

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS  
GOVERNOR

October 15, 1987

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87504  
(505) 827-5800

Administrative Order No. DHC-672

BCO, Inc.  
P.O. Box 2523  
Santa Fe, NM 87501

Attention: Ernest L. Padilla

Re: State J Well No. 1  
Unit A, Section 16, Township 23 North,  
Range 7 West, NMPM, Rio Arriba County,  
New Mexico.  
Basin Dakota, Undesignated Greenhorn, and  
Lybrook Gallup Pools.

Gentlemen:

Reference is made to your recent application for an exception to Rule 303-A of the Division Rules and Regulations to permit the subject well to commingle the production from all three pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and any Division Order which authorized the dual completion and required separation of the zones is hereby placed in abeyance.

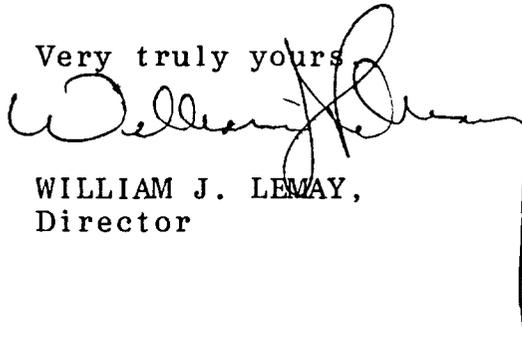
In accordance with the provisions of Rule 303.C.4., total commingled oil production from the subject well shall not exceed 40 barrels per day, and total water production from the well shall not exceed 80 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by Division Rules and Regulations or by the gas allowable for each respective prorated pool as printed in the Division's San Juan Basin Gas Proration Schedule.

In accordance with the provisions of Rule 303-C, the supervisor of the Aztec District Office of the Oil Conservation Division

shall determine the proper allocation of production from the subject well following its completion.

Pursuant to Rule 303-C 5, the commingled authority granted by this order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'William J. Lemay', is written over the typed name. A long vertical line extends downwards from the end of the signature.

WILLIAM J. LEMAY,  
Director

cc: Gas Co. of N.M.  
OCD District Office - Aztec

AREA CODE 505  
983-1228

**BCO, Inc.**  
OIL WELL OPERATOR  
135 GRANT  
SANTA FE, N. M. 87501

December 4, 1987

Mr. Frank Chavez  
New Mexico Oil Conservation Division  
1000 Rio Brazos Road  
Aztec, N.M. 87410

RE: State J-1 Unit A Sec 16 T23N R7W

Dear Mr. Chavez:

Under Administrative Order DHC-672 we are authorized to commingle production from the Graneros and Lybrook Gallup pools for the above well.

We have tested two formations and recommend that the oil production be allocated with one-third to the Graneros and two-thirds to the Gallup. Our tests indicate that the gas-oil ratio for both formations is the same and we will allocate gas on that basis. This well has a much higher gas-oil ratio than other wells we have drilled in Sections 2, 3, 9 and 10, T23N R7W. The gas-oil ratio at the time we filed initial potential was 31000-1. We will continue to test this well and will report any information that would result in a change in the allocation method.

Very truly yours,

*Elizabeth B. Keeshan*

Elizabeth B. Keeshan  
Vice President

EBK:jw



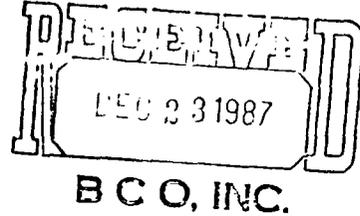
STATE OF NEW MEXICO  
**ENERGY AND MINERALS DEPARTMENT**  
 OIL CONSERVATION DIVISION  
 AZTEC DISTRICT OFFICE

GARREY CARRUTHERS  
 GOVERNOR

1000 RIO BRAZOS ROAD  
 AZTEC, NEW MEXICO 87410  
 (505) 334-6178

December 21, 1987

Ms. Elizabeth Keeshan  
 BCO, Inc.  
 135 Grant  
 Santa Fe, NM 87501



Re: State 5 #1 A-16-23N-7W  
 Commingled Allocation

Dear Ms. Keeshan:

Your recommended allocation of commingled production from the referenced well is approved as follows:

	<u>Gas</u>	<u>Oil</u>
Gallup	33%	33%
Graneros	67%	67%

Sincerely,

Frank T. Chavez  
 District Supervisor

FTC/dj

xc: Well File  
 Santa Fe

12/23 Called Frank. He said to change State 5#1 to State J#1. This is a typographical error.

AREA CODE 505  
983-1228

**BCO, Inc.**  
OIL WELL OPERATOR  
135 GRANT  
SANTA FE, N. M. 87501

May 3, 1988

Oil Conservation Division  
1000 Rio Brazos Road  
Aztec, N.M. 87401

ATTENTION: Frank Chavez

RE: State J-1  
Sec 16 T23N R7W

Dear Frank:

I appreciated the time and assistance you gave me on the telephone when I called to discuss the high gas ratio and high gas production of the State J-1.

The production of the well since it was completed in October is summarized below.

167

	<u>Gallup</u>		<u>MCF</u>	<u>Days</u>
	<u>Oil (Bbls)</u>	<u>Gas (MCF)</u>	<u>Overproduced</u>	<u>Overproduced</u>
March 1988	188	15040	8406	39
February 1988	177	11291	5085	24
January 1988	189	11666	5032	24
December 1987	208	8599	1965	9
November 1987	243	9875	3455	16
October 1987	191	4700	1062	5
- (17 days) -	-	-	-	5
				117 or 25038 MCF

	<u>Graneros</u>		<u>Under MCF</u>	<u>Under Days</u>
	<u>Oil (Bbls)</u>	<u>Gas (MCF)</u>	<u>Overproduced</u>	<u>Overproduced</u>
March 1988	94	7520	1284	5
February 1988	89	5678	2558	9
January 1988	95	5863	2941	10
December 1987	104	4304	4500	16
November 1987	122	4961	3559	13
October 1987	94	2311	2517	9
				62 or 17608 MCF

Frank - our lawyer discovered this typo!

~~8000~~  
7500

Liz

by  
Ted  
5/10/88

Mr. Frank Chavez  
May 3, 1988  
Page Two

My father continues to believe that the oil and gas ratio between the Gallup and Graneros are very close to the same and that underproduction reported for Graneros has resulted in corresponding overproduction in Gallup. This, of course, would take substantial testing to establish, as we discussed.

We have choked the well back from 22/64 to 18/64. We can detect only a minimal reduction in the amount of gas we are selling.

After evaluating the magnitude of the overproduction of the Gallup and the minimal result we obtained by choking the well back, we have decided to follow your alternative suggestion of requesting a hearing to be allowed to dedicate an additional 40 acres to the well.

We will continue to reduce production from the well. We will also promptly request a hearing to be allowed to dedicate an additional 40 acres to the well.

Very truly yours,

*Elizabeth B. Keeshan*

Elizabeth B. Keeshan  
Vice President

EBK:jr-j  
cc: Jerry Wertheim  
Jones, Snead, Wertheim,  
Rodriguez & Wentworth  
P.O. Box 2228  
Santa Fe, N.M. 87504-2228

Case No. 9396  
Cont. to 6/22/88

May 26, 1988

Mr. Michael Stogner  
Oil Conservation Division  
State Land Office Building  
Santa Fe, New Mexico 87501

RE: Application of BCO, Inc., State J-1 Well  
Sec. 16, T23N, R7W, Rio Arriba County;

Dear Mr. Stogner:

This will confirm our previous conversation wherein I requested that the application of BCO, Inc., be continued from the June 8, 1988 hearing scheduled in order to allow BCO, Inc., to complete ongoing testing on the above referenced well.

We expect this testing to be of substantial assistance in this matter. Your consideration of this request will be greatly appreciated.

Very truly yours,

THE JONES FIRM

By

ARTURO L. JARAMILLO

ALJ:yfg

cc: Charles Roybal, General Counsel

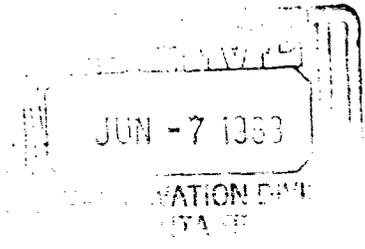
O. RUSSELL JONES (1912-1978)

JAMES E. SNEAD	MARTHA VAZQUEZ
JERRY WERTHEIM	NANCY R. LONG
M. J. RODRIGUEZ	WILLIAM D. WINTER
JOHN WENTWORTH	ELIZABETH WOLDMAN
STEVEN L. TUCKER	
ARTURO L. JARAMILLO	
PETER V. CULBERT	
JAMES G. WHITLEY III	
FRANCIS J. MATHEW	ATTORNEYS AT LAW

JONES, SNEAD, WERTHEIM, RODRIGUEZ & WENTWORTH, PA

JONES, SNEAD, WERTHEIM, RODRIGUEZ & WENTWORTH, PA

THE JONES FIRM



June 6, 1988

*AMS*

Mr. Michael Stogner  
Oil Conservation Division  
State Land Office Building  
Santa Fe, New Mexico 87501

RE: Application of BCO, Inc., State J-1 Well  
Sec. 16, T23N, R7W, Rio Arriba County;

Dear Mr. Stogner:

This will confirm our conversation today that the application of BCO, Inc., in the above referenced matter will be continued from the June 8, 1988 scheduled hearing in order to allow BCO, Inc., to complete testing in the above-referenced well.

I appreciate your cooperation in this regard.

Very truly yours,

THE JONES FIRM

BY *Arturo L. Jaramillo*  
ARTURO L. JARAMILLO

ALJ:yfg

cc: BCO, Inc.

O. RUSSELL JONES (1912-1978)

- JAMES E. SNEAD
- JERRY WERTHEIM
- M.J. RODRIGUEZ
- JOHN WENTWORTH
- STEVEN L. TUCKER
- ARTURO L. JARAMILLO
- PETER V. CULBERT
- JAMES G. WHITLEY III
- FRANCIS J. MATHEW
- MARTHA VAZQUEZ
- NANCY R. LONG
- WILLIAM D. WINTER
- ELIZABETH WOLDMAN

ATTORNEYS AT LAW

May 13, 1988

RECEIVED

MAY 15 1988

HAND-DELIVERED

OIL CONSERVATION DIVISION

*Case 9396*

Mr. William J. Lemay  
Director  
New Mexico Oil Conservation Division  
State Land Office Building  
Santa Fe, New Mexico 87501

RE: Application of BCO, Inc., for Order Dedicating Additional Acreage and Forming Non-Standard Spacing and Proration Unit for State J-1 Well;

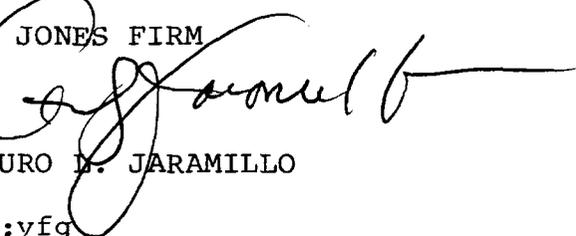
Dear Mr. Lemay:

Enclosed in triplicate please find the Application of BCO, Inc. for an Order Dedicating Additional Acreage and Forming a Non-Standard Spacing and Proration Unit for the State J-1 well, located in Sec. 16, T23N, R7W, NMPM, Rio Arriba County, New Mexico. I would ask on behalf of the applicant that notice of hearing be given pursuant to Rules 1204 through 1206 of the Rules and Regulations of the Division and that the matter be set down for hearing in due course in accordance with those Rules and Regulations.

Pursuant to Rule 1207, as amended, I will see to the provision of additional notice to offsetting operators as required by that rule.

Should you need any additional information, please do not hesitate to call us.

Very truly yours,

THE JONES FIRM  
BY   
ARTURO D. JARAMILLO  
ALJ:yfg

Enclosures As Stated

cc: Mr. Frank Chavez, OCD  
Aztec, New Mexico (w/enclosures)  
Harry L. Bigbee, Esq., (w/enclosures)

O. RUSSELL JONES (1912-1978)

JAMES E. SNEAD  
JERRY WERTHEIM  
M. J. RODRIGUEZ  
JOHN WENTWORTH  
STEVEN L. TUCKER  
ARTURO L. JARAMILLO  
PETER V. CULBERT  
JAMES G. WHITLEY III  
FRANCIS J. MATHEW  
MARTHA VAZQUEZ  
NANCY R. LONG  
WILLIAM D. WINTER  
ELIZABETH WOLDMAN  
ATTORNEYS AT LAW

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



July 8, 1988

GARREY CARRUTHERS  
GOVERNOR

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87501  
(505) 827-5800

Mr. Arturo Jaramillo  
Jones, Snead, Wertheim,  
Rodriguez & Wentworth  
Attorneys at Law  
P. O. Box 2228  
Santa Fe, New Mexico

Re: CASE NO. 9396  
ORDER NO. R-8694

Applicant:  
BCO, Inc.

Dear Sir:

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

Sincerely,

*Florene Davidson*

FLORENE DAVIDSON  
OC Staff Specialist

Copy of order also sent to:

Hobbs OCD x  
Artesia OCD x  
Aztec OCD x

Other \_\_\_\_\_

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

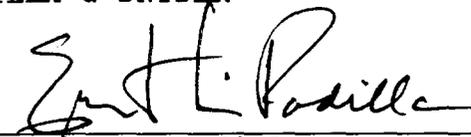
IN THE MATTER OF THE APPLICATION OF )  
BCO, INC. FOR AN ORDER DEDICATING )  
ADDITIONAL ACREAGE AND FORMING A )  
NON-STANDARD SPACING AND PRORATION )  
UNIT FOR STATE J NO. 1 WELL, )  
SECTION 16, TOWNSHIP 23 NORTH, )  
RANGE 7 WEST, NMPM, RIO ARRIBA )  
COUNTY, NEW MEXICO )  
\_\_\_\_\_ )

CASE NO. 9396

ENTRY OF APPEARANCE

COMES NOW Padilla & Snyder and enters its appearance on behalf of BCO, Inc. in the above-numbered and styled cause this 29th day of August, 1988.

PADILLA & SNYDER

By: 

Ernest L. Padilla  
P. O. Box 2523  
Santa Fe, New Mexico 87504-2523  
(505) 988-7577

PADILLA & SNYDER

ATTORNEYS AT LAW

200 W. MARCY, SUITE 212

P.O. BOX 2523

SANTA FE, NEW MEXICO 87504-2523

(505) 988-7577

ERNEST L. PADILLA  
MARY JO SNYDER

FAX 988-7592  
AREA CODE 505

August 29, 1988

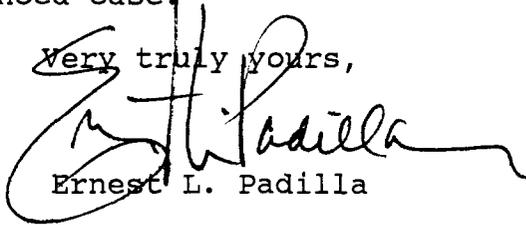
William LeMay, Chairman  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87503

Re: Case No. 9396

Dear Mr. LeMay:

Enclosed please find for filing our Entry of Appearance  
in the above-referenced case.

Very truly yours,



Ernest L. Padilla

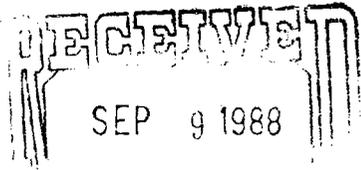
ELP:crk

Enclosure as stated

cc: BCO, Inc. (W/Encl.)

Arthur L. Jaramillo (W/Encl.)

Frank Chavez (W/Encl.)  
Aztec OCD Office



ERNEST L. PADILLA  
MARY JO SNYDER

PADILLA & SNYDER  
ATTORNEYS AT LAW  
200 W. MARCY, SUITE 212  
P.O. BOX 2523  
SANTA FE, NEW MEXICO 87504-2523  

---

  
(505) 988-7577

FAX 988-7592  
AREA CODE 505

September 7, 1988

Mr. William J. LeMay, Chairman  
Oil Conservation Commission  
Post Office Box 2088  
Santa Fe, New Mexico 87503

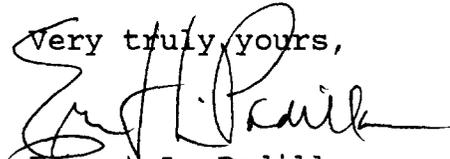
Re: Case No. 9396  
Application of BCO, Inc.

Dear Mr. LeMay:

This letter is a request for continuation of the above-referenced case from September 15, 1988, to the Commission hearing scheduled for October 20, 1988.

Our request is based upon our need to evaluate alternatives to the case as docketed. In addition, we have recently received hydro-carbon analysis reports which we need to have evaluated by experts in order to properly determine drainage and spacing for the well involved in the case.

Should you have any questions, please let me know.

Very truly yours,  
  
Ernest L. Padilla

ELP:njp

cc: BCO, Inc.  
Arturo Jaramillo, Esquire  
Mr. Frank Chavez, Aztec  
District Supervisor



ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS  
GOVERNOR

October 15, 1987

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87504  
(505) 827-5800

Administrative Order No. DHC-672

BCO, Inc.  
P.O. Box 2523  
Santa Fe, NM 87501

Attention: Ernest L. Padilla

Re: State J Well No. 1  
Unit A, Section 16, Township 23 North,  
Range 7 West, NMPM, Rio Arriba County,  
New Mexico.  
Basin Dakota, Undesignated Greenhorn, and  
Lybrook Gallup Pools.

Gentlemen:

Reference is made to your recent application for an exception to Rule 303-A of the Division Rules and Regulations to permit the subject well to commingle the production from all three pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and any Division Order which authorized the dual completion and required separation of the zones is hereby placed in abeyance.

In accordance with the provisions of Rule 303.C.4., total commingled oil production from the subject well shall not exceed 40 barrels per day, and total water production from the well shall not exceed 80 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by Division Rules and Regulations or by the gas allowable for each respective prorated pool as printed in the Division's San Juan Basin Gas Proration Schedule.

In accordance with the provisions of Rule 303-C, the supervisor of the Aztec District Office of the Oil Conservation Division



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MR. CATANACH: Call next Case  
Number 9396.

MR. STOVALL: Application of  
BCO, Inc. for a non-standard Oil proration unit, Rio Arriba  
County, New Mexico.

The applicant has requested  
that Case No. 9397 be continued to 22 June 1988.

MR. CATANACH: Case No. 9396  
will be continued to the Examiner Hearing scheduled for  
June 22nd, 1988.

(Hearing concluded.)

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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 (Commission) 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. 9396,  
heard by me on June 8 1988.  
David R. Cebanah, Examiner  
Oil Conservation Division

FORM NO. 1 (REV. 1-68) U.S. GOVERNMENT PRINTING OFFICE: 1968 O - 348-100

1 STATE OF NEW MEXICO  
2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
3 OIL CONSERVATION COMMISSION  
4 STATE LAND OFFICE BUILDING  
5 SANTA FE, NEW MEXICO

6 22 June 1988

7 EXAMINER HEARING

8 IN THE MATTER OF:

9 Application of BCO, Inc. for a non- CASE  
10 standard oil proration unit, Rio 9396  
11 Arriba County, New Mexico.

12  
13 BEFORE: Michael E. Stogner, Examiner  
14  
15

16 A P P E A R A N C E S

17 For the Division: Robert G. Stovall  
18 Attorney at Law  
19 Legal Counsel to the Division  
20 State Land Office Bldg.  
Santa Fe, New Mexico

21 For the Applicant: Arturo L. Jaramillo  
22 Attorney at Law  
23 JONES LAW FIRM  
24 P. O. Box 2228  
25 Santa Fe, New Mexico 87504

## I N D E X

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9	BARBARA L. WILLIAMS	
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1 MR. STOGNER: Call next Case  
2 Number 9396, which is the application of BCO, Incorporated,  
3 for a nonstandard oil proration unit, Rio Arriba County,  
4 New Mexico.

5 At this time I'll call for  
6 appearances.

7 MR. JARAMILLO: Mr. Examiner,  
8 Arturo L. Jaramillo, with the Jones Law Firm, representing  
9 BCO, Inc., and I have two witnesses to call.

10 MR. STOGNER: Are there any  
11 other appearances in this matter?

12 Will the witnesses please  
13 stand at this time?

14

15 (Witnesses sworn.)

16

17 Mr. Jaramillo.

18 MR. JARAMILLO: Mr. Examiner,  
19 because this case presents somewhat of an unusual fact  
20 situation, I wonder if I might make a brief opening remark  
21 to perhaps lay an appropriate context for the testimony  
22 we're going to present?

23 MR. STOGNER: That would be  
24 fine.

25 MR. JARAMILLO: Mr. Examiner,

1 the application of BCO, Inc., in this case seeks the  
2 approval and formation of an 80-acre nonstandard spacing  
3 and proration unit for the State "J" 1 Well. That well is  
4 located in the northeast quarter northeast quarter of  
5 Section 16, Township 23 North, Range 7 West, Rio Arriba  
6 County.

7 The application seeks to form  
8 the nonstandard spacing and proration unit by the addition  
9 of an additional 40 acres to the present 40-acre proration  
10 unit. This would result in a laydown or horizontal 80-acre  
11 spacing and proration unit in the north half of the north-  
12 east quarter of Section 16.

13 This modification is also  
14 asked to be made retroactive to the date of first produc-  
15 tion, October, 1987.

16 The location of the State "J"  
17 No. 1 Well is on an extension on the southwest edge of the  
18 Lybrook-Gallup Field.

19 The evidence in this case will  
20 show that this particular relief is sought in response to  
21 an overproduction of allowable problem that has been pre-  
22 sented by the State "J" 1 Well, which the evidence will  
23 show has drainage and production characteristics that are  
24 distinct from other Lybrook-Gallup wells in this area.

25 Unlike the typical trend of

1 the Lybrook-Gallup wells, the State "J" 1 has a low ini-  
2 tial oil production with a very high gas/oil ratio and this  
3 ratio remains extremely high after more than eight months  
4 of -- of production and that has caused the -- the produc-  
5 tion from the well to be out of line with its allowable.

6                   When it became apparent to BCO  
7 that the State "J" 1 Well production characteristics were  
8 not like their other Lybrook-Gallup wells, the overproduc-  
9 tion and allowable matter was reported to the Aztec Dis-  
10 trict Office and the figures reported and various efforts  
11 at that point were made to bring the production back into  
12 line.

13                   The well at that point was  
14 choked back from a 22/64th to 18/64th with only little or  
15 no appreciable affect on the production from the Gallup  
16 formation.

17                   Further testing was done;  
18 analysis comparison with other Lybrook-Gallup wells and  
19 consultation with the District Office, all of which led BCO  
20 to believe that the State "J" 1 Well was producing from  
21 more than 40 acres and that the allowable which was predi-  
22 cated on 40 acres was therefore an inappropriate allowable  
23 for this particular well.

24                   The application filed in this  
25 case seeks to remedy that situation by setting this well on

1 an 80-acre nonstandard proration unit that would be di-  
2 rectly related to its actual production characteristics.

3 We will accordingly present  
4 evidence on the unique characteristics of this well versus  
5 other Lybrook-Gallup wells in the area.

6 We'll present an engineering  
7 evaluation which has been prepared to show the effective  
8 drainage of this well. That evaluation shows an effective  
9 drainage area in a range from 50 to 116 acres with a pro-  
10 bable drainage area of approximately 70 acres, and the ap-  
11 plication seeks a spacing and proration unit commensurate  
12 with that analysis.

13 With respect to the control-  
14 ling factors of correlative rights and the prevention of  
15 waste, the evidence will show that the only other offset  
16 operator who could conceivably be impacted by this is Union  
17 Texas, now Unicon. Unicon has submitted a letter  
18 indicating they have no objection to the relief that's  
19 sought in this application.

20 The other surrounding area is  
21 all covered by a single lease operated by BCO, so it is our  
22 belief there will be no adverse impact on any correlative  
23 rights.

24 As to the prevention of waste,  
25 because we believe the evidence indicates that this well is

1 capable and in fact is probably draining in excess of the  
2 40 acres, the relief sought would put this on a proper  
3 proration and allowable and would prevent the necessity of  
4 having to drill another well to cover that same area.

5 We believe that the prevention  
6 of waste is characterized by not having to drill an unnec-  
7 essary well and by efficient operation of this well, which  
8 we believe covers the -- the majority, if not all, of the  
9 area that we seek to have added to this spacing and pro-  
10 ration unit.

11 The evidence will show that  
12 BCO, as the operator of the 40 acres we seek to have added,  
13 would have a right to drill that acreage in any event. If  
14 that well were drilled, it would not produce any more gas  
15 than is presently effectively being produced by the State  
16 "J" 1.

17 So with that introduction,  
18 Mr. Examiner, we would first call Elizabeth Keeshan.

19 MR. STOGNER: Thank you, Mr.  
20 Jaramillo.

21  
22 ELIZABETH B. KEESHAN,  
23 being called as a witness and being duly sworn upon her  
24 oath, testified as follows, to-wit:  
25

## DIRECT EXAMINATION

1  
2 BY MR. JARAMILLO:

3 Q Would you state your name and business  
4 address, please?

5 A I'm Elizabeth B. Keeshan and I'm Vice  
6 President of BCO, which is located at 135 Grant, Santa Fe,  
7 New Mexico.

8 Q And what is your position or responsi-  
9 bility with BCO, Ms. Keeshan?

10 A I am the Vice President and as Vice  
11 President I have responsibility for seeing that the ac-  
12 counting, the reporting, and compliance reports are pre-  
13 pared and submitted, and anything else that happens.

14 My background is as a CPA and public  
15 accounting and since I have been at BCO my responsibilities  
16 have expanded and to add me in meeting those responsibili-  
17 ties I have attended numerous conferences with Minerals  
18 Management Service, the BLM, the Oil Conservation Division.

19 I have also attended schools that Doug  
20 Hilchy put on in logging and that Halliburton puts on in  
21 modern completion practices.

22 I am the person who processes the paper  
23 of BCO.

24 Q Ms. Keeshan, are you familiar with the  
25 application of BCO, Inc., in this matter?

1           A           Yes, I am.

2           Q           May I have you first identify what I've  
3 placed before you as BCO Exhibit No. 1 and can you identi-  
4 fy this, please?

5           A           BCO Exhibit Number One is a map of nine  
6 sections and the State "J" 1 is highlighted in Section 16.  
7 The property leased by Harry L. Bigbee and operated by BCO,  
8 he is the sole owner of BCO, is colored in blue.

9                       The Unicon acreage is highlighted in  
10 yellow.

11          Q           All right, with respect to the Unicon  
12 acreage, was a copy of the application sent by certified  
13 mail to Unicon and was their consent to the application  
14 sought?

15          A           Yes. A copy of the application was sent  
16 by certified mail on May 13th and on June 7th we received a  
17 letter from Unicon -- your firm received a letter saying  
18 that there was no objection.

19                       Would you like me to read this letter,  
20 Mr. Jaramillo?

21          Q           Yeah, would you please identify BCO  
22 Exhibit Number Two, please?

23          A           It's addressed to the Jones Firm, 215  
24 Lincoln Avenue. Attention Arturo Jaramillo. RE: Applica-  
25 tion of BCO for nonstandard spacing and proration unit for

1 the State "J" 1 Well located in the north half of the  
2 northeast quarter of Section 16, 23 North, 7 West, Rio  
3 Arriba County.

4 Our area, Escrito (sic); our Lease, New  
5 Mexico 2140.

6 Dear Mr. Jaramillo: In response to your  
7 letter dated May 13th, 1988, concerning the captioned ap-  
8 plication, Unicon Producing Company has no objection to  
9 BCO's nonstandard spacing and proration unit for the cap-  
10 tioned well.

11 Q All right. Apart from Unicon would there  
12 be any other direct offset operators who would otherwise be  
13 impacted by BCO's application?

14 A BCO has operating right on all the other  
15 adjacet acreage.

16 Q All right.

17 A For leases held by Harry L. Bigbee.

18 Q Ms. Keeshan, can you describe for the  
19 Examiner the location of the State "J" 1 Well, vis-a-vis  
20 the boundaries of the Lybrook-Gallup Pool, please?

21 A The State "J" 1 Well is located at the  
22 southwest end of -- extension of the Lybrook-Gallup.

23 Q All right. Can you explain for the  
24 Examiner the purpose of the application of BCO in this  
25 matter?

1           A           When we first began operating this well  
2 we realized that it had a higher gas/oil ratio than we'd  
3 expected and we expected that to decline very rapidly, as  
4 is often the case with both initial oil and gas production  
5 in this area.

6                       After six months of operation, when we  
7 realized that this had not happened and that we were ex-  
8 ceeding, and exceeding at a higher rate our allowabl, I  
9 contacted Frank Chavez and told him of the problem and then  
10 I wrote him of the problem.

11           Q           All right. Ms. Keeshan, can you  
12 identify and describe, please, BCO Exhibits Number Three,  
13 Number Four, and Number Six, please?

14           A           Number Three is an exhibit of -- of "J"  
15 1 production since we have completed the well, from October  
16 through May, October of '87 through May of '88, and it has  
17 the oil barrels and the MCF of gas. In the MCF we are  
18 overproduced given the gas/oil ratio limiting allowable,  
19 and the days of overproduction.

20           Q           All right, Exhibit --

21           A           Exhibit --

22           Q           -- Four?

23           A           Exhibit Four is the initial 8-month  
24 period of production for two wells located in Section 9,  
25 and they are highlighted on -- they are on the map as

1 initially submitted, and it shows the initial 8-months  
2 production for each of those wells, both oil and gas, and  
3 it shows a higher initial and then declining oil produc-  
4 tion and a lower gas production, which also declined, and  
5 the Dunn 4 and Dunn 7 Wells are more what we expected when  
6 we drilled the J-1 in the Lybrook-Gallup.

7 Q All right.

8 A And Exhibit Number Six is a letter I  
9 wrote to Frank Chavez following our conversation to present  
10 to him in tabular form the information I had on our over-  
11 production at that time.

12 Q All right. Ms. Keeshan, can you identi-  
13 fy what we have marked as BCO Exhibit Five, please? It's a  
14 2-page exhibit.

15 A It's a 2-page exhibit and this is the  
16 way BCO graphed its initial -- each of its initial projects  
17 for oil and gas to see what our decline curve looked like.  
18 And last year we drilled three Lybrook-Gallup Wells, the  
19 State "H" 5, State "H" 6, and State "J" 1. These were also  
20 both completed in the -- all completed in the Graneros or  
21 the Dakota A, and the -- what we would anticipate is the  
22 high initial peak of the oil production and then the rapid  
23 decline which we had on the State "H" 5 and 6, and on the  
24 "J" 1 we had very much smaller oil production and we've  
25 have really a limited decline on a percentage basis.

1                   On the gas sheet we had a peak on the  
2 "H" 5 and 6 and a decline in gas and our "J" 1 gas produc-  
3 tion, the fuchsia colored line, has peaked up very high and  
4 it just in the last two months begun to show a slight  
5 decline.

6                   Q           Ms. Keeshan, what conclusions has BCO  
7 drawn from the information that is contained on Exhibits  
8 Three, Four and Five as you've described them, with res-  
9 pect to the "J" -- State "J" 1 Well?

10                  A           Well, when I called Frank Chavez and  
11 talked to him about it, what I talked about was what we  
12 felt were the unique aspects of this well. From the  
13 beginning, from our initial reports to the Oil Conserva-  
14 tion, that this -- the GOR with this well was higher than  
15 we would anticipate on a Lybrook-Gallup well in this area.  
16 The oil production was lower. Most unusual to me, I've  
17 worked for BCO for five years and this is the first flowing  
18 well I have seen. We run a piston in it once a day to keep  
19 the paraffin cut, but otherwise it is a flowing well, and  
20 that was the most unusual aspect of its operation from my  
21 limited experience.

22                  Q           What steps has BCO taken in response to  
23 the overproductin of the allowable problem in an effort to  
24 bring that in line with the allowable set for the Lybrook-  
25 Gallup Pool?

1           A           We attempted to choke the well back and  
2 we had operated the well on a 22/64ths choke, and we choked  
3 it back to 18/64ths, and that appeared to us to be about as  
4 low as we could operate it without having the well freeze  
5 off.

6                       We noticed a very limited effect on gas  
7 production and at -- when we attempted to choke it back and  
8 we did not feel we had been successful, then we considered  
9 the various alternatives of coming to the Commission for a  
10 nonstandard proratio unit.

11           Q           All right.

12           A           Since then we have tested the well --

13           Q           Let me ask you about that.

14           A           Okay.

15           Q           What form of testing was done and with  
16 what result?

17           A           Well, at the time we began the test and  
18 filed the petition, we were producing the well from both  
19 the Lybrook-Gallup and the Graneros, and we felt that at  
20 the time we'd filed our application and had filed our re-  
21 ports with the Aztec Office, that we had established a good  
22 allocation between the Lybrook-Gallup and the Graneros of  
23 approximately 66 percent oil from the Gallup and 33 per-  
24 cent from the Graneros. We believe that both formations  
25 had the same GOR.

1                   In order to test the well we came to the  
2 -- we put a packer in the well and with a sliding sleeve,  
3 and we isolated the Gallup from the Graneros and we shut  
4 the Gallup in, and then we -- and the Graneros, shut the  
5 well in, and then after 24 hours we tested the Gallup by  
6 itself and the results of this 24-hour test were very much  
7 what we expected on this -- on the allocation. We'd been  
8 getting about 9 barrels of oil a day total and a little over  
9 6 came from that 24-hour test on the Gallup and we had  
10 about 380 MCF of gas, we estimate. We have not had that  
11 verified by the (unclear) and when we went to test -- iso-  
12 late the Gallup again and test the Graneros, we had a  
13 leaking packer and we discovered as we went down, and we  
14 found we could not move the packer, and we talked to Frank  
15 Chavez at this time after we had tried for a couple of days  
16 to get the packer out of the hole, and for the time being  
17 we have temporarily abandoned the Graneros.

18                   Q           And has that temporary abandonment been  
19 with the consent of the District Office?

20                   A           Yes, it was. He consented before we set  
21 a bridge plug and that is what we have done to temporarily  
22 abandon the Graneros.

23                               After we abandoned it we set a 7-day  
24 bottom hole pressure test bomb to test the Gallup and we  
25 got that bomb out of the hole last Friday and we have the

1 results, which I am not qualified to discuss, and right now  
2 we are attempting to get the well operating efficiently  
3 again and we are having some trouble getting it to operate  
4 efficiently and effectively. We have found now if we  
5 operate it over 20/64ths we are getting what appears to be  
6 formation fines. These were brought out with a swab cup,  
7 and if we choke it back to 13/64ths where we're not making  
8 sand, we freeze off the well.

9 So we are attempting at this time, the  
10 bomb came out of the hole last Friday, we are still attempt-  
11 ing at this time to get the well operating effectively  
12 again.

13 So we have not been able to determine  
14 what the Gallup is doing by itself.

15 Q Ms. Keeshan, can you describe the con-  
16 cerns of BCO with respect to long periods of shut-in if  
17 that were a necessary step in order to bring this well into  
18 line with its allowable?

19 A We are concerned about it, about when it  
20 came back, whether it would operate effectively and we --  
21 the economic cost of bringing the well back each time and  
22 the cost in our personnel is wasteful and appears to be  
23 high, and we are -- we have found in the 8 months of  
24 operating it, that operating it regularly, once we get it  
25 going, seems to be the most effective and efficient

1 approach, and we are concerned about shutting it in and  
2 what permanent affect that might have on the well and its  
3 ultimate total recovery.

4 Q In light of the problems and the tempo-  
5 rary abandonment of the Graneros, is BCO seeking to amend  
6 its application in this case to apply solely to the Gallup  
7 formation?

8 A Yes, we are, and -- and from the start  
9 the Graneros did not overproduce. The Graneros on the  
10 alloction as approved by the District Office was not  
11 overproduced on gas.

12 And we -- so we are not seeking an  
13 additioal 40 acres for the Graneros or Dakota A, as it is  
14 also called.

15 MR. JARAMILLO: Mr. Examiner,  
16 on the basis of the very recent events with the damage to  
17 the Graneros, the loss of the Graneros and temporary aban-  
18 donment of that, I would for the record seek to amend the  
19 application filed in this case to omit reference or re-  
20 uest to have the 80-acre nonstandard proration unit apply  
21 to the Graneros; the application should read to apply  
22 solely to the Gallup formation given the current state of  
23 events with respect to this well.

24 MR. STOGNER: Thank you,  
25 Jaramillo -- Mr. Jaramillo. It will not be necessary to

1 readvertise this for those particular reasons.

2 MR. JARAMILLO: All right.  
3 That's all I have for Ms. Keeshan, Mr. Examiner.

4  
5 CROSS EXAMINATION

6 BY MR. STOGNER:

7 Q Ms. Keeshan, you've been working for --

8 A For about four and a half years.

9 Q May I ask you what your experience  
10 before that was?

11 A I was in public accounting. I was with  
12 Downey and Sisneros, a public accounting firm here in Santa  
13 Fe for about three years before that.

14 Q Your responsibilities with BCO is to  
15 report to the Oil Conservation Division its production and  
16 --

17 A Yes.

18 Q -- and make the proper files.

19 A Yes, I also am responsible for seeing  
20 that royalties, taxes, and all other reporting is handled.

21 Q Now this well first came -- started pro-  
22 ducing October 13th, 1987, is that correct?

23 A Yes, sir.

24 Q From both zones, the Gallup and the  
25 Graneros?

1 A Yes.

2 Q In looking at your Exhibit Number Three,  
3 this shows the production.

4 A Yes.

5 Q Does this omit the Graneros?

6 A It does. This is solely Lybrook-Gallup.

7 Q What is the maximum GOR for the Lybrook-  
8 Gallup Pool, do you know, Ms. Keeshan?

9 A It is 2000-to-1 limiting GOR and the top  
10 oil allowable is 107 barrels, so it's 214 MCF per day.

11 Q How many Lybrook-Gallup-Dakota -- I'm  
12 sorry, Lybrook-Gallup oil wells does BCO operate?

13 A BCO operates about 11 plus 6, 17, about  
14 18, 18 to 20. I don't have a count here.

15 Q Approximately 18 to 20 Lybrook-Gallup.

16 A Right, and they have, with only one  
17 exception, with one exception we have drilled all of them.

18 Q Is this the first well that BCO has had  
19 this experience with the --

20 A Yes, it is.

21 Q -- allowable going over?

22 A Yes.

23 MR. STOGNER: Mr. Jaramillo.

24 MR. JARAMILLO: Yes.

25 MR. STOGNER: What will your

1 next witness be testifying on?

2 MR. JARAMILLO: She will be  
3 testifying to the drainage analysis. She's a petroleum  
4 engineer.

5 Q On Exhibit Number Five, Ms. Keeshan, you  
6 show the State "H" No. 5 Well, the production on it. Where  
7 is this well located?

8 A It is in Section 2 of 23, 7.

9 Q And how about the State --

10 A "H" 6?

11 Q Yes.

12 A It is also in Section 2 and that is a  
13 State leased owned by Harry Bigbee and operated by BCO.

14 Q And that's 23, 7, right?

15 A Yes, sir.

16 Q And the "J" 1, that is your subject well  
17 for today.

18 A That is our subject well. The other  
19 three wells that are included in the '87 project are not in  
20 the Lybrook-Gallup area.

21 Q Now, on Exhibit Number One you show some  
22 wells up to the north within about a mile radius.

23 A Uh-huh.

24 Q And one, the Betty B, to the east.

25 A Yes.

1 Q Are these all operated by BCO?

2 A Yes. The Grace Ben (sic) is not  
3 operated by BCO and the Dunn 1 is operated by Unicon.

4 Q In your experience on these wells that  
5 BCO operates in the Lybrook-Gallup, do you call -- recall  
6 what the average production after, say, about three years  
7 of production, how does this level off?

8 A It levels off in the 8 to 10 barrel a  
9 day range and the GOR is 12,000 to 15,000.

10 Q So we're talking about 300 barrels a  
11 month, 3-to-500 barrels a month?

12 A Yes.

13 MR. STOGNER: Mr. Jaramillo, I  
14 will recognize Ms. Keeshan's position as Vice President of  
15 BCO, Incorporated. I'll consider it (unclear).

16 MR. JARAMILLO: Thank you.

17 MR. STOGNER: We didn't  
18 qualify her in the beginning.

19 I have no further questions of  
20 Ms. Keeshan.

21 Are there any other questions  
22 of this witness?

23 MR. JARAMILLO: I have just  
24 one -- one question --

25 MR. STOGNER: I'm sorry.

## REDIRECT EXAMINATION

1  
2 BY MR. JARAMILLO:

3 Q Relating, Ms. Keeshan, to the Dunn No. 1  
4 operated by Unicon and its offset, the Dunn 2-E. Would you  
5 please describe for the Examiner the age of those wells and  
6 their production characteristics?

7 A The -- the two -- the Dunn 1 and the  
8 Dunn 2-E, were drilled in '55 or '56 and neither one, well,  
9 the Dunn 1, the Unicon well, produced 8 barrels last year  
10 and it has produced, I'm -- I'm reading from the annual  
11 report, 1987, it has produced a cumulative total of almost  
12 35,000 barrels of oil and 2,500 -- no -- 258,266 MCF of  
13 gas.

14 The Dunn 2-E in Section 10, the zone is  
15 abandoned, the Lybrook-Gallup zone is abandoned, and it had  
16 a cumulative production of 4979 barrels of oil and 61,353  
17 MCF of gas.

18 Q When the State "J" 1 Well was -- was  
19 being completed, was there an interference or communication  
20 test with the Dunn 2-E done?

21 A At the time that we -- we completed the  
22 Graneros we put a gauge on the Dunn 2-E and we had somebody  
23 watch during the fracing of the Graneros and there was no  
24 pressure effect on the Dunn 2-E.

25

1           Q           Given the last stage of -- of production  
2 of the Dunn 1 and the condition of Dunn 2 as you've de-  
3 scribed, is there any communication in terms of potential  
4 drainage from the State "J" 1 area into the Dunn 1 or Dunn  
5 2 areas?

6           A           I'd prefer that you ask Barbara that,  
7 given my qualifications.

8           Q           Very good. Thank you.

9                           MR. JARAMILLO: That's all  
10 that I have for Ms. Keeshan, and we've move the admission  
11 of BCO Exhibits One through Six, Mr. Examiner.

12                          MR. STOGNER: One through Six  
13 or One through Five.

14                          MR. JARAMILLO; Six.

15                          MS. KEESHAN: Six is the  
16 letter to Frank Chavez.

17                          MR. STOGNER: Oh, okay. The  
18 Exhibits One through Six will be admitted into evidence at  
19 this time.

20                          MR. JARAMILLO: We would now  
21 call Barbara L. Williams.

22  
23                           BARBARA L. WILLIAMS,  
24 being called as a witness and being duly sworn upon his  
25 oath, testified as follows, to-wit:

## 1 DIRECT EXAMINATION

2 BY MR. JARAMILLO:

3 Q Would you state your name and business  
4 address, please?5 A Barbara Williams. I work for Dugan  
6 Production, Farmington, New Mexico.7 MR. STOGNER: You're going to  
8 have to speak up. I couldn't hear anything.9 MR. JARAMILLO: You'll have to  
10 speak up so he can hear you down at the other end.11 Will you restate that,  
12 please?13 A All right. Barbara Williams. I work  
14 for Dugan Production Corporation in Farmington, New Mexico.15 Q Ms. Williams, how long have you been  
16 employed by Dugan Production Company?

17 A Three years.

18 Q And in what capacity?

19 A I'm employed as a petroleum engineer.

20 Q And what are your duties and responsi-  
21 bilities with Dugan Production Company?22 A I permit new wells; do economic engin-  
23 eering evaluations, and reserve and drainage evaluations  
24 for that company.

25

1           Q           All right. Can you describe what your  
2 educational background is, please?

3           A           I have a petroleum engineering Bachelor  
4 of Science degree from New Mexico Institute of Mining and  
5 Technology in Socorro, New Mexico.

6           Q           All right and what area of New Mexico is  
7 your work concentrated in?

8           A           In the San Juan Basin.

9           Q           Have you previously testified as an  
10 expert witness before this Commission on prior matters?

11          A           Yes, sir.

12          Q           And what were those matters and the  
13 nature of your testimony?

14          A           it was during a re-evaluation of the  
15 temporary pool rules for the South Bisti Gallup, including  
16 testimony of reserve studies pertaining to drainage.

17          Q           All right.

18                           MR. JARAMILLO: We would at  
19 this time tender Ms. Williams as an expert in petroleum  
20 engineering, Mr. Examiner.

21                           MR. STOGNER: Ms. Williams is  
22 so qualified.

23          Q           Ms. Williams, you were retained as an  
24 expert to do an evaluation for BCO in this particular  
25 matter?

1           A           Yes, sir.

2           Q           And what is the nature of the evaluation  
3 you were asked to perform?

4           A           An estimation of drainage area for the  
5 production of the State "J" No. 1 Well, which belongs to  
6 BCO, Incorporated.

7           Q           All right. And can you describe for the  
8 Examiner what your approach was in doing your evaluation?

9           A           I estimated, using extrapolation of  
10 actual production ultimate recovery for the well. I ob-  
11 served the logs; did reservoir pay data; and calculated a  
12 volumetric recovery in stock tanks barrels per acre and  
13 then calculated a probable area of drainage.

14          Q           All right. Is your evaluation set forth  
15 in what is marked as BCO, Inc., Exhibit Number Seven?

16          A           Yes, sir.

17          Q           All right, with reference to that  
18 exhibit, Ms. Williams, please describe for the Examiner  
19 your approach and the information and data you've compiled  
20 and worked with to arrive at your opinions.

21          A           The extrapolation of production was  
22 based on a general decline seen in the area of the Lybrook-  
23 Gallup, and Gallups in general, with the initial steeper  
24 decline leveling off for two to three years and then a  
25 final 10 percent or so decline rate.

1                   The actual production was extrapolated  
2 down for one year and then the economic limit of four  
3 barrels a month was used and that's with \$16.00 a barrel  
4 oil and \$1.50 MMBTU gas and adjusted.

5                   From there on the logs the -- BCO has  
6 perforated a gross interval of 380 feet and perforated  
7 separate intervals, 12 of them. There's a pay of approx-  
8 imately 13 foot with an average porosity of 9.3 and an  
9 average shale volume of 27 percent.

10                   Figuring, estimating at 40 percent of a  
11 gas -- excuse me, a water saturation, I calculated a  
12 volumetric recovery which would be probably for -- in  
13 standard barrels of oil per acre. When I figured,  
14 calculated this it was 163. It would probably be -- range  
15 -- for this type of well the range was anywhere from 98 to  
16 228.

17                   Q           The range you're referring to, to what?

18                   A           To the volumetric recovery in stock tank  
19 barrels per acre.

20                   Q           Okay. Then taking that area and the  
21 ultimate recovery calculated the estimated drainage which I  
22 feel would be probably 70 acres and that's given a 5  
23 percent recovery factor.

24                   Q           Why did you select 5 percent?

25                   A           The Gallup is a thickly bedded, lamin-

1 ated shale and silty area. The recovery factor from (un-  
2 clear) is anywhere from 1 percent to 20 percent and I felt  
3 that it was -- the best estimate would be in the 5 percent  
4 range.

5 MR. STOGNER: I'm sorry, what?

6 A The best estimate would be in the 5  
7 percent area.

8 MR. STOGNER: Okay.

9 Q With respect to the last column and the  
10 range that you've set forth there, can you explain your  
11 conclusion, please?

12 A In all probability the well is draining  
13 70 acres and that, as I said, using a 5 percent recovery  
14 factor. 50 acres would be a 3 percent recovery factor and  
15 the 116 would be a 7 percent, so there would be a 4 percent  
16 spread there.

17 Q All right. Is the analysis and the data  
18 that you used the same that you use or is ordinarily used  
19 by experts in your field in doing these kinds of  
20 calculations?

21 A Yes.

22 Q Do you have an opinion, Ms. Williams,  
23 whether or not the State "J" No. 1 Well is capable of and  
24 is probably draining an area in excess of the 40 acres  
25 allotted to it under the Lybrook-Gallup Pool rules?

1           A           Yes, sir.

2           Q           And what is the basis for your opinion?

3           A           After doing the economic limit and study  
4 with the ultimate recovery and calculating an estimated  
5 drainage, I believe that it did indeed probably drain more  
6 than 40 acres, which (inaudible) at this time.

7           Q           All right, apart from your calculation  
8 presented on Exhibit Number Seven, are there other factors  
9 that you've observed that support your opinion as to the  
10 drainage area?

11          A           The well has a very -- well, excuse me,  
12 not very. It has a lower initial oil rate than the ones  
13 that I looked at in the surrounding area. Those were in  
14 the range of about 750 barrels a month initially, then  
15 declining.

16                    This one, however, was 250. It has a  
17 higher gas ratio and almost immediately than any of the  
18 surrounding wells. The life -- over the life GOR's for the  
19 immediately offsetting one to the north is 7,422 and the  
20 one to the northeast, the Dunn 2-E is 12,800, and as the  
21 production for May, the State "J" 1 has an overall GOR of  
22 36,000, so it's initially higher than -- the GOR is higher  
23 but the oil, the production is actually lower, so the  
24 ultimate recovery from this well may be less.

25          Q           All right.

1           A           Which could possibly be explained  
2 because it's in the southern part of the pool.

3           Q           I was going to ask you about that. Is  
4 there any significance to the fact that the location of the  
5 State "J" 1 is in the -- on the extreme southwestern edge  
6 of the Lybrook-Gallup boundary?

7           A           Well, that would -- may indicate that it  
8 is not in the flush or primary zone of the Lybrook-Gallup.

9           Q           And that would be some explanation for  
10 its distinct characteristics --

11          A           Yes, sir.

12          Q           -- as you've described from other wells  
13 within the heart of the pool?

14          A           Yes, sir.

15          Q           The application in this case, Ms.  
16 Williams, seeks a nonstandard 80-acre horizontally estab-  
17 lished proration unit. In your opinion would that be an  
18 appropriate or the most appropriate proration unit for this  
19 well?

20          A           Yes, sir, with the northwest/southeast  
21 trend in the San Juan Basin, drainage from an additional  
22 40 would most likely come from the immediately western  
23 offset.

24          Q           All right, is there an indication that  
25 there is no drainage to the north and east from the other

1 wells that are located in this area?

2 A Yes, sir, the two -- the northeast and  
3 the immediate north offset have been on production for  
4 approximately 32 years and are in the later stages and it  
5 is unlikely that this well has drained anything from them.

6 Q All right, what is your basis for that  
7 conclusion?

8 A When the Dunn 2-E in the southwest of  
9 the southwest of Section 10 was monitored during the frac  
10 job, it showed no indication that there was an increase of  
11 pressure when the "J" No. 1 was fraced.

12 Q All right.

13 A And plus there is no opposition and the  
14 other impacted area that might remain would be also oper-  
15 ated by BCO in Section 16.

16 Q In your opinion would the granting of  
17 this application adversely impact any correlative rights of  
18 other operators in this area?

19 A No, sir, because of the length of pro-  
20 duction for the two immediately offsetting wells, since  
21 there is no communication with the offset operators, and  
22 because the Union of Texas people did not object, I believe  
23 not.

24 Q Okay. In your opinion would the  
25 granting of this application operate to prevent waste?

1           A           Yes, sir By granting this, a well would  
2 not have to be drilled in the western quarter quarter of  
3 that quarter section and this would be an economically  
4 undesirable location for an additional well, and so  
5 therefore it would save the drilling of an unnecessary well  
6 to drain the same area.

7                   Also the efficiency of the State "J"  
8 No. 1 seems to be at its best when it is continually  
9 producing with sustained production over long periods of  
10 time rather than being shut in.

11                   Also there are paraffin problems in the  
12 area which gas lift piston device that they have to clean  
13 out the paraffin daily stops build-up of (inaudible) and  
14 after the production test they have difficulty getting it  
15 back on line and so it would seem that it would be the best  
16 possible recourse to sustain production.

17           Q           All right. The application in this case  
18 asks for the relief to be applied retroactively to the date  
19 of initial production.

20                   In your opinion why would that be an  
21 appropriate relief to be granted?

22           A           Because at the beginning of the pro-  
23 duction of this well it immediately displayed the lower oil  
24 and the higher gas ratio. It was not something that has  
25 recently happened. It has been for the history and the

1 life of the well thus far.

2 Q All right, so in your opinion the State  
3 "J" 1 has been draining an area in excess of 40 acres from  
4 initial production?

5 A Yes, sir.

6 Q All right.

7 MR. JARAMILLO: Those are all  
8 the questions I have for this witness, Mr. Examiner. I  
9 would move the admission of BCO Exhibit Number Seven.

10 MR. STOGNER: Exhibit Number  
11 Seven will be admitted into evidence at this time.

12

13 CROSS EXAMINATION

14 BY MR. STOGNER:

15 Q Ms. Williams, in looking through your  
16 perforation, your gross interval you showed to be 380 feet.  
17 Is in the Gallup only or did you --

18 A Yes, sir, it's in the Gallup. This well  
19 also was perforated in an upper zone that had not been  
20 previously perforated by BCO but had been perforated by  
21 other operators in the area.

22 So that would be the only difference in  
23 the perforation intervals, other than the ordinary BCO's  
24 that we're dealing with.

25 Q Okay, the Dunn Well No. 1 and the Dunn

1 Well No. 2-E up to the north --

2 A Yes.

3 Q -- are those in the upper or lower zone?

4 A Those are in the upper zone, I believe.

5 Q Now you show the separate interval of 12  
6 feet. Was this the lower zone you're alluding to?

7 A No, sir, that's what was actually per-  
8 forated and stimulated.

9 Q So this is actually what is perforated.

10 A Yes, sir.

11 Q And that is in the upper zone.

12 A Yes, sir.

13 Q And you used a figure of 13 feet as your  
14 high, is that correct?

15 A Yes, sir.

16 Q And your porosity figure of 9.3, that  
17 was from logs?

18 A Yes, sir, the average of the 9 -- of the  
19 13 feet (inaudible.)

20 Since the Gallup is so highly laminated  
21 it's difficult to find a thick pay zone of any area.

22 Q Is it your opinion that this 13 feet is  
23 the interval that is being drained?

24 A Yes, sir.

25 Q Okay. Is there a shale layer above this

1 13 feet, below the 13 feet?

2 A Well, it's not a complete 13 feet. It's  
3 separate, individual foot or 2 feet thicknesses that are  
4 being drained.

5 It's not a 13-foot thick sandstone  
6 interval.

7 Q What log did you use?

8 A A compensated density --

9 Q Would you supply that subsequent to the  
10 hearing today?

11 And on your second page, this is your  
12 production, I would assume.

13 A Yes, sir.

14 Q And this is based on actual --

15 A Actual production on the line to the  
16 left with the monthly production at the small dots.

17 Q Now you extrapolated based on produc-  
18 tion of other wells in the Lybrook area?

19 A Yes.

20 Q Any particular ones or just --

21 A No, sir, just an average --

22 Q -- an average of all.

23 A -- of Gallup wells in the San Juan  
24 Basin.

25 Q Okay, the other wells in the Lybrook,

1 what kind of a pay interval thickness are they producing  
2 from?

3 A The Dunn 7, which was one of the closest  
4 offsets, the logs for the 32-year old ones were inconclu-  
5 sive, I felt had a pay interval of around 23 feet.

6 Q Was this well fractured or stimulated in  
7 any manner?

8 A Yes, sir.

9 Q And what was the stimulation method, and  
10 how did this affect your figures, Ms. Williams, the stimu-  
11 lation program?

12 A I felt that it was a typical stimulation  
13 in the area.

14 Q Would that have affected the porosity  
15 value that you give it?

16 A I don't believe so. 62,000 gallons of  
17 water with additives, 14,000 pounds KCL, scale inhibitor,  
18 192,550 gallons of foam, 376 pounds of 20/40 sand, and  
19 3,841,125 standard cubic feet of nitrogen.

20 Q Is this a standard stimulation program  
21 or --

22 A Yes, sir.

23 MS. KEESHAN: This is very  
24 typical of what we do in the Lybrook-Gallup.

25 Q Okay. Ms. Williams, in your study what

1 kind of results have you seen as far as the -- how long it  
2 takes it get a -- to get a flat production curve?

3 A At a low rate? Normally the Gallup  
4 levels off at a rate of 3 to 4 barrels a day.

5 Q Are you expecting this well to do the  
6 same?

7 A Yes, sir, I think it will do it at lower  
8 rates but I -- I foresee that it will be a gradual decline  
9 rate leveling off to smaller amounts.

10 Q What -- how much more of a life expect-  
11 tancy do you expect from this well than a normal one?

12 I'm sure you did those calculations  
13 since you're saying it drained 70 acres.

14 Are you expecting this to flatten out at  
15 a different time interval as opposed to your normal wells?

16 A Well, I don't think this one will pro-  
17 duce as much as the normal Gallup wells. The initial oil  
18 rates and gas rates don't compare to the other Lybrooks in  
19 the area, so I would expect it to have a shorter life span.

20 Q When you say it doesn't compare, what  
21 -- what do you mean exactly?

22 A Well, the other ones, as I said, the  
23 Dunn 7 had initial production of approximately 750 barrels  
24 whereas this one had 250 barrels, approximately; the  
25 initial production to decrease rapidly.

1 Q There was a nitrogen frac involved in  
2 this particular well, wasn't there?

3 A Yes, sir.

4 Q How long does it usually take for all  
5 the nitrogen to be produced out of a well?

6 A Depends on the porosity and volumes.

7 Q Would this have been any significant  
8 figure as far as the GOR? Would that have made any ef-  
9 fect?

10 A No, sir, I don't believe so. The BTU at  
11 the master meter didn't indicate an influx of nitrogen into  
12 the piston which would be coming back from the well.

13 Q And you show the BTU to be 1,212?

14 A Yes, sir.

15 Q Is that normal?

16 A Yes, sir.

17 Q Okay. How did you get that 1212 figure?

18 A That was from the El Paso master meter  
19 with the Lybrook-Gallups in the area.

20 Q Okay, now when you say master meter,  
21 this is measuring the production from this particular well  
22 --

23 A No, sir, it's the whole Gallup system.

24 Q So you don't know what the BTU content  
25 is.



1 --

2 MR. JARAMILLO: My letter to  
3 them with the application and their response.

4 MR. STOGNER: And all the  
5 other ones are BCO's themselves.

6 MR. JARAMILLO: That's cor-  
7 rect.

8 MR. STOGNER: Okay. Is there  
9 anything further in this case?

10 It will be taken under ad-  
11 visement.

12

13 (Hearing concluded.)

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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 (Commission) 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. 9396, heard by me on 22 June 1988.  
Michael E. Stogor, Examiner  
Oil Conservation Division  
8/4/88