4-81	30	121	303
19		5-81	30	99	297
20	Total H #3		172	1090	3847
21					
22	H #4	10-80	0	0	0
23		11-80	7	120	1260
24		12-80	0	0	0
25		1-81	0	0	0
26		2-81	0	0	0
27		3-81	0	0	0
28		4-81	10	91	351
29		5-81	7	57	114
30	Total H #4		24	274	1725

Exhibit 4
Case 7279

BCO, Inc.

Case #7279

Exhibit 1
Case 7279

R 7 W

DUGAN
STATE 1

32

33

GRACE
SHAWNEE #1

ATOM, INC
ZANOTTI #1

34

35

T24N
T23N

ADOBE OIL
DUGAN 1

5

BCO
CAMPS 2-4

BYRON OIL
DUNN 1

DYRON OIL
HANSON 1

3

BCO
DUNN #3

BCO
H-4

BCO
H-3

BCO
11-2

2

BCO
H-1

DUGAN PROD
SAPP 1

HAT-TA-H-E-YAHOLA
DIETRICH
EXPLORATION

MESA PET. CO

8

E-TONDAH
DIETRICH EXPLORATION

9

GRACE
BENN 1

SUG
DUNN 1

BCO
DUNN 2

10

BCO
CAMPS 1-10

BCO
DUNN 1

11

GRACE
VANDENBURGH 1-11

3N

T23N

BCO, INC

Case # 7279

BASIN DAKOTA

PAGE 78

CONTINUED BASIN DAKOTA (PRORATED GAS)

	WELL S T R	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YR-TOTAL	CUM.
1977	BCO INCORPORATED HUMPH 2F1023N TW GAS	8934	6498	6492	8338	6803	6447		5998	5880	5855	5953	5407	72985	77389
1978	2F1023N TW GAS	3571	4753	5643	4847	3303	4262	6317	6169	5733	5605	3796	4489	60992	135377
1979	2F1023N TW GAS	4301	4264	2862	2268	4274	3079	3267	3409	2309	4106	2964	2533	39586	172083
1980	2F1023N TW GAS	2665	1766	1577	2333	1845	1447	1783	336	1314		1398	1528	17872	190757

	MCF	
HIGHEST PRODUCTION	8934	Jan 1977
AVERAGE PRODUCTION	3974	48 MONTHS

Exhibit 2

BCO, INC. LYBROOK GALLUP Case # 7279

LYBROOK GALLUP MULTI-COUNTY GP 5N TO 6N

	WELL S T R	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YR-PROD MP	ACCUM.
1974	DUNN 1M1023N 7W OIL GAS / 2F1023N 7W OIL								gas Gone MCF	60	140 / 840	175 / 1050	205 / 1230	548P / 3120	548 / 3120
1977	2F1023N 7W OIL GAS	192 / 1097	134 / 404	138 / 948	[illegible] / 464	187 / 1122	165 / 1008	4598	138 / 948	140 / 849	136 / 816	116 / 696	115 / 693	1835P / 14918 R	2203 / 17638 1977
1978	DUNN 2F1023N 7W OIL GAS	127 / 762	111 / 666	58 / 588	110 / 660	112 / 672	109 / 654	123 / 738	116 / 696	108 / 648	110 / 660	59 / 594	73 / 438	1296P / 7776	3499 / 25414 1978
1979	DUNN 2F1023N 7W OIL GAS	97 / 582	88 / 528	80 / 480	73 / 438	90 / 540	80 / 480	82 / 492	84 / 504	107 / 642	130 / 785	77 / 462	75 / 450	1063P / 6378	4562 / 31792
	DUNN 2F1023N 7W OIL GAS	69 / 414	68 / 408	75 / 450	65 / 390	62 / 372	50 / 300	80 / 480	96 / 576	108 / 648	96 / 186	67 / 402	72 / 432	908P / 5058	5470 / 36850

	MONTH	BbLS	GAS
HIGHEST PRODUCTION	12-78	205	1230
AVERAGE PRODUCTION	51 MONTHS	107	723

Exhibit 3

Bcc, Dnc Case # 7279

	1 Month	2 # Days Produced	3 Oil Produced	4 Gas Produced
Dunn #3				
	10-80	3	36	0
	11-80	12	121	944
	12-80	14	69	1833
	1-81	3	39	0
	2-81	0	0	0
	3-81	0	0	0
	4-81	0	0	0
	5-81	0	0	0
Total Dunn 3		34	265	2777
H #3				
	10-80	0	0	0
	11-80	4	72	720
	12-80	25	309	1000
	1-81	24	177	531
	2-81	28	181	543
	3-81	31	131	393
	4-81	30	121	363
	5-81	30	99	297
Total H #3		172	1090	3847
H #4				
	10-80	0	0	0
	11-80	7	120	1260
	12-80	0	0	0
	1-81	0	0	0
	2-81	0	0	0
	3-81	0	0	0
	4-81	10	91	351
	5-81	7	57	114
Total H #4		24	274	1725

Exhibit 4
Case 7279

BCO, INC

Case # 7279

BASIN DAKOTA

CONTINUED BASIN DAKOTA (PRORATED GAS) PAGE 78

	WELL S T R	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YR-TOTAL	ACCUM.
1977	BCO INCORPORATED [illegible] 2F1023N 7W GAS	8934	6698	6492	8338	6683	6447		5598	5880	5855	5953	5407	77385	77385
1978	2F1023N 7W GAS	3571	4753	5643	4647	3303	6262	6817	6165	5735	5605	3796	4489	60962	135377
1979	2F1023N 7W GAS	4301	4264	2842	2260	4274	3879	3267	3409	2309	2100	2964	2533	39500	172883
1980	2F1023N 7W GAS	2645	1766	1577	2333	1845	1447	1783	336	1314		1398	1528	17822	190711

	MCF	
HIGHEST PRODUCTION	8934	Jan 1977
AVERAGE PRODUCTION	3974	48 MONTHS

Exhibit 2

BCO, INC. LYBROOK GALLUP Case # 7279

WELL S T R		JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YR-PROD	ACCUM.	
LYBROOK GALLUP MULTI-COUNTY GP 5N TO 6N																
1974 DUNN 1M1023N 7W	OIL GAS															
2F1023N 7W	OIL GAS									Gas Dev MCF 28	140 840	175 1050	205 1230	548P 3120	548	3120
1977 2F1023N 7W	OIL GAS	132 1097	134 804	138 948	161 966	187 1122	169 1008	4598	158 948	140 845	136 816	116 696	115 693	1655P 14518	2203	17638 1977
1978 DUNN 2F1023N 7W	OIL GAS	127 762	111 666	58 588	110 660	112 672	109 654	123 738	116 696	108 648	110 660	99 594	73 438	1296P 7776	3499	25414 1978
1979 DUNN 2F1023N 7W	OIL GAS	97 582	88 528	80 480	73 438	90 540	80 480	82 492	84 504	107 642	133 789	77 462	75 450	1063P 6378	4562	31792
DUNN 2F1023N 7W	OIL GAS	69 414	68 408	75 450	65 390	62 372	50 300	80 480	96 576	108 648	96 186	67 402	72 432	908P 5058	5470	36850

	MONTH	BBLS	GAS
HIGHEST PRODUCTION	12-78	205	1230
AVERAGE PRODUCTION	51 MONTHS	107	723

Exhibit 3

Bec, Inc Case # 7279

	Month	# Days Produced	Oil Produced	Gas Produced
Dunn #3	10-80	3	36	0
	11-80	12	121	944
	12-80	16	69	1833
	1-81	3	39	0
	2-81	0	0	0
	3-81	0	0	0
	4-81	0	0	0
	5-81	0	0	0
Total Dunn 3		34	265	2777
H #3	10-80	0	0	0
	11-80	4	72	720
	12-80	25	309	1000
	1-81	24	177	531
	2-81	28	181	543
	3-81	31	131	393
	4-81	30	121	363
	5-81	30	99	297
Total H #3		172	1090	3847
H #4	10-80	0	0	0
	11-80	7	120	1260
	12-80	0	0	0
	1-81	0	0	0
	2-81	0	0	0
	3-81	0	0	0
	4-81	10	91	351
	5-81	7	57	114
Total H #4		24	274	1725

Exhibit 4
Case 7279

CASE 7279: Application of BCO, Inc. for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Basin-Dakota and Lybrook-Gallup production in the wellbores of the following wells located in Township 23 North, Range 7 West: Dunn Well No. 3 located in Unit I of Section 3 and State H Wells Nos. 3 and 4, located in Units M and D, respectively, of Section 2.

CASE 7280: Application of Northwest Pipeline Corporation for a dual completion and downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Rosa Unit Well No. 77 located in Unit L of Section 33, Township 31 North, Range 5 West, to produce gas from the Mesaverde formation and commingled Gallup and Dakota production through separate strings of tubing.

CASE 7281: Application of Dugan Production Corporation for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of undesignated Gallup and Basin-Dakota production in the wellbore of its Windfall Well No. 10 located in Unit F of Section 31, Township 26 North, Range 11 West.

CASE 7282: Application of Jerome P. McHugh for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Wildhorse-Gallup and Basin-Dakota production in the wellbore of his Apache Well No. 3-E located in Unit H of Section 19, Township 26 North, Range 3 West.

CASE 7254: (Continued from May 20, 1981, Examiner Hearing)

Application of Mesa Petroleum Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Mesaverde formation underlying the W/2 of Section 15, Township 30 North, Range 11 West, 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 7270: (Continued from June 3, 1981, Examiner Hearing)

Application of Southland Royalty Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp and Pennsylvanian formations underlying the N/2 of Section 21, Township 19 South, Range 27 East, to be dedicated to its Pecos River Federal 21-A Com Well No. 1 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 7250: (Continued from June 3, 1981, Examiner Hearing)

Application of Southland Royalty Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the N/2 of Section 22, Township 18 South, Range 29 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.

Dockets Nos. 20-81 and 21-81 are tentatively set for July 2 and 15, 1981. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - JUNE 17, 1981

9 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM, STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

ALLOWABLE: (1) Consideration of the allowable production of gas for July, 1981, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.

(2) Consideration of the allowable production of gas for July, 1981, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

CASE 7273: Application of Blanks Energy Corporation for an unorthodox oil well location and possible directional drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 330 feet from the South line and 900 feet from the East line of Section 16, Township 18 South, Range 35 East, South Vacuum-Devonian Pool, the S/2 SE/4 of said Section 16 to be dedicated to the well. If commercial production is not obtained at said location, applicant proposes to come back up the hole and directionally drill in a westerly direction and bottom the well in the Devonian formation at a standard location in the SW/4 SE/4 of said Section 16.

CASE 7274: Application of Bass Enterprises Production Company for directional drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to directionally drill its James Ranch Unit Well No. 13 from an unorthodox surface location 660 feet from the South line and 1340 feet from the East line of Section 36, Township 22 South, Range 30 East, in such a manner as to bottom said well in the Morrow formation at a standard location at least 660 feet from the South line and 1980 feet from the West line of Section 31, Township 22 South, Range 31 East, the S/2 of said Section 31 to be dedicated to the well.

CASE 7275: Application of S. P. Yates for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp-Pennsylvanian formations underlying the N/2 of Section 21, Township 19 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 7263: (Continued from June 3, 1981, Examiner Hearing)

Application of Yates Petroleum Corporation for amendment of Order No. R-5527, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Division Order No. R-5527, which approved an unorthodox Morrow location, to permit the recompletion of its Blevins "IK" Well No. 1 in Unit D of Section 35, Township 17 South, Range 26 East, as an unorthodox gas well location in all Wolfcamp and Pennsylvanian formations.

CASE 7276: Application of Mobil Producing Texas & New Mexico Inc. for the extension of the vertical limits of the Langlie Mattix Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the contraction of the vertical limits of the Jalmat Pool and the upward extension of the vertical limits of the Langlie Mattix Pool to the following depths underlying the following 40-acre tracts in Township 25 South, Range 37 East: NE/4 SE/4 of Section 4: 3327 feet; NE/4 SW/4 of Section 3: 3215 feet; and NE/4 NW/4 of Section 15: 3206 feet.

CASE 7277: Application of Holly Energy, Inc. for an unorthodox oil well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Beeson Well No. 2 to be drilled 1100 feet from the North line and 2300 feet from the West line of Section 29, Township 17 South, Range 30 East, Grayburg-Jackson Pool, the NE/4 NW/4 of said Section 29 to be dedicated to the well.

CASE 7278: Application of Pollution Control, Inc. for an oil treating plant permit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority for the construction and operation of an oil treating plant for the purpose of treating and reclaiming sediment oil at a site in the E/2 NW/4 of Section 18, Township 20 South, Range 33 East.

KELLAHIN and KELLAHIN
Attorneys at Law
500 Don Gaspar Avenue
Post Office Box 1769
Santa Fe, New Mexico 87501

Jason Kellahin
W. Thomas Kellahin
Karen Aubrey

Telephone 982-4285
Area Code 505

May 21, 1981

Mr. Joe Ramey
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

RE BCO, Inc., Application for Approval of Downhole Commingling, Rio Arriba County, New Mexico

Case 7279

Dear Mr. Ramey:

Please schedule the enclosed Application for BCO, Inc., for June 17, 1981.

Sincerely,

Jason Kellahin
jm

Jason Kellahin

JK:jm
Enclosure
cc: Harry Bigbee

BEFORE THE

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY & MINERALS

IN THE MATTER OF THE APPLICATION OF BCO, INC., FOR APPROVAL OF DOWNHOLE COMMINGLING, RIO ARRIBA COUNTY, NEW MEXICO

Case 7279

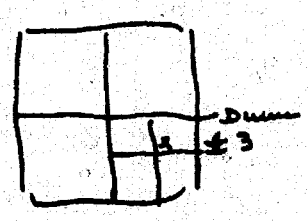
A P P L I C A T I O N

Comes now BCO, Inc., and applies to the Oil Conservation Division, New Mexico Energy and Minerals Department, for approval of downhole commingling in three wells, Rio Arriba County, New Mexico, and in support thereof would show the Division:

1. Applicant, by Division Order No. R-5310, entered in Case No. 5736, has previously received permission to commingle production from the Lybrook-Gallup, Basin-Dakota, Undesignated Greenhorn and Mancos stringer within the wellbore of the Dunn Well No. 2, located in Unit F, Section 10, Township 23 North, Range 7 West, N.M.P.M., Rio Arriba County, New Mexico.

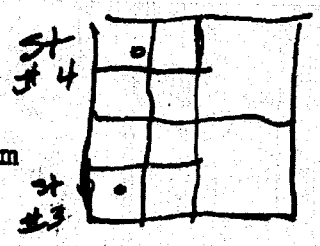
2. Applicant has drilled three wells through the Dakota in this area, as follows:

Dunn Well No. 3
1750 feet from the South line, and
790 feet from the East line
Section 3, Township 23 North, Range 7 West



State H Well No. 3
990 feet from the South and West lines
Section 2, Township 23 North, Range 7 West

State H Well No. 4
970 feet from the North line, 910 feet from the West line
Section 2, Township 23 North, Range 7 West



3. Applicant proposes to commingle production in the wellbore of the above wells from the Basin-Dakota and the Lybrook Gallup pools.

4. In the event the Dunn No. 3, or State H No. 4 do not produce in commercial quantities from the Dakota, applicant proposes to plug the Dakota and complete in the Gallup only.

5. Production from the above pools and zones is low marginal production only. The proposed commingling will result in the recovery of additional hydrocarbons from each of the two pools that would not otherwise be recovered. The reservoir characteristics of each of the subject pools are such that underground waste would not be caused by the proposed commingling, which has been established by the experience gained in the Dunn Well No. 2.

WHEREFORE, Applicant prays that the Oil Conservation Division set this application for hearing before the Division's duly appointed examiner, and that after notice and hearings provided by law the Division enter its order approving the commingling in the wellbore, as applied for.

Respectfully submitted,

BCO, INC.,

By Jason Kellahin

KELLAHIN & KELLAHIN
Jason Kellahin
P.O. Box 1769
Santa Fe, New Mexico 87501
(505) 982-4285

Attorneys for Applicant

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 7279

Order No. R-6719

APPLICATION OF BCO, Inc.

FOR DOWNHOLE COMMINGLING, RIO ARRIBA

COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 17, 19 81, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this ____ day of June, 19 81, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, BCO, Inc., is the owner and operator of the Dunn Well No. 3 located in Unit I of Section 3 and State H Wells Nos. 3 and 4, located in Units M and D, respectively, ~~located in Units~~ of Section 2, Township 23 North, Range 7 West, NMPM, Rio Arriba County, New Mexico.

(3) That the applicant seeks authority to commingle ~~Basin Dakota~~ Lybrook-Gallup and ~~Lybrook Gallup~~ Basin-Dakota production within the wellbore of the above-described wells.

(4) That from the Basin-Dakota zone, the subject wells are capable of low marginal production only.

(5) That from the Lybrook-Gallup zone, the subject wells are expected to be capable of low marginal production only.

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the wells are not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject wells are shut-in for 7 consecutive days.

~~(9) That in order to allocate the commingled production to each of the commingled zones in the subject wells, _____ percent of the commingled _____ production should be allocated to the Basin-Dakota zone, and _____ percent of the commingled _____ production to the Lybrook-Gallup zone.~~

~~(ALTERNATE)~~

(9) That in order to allocate the commingled production to each of the commingled zones in the wells, applicant should consult with the supervisor of the Aztec district office of the Division and determine an allocation formula for each of the production zones.

IT IS THEREFORE ORDERED:

(1) That the applicant, BCO, Inc., is hereby authorized to commingle ~~Basin Dakota~~ and Lybrook-Gallup and Basin-Dakota production within the wellbores of the Dunn Well No. 3 located in Unit I of Section 3 and State Wells Nos. 3 and 4, located in Units M and D, respectively, of Section 2, Township 23 North Range 7 West, NMPM, Rio Arriba County, New Mexico.

(2) That the applicant shall consult with the Supervisor of the Aztec district office of the Division and determine an allocation formula for the allocation of production to each zone in each of the subject wells.

(~~ALTERNATE~~)

~~(2) That percent of the commingled production shall be allocated to the Basin-Dakota zone and percent of the commingled production shall be allocated to the Lybrook-Gallup zone.~~

(3) That the operator of the subject wells shall immediately notify the Division's Aztec district office any time the wells have been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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