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## Trial Transcript, Vol. 66, Afternoon Session

Frontier Reporting Service

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Case # 4993

File # 173

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IN THE DISTRICT COURT FOR THE FIFTH JUDICIAL DISTRICT

WASHAKIE COUNTY, STATE OF WYOMING

IN RE: )

THE GENERAL ADJUDICATION OF )  
RIGHTS TO USE WATER IN THE )  
BIG HORN RIVER SYSTEM AND )  
ALL OTHER SOURCES, STATE OF )  
WYOMING. )

Civil No. 4993

FILED \_\_\_\_\_

*6/23*

1981

*Margaret T. Hampton*

CLERK

DEPUTY

VOLUME 66

Tuesday, May 19, 1981

Afternoon Session

**ORIGINAL**

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Cheyenne, WY 82001  
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**Frontier Reporting Service**



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THE SPECIAL MASTER: Come to order, please.

Q (By Mr. Merrill) Mr. Dornbusch, do you recall this morning our talking about the possible effect of additional production of crops on prices in the region of the Wind River Indian Reservation?

A. Yes, I do.

Q Did you have a chance over lunch to see if you have any notes or calculations concerning the amount of -- let's take barley -- that would be produced in bushels or acres or any other figure?

A. Yes, essentially, my analysis of the degree to which the added production on the Wind River Indian Reservation might impact prices goes like this: First, according to Agricultural Statistics 1980 -- it's a U. S. Department of Agriculture Publication -- in 1979, the United States produced about 378,000,000 bushels of barley.

According to the U. S. Barley Industry, a publication by the USDA, Economic Report No. 395, which was published in 1978, the 1975 production of malting barley was about 38 percent of all barley, so if you use the 1975 production and apply it to the 1979 total barley production, you get about 144,000,000 bushels that were malting barley, roughly.

Now, in the Wind River Reservation, it's a little complicated to calculate exactly how many bushels we are

dornbusch - cross - merrill



1 projecting because you have high land and low land, and  
2 they have different crop mixes, and then you have a  
3 different proportion of high land and low land out of  
4 the different areas, but let's say on the outside, let's  
5 use the low land mix, which would give you the most  
6 barley and low land yields, we are producing roughly  
7 about a million bushels, which means that the Wind River  
8 Reservation is producing about .7 percent, less than  
9 one percent of the 1979 production.

10 Now, we are forecasting future production comparing  
11 to '79, the trend of malt barley, production in the total  
12 is going up. That's according to that USDA Barley publica-  
13 tion that I cited, so it's fair to say that that -- if you  
14 took the future production of the Wind River Reservation  
15 compared to the '79 estimated production, that what we  
16 are working from is .7 percent, and it's going to be  
17 decreasing, and my conclusion is that since we are talking  
18 about less than .7 percent, it's an insignificant propor-  
19 tion of the national market.

20 Q. Didn't you mention this morning that the market for  
21 malting barley in the Wind River Indian Reservation was  
22 fairly specialized because of the demand by breweries  
23 for this high quality barley?

24 A. Specialized in that it's good quality barley, yes.

25 dornbusch - cross - merrill



1 Q Let me hand you what's been marked for identification  
2 as Wyoming Exhibit ED-30, and ask you to identify that  
3 for the record.

4 THE SPECIAL MASTER: I have two. No, I don't either.

5 MR. MERRILL: It's a two-page document.

6 A. You want me to identify it?

7 Q (By Mr. Merrill) Please, if you can. If you don't, I  
8 will.

9 A. Okay. It's Wyoming Crop and Livestock Reporting Service.  
10 It's a report released in May of '81, Crops, Barley  
11 Estimates by Counties.

12 Q I direct your attention on page one of that exhibit to  
13 the second county shown, which is Fremont County.

14 A. Yes.

15 Q And ask you if that exhibit does not indicate that the  
16 preliminary estimates for 1980 production in Fremont  
17 County are about 1,050,000 bushels of barley?

18 A. That's what it says.

19 Q I direct your attention to the second page of that  
20 exhibit, which breaks down the barley production by  
21 irrigated and non-irrigated barley.

22 Looking at the irrigated at the top of the page,  
23 also under Fremont County, doesn't it indicate there  
24 that the total of the 1,050,000 bushels of barley from

25 dornbusch - cross - merrill



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Fremont County will all come from the irrigated lands?

A. Yes, it does.

\* \* \* \* \*



1 Q (By Mr. Merrill) And you just testified a moment ago,  
2 didn't you, that the Wind River Reservation would  
3 produce roughly a million bushels of new barley each  
4 year as an outside estimate?

5 A That's right.

6 Q So isn't it true that the additional land planted in  
7 barley on the Wind River Reservation will roughly double  
8 the barley output in Fremont County?

9 A According to this, that's right.

10 Q And is it your professional opinion that the doubling  
11 of the output of barley will have absolutely no effect  
12 on the price paid for barley?

13 A If it were doubling of the production, national  
14 production, I would conclude it would have an impact,  
15 but we are talking about barley that is purchased by  
16 the brewers of beer, which is a national industry, and  
17 that these brewers seek the best barley they can find  
18 throughout the country. While it's true you would be  
19 doubling the production of malt barley -- well, first  
20 of all -- yeah, while you would be doubling the  
21 production of malt barley in Fremont County, that  
22 doesn't seem to be a relevant statistic to be looking at  
23 because you are looking at a national market, and not  
24 necessarily just the Fremont County market.

25 dornbusch-cross-merrill





1 Q Did you contact any other brewers or any firms who  
2 contract for malt barley in the Wind River Indian  
3 Reservation region to determine whether they would  
4 even be willing to contract for twice the amount of  
5 barley that they now purchase?

6 A The analysis that we did on the price for malt barley  
7 was done on the basis of a survey that was done by  
8 Bob Carver of the Agricultural Extension Service, the  
9 University of Wyoming in Laramie, whose speciality  
10 is just these kinds of markets, and he was the one that  
11 contacted the wholesalers, the buyers of the malt  
12 barley to determine the price. In our discussions  
13 with him we concluded that, in fact, there would be  
14 a good market for barley, that the barley we would be  
15 producing could be sold, sold well, and at the prices  
16 that he helped us develop.

17 Q As part of your request for help from Mr. Carver, did  
18 you indicate to him that the proposed irrigation  
19 projects would double Fremont County's output of barley?

20 A I don't think we did that because I didn't have these  
21 statistics in front of me. I spoke to him much earlier,  
22 in May of 1981, but I think he was aware of the  
23 situation you are talking about in general, yes.

24 Q Is it your professional opinion, then, that doubling  
25 dornbusch-cross-merrill



1 the output of barley will have no affect on the  
2 market price paid for that barley either through  
3 contracts or open sales?

4 A No, that is not what I said. I said that doubling  
5 the output of barley in Fremont County is not the  
6 relevant statistic to look at, that what we are talking  
7 about is an additional less than .7 percent of the  
8 national market, and my conclusion is that an increment  
9 of less than .7 percent of a national market would  
10 have an insignificant affect on the price of malt  
11 barley.

12 Q Is the price for barley the same across the nation?

13 A No, I think it probably varies some.

14 Q If the price actually paid in the future for barley  
15 were to drop from the amount that you have estimated  
16 as part of your feasibility analysis, how would that  
17 affect the benefit costs curves shown on Exhibit ED-100?

18 MR. ECHOHAWK: Could I have the question read back,  
19 please?

20 (Whereupon, the Reporter  
21 (read back, as follows: "Q  
22 (If the price actually paid  
23 (in the future for barley  
24 (were to drop from the amount  
25 (that you have estimated as  
(part of your feasibility  
(analysis, how would that  
(affect the benefit costs  
(curves shown on Exhibit  
(ED-100?"

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1 MR. ECHOHAWK: Objection, Your Honor, calls for  
2 speculation.

3 THE SPECIAL MASTER: I will overrule the objection.  
4 I think we can almost take judicial notice of a rather  
5 rudimentary and basic proposition. Go ahead and answer it.

6 THE WITNESS: It sounds like it would be a simple  
7 answer. If the price were to drop, first of all, I  
8 would have to be able to anticipate that drop in my  
9 analysis. And if you recall, our costs, as our prices,  
10 are projected to remain flat on into the future. If the  
11 barley were to drop, it's possible that other costs would  
12 drop, input costs, and I think it's not possible to  
13 project one price to drop in isolation; that, in fact,  
14 you might have other costs, input costs dropping. So to  
15 simply say -- if you want the conclusion, that all of  
16 the things holding constant and the barley price dropping,  
17 yes, that would have a depressing effect on the curves,  
18 but that is a much too simplistic notion to even use  
19 to draw conclusions.

20 On top of that, just to make things even more  
21 complicated, in an economic analysis you would have  
22 to look at why that price dropped, and if the price  
23 were to drop because of what they call pecuniary  
24 benefits, which I think you even raised awhile ago,  
25 dornbusch-cross-merrill



1 it may not be valid to use that price drop in the  
2 calculations. So the answer is complex, but if all  
3 other things were to hold constant and if the barley  
4 were to drop, yes, it would have a depressing effect  
5 on our curves.

6 Q Did you have a chance over the lunch break to find  
7 the figures that you used for costs for gasoline,  
8 diesel, oil and motor oil?

9 A Yes.

10 Q Would you please tell the Court what costs you used  
11 in your analysis in 1979 normalized dollars for  
12 gasoline?

13 A Oh, we didn't use -- what I found were the costs that  
14 Doug Agee used in his 1977 report. We did not use  
15 those costs directly. The way we used his costs is  
16 the following: He determines the rate at which you  
17 would consume these fuels as you proceed to work the  
18 land, and he developed the determination of how fast  
19 you would consume these fuels and the various crop  
20 budgets, and we just took his variable costs which  
21 have fuel included, but we took his variable costs  
22 and normalized his variable costs directly so we  
23 didn't make any direct conversion or normalization of  
24 his actual costs, it was the total variable costs.

25 dornbusch-cross-merrill



1 Q Let me see if I have this right then. You normalized  
2 his variable costs as a sum figure instead of  
3 normalizing the breakdown components of that?

4 A That's right.

5 Q What index or normalizing tables did you use to  
6 normalize Mr. Agee's variable costs?

7 A Okay , we used the index as published in the Reference  
8 Handbook, Water and Resources Council, January, 1980.  
9 The normalized price index for 1979 is \$2.07, and  
10 the 1977 index is \$2.02. So we normalized by multiplying  
11 Doug Agee's variable costs for fuel -- he recognizes  
12 fuel by the ratio of \$2.07 over \$2.02, and I believe  
13 that is 1.025.

14 Q Can you direct me to the page number you took those  
15 figures from?

16 A Two-eleven.

17 Q Did you know what price for gasoline Mr. Agee assumed  
18 in his analysis?

19 A For gasoline, 51.5 cents a gallon.

20 Q So you would multiply that figure by roughly 1.02, is  
21 that correct?

22 A Well, that's not what I did. As I said, I -- Doug Agee  
23 applied the fuel consumption to the effort required  
24 in the fuel consumption in each of the operations, so

25 dornbusch-cross-merrill



1 I did not multiply the 1.285 times the fuel or  
2 calculated variable costs.

3 Q You multiplied the 1.025 times all the variable costs,  
4 then?

5 A That includes the fuel consumption, yes.

6 Q In choosing to use the WRC index and applying it to  
7 all of the variable costs together, does that assume  
8 that the variable costs will increase as a unit by  
9 that amount or does it assume that the differences  
10 in which the variable costs will increase will cancel  
11 out and average roughly 1.02?

12 A I'm not sure I understand your question.

13 Q My question is -- let me back up and see if I have  
14 your analysis right.

15 A Yeah.

16 Q You multiplied all of the variable costs in Mr. Agee's  
17 report, 619-R, by 1.025?

18 A No. I multiplied his fuel consumption portion of the  
19 variable costs by 1.025. Other portions of his variable  
20 costs have different normalization factors.

21 Q So in so doing you assume in your analysis that price  
22 of the fuel used by the farm equipment would increase  
23 by roughly two or three percent from 1977 to 1979, is  
24 that correct?

25 dornbusch-cross-merrill



1 A Oh, I see. No, that is not at all what I assumed.  
2 The normalization is a calculation that gets at the  
3 appropriate costs to use. It doesn't have assumptions  
4 of the nature you are talking about. What, in fact,  
5 is happening, we are working with a 1977 value. We  
6 are converting the 1977 value to a normalized 1979  
7 value. Okay? The normalized 1979 value is a weighted  
8 average that consists of the years '74 through '78,  
9 okay? In effect what you have is by weighting your  
10 average of those years, you have a normalized price  
11 that is not too far removed in terms of inflation from  
12 1977, so it is not surprising it only goes up by about  
13 two percent, and the reason is that 1974 is a very  
14 low rate when we continue, 1978 is a very high rate,  
15 and 1977 is a somewhat lower rate than '78. So in  
16 terms of inflating costs, the normalized index moves  
17 you to a point that is not too different from 1977.  
18 And may I point out that it is the same concept that  
19 applies to the costs for our system, that we are  
20 comparing it in the same point in time, and that is  
21 all you are doing, you are using the weighted average  
22 of those previous years. It is expressed here  
23 directly by that index, and the index for normalized  
24 1979 allows you to convert from any year. If I had

25 dornbusch-cross-merrill



1 data for '74, I could convert that by the same ratio.  
2 If I converted -- if I had 1980 data or 1981 data  
3 and I would convert to this ratio, I would convert  
4 downwards, it would actually lower the normalized  
5 price as -- for the normalized 1979.

10 \* \* \* \* \*

25 dornbusch-cross-merrill





1 Q (By Mr. Merrill) Isn't it true that implicit in your  
2 analysis and the factors by which you reached your  
3 1979 normalized costs, variable costs for trucks and  
4 tractors, that implicit in that analysis is a price  
5 for gasoline of roughly 55 cents a gallon?

6 I have got a calculator if you would like to  
7 borrow it.

8 Oh, you have one.

9 A. Yes, I'd say roughly, that's probably right.

10 Q As part of your analysis, did you compare the roughly  
11 55 cents a gallon figure implicit in your analysis with  
12 the prices actually paid by Wyoming farmers in 1978 or  
13 1979 for gasoline?

14 A. No, it's not necessary. I have the price paid as of  
15 1977, and the indices allow you to convert that to 1979  
16 normalized.

17 Q What did you arrive at for your 1979 normalized price  
18 for gasoline?

19 A. Well, as I said, I didn't compute that directly, but I  
20 think as you characterized, the price would approximately  
21 fall in the range of about 55 cents.

22 Q I hand you what's been marked for identification as  
23 Exhibit ED-29 and ask you to examine that.

24 Would you please identify ED-29 for the record?

25 dornbusch - cross - merrill



1 A. Yes, Wyoming Agricultural Statistics, compiled by the  
2 Wyoming Crop and Livestock Reporting Service, Cheyenne,  
3 Wyoming, and I don't see a date.

4 Q. Would you please turn to the second page of that exhibit,  
5 which is page 90 of the full edition of the report?

6 A. Okay.

7 Q. I direct your attention to the prices for petroleum  
8 products, particularly gasoline, which is the first  
9 sub-item --

10 A. Okay.

11 Q. -- on that page.

12 Isn't it true that the roughly 55 cents per gallon  
13 gasoline price assumed in your analysis is lower than  
14 any of the prices actually paid by Wyoming farmers in  
15 1978?

16 A. Yes. As I said, it's not surprising because the normalized  
17 price is not necessarily reflective of the '78 or '79 price.  
18 It's a weighted average of previous prices which, as you  
19 can see from here, are going up through time, so as you  
20 weight it by prices that are lower, it's weighted somewhat  
21 lower.

22 Q. Isn't it also true that your assumed gasoline price is  
23 far below the average price paid in 1979, according to  
24 this document?

25 dornbusch - cross - merrill



1 A. It's below.

2 THE SPECIAL MASTER: This document is a 1979 document,  
3 and the statistics are for that year, are they?

4 MR. MERRILL: I believe it's a 1980 document,  
5 Your Honor.

6 MR. ROGERS: For the record, it doesn't state what  
7 it is.

8 MR. ECHOHAWK: It doesn't state what it is.

9 THE SPECIAL MASTER: That's why I asked. It has  
10 some December, '79 statistics on it, so I assume it's  
11 published recently.

12 MR. MERRILL: Your Honor, I have a copy of the  
13 full document in front of me. I'll show it to counsel  
14 for the United States. If they are not willing to  
15 stipulate that the document is a 1980 document, I will  
16 enter the entire thing.

17 THE SPECIAL MASTER: I didn't hear them refuse  
18 to stipulate. If you will tell me what it is, I can  
19 put it on the document.

20 MR. MERRILL: I believe it's 1980, Your Honor.

21 THE SPECIAL MASTER: All right.

22 Q (By Mr. Merrill) Mr. Dornbusch, as part --

23 MR. ECHOHAWK: Mr. Merrill, may I inquire, does  
24 this document have a breakdown by county?

25 dornbusch - cross - merrill



1 (pause.

2 MR. MERRILL: As far as I know, it does not have  
3 a county breakdown. It's for Wyoming.

4 MR. ECHOHAWK: Wyoming as a whole?

5 MR. MERRILL: As I understand.

6 Q (By Mr. Merrill) Mr. Dornbusch, since actual price data  
7 was available as indicated by Exhibit ED-29 for the  
8 prices that Wyoming farmers actually paid in 1978 and  
9 1979 for gasoline, why did you choose to use a much  
10 lower normalized price for gasoline in your analysis?

11 A Well, first of all, I'm not sure that if you normalized  
12 those years' prices using the normalization factors that  
13 you would come out with something different. I don't  
14 know. I have no reason to believe that the prices that  
15 Doug Agee used were inaccurate.

16 In fact, just looking at this table, I don't know,  
17 but it raises the question as to whether the price shown  
18 even for '77 includes the refund, after-tax refunds,  
19 available to the farmers, which is comparable to the  
20 price that Doug Agee used, so I'd be interested in seeing  
21 if that was the case from that publication.

22 Q I take it then in setting your normalized prices for  
23 gasoline for 1979, you didn't take into account what  
24 Wyoming farmers actually paid in 1978 or 1979; is that  
25 dornbusch - cross - merrill



1 correct?

2 A. That's correct.

3 Q. Did you take that information into account for diesel  
4 fuel costs in your analysis?

5 A. No, we did the same thing with diesel fuel. We used  
6 Doug Agee's '77 prices and then normalized, but  
7 indirectly again, not directly.

8 Q. Isn't it true that in Mr. Agee's analysis, he assumed  
9 a diesel oil price of 37 cents per gallon?

10 A. That's right. That's after tax refunds.

11 Q. Isn't it true that multiplying that times the 1.025  
12 indexing figure you used, you reach a diesel fuel oil  
13 price of approximately 38 cents per gallon?

14 A. Well, as I said, we didn't calculate the price directly,  
15 but it would probably come out to something like that.

16 Q. Do you know if it would be roughly in that neighborhood?

17 A. Well, I haven't calculated it, but I could.

18 Q. I have a calculator here if you want to borrow it.

19 A. That's right, about 38 cents.

20 Q. Isn't it true that 38 cents per gallon is below what  
21 Wyoming farmers actually paid in both 1978 and 1979,  
22 according to ED-29?

23 A. It is, and here again I call your attention to my  
24 answer concerning what the normalized price for '78 is,

25 dornbusch - cross - merrill



1 and it's not surprising to me that the price would be  
2 comparable to a '77 price because that's, in fact, when  
3 you weight the prices in those years -- in fact, let me  
4 say something. I think I misled you in something I  
5 stated.

6 The normalized price accounts for all of those  
7 years, '74 through '78, in determining what the normalized  
8 price is, so, in effect, the normalized weight or the  
9 normalized factor does account for the prices through the  
10 years that determine that index.

11 In other words, there are five years which are used  
12 in order to determine the normalized price index. So,  
13 in effect, we have accounted for the prices through that  
14 time period.

15 And if you look at '77, you can see that it's quite  
16 close to Doug Agee's price in the early years -- in the  
17 early part of the year.

18 Q Isn't it true that even the 1977 prices paid are all  
19 higher than the fuel oil prices assumed in your analysis?

20 A Assumed in my analysis? Are you talking about '77 prices  
21 compared to normalized '79 prices?

22 Q I'm talking about '77 prices after you multiplied them  
23 by the indexing figure to reach '79 normalized price.

24 A The '77 prices are below or above -- yeah, some of the  
25 dornbusch - cross - merrill



1 prices are below the normalized '79 prices, and some  
2 are above.

3 THE SPECIAL MASTER: Let me see if I can get the  
4 answer to my own questions.

5 One acre of good barley land on the reservation  
6 should yield what, about a hundred bushels of barley?

7 THE WITNESS: That's right.

8 THE SPECIAL MASTER: All right.

9 THE WITNESS: I'm sorry. In my answers, I was looking  
10 at the wrong -- I was not looking at diesel fuel. Forgive  
11 me.

12 The price that Doug Agee used after tax refunds, is  
13 consistently lower than the '77 price shown here. I was  
14 looking at the wrong set of notes.

15 THE SPECIAL MASTER: Let me finish my little --

16 THE WITNESS: Yes, I'm sorry.

17 THE SPECIAL MASTER: -- attempt to see what effect  
18 this would have on your figures.

19 How much is a bushel of barley at '79 prices pro-  
20 jected to yield, even if one million annual production  
21 from the county goes up to two million for the county?

22 THE WITNESS: Okay. The normalized price for barley  
23 is \$2.71 per bushel.

24 THE SPECIAL MASTER: Okay.

25 dornbusch - cross - merrill



1 THE WITNESS: And the gross return is \$271.00, low  
2 in return. And if you add bales, it comes to near 300  
3 acres.

4 THE SPECIAL MASTER: Now, your exhibit shows that  
5 an acre will use approximately 15 gallons of diesel,  
6 and your assumption, Mr. Merrill, is that that may be  
7 as high as 25 cents a gallon below diesel?

8 MR. MERRILL: It's certainly possible. I haven't  
9 arrived at any specific figure, so I don't want to mislead.

10 THE SPECIAL MASTER: Well, you are talking about  
11 \$575.00 on diesel, and if you are a dime a gallon short  
12 on that, I assume you are 60 cents short there.

13 I'm trying to put into a comparative figure as to  
14 how much difference that would have on your yields.

15 Do you know if what I said sounds about right?

16 THE WITNESS: Well, I really didn't follow you  
17 on the numbers but, in fact, if you look at the total  
18 variable cost, I think in principle, I would agree with  
19 you that the sensitivity is not that great.

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THE SPECIAL MASTER: Go ahead, Mr. Merrill.

MR. MERRILL: Your Honor, in response to your questions concerning the price differentiations, I would point out while the difference may appear to be insignificant, at this stage of the analysis, we are talking about annual prices for over a period of 100 years of analysis; secondly, as I'm sure you will become aware during the cross-examination, our disagreements with Mr. Dornbusch's analysis may be, in many cases; fairly insignificant as far as the numbers themselves are concerned, and it is what adds up in the bottom line.

THE SPECIAL MASTER: I appreciate that, and I took my figures off the top of my head. I have no basis for that much of an increase in the price of gas either. I know they doubled again since the end of 1979 to what we are paying today, and I don't know how you crank out that into economic feasibility.

Q (By Mr. Merrill) Mr. Dornbusch, what was your adjusted -- excuse me, normalized 1979 price for motor oil?

A. You are talking about lubrication?

Q. Yes.

A. Okay. We used the normalized index for farm and motor supplies, I believe, for the repair proportion of the

dornbusch - cross - merrill



1 variable cost, which is a factor at a figure 1.026  
2 times the '77 prices.

3 Q What was the '77 price, using Mr. Agee's analysis?

4 A I don't know. We didn't use it directly, I don't believe,  
5 I think we did the same thing. We took his total repair  
6 and lube costs and multiplied it by normalized index to  
7 adjust to normalized 1979 for repair and lube.

8 Q So you indexed all of the repair and lube costs as a  
9 whole rather than their separate components?

10 A That's right.

11 Q And you multiplied all of those costs times 1.026?

12 A No, only the portion that applies to the farm and motor  
13 supplies.

14 Q Okay. What portions would those include?

15 A According to Doug Agee, that is approximately -- yes, 80  
16 percent of the total repair and lube, 80 percent being  
17 farm and motor supplies and 20 percent being labor.

18 Q I direct your attention to page 37 of Wyoming Exhibit  
19 ED-8, to the bottom section of the chart on that page  
20 entitled, "Fuel and Lube".

21 A Yes.

22 THE SPECIAL MASTER: Had a what, Mr. Merrill?

23 MR. MERRILL: Entitled, "Fuel and Lube", Your Honor.

24 THE SPECIAL MASTER: Uh-huh.

25 dornbusch - cross - merrill



1 MR. MERRILL: It is at the very bottom of the page.

2 MR. ECHOHAWK: What page is that, again?

3 MR. MERRILL: Page 37.

4 Q (By Mr. Merrill) Isn't it true Mr. Agee's analysis  
5 assumed a price of \$1.96 for a gallon of motor oil?

6 A Yes, according to that table. That's right.

7 THE SPECIAL MASTER: Off the record.

8 (Off the record discussion.)

9 Q (By Mr. Merrill) Did you say, Mr. Dornbusch, that you  
10 normalized that price as well as several others in  
11 conjunction with it?

12 A Well, I assume that's as he shows, part of the fuel  
13 and lube, and as I said, I took his entire variable  
14 cost for repair and lube of which that seems to be a  
15 part.

16 Q Okay.

17 A So by implication, yes, I used the normalization of that.

18 Q What price for motor oil is then implied in your analysis  
19 when you index \$1.96 --

20 A I don't know. I don't know how that is apportioned within  
21 the total of repair and lube. It wasn't necessary for my  
22 calculation.

23 Q Do you have any idea what the assumed price of motor oil  
24 was for purposes of your economic feasibility analysis?

25 dornbusch - cross - merrill



1 A. No, I don't.

2 Q. Isn't it true that if your analysis had used the prices  
3 paid by Wyoming farmers in either 1978 or 1979 for gaso-  
4 line and diesel oil, that your costs of production would  
5 be higher than they are under your analysis?

6 A. Oh, no. Not at all. No. If I took either of those  
7 two years, I would have to do the same thing as I did  
8 for the '77 data, and that is convert to a normalized  
9 1979 price, then I would have to use an index -- an  
10 index in procedure the same way I did it, and I couldn't  
11 draw the conclusion that it would be any different.

12 Q. And you feel it is more proper in an economic analysis  
13 to use these normalized 1979 figures rather than the  
14 figures that Wyoming farmers actually paid during 1978  
15 or 1979, is that correct?

16 A. Oh, absolutely. As long as you are comparing normalized  
17 prices and costs at the same time, you must be consistent,  
18 that's right. If I had used fuel prices, say, just for the  
19 sake of your argument, by the same token, you would have  
20 to do the same thing with everything else, and just --  
21 the same thing holds for cost as it does for returns. In  
22 fact, it's the entire principle upon which the normalization  
23 is based, that what you are trying to do is get representa-  
24 tive prices and get out the aberrations and fluctuations

25 dornbusch - cross - merrill



1 that may occur through time, and the whole procedure  
2 of normalization is to get at a more stable price  
3 that is representative at a particular point in time.

4 Q Okay. Do you consider the price assumed in your  
5 analysis for diesel fuel and gasoline to be representative  
6 of the prices that will be paid in operating this project  
7 over a 100 year life, taking out of account the effects  
8 of inflation?

9 A Yes, I do.

10 Q I am going to switch to another area of your work con-  
11 cerning crop selection so that you --

12 A Crop selection?

13 Q Uh-huh.

14 A Give me a minute to refile.

15 Q So get organized, right.

16 THE SPECIAL MASTER: Let's take a short ten-minute  
17 break. We are about through.

18 (Whereupon, a ten-minute recess  
19 (was taken.)

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1 THE SPECIAL MASTER: Come to order, please.

2 Q (By Mr. Merrill) Mr. Dornbusch, I direct your attention  
3 to Exhibit C-268, which is your report, particularly  
4 Table 3 of that report on Page 11.

5 MR. ECHOHAWK: C-268 or C-278?

6 MR. MERRILL: C-268.

7 Q (By Mr. Merrill) Did you state in your testimony this  
8 morning that you used the same cropping pattern for  
9 the Type VIII historic lands as for the future lands?

10 A Yes, that's right.

11 Q As part of your economic analysis, did you ever make  
12 a determination of the historic cropping pattern in  
13 the area of the Wind River Indian Reservation?

14 A You mean by percentage breakdown specifically or just  
15 the crops that are grown?

16 Q Yes, the crops that are grown and by percentage  
17 breakdown.

18 A The crops that are grown; the percentage breakdown, no.

19 Q Would you please tell the Court what crops you  
20 determined are grown in the area?

21 A All of the crops that I show here plus some others.

22 Q What other crops are grown in addition to the ones  
23 indicated on Table 3?

24 A I'll have to check my notes.

25 dornbusch-cross-merrill



1 THE SPECIAL MASTER: He mentioned two more in  
2 the exhibit this morning.

3 THE WITNESS: Mr. Merrill was asking about the  
4 Type VIII lands. The Type VIII lands have the same.

5 (Brief pause.

6 A Well, I don't have all the sources that I consulted  
7 with me, I don't believe, for crops that are grown  
8 in the area, but I have one, and that one is contained  
9 in the Agee report where he shows on Page 4 the acres  
10 harvested in yields, irrigated crops, Fremont County,  
11 Wyoming, '66 to '75.

12 Q (By Mr. Merrill) Are you referring to Exhibit ED-8?

13 A Yes.

14 Q I take it that Agee was only one of the sources on  
15 which you relied in establishing your cropping  
16 pattern; is that correct?

17 A That's correct.

18 Q Would you please tell the Court what other sources  
19 of facts and data you used?

20 A A lot of interviews with people. We were concerned  
21 about primarily the markets, future markets, expected  
22 markets for crops that could be grown in that region,  
23 and it's been about two years since we performed that  
24 analysis and analyzed which crops we would keep in and  
25 dornbusch-cross-merrill.



1 those we would screen out.

2 I don't think I can recall right now who all the  
3 people were that we talked to.

4 Q Do you recall how many interviews you conducted?

5 A No, not specifically I can't, but I conducted some  
6 and my staff conducted some.

7 Q Did you or your staff make notes as a result of those  
8 interviews?

9 A I expect we did, but as I --

10 Q Do you have those notes with you that you can consult?

11 A Well, with respect to the crops that we eliminated,  
12 once they were eliminated, we really didn't dwell on  
13 those crops very much. There were reasons for  
14 eliminating them, and what we really focused on was  
15 the crops that we included in.

16 Q Can you describe for the Court any other source of  
17 information other than the Agee report on which you  
18 relied in determining the cropping pattern for the  
19 future lands and the Type VIII historic lands?

20 A Yes, for the crops that we included in, we spoke to  
21 a number of farmers in the area. We spoke to people  
22 connected with the Riverton Irrigation Project.

23 We spoke to personnel of the BIA concerned with  
24 irrigation on crops raised in the region. We spoke

25 dornbusch-cross-merrill





1 to agricultural extension people in Riverton, Laramie,  
2 Fort Washakie.

3 Q Okay. Let's start with the farmers. How many farmers  
4 did you speak to?

5 A I personally?

6 Q You or people in your firm who did this work on which  
7 you relied.

8 A Oh, I'd say on the order of 20-25 farmers, maybe more.

9 Q Did you make notes as a result of those interviews?

10 A Yes, we did.

11 Q I hand you what's been marked for identification as  
12 Exhibit ED-16 and ask if you can identify that for  
13 the record, please?

14 A Yes, these are some of my notes on the basis of  
15 interviews with farmers, and there are lots of areas  
16 that have been whited out from these notes.

17 THE SPECIAL MASTER: You mean some of these have  
18 been covered over and were not contained in your  
19 total and complete notes on Page 2?

20 THE WITNESS: That's correct.

21 Q (By Mr. Merrill) Mr. Dornbusch, do you have notes  
22 other than those shown in ED-16?

23 A Well, I have the originals of these.

24 Q Do you have any notes --

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1 MR. ROGERS: I would object to the use of any  
2 exhibit where they have extracted information -- from  
3 which they have excised information.

4 THE SPECIAL MASTER: I would sustain that objection.  
5 I can't avoid sustaining it.

6 MR. MERRILL: Your Honor, if necessary, I can  
7 refer the Court and Counsel to the transcript of the  
8 deposition in which these documents were supplied to  
9 the State of Wyoming.

10 The transcript will show that the witness at the  
11 insistence of Counsel for the United States deleted  
12 certain information from those notes before that  
13 information would be turned over to the State.

14 I don't think it can be held against the State  
15 that the United States refused to provide certain  
16 information in discovery.

17 THE SPECIAL MASTER: Very good. Mr. Merrill,  
18 that's an adequate explanation..

19 If some of this was brought out and you didn't  
20 care to have it divulged and you asked to have it  
21 deleted, that would be fine. Did you?

22 THE WITNESS: The process was that some of this  
23 information was given to me in confidence.

24 THE SPECIAL MASTER: Right, so you asked that it  
25 dornbusch-cross-merrill



1 not be copied?

2 THE WITNESS: Right. I didn't know whether I  
3 had to or --

4 THE SPECIAL MASTER: I'm sure if Mr. Rogers  
5 would have known that, he would not have objected.

6 MR. ROGERS: I'm still not certain that every-  
7 thing that was out here was --

8 THE SPECIAL MASTER: That's true. That being the  
9 case, you continue with your questions concerning  
10 the Exhibit ED-16, Mr. Merrill. We will probably have  
11 another problem on offering it, but we will get to it  
12 at that point.

13 MR. MERRILL: I will offer it at the end of my  
14 cross-examination, Your Honor.

15 I would note that that exhibit was marked as  
16 Deposition Exhibit 8, I believe, during Mr. Dornbusch's  
17 second deposition, which was taken on January 12 and 13,  
18 1981, and I would also point out that the record of  
19 that deposition shows that Mr. Rogers was present.

20 Q (By Mr. Merrill) Mr. Dornbusch, do you have any other  
21 notes of interviews by you or your staff on which you  
22 relied in establishing your cropping pattern; that is,  
23 notes of interviews with farmers?

24 A Yes, I believe so -- for establishing the cropping  
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patterns?

Q Yes.

A I don't know. For establishing the cropping patterns, what you have here are my notes, and one page of my notes from one of my staff, and I can't say whether there are or are not additional notes that my staff has.

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dornbusch-cross-merrill



1 Q (By Mr. Merrill) Did these notes reflect all of the  
2 information from the interviews of the 20 or 25  
3 farmers?

4 A No, I don't think so.

5 Q Do you or your staff present in the courtroom today  
6 have any additional notes on farmer interviews on  
7 which you relied on establishing your cropping pattern?

8 A I don't know that. Let me explain something. You  
9 know, a lot of the issue of whether you can grow a  
10 crop and where you can grow it consists of conversations  
11 like, "I see barley has been raised in the area, any  
12 problems with barley?"

13 "No."

14 Do you think you intend to continue to raise  
15 barley in the area?"

16 "Yes."

17 I mean, conversations that show that it is  
18 feasible to be grown, people tell you they are  
19 growing it, others say there is no problem with it,  
20 conversations of a nature that wouldn't necessarily  
21 mean that you would have to take notes to have the  
22 conclusions from the interview.

23 THE SPECIAL MASTER: It is something of a sampling  
24 at best, you are saying, and of opinion?

25 dornbusch-cross-merrill



1 THE WITNESS: Well, there are people who give  
2 you specific information like, "Yes, I'm growing 120  
3 bushels of barley to the acre." Well, you write that  
4 down. But if somebody says --

5 THE SPECIAL MASTER: First you congratulate them,  
6 then you write it down.

7 Q (By Mr. Merrill) Mr. Dornbusch, if we were to go off  
8 the record, could you ask of your staff who are  
9 present in the courtroom today whether they have in  
10 their possession any other interview notes?

11 THE SPECIAL MASTER: Would you like to go off for  
12 a few minutes?

13 THE WITNESS: Yes.

14 THE SPECIAL MASTER: Off the record for a minute  
15 or two. Go ahead and do that while we are off the  
16 record.

17 MR. MERRILL: Thank you, Your Honor.

18 (Off-the-record discussion.)

19 THE SPECIAL MASTER: Okay. Did you find something,  
20 Mr. Dornbusch?

21 THE WITNESS: Yes. What I learned, there are  
22 other notes that are back in our office, but Page 2 of  
23 this exhibit that Mr. Merrill gave me where it says  
24 "Dave may" at the top of the page, Dave told me this  
25 dornbusch-cross-merrill



1 is a summary of his notes, and it includes just the  
2 information where we had specific information on  
3 yields, not the kind of information that I said, yes,  
4 this can be grown, that can be grown.

5 Q (By Mr. Merrill) Okay. You said you interviewed  
6 people associated with the Riverton Irrigation Project.  
7 Who did you interview?

8 A His name escapes me right now, but it was the manager  
9 of the project. I also interviewed a man who is, I  
10 believe, called the chief soils scientist of the  
11 Riverton Irrigation Project. I think his name is  
12 Sconefelt (phonetic) or something like that.

13 Q Would the manager's name by any chance be Pete Stevens?

14 A Could be. I don't recall right now.

15 Q When did you interview these gentlemen?

16 A Again, I don't remember. Actually -- well, sometime  
17 last year.

18 Q During 1980?

19 A Yes, I believe so.

20 Q Who did you talk to in the Bureau of Indian Affairs?

21 A Don Crook, Rich Harbour, Louis Twitchel -- you are  
22 talking about specifically in connection with crops?

23 Q Yes, and the cropping patterns.

24 A There might have been others. Those were the key people.

25 dornbusch-cross-merrill



1 Q You mentioned you spoke to agricultural extension  
2 people in Riverton, Laramie and Fort Washakie. Can  
3 you tell me who those people are?

4 A Well, in Riverton it would have been Ron Cunningham;  
5 in Fort Washakie, Lynn Merrick; in Laramie, Doug Agee.  
6 I spoke to some other people in Laramie, but after the  
7 crops were selected, I believe. I spoke with an  
8 agronomist at Utah State, R.J. Hanks.

9 THE SPECIAL MASTER: At Logan or on the Reservation?

10 THE WITNESS: I believe he's -- well, I'm not even  
11 sure of the location of his office, but he's at the  
12 university.

13 Q How many of the interviews to which you have alluded  
14 were conducted in person as opposed to by telephone?

15 A Hard to say. A number of them were conducted in person  
16 by my staff. I conducted interviews in person of a  
17 number of farmers.

18 Q Can you tell the Court of the farmers you interviewed  
19 who were actually growing crops in the region, what  
20 the distribution of crops was for these people?

21 A I can't offhand.

22 Q Can you give the Court a general idea of the crops  
23 that were grown by the farmers you interviewed?

24 A Yes. Primarily alfalfa, and also secondarily malt barley.

25 dornbusch-cross-merrill





1 Q How did you determine which farmers to interview?

2 A Essentially I was looking for farmers who were  
3 primarily farmers and just not raising crops to feed  
4 their cattle. There were a number of people in that  
5 region who are primarily ranchers and not farmers.  
6 They are not that concerned with how much yield they  
7 get as long as they get enough to support their cattle.  
8 I was looking for farmers who irrigated their crops  
9 and not primarily dry farming.

10 THE SPECIAL MASTER: Cash crop farms?

11 THE WITNESS: That's right. I was looking for  
12 farmers who other people considered to be the better  
13 farmers in the region.

14 Q (By Mr. Merrill) Would you say that the farmers you  
15 interviewed were representative of the non-feeding  
16 operation farmers who are irrigating in the region?

17 A Of the -- yes, I would say that, yes.

18 Q How did you determine that they are representative?

19 THE SPECIAL MASTER: Oh, I think he answered that,  
20 Mr. Merrill. He tried to find who, as he said, were  
21 engaged in growing crops, irrigating crops for a profit  
22 directly rather than through their livestock.

23 Q (By Mr. Merrill) In determining the cropping patterns,  
24 Mr. Dornbusch, to what degree did you rely on the

25 dornbusch-cross-merrill



1 information you obtained through interviews as  
2 opposed to the information presented in Mr. Agee's  
3 report?

4 A Let me try and put this in a perspective. We are  
5 talking about an area where it is pretty clear you  
6 can grow alfalfa and grow it well. I don't think  
7 there is too much mixed opinion about this. It is  
8 also pretty clear that malt barley grows well in this  
9 area, you got good quality malt barley. I think if it  
10 was a situation where there was a big debate and lots  
11 of differences of opinion on whether you could grow  
12 those principal crops, I would be very concerned  
13 about who I was talking to and how credible they were.  
14 It was unanimous that alfalfa and malt barley can be  
15 grown, which everybody tells us that, good farmers,  
16 bad farmers, all the agricultural extension people.  
17 It's not like there was a lot of doubt about it.

18 Q How about corn?

19 A Corn, a lot of farmers are growing corn for silage,  
20 and a number of farmers are growing corn for grain,  
21 as well.

22 Q Is it as widely agreed that corn for silage and grain  
23 can be grown in the area as easily as alfalfa and malt  
24 barley?

25 dornbusch-cross-merrill



1 A I would say probably not. I don't think that many  
2 farmers have tried to grow corn, and the ones who  
3 have, have succeeded, done well.

4 THE SPECIAL MASTER: I think the record so far is  
5 pretty replete with that subject matter in its  
6 relationship to climatology.

7 Q (By Mr. Merrill) Mr. Dornbusch, did you state this  
8 morning that all of the Type VIII historic lands would  
9 be irrigated with hand move sprinklers?

10 A I think I did. I can check to be sure.

11 (Brief pause.)

12 Yes, my understanding from Stetson Engineers is  
13 yes, they would be using hand move sprinklers.

14 Q Do the crop budgets vary depending on whether you use  
15 side roll or hand move sprinklers?

16 A I think you have it backwards.

17 Q I'm just saying is there a difference in the crop  
18 budgets between the cost of irrigating with one as  
19 opposed to the other?

20 A Oh, the crop budgets. I'm sorry, I thought you were  
21 on crop selection. Okay, now we are talking about  
22 crop budgets. All right. Do the crop budgets vary  
23 if we use hand move or sprinkler, yes, there are  
24 different costs.

25 dornbusch-cross-merrill



- 1 Q Hand move as opposed to side roll?
- 2 A Excuse me, there are different costs for hand move
- 3 than there are for side roll.
- 4 Q In establishing your crop budgets, let's start with
- 5 the future lands, did you make assumptions concerning
- 6 the percentage of land in each project that would be
- 7 irrigated with the hand move sprinklers?
- 8 A No, I did not.
- 9 Q Were you supplied that information by someone else?
- 10 A We are talking about new project lands?
- 11 Q Uh-huh, the five new areas.
- 12 A Yes. Woldezion Mesghinna gave me that information.
- 13 Q Do you recall what information he gave you with respect
- 14 to the percentage of hand move sprinklers?
- 15 A I think -- well, let me check my notes.
- 16 Q If you don't mind.
- 17 A Are we finished with crop yields and crop selection?
- 18 Can I put that away?
- 19 Q We are through with crop selection for awhile.
- 20 A Okay.

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dornbusch-cross-merrill



1 (Pause.

2 A. Okay, for the new project areas, Dr. Mesghinna gave me the  
3 percentage of hand-move sprinklers as 12 percent across the  
4 board in all project areas and 88 percent for side-roll  
5 sprinklers.

6 Q And that's for all five areas?

7 A. All five areas, correct.

8 Q Did you use those percentages in establishing your crop  
9 budgets?

10 A. Not the crop budgets, no. This is the on-farm irrigation  
11 cost.

12 Q I'm sorry, but I do have a couple more questions about the  
13 cropping pattern, and they refer to Table 3 on Page 11 of  
14 your report, Exhibit C-268.

15 THE SPECIAL MASTER: Page 3, Table 2?

16 MR. MERRILL: Table 3, Page 11, Your Honor.

17 THE SPECIAL MASTER: Thank you.

18 Q (By Mr. Merrill) I note that in your cropping patterns for  
19 lowlands and highlands that both patterns are the same and  
20 that each contains 67 percent alfalfa?

21 A. Yes.

22 Q Is that result consistent with the information you obtained  
23 in your interviews with farmers in the area?

24 A. Some farmers grow more, some less. It's not inconsistent.

25 dornbusch - cross - merrill



1 Q In projecting the relative proportions of alfalfa on the  
2 lowlands and the highlands, did you rely on the same sources  
3 of information that you gave a little earlier?

4 A Yes, I did.

5 Q You indicated in your direct testimony both last week and  
6 also this morning that for the historic and future lands  
7 you used 5900 feet as the break point in elevation between  
8 highlands and lowlands; is that correct?

9 A That's correct.

10 Q Would you tell the Court what information you relied upon  
11 in establishing 5900 feet as your break point?

12 A Yes, okay. The report that I primarily relied on is called  
13 the Plan for the Completion of the Wind River Irrigation  
14 Project published by the BIA in June, 1967.

15 Q Can you refer the Court to any particular page or section  
16 of that report?

17 A If I recall correctly, it might be Page 19 of that report.

18 Q I hand you what's been marked for identification as Exhibit  
19 ED-17 and ask if you can identify that?

20 A This looks like the cover and one page from the report that  
21 I just described.

22 I see I was wrong. The publication is June, '68, not  
23 '67.

24 Q Does that only have one page?

25 dornbusch - cross - merrill



1 A. One page.

2 Q. I'm sorry, I gave you the wrong copy.

3 Try that one.

4 A. Now, I have two pages.

5 THE SPECIAL MASTER: Join the club.

6 Q. (By Mr. Merrill) Does your copy contain the cover page and  
7 Page 7 and Page 19?

8 A. It does.

9 MR. MERRILL: Is anybody missing either of those pages?

10 (No response.)

11 Q. (By Mr. Merrill) Does Page 19 contain the information on  
12 which you primarily relied in establishing 5900 feet as  
13 your break point?

14 A. Yes, it does.

15 Q. Would you please direct the Court to that portion of Page  
16 19 on which you relied?

17 A. I believe the second paragraph of that page contains the  
18 gist of the information which splits the Reservation into  
19 two zones, one from 5,000 to 5800 feet, and the higher zone  
20 from 6,000 to 6800 feet, and this information was corroborated  
21 by interviews with people at the BIA --

22 Q. Okay.

23 A. -- as to the split at 5900 feet.

24 Q. I direct your attention to the third sentence of the

25 dornbusch - cross - merrill



1 second paragraph on that page that begins, "The higher  
2 parts."

3 A. Okay.

4 Q. Doesn't that sentence indicate that perhaps 5800 feet is  
5 too high for a break elevation?

6 A. How do you conclude that?

7 Q. I'm just asking you if you derive any such meaning from the  
8 sentence.

9 A. Well, it says --

10 MR. ECHOHAWK: Objection. The document speaks for it-  
11 self.

12 Q. (By Mr. Merrill) It says what?

13 A. If I'm reading the right sentence, "The higher parts of  
14 the Little Wind might be included in the upper area," and  
15 then it has some caveats, but land classification summaries,  
16 engineering cost statements and other data are available  
17 only for the unit as a whole.

18 I made specific interviews of farmers in that region.  
19 The farmers I interviewed were in the Little Wind Unit in  
20 the Crowheart area. They were at the 6300-foot level, for  
21 the most part. Some higher, some lower, as I recall, and  
22 those were some of the farmers that were growing malt  
23 barley at yields that were at or even above the yields that  
24 I'm showing for the lower elevations. So I think my

25 dornbusch - cross - merrill





1 information, I'd say, is better than the '68 report.

2 THE SPECIAL MASTER: Mr. Merrill, the record has a  
3 good exchange with -- I think you were doing the cross on  
4 it -- where 5600 was brought out as an alternative to 5900  
5 by some of the either BIA or Department of Agriculture work  
6 in decades gone by.

7 Is that what you are referring to?

8 MR. MERRILL: Well, Your Honor, my point here is  
9 simply that the Bureau of Indian Affairs itself has looked  
10 at the area and suggested that 5800 feet may be too high  
11 for a break point, but they indicate that at the time this  
12 report was published, there was not enough information in  
13 detail facts to make sure.

14 THE SPECIAL MASTER: I see. All right.

15 Q (By Mr. Merrill) Mr. Dornbusch, did you say that you  
16 believed your interviews with farmers at 6300 feet are a  
17 better source of information than the BIA report?

18 A. Well, with regard to what's happening up at that elevation,  
19 I spoke with farmers who were well in excess of 5900 feet  
20 who were growing -- not only were they growing good yields  
21 in alfalfa and malt barley, but they were even growing corn,  
22 which I haven't even assumed that would be a part of the  
23 crop mix at that elevation, but they were telling me there's  
24 no problem. You can grow corn up there.

25 dornbusch - cross - merrill



1 Q Are the notes from any of those interviews reflected on  
2 Exhibit ED-16?

3 A ED-16?

4 Q Yes, that's a copy of your -- I think you identified it as  
5 some of your interview notes earlier.

6 A Yes, they are.

7 Q Would you please indicate to the Court which portions of  
8 ED-16?

9 A Well, that gives me the same problem I had before, in terms  
10 of confidentiality.

11 Q Mr. Dornbusch, I'm not asking you to name anyone's name.  
12 I'm simply asking you to indicate what portions of what  
13 pages of ED-16 reflect information you obtained from  
14 farmers growing malt barley and corn at 6300 feet.

15 A Well, one that I see immediately is in the upper portion of  
16 the first page.

17 Q May I look over your shoulder and see which one you are  
18 pointing at?

19 A (Indicating).

20 Q Okay. You are referring to Page 1 of ED-16, which is the  
21 notes to the right of the words, "Referred me to", about  
22 a third of the way down the page?

23 A That's right, and there may be some others as well. As I  
24 recall, the notes that I made on that particular day or

25 dornbusch - cross - merrill



1 days were all the farmers in that region.

2 Q Do those notes indicate the altitude at which the interviewee  
3 was farming?

4 A No, I took that out.

5 Q Do you have a complete copy of these notes without the ele-  
6 vations deleted with you?

7 A I do.

8 MR. MERRILL: Your Honor, I would move the Court for  
9 an Order requiring Mr. Dornbusch to turn over a more com-  
10 plete copy of these notes. I have no objections to him  
11 deleting the names or addresses, if necessary, to the  
12 interviewees, but I believe that since he relied on this  
13 information in establishing the break point, that we are  
14 entitled to find out the elevations of the people he inter-  
15 viewed and obtained this information from.

16 THE SPECIAL MASTER: I would normally be happy to  
17 grant that for you, Mr. Merrill, if I thought the subject  
18 matter was of sufficient gravamen and of real probative  
19 value to me. I don't think it is.

20 I don't think it's going to effect a difference one  
21 way or the other. If every consideration you asked for were  
22 given to it, it wouldn't make that much difference in the  
23 overall acreage and water.

24 The question that you are attacking on cross-  
25 dornbusch - cross - merrill



1 examination is 5900 feet as a break in elevation, and we  
2 have already got it in the record and I don't think I need  
3 much more, and I don't think an interview with one or two  
4 farmers that he may have had an interview with will be of  
5 any help, so I would be inclined for that reason to deny  
6 it, but not because it isn't a matter of propriety. It's  
7 just a matter of doing something to help bring about the  
8 end of repetitious and unnecessarily burdensome evidence  
9 in these proceedings.  
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1 Q (By Mr. Merrill) Mr. Dornbusch, did you rely on any  
2 other sources other than the BIA completion report  
3 and your interviews with farmers in establishing 5,900  
4 feet as the break point?

5 A No, I believe those were the sources that I relied upon.

6 Q I hand you what has been marked for identification  
7 as Exhibit ED-15 and ask if you can identify that  
8 for the record, please.

9 A Okay. There is a cover letter from HKM Associates  
10 dated October 17, 1978 and signed by Roger Perkins  
11 of HKM and Associates, and attached is a report  
12 entitled "Criteria for Selection of Project Study  
13 Areas, Wind River Indian Reservation," prepared for  
14 the Wind River expert witness team, prepared by HKM  
15 Associates, the address and the date is October, 1978.

16 Q Okay. Unfortunately the pages in this report are  
17 not numbered. I would ask you to turn approximately  
18 two-thirds of the way through the report until you  
19 find a page that says "Table 2" at the top of the page.  
20 It is roughly ten pages from the back.

21 A Turned right to it.

22 THE SPECIAL MASTER: Freeze hazard table?

23 MR. MERRILL: Right.

24 Q (By Mr. Merrill) Now, back up one page from there  
25 dornbusch-cross-merrill



1 towards the front of the report .

2 A Okay.

3 Q I direct your attention to the, I believe it's the  
4 first full paragraph beginning, "The elevation cut  
5 off . . . "

6 A Okay.

7 Q Did you take the information in this report into  
8 account in establishing your break point for elevation?

9 A I looked at this information, yes.

10 Q I refer you generally to the paragraph that I just  
11 named, and also to the tables on the following page,  
12 especially Table 3 with respect to acceptable elevations  
13 for corn.

14 A Yes.

15 Q And the paragraph following Table 3.

16 A Okay. May I take some time to read this again?  
17 It has been awhile.

18 Q Please do. Go right ahead.

19 MR. ECHOHAWK: Your Honor, I would like to object  
20 to any cross-examining on Table 3 or any other portion  
21 of this report in that there is no foundation whatsoever.

22 THE SPECIAL MASTER: I would overrule the  
23 objection on the basis there is just enough foundation  
24 to let it in. He is familiar with the document and

25 dornbusch-cross-merrill



1 remembers reading it a long time ago, which is  
2 adequate. We will give him time to refresh his  
3 memory.

4 MR. MERRILL: I would also point out, Your Honor,  
5 the report was prepared by a consulting firm the  
6 United States considers to be expert concerning the  
7 Wind River Indian Reservation.

8 MR. ECHOHAWK: Regarding what?

9 THE SPECIAL MASTER: You have won. That dialogue  
10 is not necessary unless you two would like to have  
11 half an hour to go into it and we will take a break  
12 and you can go into it and meet tomorrow and I will  
13 go to the office and do some writing.

14 I can appreciate that this is a point in issue  
15 in this business of what is early frost, how many  
16 seasons would this kill a crop if it's planted within  
17 ten days of frost at given elevations.

18 (Brief pause while the  
19 (witness is reviewing the  
20 (document.

21 THE WITNESS: Okay. I think we are ready. First  
22 of all, they are focusing on corn and beans. We  
23 don't even have beans in our crop mix. So it seems  
24 to me the only crop that is really relevant is corn.  
25 They talk about the fact that they performed a modelling  
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1 analysis to determine the highest elevation for corn,  
2 and then they conclude by saying as a check they  
3 determine what the highest elevation that corn was  
4 planted at, and that corresponds very nicely to the  
5 conclusion of the model. In all respect to their  
6 modeling, I would do it myself. I think the proof of  
7 the pudding is better in the eating than the modeling.  
8 I spoke to farmers who are growing corn, growing it  
9 well at much higher elevations than the 55, 40 feet  
10 or fifty four ninety six, whatever. It was clear that  
11 they were growing corn at well over 6,000 feet; as  
12 I recall, 6,300 feet, and with all due respect to the  
13 model, I think that the better information was from  
14 the farmers that I spoke to who live there, farm  
15 there and grow corn there.

16 MR. ECHOHAWK: Your Honor, not to belabor the  
17 point, but just so the record is clear, I believe the  
18 introduction to the report that we have been referring  
19 to indicates the project task it was prepared for.  
20 You recall during Mr. Kersich's testimony he talked  
21 about the screening down process of the Reservation  
22 to get to the study areas. That is the sole purpose.  
23 He also indicated this is not intended to delineate  
24 strict boundaries for water resources development

25 dornbusch-cross-merrill





1 potential.

2 THE SPECIAL MASTER: Very good.

3 Q (By Mr. Merrill) Mr. Dornbusch, in establishing  
4 the break point that you selected, did you consult  
5 with anyone in the office of the Bureau of Indian  
6 Affairs in Fort Washakie?

7 A Yes. I think I said that I did. I spoke with people  
8 familiar with crops growing in the area. I think it  
9 was Don Crook and Rich Harbour.

10 Q How many farmers did you interview who were growing  
11 corn at high elevations like 6,300 feet?

12 A There weren't many. Not that many people were  
13 interested in growing corn, but there were some. I  
14 don't recall the number. I would have to look at my  
15 notes.

16 Q Would you please do so?

17 A Well, I can look at your copy.

18 Q That is the best one I have.

19 THE SPECIAL MASTER: Is this line of cross-  
20 examination about concluded?

21 MR. MERRILL: Just about is, Your Honor.

22 THE SPECIAL MASTER: That is fine. Thank you.

23 MR. MERRILL: I know you are getting tired of  
24 listening to me.

25 dornbusch-cross-merrill



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THE SPECIAL MASTER: It isn't I'm getting tired, it's just if it gets exhausted, I think I have a duty to wind her down.

THE WITNESS: There were two or three.

Q (By Mr. Merrill) Two or three farmers growing corn at high altitude -- high elevations, excuse me?

A Yes, I believe that is right. Let me be more specific, who had grown corn.

Q Mr. Dornbusch, did you ever speak with a gentleman named Jack Iiams of the S.C.S. regarding the break between lowlands and highlands?

A Yes, I did.

Q What specifically did you ask Mr. Iiams?

A I believe the reason I called Mr. Iiams of the S.C.S. is that I learned of a report that was prepared by the S.C.S. that delineated a different break point as to the highland and lowland region of the Reservation, and I believe I obtained a copy of that report and then discussed it with Mr. Iiams over the telephone.

Q Did that report contain an elevation or range of elevations suggested as a break point?

A That report contained some lines drawn on a map which divided the Reservation, as well as other areas

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1 surrounding the Reservation, in two zones which had  
2 a span of different growing seasons. As I recall  
3 those different growing seasons, there were two  
4 zones that covered the Reservation. One of those  
5 zones was in excess of 120 days, and the other zone  
6 was between 90 and 120 days. We talked about the  
7 fact that study -- it was a much larger scale map.  
8 To get an understanding of what this was, the  
9 Reservation was the small portion of this map. It  
10 wasn't specifically focused exclusively on the  
11 Reservation, but a larger area surrounding the  
12 Reservation, including and surrounding the Reservation.

13 Q So those lines delineated growing areas by growing  
14 season rather than by elevation, is that correct?

15 A That's correct.

16 Q Did you rely on that map from Mr. Iiams?

17 A No, not directly because the growing season that was  
18 indicated for the Reservation, even 90 to 120 days,  
19 was adequate. We were seeking to grow corn at low  
20 elevations, and in that span of 90 to 120 days you  
21 can grow corn.

22 To put this more into perspective, I think, this  
23 notion of corn, maybe you really need to look at the  
24 crop mix and the proportion corn makes up of that crop

25 dornbusch-cross-merrill



1 mix, and, in fact, if you look at that table that you  
2 asked me to look at, Page 11 of my report, you can see  
3 that in effect we are penalizing ourself by growing  
4 corn at all. So it is --

5 THE SPECIAL MASTER: You are growing very little  
6 at that.

7 THE WITNESS: We are growing very little at that.  
8 It is not a key part of our entire structure.

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19-1 V-sm

- 1 Q (By Mr. Merrill) Mr. Dornbusch, isn't it true that your  
2 projected yields for irrigable lands are based on whether  
3 those lands are highland or lowland?  
4 A That's right.  
5 Q So the highland versus lowland break point is broader  
6 than just corn? It's yields in general; isn't that correct?  
7 A That is correct.  
8 Q Mr. Dornbusch, did you perform any economic analysis of  
9 the feasibility of irrigation assuming a breakpoint other  
10 than 5900 feet?  
11 A No, I did not.

12 THE SPECIAL MASTER: Other than what?

13 MR. MERRILL: Other than 5900 feet, Your Honor.

14 THE SPECIAL MASTER: Thank you.

15 MR. MERRILL: Your Honor, that's all of my questions  
16 for now on the breakpoint. May I ask that we take a  
17 break at this point?

18 THE SPECIAL MASTER: Yes, we'll take a ten-minute  
19 break.

20 (Short recess.)

21 THE SPECIAL MASTER: Come to order, please.

22 MR. MERRILL: On the record, I have to thank Mr.  
23 Echohawk for the coughdrops he gave me. They made possible  
24 the afternoon cross-examination.

25 dornbusch - cross - merrill



1 THE SPECIAL MASTER: That is fine.

2 Q (By Mr. Merrill) Mr. Dornbusch, let's talk about yields.  
3 for awhile.

4 THE SPECIAL MASTER: Now, if we could find something  
5 to induce both sides to discuss settlement, we would sure  
6 buy some.

7 UNIDENTIFIED VOICE: I don't think those are legal.

8 THE SPECIAL MASTER: Proceed, Mr. Merrill.

9 Q (By Mr. Merrill) Mr. Dornbusch, how many farmers did you  
10 interview on the subject of crop yields?

11 A Well, it goes back to my earlier question where there were  
12 quite a number of farmers that were interviewed on crop  
13 yields. I can't recall the exact number.

14 Q Are these the same interviews that are reflected on Exhibit  
15 ED-16?

16 A Yes, some of them are the same, that's right.

17 Q Would you please tell the Court what specific questions  
18 you or members of your staff asked these farmers about  
19 yields?

20 A Well, the interview went something like this: We asked  
21 them what crops they were growing, how many acres they  
22 were producing that crop on, whether or not they were  
23 irrigating that crop, whether it was dry land or irrigated.

24 Then we asked them what yields they were getting to  
25 dornbusch - cross - merrill



1 the acre. Then we went into, depending upon the situation,  
2 questions about fertilization and frequency of irrigation  
3 and whether in alfalfa that was one cut or two cuts of  
4 alfalfa.

5 THE SPECIAL MASTER: I could almost blow this entire  
6 thing to unusability by asking were these Indian farmers  
7 or non-Indian farmers and did the non-Indian farmers know  
8 you were doing this for the Indians' benefit?

9 You can get all kinds of answers. Does that enter  
10 into any of this, Mr. Merrill?

11 MR. MERRILL: I was going to ask Mr. Dornbusch.

12 Q (By Mr. Merrill) Did you inform the farmers you interviewed  
13 the purpose for which you were asking these questions?

14 A Well, as a matter of fact, to that question, we insulted  
15 a good number of Indians by not interviewing them.

16 We had Tribal Chairmen and Indians coming up to us  
17 saying, "Hey, you are doing the study for us. Why don't  
18 you interview us?"

19 And I tried to explain that I was concerned with that  
20 very problem, that if I interviewed --

21 THE SPECIAL MASTER: You felt the answers you were  
22 getting were candid answers?

23 THE WITNESS: I was going for the progressive farmers  
24 in the area, the farmers who were using techniques that,

25 dornbusch - cross - merrill



1 if they weren't in fact, the same techniques, were similar  
2 to -- they were irrigating. They were conscientious  
3 about irrigation. They were concerned about the quality  
4 of their soil and having the soil tested and fertilizing  
5 accordingly.

6 To be specific, in many cases, yes, they asked why  
7 I was doing this. I tried to be as vague as possible, but  
8 there were times when they understood what we were doing  
9 and, on the other hand, it works two ways because a lot  
10 of these farmers were in jeopardy of losing their water  
11 perhaps and saw me as jeopardizing their supply of water  
12 and --

13 THE SPECIAL MASTER: Of course.

14 THE WITNESS: -- and were still very up-front about  
15 telling me -- if they chose to be interviewed, they would  
16 tell me honestly and say, "Look, I understand that this  
17 may be jeopardizing my supply of water."

18 Some of them refused to talk to me. They said, "There's  
19 no way I'm going to talk to you about this,"  
20 so we had the range.

21 Q (By Mr. Merrill) With regard to your questions to the  
22 farmers about yields --

23 A Yes.

24 Q -- did you ask these farmers what yields they got last  
25 dornbusch - cross - merrill





1 year or what their average was over the last ten years,  
2 or did you frame the interviewing questions with regard  
3 to any specific time?

4 A I asked them historically what kind of yields they were  
5 getting, and generally what they would tell me is -- it  
6 would have different parcels of land. In some years they  
7 would grow 140 acres in something, and some years it would  
8 be 80 acres in something, and it would vary through time,  
9 and generally they would report relatively recently what  
10 their yields were. They wouldn't go back far in time.

11 I really wasn't interested in back in time because,  
12 as you know, yields are progressively increasing in time,  
13 and I wasn't interested in getting ten-year old yields.  
14 I was interested in more current yields.

15 Q In getting an idea of yields from farmers, did you ask  
16 the farmers that you spoke to, in sort of mentally com-  
17 puting the yields they gave you, to take into account loss  
18 of crops due to certain factors, crop failures, for ex-  
19 ample?

20 A Yes, I made it clear that I wanted to deal with averages,  
21 that sometimes there would be situations where they would  
22 have lots of contributing factors for reducing yields,  
23 but they were, as I understood our conversations, giving  
24 me what I was asking for, and that was average yields in  
25 dornbusch - cross - merrill



1 relatively recent times.

2 Q Did your questions concerning yields also seek an average  
3 of all of the acreage on which a farmer was growing a  
4 certain crop, or would you ask for yields representative  
5 of good acreage and poor acreage? How did you --

6 A Again let me put this into perspective. The yields that  
7 I'm using are primarily derived from Doug Agee's report.  
8 The farm interviews are back-up, support, corroboration,  
9 and as I explained to you in my deposition, that the yields  
10 you see here are, with one exception, directly from the  
11 Agee report.

12 Q What is that exception?

13 A That's malt barley.

14 Q What yield did Mr. Agee assume for malt barley?

15 A Okay. Agee had 83.3 bushels to the acre.

16 Q Per acre?

17 A 83.3 bushels to the acre.

18 THE SPECIAL MASTER: Where did you get the 100  
19 bushels?

20 THE WITNESS: That's from my table.

21 Q (By Mr. Merrill) Would you tell me what page of his re-  
22 port you are looking at?

23 A It is page 11, and it says 40 hundredweight, and I converted  
24 that to bushels.

25 dornbusch - cross - merrill



1 Q And you arrived at what figure again? I'm sorry. I  
2 didn't write it down.

3 A 83.3, bushels.

4 Q Isn't it true that Mr. Agee's crop budgets assumed 80  
5 bushel?

6 A Well, in converting hundredweight to bushels, I think what  
7 he did was just took the simple conversion of multiplying  
8 by two.

9 In fact, I think the bushel conversion is somewhat  
10 higher. I think in showing his yields for the purpose  
11 of computing his crop budgets, I don't think he was doing  
12 anything but the rough conversion.

13 Q I direct your attention to page 17 of Exhibit ED-8.

14 A Right.

15 Q And ask you if the caption of table 5 indicates that Mr.  
16 Agee was assuming 80 bushel of barley?

17 A That's what I said. I think he just used the simple con-  
18 version of two bushels per hundredweight in calculating  
19 it, but it does convert to 83.3.

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dornbusch - cross - merrill



1 Q (By Mr. Merrill) Mr. Dornbusch, I direct your attention to  
2 Page 4 of Exhibit ED-8, which is also the Agee report, and  
3 Table 1.

4 A Yes.

5 Q I note that approximately halfway down the page there are  
6 five and ten years averages of crop yields.

7 A That's right.

8 Q Do you see those?

9 A I do.

10 Q Establishing or projecting 100 bushel barley for your  
11 analysis, did you take into account the historic yields in  
12 Fremont County?

13 A No, and for the following reason: That what you have here  
14 is a report of a number of the people who are growing these  
15 crops. Some of them are more serious than others. Some  
16 are irrigating, some aren't. There is really a mix of  
17 people, farmers here who are not what I would consider  
18 representative, and that's point one. The second point is  
19 that using the historic average really doesn't give you  
20 much of an indication what your current and, therefore,  
21 expected future yields might be. Yields have been con-  
22 sistently up generally, as I think you can see from this  
23 table as well as other tables.

24 Q So you overruled the historical information and Mr. Agee's  
25 dornbusch - cross - merrill



1 assumptions based on your own interviews, is that correct,  
2 for malt barley?

3 A. Well, as I said, I felt the historical information was not  
4 relevant for the reasons I stated. Even Mr. Agee's pro-  
5 jected yields you can see are considerably higher than  
6 historical. I think he projected them as well. Now, de-  
7 parting from Agee's number, yes, in interviewing farmers  
8 I thought pretty uniformly the progressive farmers who were  
9 conscientious about irrigating, fertilizing and using pro-  
10 gressive techniques had for the most part entirely, all of  
11 them, had yields that were higher than Agee's. The most  
12 glaring difference was in the malt barley, and for that  
13 reason I chose to depart from Agee's malt barley yield, but  
14 stuck with his for the others.

15 Q What average yield did you find for malt barley as a re-  
16 sult of your interviews?

17 A. As I said, for the progressive farmers who were irrigating,  
18 fertilizing in a progressive fashion, they were getting 100  
19 and excess. Some of them are getting 120 bushels to the  
20 acre of malt barley.

21 Q You indicated a moment ago that the yields of barley have  
22 historically increased over time.

23 A. Generally, uh-huh, yes.

24 Q Do you have any idea what the current yields of barley are  
25 dornbusch - cross - merrill



- 1 in Fremont County?
- 2 A. Are you talking about progressive farmers, all farmers?
- 3 Q. Let's start with irrigating farmers, farmers who are using
- 4 irrigation.
- 5 A. No, but I know that the farmers who are irrigating on the
- 6 Reservation in close proximity we interviewed were getting
- 7 in excess of 100 bushels to the acre.
- 8 Q. Let me direct your attention to Wyoming Exhibit ED-30, which
- 9 you identified a little earlier this afternoon. Isn't it
- 10 true that according to the second page of that exhibit in
- 11 1979 revised data for Fremont County it shows a yield for
- 12 malt barley of 70 bushels per acre for --
- 13 A. Irrigated lands, Fremont County, 70 bushels per acre, yes,
- 14 it does. That's right.
- 15 Q. Did you take that current yield of information into account
- 16 in establishing your barley yields?
- 17 A. No, because, as I said, I don't know how serious all of
- 18 those farmers are, how conscientious they are. We are
- 19 using progressive farming techniques. Even as you see in
- 20 the Agee report, he was -- he was using a number that back
- 21 in 1977 was considerably higher than this one, so I don't
- 22 think this can be used as representative.

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1 THE SPECIAL MASTER: Did you have some evidence of  
2 facts in your work that warrants the conclusion that the  
3 average progressive and dedication of that, progressive  
4 dedication of an average farmer in Fremont County would  
5 be any lower than the average dedication of an average  
6 Indian farmer?

7 THE WITNESS: Well, I didn't really investigate  
8 average farmers in Fremont County, so I really can't  
9 speak to how this number is --

10 THE SPECIAL MASTER: You are drawing a difference  
11 between the 70 bushels per acre that the exhibit lists  
12 and 100 that you felt would be the result of progressive  
13 farmers in the area you are talking about?

14 THE WITNESS: Well, the farmers I interviewed consis-  
15 tently had yields that were --

16 THE SPECIAL MASTER: Higher than this?

17 THE WITNESS: That's right. And I'm just looking at  
18 this table, and the 1980 preliminary figures in this table  
19 alone --

20 THE SPECIAL MASTER: Are up to '79.

21 THE WITNESS: They're up to seventy -- in excess of  
22 eighty. Washakie County has 87 bushels. And keep in mind,  
23 too, in talking about yields we are talking about the  
24 future, and yields have been consistently up. I think that  
25 if you consider the fact that we used, with the exception



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1 of malt barley, used 1977 yields according to the Agee  
2 report, and barley increased for the reasons I stated,  
3 that I think it is reasonable to expect that yields are  
4 going to continue to increase as they have historically.

5 THE SPECIAL MASTER: All right. Mr. Merrill.

6 MR. MERRILL: Thank you, Your Honor.

7 Q (By Mr. Merrill) Are you saying, then, that all of the  
8 farmers that you interviewed concerning the yields they  
9 were getting from malt barley, are using irrigation  
10 and progressive management techniques and progressive  
11 fertilizing technology?

12 A. Did I say that they all were?

13 Q. Yes, the farmers you interviewed.

14 A. Oh, no, not all of them were at all. In fact, that was  
15 worked into the analysis. When they weren't, I looked at  
16 their yields with respect to the fact that they were not  
17 doing those things.

18 Q. So your 100 bushel barley yields are based on information  
19 from only a portion of the farmers you interviewed, is  
20 that correct?

21 A. Well, not directly. If some farmer had a lower than 100  
22 -- 100 bushels to the acre and he wasn't conscientiously  
23 fertilizing and he wasn't irrigating conscientiously,  
24 my conclusion was that had he done those things, he would

25 dornbusch - cross - merrill





1 have probably attained a higher yield. Some farmers said  
2 that they did those things but their land wasn't all that  
3 good, sometimes they had drainage problems, and yet their  
4 yields were up. What I did was use the information given  
5 to me as to the irrigation, fertilization, et cetera, to  
6 get an understanding of what the prospective was for the  
7 yields they were reporting. If they weren't doing those  
8 things, I concluded they might logically have higher yields  
9 if they had done those things, as they, in fact, reported  
10 themselves to me.

11 Q. Mr. Dornbusch, let's discuss for a moment the differences  
12 in yields between the low land and high land areas.

13 A. All right.

14 Q. Would you please describe to the Court how you determined  
15 the difference in yields between low lands and high lands?

16 A. Yes. I asked the same people that I referred to earlier  
17 who had some knowledge about differences in expected yields  
18 in low land and high land areas, including SCS people, BIA  
19 people, ag extension people and the farmers that I inter-  
20 viewed. Generally, what I got was that from the non-farmers  
21 the fact that I could expect lower yields in the higher  
22 elevations. From the farmers, however, they testified  
23 otherwise. In fact, I had a problem because where I have  
24 the SCS and the other people telling me, oh, you can

25 dornbusch - cross - merrill



1 expect yields to be lower on the order of 10 to 15 percent  
2 in the higher elevations, I had the farmers who were at  
3 the higher elevations and farming those lands reporting  
4 yields that were as high and even higher than the yields  
5 I had set up for that low land acreage based upon the  
6 Agee report. So I was faced with somewhat of a dilemma.  
7 To be conservative, I assumed and determined that the high  
8 land yields would be 10 percent lower than the low land  
9 yields based upon the fact that some people told me that  
10 I could expect them to be lower, despite the facts they  
11 were reporting equivalent yields at the higher elevations.  
12 I, nevertheless, used the 10 percent lower yield.

13 Q Okay. Can you indicate which interview notes on Exhibit  
14 ED-16 relate to farmers in high elevations who were  
15 obtaining higher yields than the low land farmers?

16 A They were the same ones that I noted earlier. I think I  
17 did note earlier which ones were at the higher elevations.

18 Q Is that the same two or three farmers you testified about  
19 earlier?

20 A I think the two or three farmers were in reference to corn  
21 only. There were no farmers that were raising alfalfa and  
22 barley at the higher elevations, and if you look at my  
23 crop selection, you will see those are the crops in the  
24 lower elevations.

25 dornbusch - cross - merrill



1 Q (By Mr. Merrill) Did you rely on any other sources of  
2 information than the various interviews in determining  
3 the differentials between low land and high land yields?

4 A No, as I recall that was -- those were the primary sources  
5 of information.

6 Q Would you please take out your copy of Exhibit ED-15, which  
7 we were discussing earlier, with respect to the elevation  
8 breakpoint?

9 A That's the HKM --

10 Q Yes.

11 A -- report? Okay.

12 Q And turn right back to that same page. That's a page  
13 between Table 2 --

14 A Okay.

15 Q And look at the top paragraph on that page concerning  
16 yields and yield differentials over elevation.

17 A All right.

18 Q Isn't it true that your yield assumptions for high land  
19 are for higher percentages of low land yield than the  
20 study that HKM conducted, the results of which are  
21 reflected in --

22 MR. ECHOHAWK: The same objection, Your Honor.

23 THE SPECIAL MASTER: Will you let him finish the  
24 question?

25 dornbusch - cross - merrill



1 MR. MERRILL: I'll try it again, Your Honor.

2 Maybe I can make it a little better.

3 Q (By Mr. Merrill) Mr. Dornbusch, isn't it true that  
4 your high land yields assume a higher percentage of the  
5 low land yields than did HKM's study, the results of  
6 which are reflected in Exhibit ED-15?

7 A. They do.

8 THE SPECIAL MASTER: He got it out before we could --

9 MR. ECHOHAWK: The same objection, Your Honor.

10 THE SPECIAL MASTER: All right. Let it stand.  
11 Overruled. Let it stand.

12 You may answer, and he did.

13 Q (By Mr. Merrill) Mr. Dornbusch, did you perform any  
14 economic feasibility studies assuming any yield for malt  
15 barley in the low lands other than 100 bushels?

16 A. I think I did earlier in the process, yeah. Yes, I did.

17 Q What yield did you assume, or yields?

18 A. I think I used Agee's report strictly.

19 Q As a result of having done that analysis, can you tell  
20 the Court the effect of 80 bushel barley as opposed to  
21 a hundred weight barley on the benefit-cost curves?

22 A. Well, the 83 bushel barley you mean?

23 Q Well, 80 or 83, whichever one you actually studied.

24 A. The gross returns were less for the lower yields.

25 dornbusch - cross - merrill



1 Q Were the net returns also less?

2 A The net returns were also less.

3 Q Were the benefit-cost ratios less?

4 A I don't recall if I took it all the way that far. I may  
5 have. I'm not sure.

6 As I said, that was early in the process. I was still  
7 gathering information on yield, and I had not concluded  
8 finally what my determination would be of the expected  
9 yields for barley.

10 Q Mr. Dornbusch, with respect to the five future project  
11 areas about which you testified --

12 THE SPECIAL MASTER: Five future project areas?

13 MR. MERRILL: Yes, Your Honor.

14 THE SPECIAL MASTER: Okay.

15 Q (By Mr. Merrill) -- about which you testified a week  
16 ago Monday, isn't it true that with respect to beginning  
17 irrigated agriculture, we are talking about irrigating  
18 new land in each of those five areas, land which has never  
19 before been irrigated?

20 A Yes, that's right.

21 Q Isn't it true that we are talking about bringing in brand  
22 new equipment to farm that land?

23 A Yes, that's right.

24 Q Isn't it true that the land will be farmed by a labor force,  
25 dornbusch - cross - merrill



1 the bulk of which comes from people who are now employed?

2 A. That's correct.

3 Q. And isn't it true that during the first ten years of  
4 farming this land, they will be training a management  
5 force as part of sort of a work-training program?

6 A. That's correct.

7 Q. As a result of those factors, did you modify the yields  
8 that you expect these projects to produce during the  
9 first few years of their operations?

10 A. No, I did not.

11 Q. Did you make any studies that assume other than full  
12 yields for the first few years of these projects'  
13 operation?

14 A. No, and the reason is that we anticipated the fact that  
15 we are dealing with new lands and that there would be  
16 some requirements of additional fertilizer, that there  
17 would be land preparation that would be required, a number  
18 of things that would have to be considered and remedied  
19 if we were going to get full yields right from the early  
20 years of the project.

21 We did account for those things. We did compute  
22 costs for providing for those factors.

23 THE SPECIAL MASTER: Did you discuss that with the  
24 other witnesses who were to testify regarding financing,

25 dornbusch - cross - merrill



1 if these would be feasible economic realities?

2 THE WITNESS: The other witnesses who would testify  
3 with regard to financing?

4 THE SPECIAL MASTER: Yes. You probably -- that's  
5 a little bit out of order, I guess, on my part.

6 What crosses my mind then, is how is all of  
7 this going to become a reality even if the water is  
8 granted for it? Where does the money come from to  
9 build that and is that what the money is going to be  
10 spent for?

11 Let the record show a sterling silence over the  
12 courtroom and nobody dared to make an observation about  
13 my question.

14 THE WITNESS: Your Honor, I do admit --

15 THE SPECIAL MASTER: Leave it in the record. We will  
16 come back.

17 THE WITNESS: I do admit that my analysis is premised  
18 on the fact that the financing would be available.

19 THE SPECIAL MASTER: And that is an assumption on your  
20 part?

21 THE WITNESS: That is an assumption.

22 THE SPECIAL MASTER: You didn't bother to look beyond  
23 the facts that --

24 THE WITNESS: I was doing a feasibility analysis.

25 dornbusch - cross - merrill



1 THE SPECIAL MASTER: -- for the purpose of your  
2 work? I appreciate that, and the portion that is not  
3 a part of the feasibility analysis with the economic  
4 reality of it all?

5 THE WITNESS: The economic reality of it all is  
6 contained in my analysis. The feasibility of putting  
7 together the financial packages and making all of the  
8 connections necessary to get the funds to purchase all  
9 of the equipment is not a part of my analysis.

10 THE SPECIAL MASTER: But in any equation of this  
11 kind, there's got to be either, one, public money which  
12 doesn't look to be -- or the time-honored tradition  
13 of some money that is going to make it all possible  
14 because it's going to make a profit. Were there any  
15 studies of that kind --

16 THE WITNESS: Well, my study shows the economic  
17 feasibility of this project, and it's done from the  
18 point of view of the federal government.

19 THE SPECIAL MASTER: But your study couldn't be  
20 taken to a financial house in this country that would  
21 advance the money to do this. You know that as well  
22 as I do. They would shudder if you were looking for one  
23 dollar right now with the problems we have today in our  
24 society with tight money.

25 THE WITNESS: Well, tight money is one problem.





1 The historic returns to agriculture is another, that  
2 agriculture everywhere --

3 THE SPECIAL MASTER: The inevitable problem with  
4 agriculture is whether -- it's the most uncertain pursuit  
5 on earth.

6 THE WITNESS: It's not only that, but the fact that  
7 agricultural projects everywhere have shown low returns.  
8 Unfortunately, we are strapped with the burden of showing  
9 feasibility according to irrigation development, and that's  
10 what I have set out to do.

11 The irrigation development is feasible, and that's  
12 what I show in my analysis.

13 THE SPECIAL MASTER: That's your conclusion?

14 THE WITNESS: That is my conclusion, but it's based  
15 upon my analysis, that's right.

16 THE SPECIAL MASTER: All right. Mr. Echohawk?  
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1 MR. ECHOHAWK: Your Honor, the thing we have  
2 to keep in mind is the purpose we are here for, and  
3 that is to quantify the water right that was reserved  
4 at the time the Reservation was created, and as such,  
5 this is the method we have chosen to go ahead and  
6 quantify that water right or to determine the amount of  
7 water necessary for the Reservation's purposes. As  
8 such, that is the only thing we are doing, and I don't  
9 think it is actually -- the question is whether these  
10 particular projects as we have built -- or as we have  
11 depicted here will actually be built and will a bank  
12 finance them.

13 THE SPECIAL MASTER: What I am trying to do, Tom,  
14 is really narrow down the field of questioning  
15 evidence to reality as distinguished from fiction,  
16 and I don't think the decree wants to grant a water  
17 right based on the old used, abused and doubtful  
18 formula of the Department of Interior that sometimes  
19 has been based on a lot of other things other than cold  
20 reality, and that is what I am asking my questions on.  
21 I am not trying to take over the State's case by any  
22 means. Mr. Rogers.

23 MR. ROGERS: I think I'm afraid what Your Honor  
24 is suggesting, though, is what has been good enough  
25 for everybody else in this country for all these years



1 is no longer good enough to put the Indians --

2 THE SPECIAL MASTER: I'm careful of that. If  
3 I would have felt that way --

4 MR. ROGERS: It is the kind of -- excuse me, Your  
5 Honor.

6 THE SPECIAL MASTER: Go ahead.

7 MR. ROGERS: This is the very kind of evidence,  
8 and it's even in better formula than what has been  
9 presented to Congress in many other situations before  
10 in other irrigation projects. It is precisely the  
11 kind of analysis that has been done for Congress to  
12 seek public funds for the very kind of project we are  
13 talking about here. I don't think that the requirements  
14 along the Winters' Doctrine -- I think this case goes  
15 far beyond what has ever been done before in water  
16 rights cases to quantify Indian water rights, including  
17 Arizona versus California. We go far beyond that with  
18 what we have done, and I don't think the law requires  
19 us now to go prove that the Chase Manhattan Bank will  
20 furnish us dollars to build this project next January.

21 THE SPECIAL MASTER: What you say is true, and I  
22 don't require you to go get Merrill, Lynch, Pierce,  
23 Tenner & Smith, Inc., or anybody else to underwrite  
24 the project. That was not the purpose for my colloquy  
25 with the witness. It seems to me that there is arising



1 out of the evidence in this case and the case itself  
2 the need for, one, the Indians to recognize if some-  
3 body were to come along with the money to construct  
4 some of these projects, that someone could in effect  
5 say, in exchange for the money we give the Indians  
6 for these projects, there ought to be the cooperation  
7 of allowing us to build key dams to store some spring  
8 runoff so there would be an adequate source of water  
9 for everybody, Indian and nonIndian, and this has got  
10 to come out of this lawsuit if anything is going to  
11 come out of it of any benefit for all concerned.

12 MR. ROGERS: We don't believe that is our burden  
13 to show in this case, the practicable irrigable acres  
14 on the Reservation for purposes of proving a Winters'  
15 right. Now, if the State in its case wants to discuss  
16 the design of reservoirs so that more people in the  
17 Wind River Valley can enjoy the fruits and the water  
18 of that area, that's all well and good, but for purposes  
19 of proving practicable irrigable acreage of a senior  
20 water right holder in the Wind River Indian Reservation,  
21 we have fashioned a case where storage is not required..

22 THE SPECIAL MASTER: Mr. Rogers, you and I have  
23 been down this road before with some interesting  
24 discussions, and I hope some good can come out of them.  
25 Philosophically I buy nearly everything you say except



1 that last conclusion, that it's not the duty of the  
2 Indians to give a concern whatever except one, showing  
3 whether practicably irrigable acres on the Reservation  
4 and taking a water right for it. That is not true.  
5 If the source of the water is so endangered, if the  
6 condition of the alluviums themselves, the sinking of  
7 the water tables are so endangered in that area from  
8 100 years of civilization from Indians and nonIndians  
9 and use thereof, that there's some requirement for conservation  
10 practices and some cooperation by everybody concerned,  
11 then storage is a concern of the Indians in asking for  
12 their Winters' rights.

13 MR. ROGERS: Well, Your Honor, a couple points: One  
14 of our concerns, the Tribes concerns for the Government's  
15 case is that they are so conservation minded with the  
16 types of systems they have designed for the future lands,  
17 they are talking about sprinkler irrigation with a much  
18 more reduced water duty than is true in other parts,  
19 not only of the Reservation but in the rest of the  
20 State,, that we have been concerned that our -- that  
21 our water rights might be understated in that regard.  
22 But I think when we talk about what the Indians' duties  
23 are, if any, to their neighbors to either conserve or  
24 cooperate, that's a different kettle of fish, frankly,  
25 than what we have to come in, forced into Court by the



1 State as we were, to prove what our water rights are.

2 I don't think we are required to do anymore than  
3 the law requires to prove the water right. In terms  
4 of actually working with others in the valley of the  
5 basin after a decree is fashioned, that is another  
6 matter. But for purposes of what we legally must show  
7 in Court, forced as we are to do so, I don't think we  
8 are required to prove everything in the world --

9 THE SPECIAL MASTER: All right, thank you, thank  
10 you. Mr. Echohawk, let me ask this witness a few  
11 questions, then let me wind up today's proceedings with  
12 approaching a new subject matter that will touch one  
13 of the vital points of my decree. I'm determined to use,  
14 and we will begin a discussion of that. Really I am  
15 winding up your case. I hope you were about through  
16 anyway. Were you about through or did you intend to  
17 call him tomorrow?

18 MR. MERRILL: Your Honor, I have more cross-  
19 examination of Mr. Dornbusch. I had just about wound  
20 up the questions that I have today on yields, so --

21 THE SPECIAL MASTER: Let us break there on yields  
22 and let us go -- I want to ask a few questions.

23 MR. MERRILL: That's fine, Your Honor.

24 THE SPECIAL MASTER: Mr. Dornbusch, I have down  
25 that you are working with figures that, give or take a



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few acres, always allowing a five percent factor which is running throughout most all the evidence, that you have been working with the figure 34,427 as the unadjudicated historic, project and nonproject total acreage on this Reservation.

THE WITNESS: I think that is correct. That is the number Mr. Echohawk gave.

THE SPECIAL MASTER: All right. What is the figure of adjudicated historic total of acreage, project and nonproject that you worked with?

THE WITNESS: I don't have that answer.

THE SPECIAL MASTER: I am working with the assumption you have used the figures of Dr. Mesghinna in that there is 7,946 Type VII acres of land on the Reservation, about 3,400 or so nonproject and about 4,400 project. Is that about right?

A That sounds correct, yes.

\* \* \* \* \*



1 THE SPECIAL MASTER: I believe that there is something  
2 like 1461 Type VIII acres of land to which you are referring  
3 to your in your Type VIII exhibit, C-278, today; is that  
4 relatively correct? 1,461 acres of Type VIII land?

5 THE WITNESS: I don't see that exhibit here. It was  
6 on the exhibit.

7 THE SPECIAL MASTER: It was on the exhibit C-278.

8 THE WITNESS: I think it was.

9 THE SPECIAL MASTER: If you will find it for me, I  
10 will be grateful to you.

11 MR. ECHOHAWK: I don't believe it is, Your Honor.  
12 It is in Dr. Mesghinna's report, and it is 1,461.

13 THE SPECIAL MASTER: Thank you, Mr. Echohawk. You  
14 have sustained my dealing, I will relieve you of having  
15 to answer it now.

16 Mr. Rogers, the duty has been imposed upon the  
17 United States of America to fulfill the word of  
18 its Supreme Court when the Supreme Court said there  
19 must be a reserved right of water for the Indians who  
20 were put on a reservation in 1868. And in 1908, that  
21 became the law of the land with the Supreme Court decision.  
22 Following the 1868 reservation, there evolved a system  
23 of water management in Wyoming based upon the State  
24 Engineer's Office and the Rider doctrine of prior  
25 appropriations which we are all familiar with, and along





1 about 1900 I suppose the evidence will show, or certainly  
2 history does, that not very many people in this State,  
3 Indian or non-Indian, immigrant or not, were doing very  
4 well in making a livelihood as far as eating and living.  
5 At that time there was a combination of efforts going  
6 on on the part of the Indians seeking a better life from  
7 the massive poverty and isolation that they had, pushed  
8 into the reservation along with the concentration  
9 camps and those who would like to do something for them,  
10 and looking for some land to settle for non-Indians,  
11 frankly, there evolved a law which was a concept for a  
12 law which was suggested to Congress that there be a cession  
13 or a ceding of land from this reservation along with  
14 others for various purposes that was made. We are familiar  
15 with that, we are familiar with the distinctions of other  
16 types of cessions, and we are familiar with the land from  
17 that area which should have a 1905 water right under  
18 Wyoming water law or should be 1868, and one of the issues  
19 we settled in this case under the dates and boundaries  
20 was the date to be given for water rights on the reservation,  
21 including the ceded portions. If in the ceded portion the  
22 Master is to conclude that the date of 1868 shall govern,  
23 but since the actions of 1905 which created settlement of  
24 that area by non-Indians require the cooperation of Indian  
25 and government, and the Indians did cooperate by saying



1 take and put it in a trust classification of some kind,  
2 if it sells to somebody, so be it, it's gone forever.  
3 But if it doesn't, it will come back to us in some way,  
4 and this is the result now.

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1           This Master can come back and say, well, you are  
2 going to get a date of 1941 on what was returned,  
3 one thing I know will be unacceptable to the Indians,  
4 or the Master can say, I can give you a date of 1868 in  
5 there, but -- and you have all the water you wish for  
6 all your projects you may solve on an 1868 date if  
7 that's fair, or the Master may conclude that if it's  
8 fair to burden the United States with a duty of putting  
9 an 1868 date on all of the water of this Reservation  
10 because we said to you settle it and you are entitled  
11 to some water and the Indians, by having agreed to  
12 a cession resulted in a settlement of an area downstream  
13 from the Wind River in the Reservation now populated  
14 by thousands of nonIndians with water rights dating  
15 from 1905, you can have an 1868 date for North Crowheart,  
16 you can have an 1868 for other areas in there you plan  
17 as future areas.

18           But that 1868 date cannot draw water in derogation  
19 to the rights of those who depended upon their title  
20 of the land from the United States when they are acting  
21 as your trustees in selling that land, and therefore,  
22 your 1868 right north of the river is impressed with  
23 a trust, and that trust says you may draw water under  
24 that 1868 territorial right so long as you do not do  
25 damage to any owner of 1905 water downstream on the



1 Reservation, be it Indian or nonIndian.

2 Now, do you follow me?

3 MR. ROGERS: I believe I do, Your Honor.

4 THE SPECIAL MASTER: You will tomorrow when you  
5 read the transcript because I have reviewed this in  
6 some length, and I believe I have stated what I am  
7 thinking of as a doctrine of equitable participation.  
8 If the United States has treated the Indians equitably  
9 under the Winters Doctrine and grant the basic 1868  
10 which it has to on -- I don't know whether it would  
11 be 34,000 acres or 134,000 acres, but it's going to be  
12 something, then there has to be some limitations upon  
13 that same equitable doctrine on new or future irrigation  
14 projects. This doesn't apply to historic. You have  
15 some historic north of the river, too, but those have  
16 been there 50 years and they've got water in there and  
17 they're going to be 1868. But when you say I am planning  
18 a new project called North Crowheart and this new  
19 project is going to utilize 52,000 acres of land and  
20 we are going to put it all under irrigation and we want  
21 the same water right we have on the remaining 120,000  
22 acres which was historic because it has an 1868 date,  
23 and if that land was within some land sold to settlers  
24 because the Indians cooperated in selling it to the  
25 settlers, then you have an equitable duty not to hurt



1 somebody else's water and cut them off because you  
2 are asking the Government to have an equitable duty  
3 toward you and not cut off your duty, and if it's good  
4 for the goose, it has to be good for the gander.

5 I know -- I'm going to adjourn for tonight and  
6 have your arguments ready tomorrow and we will take  
7 a half hour and listen to them or take them in a week  
8 or two and listen to them. I'm imposing a doctrine of  
9 basic equity upon water users in this area. If you  
10 are saying to the Government you cannot keep water from  
11 us, the doctrines of the Supreme Court says you must  
12 give us this water because you cannot give people land  
13 or sell people land and then deny them water, how then  
14 can the Indians be here to make a deal with Congress  
15 in 1905 and induce settlers by the hundreds to come  
16 in and the Indians have the money. All the best land  
17 went to the nonIndians, that's granted, but the Indians  
18 got the magnificent sum of ten bucks an acre, whatever  
19 it was, and got some cattle, but the men who settled in  
20 1905, 1906 and 1907 was depending upon water to live  
21 on, and he ought not now have to find himself burdened  
22 with new massive irrigation projects that would impair  
23 his water rights on 1905. They might impair somebody  
24 else's downstream off the Reservation, that is not what  
25 I'm talking about. I am talking about those people only



1 on the Reservation who took title to the 1905 session.  
2 They relied upon some land and some water to work with,  
3 and they ought not to have their rights impaired or  
4 lessened by new Indian water projects on that area  
5 which was ceded from 1905 on.

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THE SPECIAL MASTER: (Continuing) And I have thrown  
out a real dandy, haven't I?

But I think we are entitled to something like that  
because we have to come to an end of these proceedings.

(Whereupon the proceedings  
recessed at 4:10 p.m.

\* \* \* \* \*



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