

1 STATE OF NEW MEXICO  
2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
3 OIL CONSERVATION DIVISION  
4 CASE 10138

5  
6  
7 EXAMINER HEARING

8  
9 IN THE MATTER OF:

10  
11 Application of Arco Oil & Gas Company for  
12 Amendment of the Special Rules and  
13 Regulations for the Empire-Abo Pressure  
14 Maintenance Project, Eddy County, New Mexico

15  
16  
17 TRANSCRIPT OF PROCEEDINGS

18  
19 BEFORE: MICHAEL E. STOGNER, EXAMINER

20  
21 STATE LAND OFFICE BUILDING  
22 SANTA FE, NEW MEXICO  
23 October 31, 1990

24  
25 **ORIGINAL**

## A P P E A R A N C E S

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1 EXAMINER STOGNER: We'll call next case,  
2 No. 10138.

3 MR. STOVALL: Application of ARCO Oil & Gas  
4 Company for amendment of the special rules and  
5 regulations for the Empire-Abo Pressure Maintenance  
6 Project, Eddy County, New Mexico.

7 EXAMINER STOGNER: Call for appearances.

8 MR. CARR: May it please the Examiner, my  
9 name is William F. Carr with the law firm Campbell &  
10 Black, P.A. of Santa Fe. I represent ARCO Oil & Gas  
11 Company, and I have one witness.

12 EXAMINER STOGNER: Are there any other  
13 appearances in this matter?

14 MR. KELLAHIN: Mr. Examiner, I'm Tom  
15 Kellahin of the Santa Fe Law Firm of Kellahin,  
16 Kellahin and Aubrey, appearing today on behalf of OXY  
17 USA, Inc. In addition, I'm entering an appearance for  
18 Mr. Larry Garcia on behalf of Marathon Oil Company.

19 EXAMINER STOGNER: Will you have any  
20 witnesses, Mr. Kellahin?

21 MR. KELLAHIN: No, sir.

22 EXAMINER STOGNER: Does anybody else have  
23 any other entries of appearance?

24 If not, Mr. Carr?

25 MR. STOVALL: Mr. Examiner, before we go

1 on, I do know that Gas Company of New Mexico has got  
2 some interest in this case and had assumed they would  
3 come out. I have had conversations with them and I  
4 thought they would be here.

5 MR. CARR: Yes, and we talked to Mr. Horn  
6 and they were coming up this morning and were planning  
7 to be here early. I don't know if they intend to  
8 present any testimony. Yesterday they seemed to be  
9 coming here to listen.

10 MR. STOVALL: That was my understanding. I  
11 talked to nonlawyer types.

12 MR. CARR: If you want to run another one  
13 through while we wait for them, I certainly have no  
14 objection to that.

15 EXAMINER STOGNER: Well, if not, why don't  
16 we just hold on to this one and we'll call another  
17 case.

18 MR. CARR: That would be fine.

19 EXAMINER STOGNER: Okay.

20 MR. STOVALL: Let's note for the record  
21 that the reason we are doing that is because the  
22 proposed rule changes are for the benefit of the Gas  
23 Company.

24 MR. CARR: Yes, they are.

25 (Thereupon, the proceedings in the

1   aforecaptioned case were recessed; following which  
2   time these proceedings were had, to-wit:)

3                   EXAMINER STOGNER:   We'll recall Case No.  
4   10138.   I believe we have Mr. Carr and Mr. Kellahin  
5   entering their appearances.

6                   Are there any other appearances in Case  
7   10138, the application of ARCO Oil & Gas Company?

8                   MR. HORN:   Yes, sir, Ronald F. Horn, with  
9   the law firm of Keleher & McLeod, appearing on behalf  
10  of the Gas Company of New Mexico.

11                  EXAMINER STOGNER:   And you're representing  
12  the Gas Company of New Mexico?

13                  MR. HORN:   That's correct.

14                  EXAMINER STOGNER:   Will you be having any  
15  witnesses, Mr. Horn?

16                  MR. HORN:   Yes, I will.

17                  EXAMINER STOGNER:   How many?

18                  MR. HORN:   One.

19                  EXAMINER STOGNER:   Are there any other  
20  appearances?

21                  Mr. Carr?

22                  MR. STOVALL:   The witnesses need to be  
23  sworn.

24                  EXAMINER STOGNER:   That's right, we didn't  
25  do that.   All the witnesses need to stand to be sworn

1 at this time.

2 GARY SMALLWOOD

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

5 EXAMINATION

6 BY MR. CARR:

7 Q. Would you state your full name for the  
8 record, please?

9 A. My name is Gary Brook Smallwood.

10 Q. Mr. Smallwood, where do you reside?

11 A. Midland, Texas.

12 Q. By whom are you employed and in what  
13 capacity?

14 A. I'm employed by ARCO Oil & Gas as a  
15 petroleum engineer.

16 Q. Have you previously testified before the  
17 New Mexico Oil Conservation Division and had your  
18 credentials accepted and made a matter of record?

19 A. Yes, I have.

20 Q. At that time were you qualified as a  
21 petroleum engineer?

22 A. Yes, I was.

23 Q. Does your area of responsibility with ARCO  
24 include the Empire-Abo Unit?

25 A. Yes, it does.

1 Q. Are you familiar with the application filed  
2 in this case on behalf of ARCO?

3 A. Yes, sir, I am.

4 MR. CARR: Are the witness's qualifications  
5 acceptable?

6 EXAMINER STOGNER: Are there any  
7 objections? His credentials are acceptable.

8 Q. Would you briefly state what ARCO seeks  
9 with this application?

10 A. We seek amendment of the special pool rules  
11 and regulations of the Empire-Abo Pressure Maintenance  
12 Project to permit the withdrawal of extraneous gas  
13 during the winter months and make up with strong gas,  
14 plus 12 percent incremental gas, to compensate for  
15 fuel use shrinkage and any errors.

16 Q. Could you identify what has been marked as  
17 ARCO Exhibit No. 1 and review it for Mr. Stogner?

18 A. Yes. This is a plat of the area that shows  
19 the unitized area of the Empire-Abo Unit. The large,  
20 nonshaded portion, represents the ARCO Empire-Abo  
21 Unit. The areas that are shaded represent tracts that  
22 did not participate in the ARCO Empire-Abo Unit, and  
23 the largest of the shaded areas represents the  
24 OXY-operated Unit.

25 Q. When was the Empire-Abo Unit formed?



1           A.       In October of 1973.

2           Q.       And when did pressure maintenance  
3 operations commence in this unit?

4           A.       In June of 1974.

5           Q.       What are the nature of the pressure  
6 maintenance operations that are being conducted in  
7 this unit?

8           A.       What pressure maintenance means is that we  
9 do not sell gas. We produce the gas and send it  
10 through a gasoline plant and strip out the natural gas  
11 liquids and then reinject the dry residue gas back  
12 into the reservoir to maintain the pressure in the  
13 reservoir and help recover additional hydrocarbons.

14          Q.       Additional gas is also injected into this  
15 reservoir pursuant to OCD approval, is that correct?

16          A.       Yes, that's correct.

17          Q.       Could you refer to what has been marked as  
18 ARCO Exhibit No. 2, identify that, and then review  
19 what this exhibit shows?

20          A.       ARCO Exhibit No. 2 is a summary of the  
21 regulatory history on the ARCO Empire-Abo Unit. You  
22 can see the first Order No. R-4548 was the approval of  
23 the Unit Agreement; and the next one, R-4549  
24 established the Pressure Maintenance Project itself.  
25                 Amendments A through C were basically

1 expansions of the Empire-Abo Unit that brought on  
2 additional acreage into the unit. Amendment D is the  
3 unit that I want to highlight this morning. It was  
4 approved on November 17, 1975. This was the amendment  
5 that provided for the injection of up to 35 million  
6 cubic feet per day of extraneous gas into the Abo  
7 Formation, and this was the amendment that allowed the  
8 Gas Company of New Mexico to store outside gas into  
9 the Empire-Abo Unit.

10 Amendment E allowed for the drilling of  
11 horizontal wells in the Empire-Abo Unit, and Amendment  
12 F was an allowable change in the unit. The two verbal  
13 approvals that I've noted at the bottom of the page,  
14 one occurred on February 7, 1989, and one on December  
15 26, 1989, were approvals that we received in response  
16 to emergency requests for the Gas Company of New  
17 Mexico to obtain gas to meet inclement weather needs.

18 I have included letters that support these  
19 verbal approvals with this Exhibit No. 2. There are  
20 two letters for each of the verbal approvals. The  
21 first one is dated February 7th, written to Mr. LeMay  
22 from Mr. Steve Smith with ARCO, who is the Senior  
23 Production Superintendent, documenting the verbal  
24 approval to withdraw gas for the Gas Company of New  
25 Mexico to use during inclement weather times.

1           The second letter is written from Mr.  
2 Griffiths to Mr. Sanders that confirms the arrangement  
3 that was made for the withdrawal of the gas with the  
4 Gas Company of New Mexico.

5           The third letter refers to the verbal  
6 approval that was received in December of 1989. It  
7 was written from Mr. Brinker of ARCO to Mr. Sanders  
8 with Gas Company of New Mexico confirming their  
9 agreement and their arrangement for their verbal  
10 approval to withdraw gas.

11           The fourth letter is written to Mr. LeMay  
12 from Diane Strotheide of ARCO Oil & Gas to confirm the  
13 verbal approval from ARCO Oil & Gas.

14           Q.     What this shows, Mr. Smallwood, is during  
15 the last two winters there have been emergency needs  
16 for withdrawal of gas from the Empire-Abo Unit to meet  
17 Gas Company of New Mexico's demand; is that right?

18           A.     That's correct, and we attempted to  
19 document that with the four letters that I just  
20 summarized.

21           Q.     Let's go to ARCO Exhibit No. 3. I would  
22 ask you to identify and review that for Mr. Stogner.

23           A.     Exhibit No. 3 is a tabulation of the  
24 withdrawals that have occurred during those recent  
25 periods of withdrawal. You can see in February of 89

1 that there were 17 million cubic feet of gas withdrawn  
2 and the gas was begun to be replaced in June of 1989  
3 and July of 1989, and then again in December of 89  
4 more withdrawals occurred to meet inclement weather  
5 needs, and replacement began again in March of 1990  
6 and continued until it was all replaced, plus an  
7 additional 12 percent. The additional 12 percent was  
8 the 4.9 million net cum that's shown there on the  
9 lower part of the exhibit.

10 Q. When we're talking about extraneous gas,  
11 what are we talking about?

12 A. Extraneous gas is gas that comes from  
13 outside the unit, that does not belong to the unit and  
14 never has belonged to the unit.

15 Q. Is all of the extraneous gas currently in  
16 the Empire-Abo Unit, Gas Company of New Mexico gas?

17 A. Yes, it is.

18 Q. I think maybe what you ought to explain to  
19 the Examiner is why ARCO is bringing this matter to  
20 the OCD at this time. What is ARCO's objective?

21 A. We would like to make the gas accessible to  
22 the Gas Company of New Mexico during the winter months  
23 and, at the same time, manage as a prudent operator to  
24 maintain the reservoir.

25 Q. Is what you're proposing something that

1 will formalize the arrangement for withdrawals in  
2 subsequent winters?

3 A. Yes, that's right.

4 Q. How did you go about getting to this point  
5 in terms of revolving this matter with the Gas  
6 Company?

7 A. We participated in a series of meetings  
8 with the Gas Company of New Mexico over quite an  
9 extended period of time. Each time both the Gas  
10 Company of New Mexico and ARCO made proposals, and  
11 each time both parties went back and studied the  
12 proposals and each company's position, and we feel  
13 we've reached an agreement that will allow Gas Company  
14 to have access to their gas during the winter months  
15 and, at the same time, prudently manage the reservoir.

16 Q. Are there contingencies that must be met  
17 before this agreement can actually be finalized?

18 A. Yes, there are contingencies that are  
19 contingent upon the approval of the OCD and upon  
20 approval of other governmental authorities.

21 Q. Now let's go to Exhibit No. 4, and I would  
22 ask you to identify and review that for the Examiner.

23 MR. STOVALL: Mr. Carr, may I interrupt  
24 you?

25 MR. CARR: Yes.

1           MR. STOVALL: To make sure that I  
2 understand clearly what we're talking about, when you  
3 refer to extraneous gas, it is gas owned by Gas  
4 Company of New Mexico and what's happening is it's  
5 being stored?

6           THE WITNESS: That's correct.

7           MR. STOVALL: And ARCO is benefiting  
8 because it's helping to maintain pressure in the  
9 reservoir, is that correct?

10          THE WITNESS: That's correct.

11          MR. STOVALL: From that sense, it doesn't  
12 affect any royalty owners or replace any gas owners?

13          THE WITNESS: No, it doesn't. That's  
14 right.

15          MR. STOVALL: Okay. Thank you. Continue.

16          Q.        (BY MR. CARR) Let's go to Exhibit 4.

17          A.        Exhibit 4 is a plot of all the production  
18 from the unit. It shows water production, oil  
19 production, gas/oil ratios, gas production, and then  
20 gas injection.

21                 If you'll look over on the lower right-hand  
22 side, you'll see there are three curves there that  
23 kind of come together, one of them being the gas  
24 production curve where it shows we've produced  
25 anywhere from 60 to 65 million cubic feet per day of

1 wet gas--or that would be gas that contains natural  
2 gas liquids.

3 Then we reinject, if you look at the gas  
4 injection curve, anywhere from 40 to 45 million cubic  
5 feet of gas per day, which is the dry gas, which is  
6 the gas that's simply been shrunk out because the  
7 natural gas liquids have been recovered from it.

8 EXAMINER STOGNER: If I could, on the gas  
9 injection, does that also include the extraneous gas?

10 THE WITNESS: It would, if there were  
11 extraneous gas being injected, yes. There has not  
12 been extraneous gas injected for quite some time,  
13 other than the makeup that we showed you in Exhibit  
14 3.

15 EXAMINER STOGNER: And this makeup, would  
16 that be also on this chart?

17 THE WITNESS: Yes. And in fact, the  
18 withdrawals show up here, too. I tried to mark them  
19 with a yellow mark on your Exhibit 4. If you'll look  
20 on the lower right-hand side, you'll see a couple of  
21 yellow marks and they should be February of 89 and  
22 December of 89 where the gas injection decreased  
23 momentarily there.

24 Q. (BY MR. CARR) That decrease in the  
25 injection rate is because gas was being withdrawn

1 pursuant to the emergency arrangements with the Gas  
2 Company?

3 A. That's correct. And when you look at the  
4 oil rate curve there, we don't observe any noticeable  
5 change in our oil production rate curve.

6 Q. Have you conducted other reviews of the  
7 reservoir to determine whether or not there would be  
8 any adverse effect resulting from what is proposed  
9 today?

10 A. Yes, we have.

11 Q. Would you refer to Exhibit No. 4-A,  
12 identify that--

13 EXAMINER STOGNER: Mr. Carr, before we  
14 leave Exhibit 4, I want to make sure I understand. On  
15 the gas production curve, is that also going to show  
16 the extraction of the extraneous gas? Is that  
17 considered gas production, or are we talking about  
18 just gas production from the field now?

19 THE WITNESS: Yes, it would show up on  
20 these curves as gas production.

21 EXAMINER STOGNER: Okay. So in February  
22 you withdrew 17--

23 THE WITNESS: --million cubic feet.

24 EXAMINER STOGNER: Right, and I show a  
25 little dip on the gas production, so that would



1 account for the 17 MMcf?

2 THE WITNESS: No, I don't think so, Mr.  
3 Stogner. These numbers are so small compared to the  
4 65 million cubic feet a day that we're producing, that  
5 there could have been other things going on that  
6 affected that.

7 EXAMINER STOGNER: But if it was able to  
8 show up on here, those figures would be accounted for  
9 gas production?

10 THE WITNESS: Yes.

11 EXAMINER STOGNER: So maybe gas extraction  
12 is more the term--

13 THE WITNESS: Yes.

14 EXAMINER STOGNER: --as far as production?  
15 When I think of production I'm thinking of your gas  
16 production coming off the field itself, but with this  
17 extraneous gas that's also being intermixed in there?

18 THE WITNESS: Yes. I think I followed your  
19 question properly.

20 EXAMINER STOGNER: Well, I know what I'm  
21 thinking of. So, okay. I'm sorry, Mr. Carr. I just  
22 wanted to make sure.

23 Q. (BY MR. CARR) All right, are you ready to  
24 go to Exhibit 4-A?

25 A. Yes.

1           Q.       Why don't you identify that and then review  
2 the numbers for Mr. Stogner?

3           A.       Exhibit 4-A is a tabulation of some  
4 calculations that I've done to estimate the effect of  
5 withdrawing some gas from the reservoir. Currently  
6 the reservoir pressure is 830 pounds, and with that  
7 reservoir pressure the current gas formation volume  
8 factor is 333 standard cubic feet per reservoir  
9 barrel.

10                   And with that conversion factor, the 333  
11 standard cubic feet per barrel, I converted a  
12 withdrawal, an assumed withdrawal of 300 million  
13 standard cubic feet of gas to reservoir conditions.  
14 That equates to 900 thousand barrels of a reservoir  
15 pore volume.

16                   In 1989, the voidage from the ARCO-operated  
17 Empire-Abo Unit was 19 million reservoir barrels.  
18 That voidage of 19 million reservoir barrels resulted  
19 in a pressure decline of 54 pounds.

20                   Using the converted withdrawal amount of  
21 300 million cubic feet of gas or the 900 barrels of  
22 reservoir pore volume and the 19 million and the 54  
23 pounds as a ratio, I computed that withdrawing 300  
24 million cubic feet of gas, the pressure could be  
25 expected to decline 2.6 pounds, or only .3 percent.

1 That assumes, of course, that you don't replace it and  
2 we are going to replace the 300 million cubic feet of  
3 gas, and we're not only going to replace it, but it  
4 will be replaced with an additional 12 percent of gas.

5 Q. Can you actually quantify the impact on  
6 recoveries from the unit at this time?

7 A. We see no harm to the proposed operation  
8 and, if anything, the additional 12 percent of makeup  
9 gas may help recover additional hydrocarbons.

10 Q. Let's go to what has been marked as ARCO  
11 Exhibit No. 5. I would ask you to identify that and  
12 then review it for the Examiner.

13 A. Exhibit 5 is our proposed Rule 4 for the  
14 amendment.

15 Q. Mr. Smallwood, maybe it would be helpful to  
16 go first to a copy of Order No. R-4549-F which is  
17 attached to this exhibit, and indicate the language  
18 that is being deleted.

19 A. The language that is going to be changed  
20 and deleted is highlighted in yellow on the next to  
21 the last page of Exhibit 5, on the back side.

22 Q. And this is the language which sets forth  
23 the withdrawal rates from the unit under existing  
24 rules?

25 A. Yes, it is.

1           Q.     Let's go to the first page of Exhibits 5  
2     and I would ask you to review the new language that  
3     ARCO is proposing?

4           A.     We are proposing to allow withdrawal of up  
5     to 300 million cubic feet of gas during the winter  
6     period, November 1 through March 31 of 1990, through  
7     1996.

8           Q.     That's included in what is marked  
9     subparagraph A?

10          A.     Yes, it is. That withdrawn gas will be  
11     replaced during the following summer seasons at a rate  
12     not to exceed 2.3 million cubic feet of gas per day.

13                 We're also proposing to increase the amount  
14     of gas that can be withdrawn from the years 1996  
15     through 1998, to 800 million cubic feet of gas at a  
16     rate not to exceed 5.5 million cubic feet of gas per  
17     day.

18          Q.     That's the replacement won't exceed that  
19     5.5 million?

20          A.     That's right. And, in addition to this,  
21     all the withdrawn gas must be replaced and made up  
22     with an additional 12 percent of gas to compensate for  
23     any fuel usage or any shrinkage or metering errors  
24     that may occur.

25                 In addition, no extraneous gas may be

1 withdrawn during the winter season until all the gas  
2 that was withdrawn during the preceding winter season  
3 is replaced, plus an additional 12 percent.

4 And, further, the provisions of paragraphs  
5 A through D are in effect until the date the Pressure  
6 Maintenance Project ceases or until November 1, 1998,  
7 whichever occurs first.

8 Q. Have you reviewed this proposal with the  
9 working interest owners in the unit?

10 A. Yes, we have.

11 Q. What response have you received?

12 A. We have received affirmative votes from 39  
13 working interest owners, for more than 80 percent  
14 approval. We were required to have approval of four  
15 owners, totaling 65 percent.

16 Q. So at this point, in excess of 80 percent  
17 of--the owners of 80 percent of the working interest  
18 have approved this plan?

19 A. Yes, they have.

20 Q. Have you received any negative votes?

21 A. No, there have been no negative votes.

22 Q. Have you reviewed this proposal with the  
23 Bureau of Land Management?

24 A. Yes, we have.

25 Q. What sort of a response have you received

1 from them?

2 A. We received a signed approval from them.  
3 We submitted an amended plan of operation for 1990,  
4 Exhibit No. 6, in which we stated our intentions to  
5 withdraw up to 300 million cubic feet of gas and then  
6 replace it in the following summer months.

7 Q. And this exhibit contains Mr. Lara's  
8 signature, indicating BLM approval?

9 A. That's correct.

10 Q. Have you reviewed this with the New Mexico  
11 Commissioner of Public Lands?

12 A. Yes, we have. We submitted the same  
13 amended plan of operation to the New Mexico Public  
14 Lands and they also signed it and approved it, and  
15 it's included as Exhibit No. 7.

16 Q. Now, Mr. Smallwood, has this proposal also  
17 been presented to the New Mexico Public Service  
18 Commission?

19 A. Yes, it has.

20 Q. And has their approval also been obtained?

21 A. Yes, it has.

22 Q. Would you identify what has been marked as  
23 ARCO Exhibit No. 8?

24 A. ARCO Exhibit No. 8 is our proposed order.

25 Q. This is just a proposed order that contains

1 the same language that was set forth in Exhibit No. 5,  
2 the amendment to Rule 4?

3 A. Yes, it is.

4 Q. How soon do you hope to have an order in  
5 this matter?

6 A. We would like to have one by December 1,  
7 1990, for this year's winter season, and we hope it  
8 doesn't get hung up.

9 Q. Have you provided notice of this  
10 application to all operators of wells in the unit, all  
11 unleased mineral interest owners within the pool, and  
12 all operators within one mile of the pool?

13 A. Yes, we have.

14 Q. Was that notice provided by certified mail?

15 A. Yes, it was.

16 Q. Is Exhibit No. 9 an affidavit from Campbell  
17 & Black confirming that notice has been provided in  
18 accordance with OCD rules?

19 A. It is.

20 Q. Mr. Smallwood, in your opinion, if this  
21 application is approved will it be in the best  
22 interests of conservation, the prevention of waste and  
23 the protection of correlative rights?

24 A. Yes.

25 Q. Were Exhibits 1 through 9 either prepared

1 by you or compiled under your direction and  
2 supervision?

3 A. Yes, they were.

4 MR. CARR: At this time, Mr. Stogner, we  
5 would move the admission of ARCO Exhibits 1 through  
6 9.

7 EXAMINER STOGNER: Are there any  
8 objections? Exhibits 1 through 9 will be admitted  
9 into evidence.

10 MR. CARR: That concludes my direct  
11 examination of Mr. Smallwood.

12 EXAMINER STOGNER: Thank you, Mr. Carr.  
13 Mr. Kellahin, your witness.

14 EXAMINATION

15 BY MR. KELLAHIN:

16 Q. Mr. Smallwood, on Exhibit No. 3, if you  
17 would turn to that, please?

18 A. Okay.

19 Q. The last entry on the lower right, the 4.9  
20 Bcf of gas--

21 A. Yes.

22 Q. --do I read that display correctly to mean  
23 that that is the net volume of gas owned by Gas  
24 Company that is in storage that's available for them  
25 to withdraw?



1           A.     No, sir. There's 3.6 Bcf in storage that  
2 the Gas Company has available.

3           Q.     So out of the 4.9, they have 3.6 Bcf?

4           A.     No. Let me back up a minute and explain  
5 the 4.9. 4.9 is 4.9 million. That represents the  
6 additional 12 percent that they were required to make  
7 up of this amount that has been withdrawn on this page  
8 here.

9                     If you look at the table, there were 17  
10 million cubic feet withdrawn in February of 89 and  
11 22.6 million withdrawn in December of 89. Gas Company  
12 of New Mexico was required to make up the total of  
13 those two, 17 plus 22.6 plus 12 percent. 12 percent  
14 of that is 4.9 million.

15          Q.     So they have 4.9 million available to them?

16          A.     (Witness nods head.)

17          Q.     All right. Give me the volume. What is  
18 the net volume available as to some point in time that  
19 belongs to Gas Company that they can withdraw from the  
20 unit?

21          A.     3.6 Bcf.

22          Q.     And that's as of what date, approximately?

23          A.     Roughly, I think it's current now. I  
24 believe it's current now.

25                     MR. KELLAHIN: All right. Thank you.

1 EXAMINER STOGNER: Thank you, Mr.  
2 Kellahin. Mr. Horn, your witness.

3 MR. HORN: No questions.

4 EXAMINATION

5 BY EXAMINER STOGNER:

6 Q. Staying on Exhibit No. 3, if I go back to  
7 January of 89, can you give me a volumetric figure of  
8 Gas Company of New Mexico extraneous gas that was in  
9 the Formation?

10 A. Yes, it was about 3.6 Bcf. What Exhibit 3  
11 attempts to do is show that some was withdrawn in  
12 February and December and then it was replaced, that  
13 that was withdrawn in February and December was  
14 replaced in March and June and July.

15 MR. STOVALL: Let me help clarify that.

16 EXAMINATION

17 BY MR. STOVALL:

18 Q. Is Gas Company injecting any new extraneous  
19 gas into the reservoir currently?

20 A. No, they're not.

21 Q. The only gas that they're putting in is  
22 makeup gas for gas they've withdrawn?

23 A. That's right.

24 Q. And they started out in January of 89 with  
25 3.6 billion?

1 A. Yes.

2 Q. They withdrew 39.6 million?

3 A. Right.

4 Q. And replaced it with 39.6 plus 4.9--

5 A. That's right.

6 Q. --which that extra 4.9 is intended, really,  
7 to make up for any field shrink that might occur?

8 A. That's right, that's 12 percent of the  
9 39.6.

10 Q. So theoretically they've got as much now as  
11 they had in January of 89 in the reservoir, is that  
12 correct?

13 A. That's right.

14 MR. STOVALL: I have another question, if I  
15 might, while I'm on a roll here.

16 EXAMINER STOGNER: Oh, please do.

17 Q. The gas that's being reinjected, is it dry  
18 gas?

19 A. Yes, it is.

20 Q. So as the gas is withdrawn, any gas that's  
21 withdrawn and liquids extracted, that is presumed to  
22 be reservoir liquids?

23 A. Yes.

24 Q. And so that goes to the unit and the  
25 various owners there?

1           A.       That's right.

2                   EXAMINER STOGNER:   Are there any other  
3 questions of this witness?

4                   All right.   He may be excused.   Mr. Carr?

5                   MR. CARR:   I have no further direct  
6 testimony to present, and I would turn the hearing  
7 over to Mr. Horn.

8                   EXAMINER STOGNER:   Mr. Horn?

9                   MR. HORN:   We would call Mr. Sanders.

10                               TOMMY H. SANDERS

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

13                               EXAMINATION

14 BY MR. HORN:

15           Q.       Would you state your full name and your  
16 occupation, please?

17           A.       My name is Tommy Sanders.   I work for Gas  
18 Company of New Mexico as Director of Gas Acquisitions  
19 and Contract Management.

20           Q.       Would you briefly describe to the Hearing  
21 Examiner Gas Company's business in Southeast New  
22 Mexico?

23           A.       Gas Company of New Mexico is a local  
24 distribution company serving most of the major  
25 communities in Southeast New Mexico with natural gas.

1 We also operate a substantial gathering system, which  
2 we gather wellhead gas from the Permian Basin in New  
3 Mexico.

4 Q. What is the primary type of customer that  
5 you have in Southeast New Mexico?

6 A. Gas Company's primary customer in Southeast  
7 New Mexico is a residential customer.

8 Q. Would you describe your market in Southeast  
9 New Mexico?

10 A. It's a very weather-sensitive market.  
11 Basically our load is dictated by the severity of the  
12 weather.

13 Q. Is it a winter-peaking load?

14 A. Yes.

15 Q. Does Gas Company maintain an inventory of  
16 gas in the Empire-Abo Unit?

17 A. Yes. Gas Company has had a substantial  
18 inventory in the Empire-Abo Unit for a number of  
19 years.

20 Q. I believe Mr. Smallwood's testimony was  
21 that that's approximately 3.6 billion cubic feet, is  
22 that correct?

23 A. I believe that's accurate.

24 Q. Would you please describe Gas Company's use  
25 of its gas in inventory in the Empire-Abo Unit during

1 the past two winter seasons?

2 A. Yes. During February of 1989 and again in  
3 December of 89, Gas Company experienced severe weather  
4 conditions in our southeast market. We had  
5 approximately 15 percent of our wellhead supply froze  
6 off. We were experiencing a substantial drop in  
7 system pressure, and had we not been able to obtain  
8 replacement supplies from the Empire-Abo Unit, we  
9 would have run the risk of possible curtailments on  
10 our system.

11 Q. Were you able to secure the replacement  
12 supply from the Empire-Abo Unit?

13 A. Yes, we were. We worked with ARCO and Mr.  
14 LeMay of the OCD, and were able to get that supply  
15 turned on. In both instances, we used the supply for  
16 a period of three to five days to help maintain system  
17 pressures.

18 Q. Were you able to maintain system pressures?

19 A. Yes, we were.

20 Q. What use will Gas Company make of the  
21 Empire-Abo or it's gas that's located in the  
22 Empire-Abo Unit if this application is approved?

23 A. We will use it primarily as a peaking  
24 supply. We would have the ability to take up to  
25 10,000 MMBTU per day with a maximum of 300 thousand

1 MMBTU over the five-month winter period.

2 We would, at the end of that five-month  
3 winter period, begin reinjecting that amount of gas  
4 plus 12 percent, representing fuel.

5 Q. So that would be approximately the use that  
6 you have made of the gas in this unit over the past  
7 two winter periods?

8 A. Yes.

9 Q. What is the benefit to Gas Company of New  
10 Mexico of the gas located in the Empire-Abo Unit as a  
11 winter peaking source of gas?

12 A. Three distinct benefits we get from the gas  
13 in this facility; one being, the facility is located  
14 very close to two major load centers in Southeast New  
15 Mexico, both Artesia and Roswell. The second is, very  
16 large amounts of volumes can be turned on very quickly  
17 to help supplement the supply and prevent pressure  
18 drop. Third, the supply is much more reliable than  
19 wellhead supply and less susceptible to freeze-offs.

20 Q. What is Gas Company's position with respect  
21 to this application?

22 A. Gas Company supports this application.

23 Q. Do you recommend that it be approved?

24 A. Yes, I do.

25 MR. HORN: That's all the questions I

1 have.

2 EXAMINER STOGNER: Thank you, Mr. Horn.

3 Mr. Kellahin?

4 MR. KELLAHIN: No questions.

5 EXAMINER STOGNER: Mr. Carr?

6 MR. CARR: No questions.

7 MR. STOVALL: I have a couple of questions  
8 if I might, Mr. Examiner.

9 EXAMINER STOGNER: Why not.

10 EXAMINATION

11 BY MR. STOVALL:

12 Q. If I understand the need that we're talking  
13 about here, it's actually a deliverability need rather  
14 than a reserve requirement, is that correct?

15 A. That's correct.

16 Q. And does Gas Company have adequate  
17 reserves, as far as you know, to replace gas during  
18 the off-peak seasons?

19 A. Yes, more than adequate supply.

20 Q. And a question of curiosity, what is Gas  
21 Company's plan for its gas either when the unit ceases  
22 to exist or at the end of 1998 when this provision  
23 expires?

24 A. We will use it to serve our markets, either  
25 our Permian markets or through delivery through our



1 gathering system to El Paso to serve our remote  
2 markets off of El Paso's system, or delivery to our  
3 north markets in the Albuquerque and Santa Fe area.

4 MR. STOVALL: I have nothing further.

5 EXAMINER STOGNER: Thank you Mr. Stovall.

6 Any other questions of this witness? If  
7 not, he may be excused.

8 Anything further in this case?

9 MR. CARR: Nothing further.

10 EXAMINER STOGNER: If not, this case will  
11 be taken under advisement. Let's take about a  
12 20-minute recess.

13 (Thereupon, the proceedings concluded.)

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CERTIFICATE OF REPORTER

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

I, Carla Diane Rodriguez, Certified  
 Shorthand Reporter and Notary Public, HEREBY CERTIFY  
 that the foregoing transcript of proceedings before  
 the Oil Conservation Division was reported by me; that  
 I caused my notes to be transcribed under my personal  
 supervision; and that the foregoing is a true and  
 accurate record of the proceedings.

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

WITNESS MY HAND AND SEAL November 13, 1990.

*Carla Diane Rodriguez*  
 CARLA DIANE RODRIGUEZ  
 CSR No. 91

My commission expires: May 25, 1991

*Michael E. Higgins*, Examiner  
 Oil Conservation Division  
 10/38  
 1990