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Wyoming's Response to the US and Tribes, Volume III, Appendix A, Part 2

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WYOMING'S RESPONSE TO THE UNITED STATES'
AND TRIBES' PROPOSED FINDINGS OF FACT, CONCLUSIONS OF
LAW, INTERLOCUTORY DECREE AND
SUPPORTING BRIEFS

VOLUME III

Appendix A

(Part 2)

case # 4993

File # 321

4723

LED 4993.

5/14 1982

Margaret W. Hampton CLERK

DEPUTY

IN THE DISTRICT COURT OF THE
FIFTH JUDICIAL DISTRICT
STATE OF WYOMING

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

CIVIL NO. 4993

VOLUME 3

APPENDIX A

(PART 2)

This Part 2 of Appendix A responds to United States' Proposed Findings of Fact 292 through 391. Each Proposed Finding to which Wyoming responds is reproduced verbatim on a single page with Wyoming's response thereto on the page or pages immediately following.

N.B. Wyoming has not responded to every finding of fact proposed by the United States but the lack of a response to a finding should not be construed as an admission of the relevance or accuracy of such finding.

United States Proposed Finding of Fact:

V. AGRICULTURAL ECONOMICS REGARDING THE FUTURE
PROJECTS, TYPES VII AND VIII
AND THE UNADJUDICATED IN USE LANDS

A. Future Lands

292. An economic feasibility analysis was conducted by David Dornbusch, a consultant economist experienced in economic feasibility analysis. United States Exhibit WRIR C-266. This economic feasibility analysis was conducted on the proposed irrigation and drainage systems that Dr. Woldezion Mesghinna designed and costed for the North Crowheart, South Crowheart, Big Horn Flats, Arapahoe and Riverton East units. (See Findings 95 through 134). Tr. 4890-5139, 5717-6277, United States Exhibits WRIR C-267-
WRIR C-268.

Wyoming's Response:

292. By citing only U.S. Exhs. C-267 and C-268, the United States apparently would like the Court to forget that its first feasibility analysis of the proposed future projects was conducted at a 7-1/8% discount rate. Tr. 6071 (Dornbusch). Furthermore, Mr. Dornbusch stated it is standard procedure to stick with the discount rate you start with at the beginning of your analysis (although he did not follow this practice), Tr. 6073 (Dornbusch); and that according to the United States' own results, none of the projects are economically feasible at a 7-1/8% discount rate. U.S. Exh. C-274; Wyo. Exhs. Ed-12, ED-13 and ED-14.

The Court should also note that the United States conducted its feasibility analysis for livestock at only a 7-1/8% discount rate. Tr. 301 (Merchant). Although Mr. Merchant stated that 7-1/8% was a conservative rate, he also stated that "at the outside, this is appropriate." Tr. 301. Thus, the Record reflects the fact that Mr. Merchant agrees with Wyoming's contention that an appropriate range of discount rates includes 7-1/8%.

United States Proposed Finding of Fact:

293. Important factors in the economic analysis were crop selection, yields attainable from those crops, prices obtained for those crops, cost of crop production, and on-farm irrigation costs. All of these factors combine to determine the net benefits for each proposed project area. Net benefits were then divided by the irrigation system cost determined by Dr. Mesghinna to derive a benefit-cost ratio for each proposed project area. United States Exhibit WRIR C-267, WRIR C-268.

Wyoming Response:

293. This Finding states that Dr. Mesghinna's costs were used directly in the determination of benefit-cost ratios for the proposed projects. To the contrary, as United States' Proposed Finding of Fact 317 points out, Mr. Dornbusch performed a large number of adjustments to Dr. Mesghinna's cost information before it was used in computing benefit-cost ratios. One of Mr. Dornbusch's adjustments was to lower Dr. Mesghinna's 1979 costs using a procedure that violates Water Resources Council Guidelines. See Wyoming's Response to United States' Proposed Finding of Fact 317.

United States Proposed Finding of Fact:

294. The crop selection and mix chosen by Mr. Dornbusch of 5 percent malting barley, 16 percent nurse malt barley, 67 percent alfalfa, 5 percent corn silage and 7 percent corn grain for the lowland area below 5900 ft. was a reasonable selection. The crop mix and selection used by Mr. Dornbusch for the highland area above 5900 ft. of 17 percent malting barley, 16 percent nurse malt barley, and 67 percent alfalfa was also reasonable. The crop mixes and selections were based on reliable sources including a report prepared by an extension farm management specialist, interviews with area farmers and other knowledgeable people from the area such as other agricultural extension agents. United States Exhibit WRIR C-268, table 3, p. 11, Tr. 4942, Wyoming Exhibits ED-16 and ED-8.

Wyoming Response:

294. The only testimony that the United States cites in support of its claim that its crop selection and mix are reasonable is Tr. 4942. On that page Mr. Dornbusch states that his crop selection was:

Based on information from a number of sources, primarily a report that was prepared by Douglas Agee, extension farm management specialist and associate professor at the University of Wyoming, . . .

Tr. 4942 (Dornbusch).

Mr. Agee later testified, however, that he did not agree with Mr. Dornbusch's crop selection pattern:

There's a situation where he is assuming some crops can be grown, like corn for silage, where the elevations and the growing season are just not adequate for producing that type of crop.

Tr. 15313 (Agee). Dr. Jacobs, testifying on behalf of Wyoming, also pointed out that it is impractical to grow corn using hand-move sprinkler systems as proposed by Mr. Dornbusch. Tr. 14719-14720 (Jacobs).

The other source cited by Mr. Dornbusch for his cropping patterns are his interviews in the Riverton area. The Court should note, however, that:

1. Mr. Dornbusch could not recall how many farmers he interviewed or what the average yields from those interviews were. Tr. 5855-5866 (Dornbusch).

2. The only evidence concerning the results of these interviews is Wyo. Exh. ED-16, which gives no factual basis for assuming Mr. Dornbusch's cropping patterns are reasonable.

3. Mr. Dornbusch could not even tell the Court the cropping patterns of the farmers he did interview. Tr. 5833 (Dornbusch).

Thus, there is no factual basis in the Record for assuming Mr. Dornbusch's cropping patterns are reasonable; to the contrary, the Record contains the testimony of two well-qualified agricultural economists stating that his cropping patterns are not reasonable.

United States Proposed Finding of Fact:

295. Mr. Dornbusch reduced the obtainable yields for all crops grown above 5900 Ft. elevation due to the possibility of a shorter growing season. This elevation breakpoint was reasonable and conservative in view of the fact that the results of the farmer interviews conducted by Mr. Dornbusch above 5900 ft. showed no reduction in yields due to growing season. Tr. 4946-50.

Wyoming Response:

295. The Court should note that the only evidence in the Record cited by the United States to support its claim that full yields can be achieved at elevations up to 5900 feet is Mr. Dornbusch's interpretation of a BIA report and his "interviews" with farmers in the area. Concerning the BIA report, Dr. Jacobs testified that the proper interpretation of that report indicates that 5500 feet is the maximum elevation at which full crop yields can be expected. Tr. 14913 (Jacobs).

Concerning Mr. Dornbusch's "interviews," which are used time and time again by the United States to support its Proposed Findings of Fact, the Court should carefully consider the following:

1. Mr. Dornbusch could not recall how many farmers he interviewed, or what their average crop yields were. Tr. 5833 (Dornbusch).
2. Mr. Dornbusch could not recall how many interviews were conducted in-person versus over the telephone. Tr. 5833 (Dornbusch).
3. Mr. Dornbusch could not tell the Court the cropping patterns of the farmers he interviewed. Tr. 5833 (Dornbusch).
4. The only evidence in the Record of the results of these interviews is Wyo. Exh. ED-16, which is

primarily a set of indecipherable hand scribblings which hardly constitute the basis for forming conclusions as weighty as those suggested by the United States.

Mr. Dornbusch also stated that the farmers he interviewed were not still growing corn, and "the only reason they weren't still doing it was that they were having difficulty in finding laborers to harvest the corn and had discontinued it." Tr. 4949 (Dornbusch). The Court should note that this testimony is in direct conflict with United States' proposed Finding of Fact 303, which states in part:

Mr. Dornbusch did an investigation that found historically high levels of unemployment on the reservation, that documented the younger Indians' willingness to work and found a lack of future prospects of employment on or near the reservation, apart from the projects proposed in this litigation, . . .

The United States may not have it both ways. Either there is a large pool of unemployed younger Indians willing to work in irrigated agriculture, or there is not. Mr. Dornbusch's testimony that corn is not grown at higher elevations because of labor shortages directly contradicts his testimony that 80% of the farm labor for the future projects will come from the ranks of the unemployed. See United States' Proposed Finding of Fact 303.

United States Proposed Finding of Fact:

296. In determining the gross returns per acre Mr. Dornbusch used reasonable yields attainable in the area for the crops he had selected in the lowlands of 100 bushels per acre for malt barley, 88 bushels per acre for nurse barley, .75 tons per acre for baled straw from the malt and nurse barley, 4.5 tons per acre for alfalfa, 1.5 AUM's per acre for alfalfa aftermath, 20 tons per acre for corn silage, 89 bushels per acre for corn grain and 1.6 AUM's for corn grain aftermath. His yields for the highland areas of 90 bushels per acre of malt barley, 79 bushels per acre of nurse barley, .75 tons per acre of baled straw for malt and nurse barley, 4.1 tons per acre of alfalfa, and 1.5 AUM's per acre of alfalfa aftermath was reasonable. United States Exhibit WRIR C-268.

Wyoming Response:

296. This Finding purports to establish that Mr. Dornbusch used reasonable crop yields in his analysis. The only evidence in the Record cited to support this contention, however, is an exhibit which simply lists Mr. Dornbusch's yields.

United States Proposed Finding of Fact:

297. The yields used by Mr. Dornbusch for the lowland areas were the same except for barley yields as those reported by Wyoming's witness, Doug Agee, in his study "Cost of Producing Crops, Riverton Area, Fremont County, June 1977, Bulletin 619-R", Wyoming Exhibit ED-8. Tr. 4953, United States Exhibit WRIK C-268, p. 4.

Wyoming Response:

297. The Record does indeed show that Mr. Dornbusch's yields, except for barley yields, are those reported by Wyoming's witness, Doug Agee, in his study "Costs of Producing Crops, Riverton Area, Fremont County, June 1977, Bulletin 619-R." Wyo. Exh. ED-8.

United States Proposed Finding of Fact:

298. Mr. Dornbusch's use of higher barley yields than those reported in Wyoming Exhibit ED-8 was justified and substantiated by farmer interviews that were conducted in the area by both the United States and State of Wyoming consultants. Tr. 4953, 14925-40, 15413, 11973-75, 11979-80, Wyoming Exhibit ED-16, United States Exhibits WRIR-JJ-7, WRIR-JJ-8, WRIR-JJ-9, WRIR-JJ-10. The increased barley yields were further justified by and are reasonable in view of the fact that Mr. Dornbusch increased his management costs and fertilizer application and costs over and above that used by Doug Agee in his Riverton Area Report, Wyoming Exhibit ED-8. Tr. 4975, 4991.

Wyoming Response:

298. The United States attempts to support its unrealistically high barley yields by again citing Mr. Dornbusch's interviews. As mentioned previously, Mr. Dornbusch could not even tell the Court how many farmers he interviewed or what their average yields were. Tr. 5855-5866 (Dornbusch).

In its brief, the United States points out that Dr. Jacobs and Mr. Sommers contacted some farmers on the Reservation who occasionally attained yields ranging from 90 to 115 bushels per acre. United States' Supporting Brief at 383. The United States goes on to claim:

Thus, the pattern was beginning to form whereby Mr. Jacobs would ignore credible data when it would favor the economic feasibility of the United States claimed acreage and opt for less desirable data.

United States' Supporting Brief at 384.

This observation is totally unsupported by the Record and is patently false. To the contrary, the Record clearly shows it was Mr. Dornbusch who chose to ignore credible data when it came to establishing malt barley yields. Mr. Dornbusch testified that he began his analysis using 80 bushel per acre malt barley yields for lowland areas, the same yields contained in Mr. Agee's studies on Fremont County. Tr. 5869-5870 (Dornbusch); Wyo. Exh. ED-8.

At a later date, Mr. Dornbusch chose to ignore this credible source of barley yields in favor of increased yields based upon his interviews. Tr. 4953 (Dornbusch). How Mr. Dornbusch can base his increased yields on these interviews if he cannot tell the Court what average yields from those interviews are defies logic. Tr. 5855-5866 (Dornbusch).

In its Brief, the United States argues that evidence of individual farmers occasionally achieving high barley yields is sufficient to support Mr. Dornbusch's average yields for the entire future projects. United States' Supporting Brief at 383. The Court should note, however, that the United States proposes the exact opposite argument when attempting to establish a discount rate. Through its witness, Dr. Goldfeld, the United States urges the Court to ignore the fact that rates of return to capital in the American economy range from a minus one to a positive 24%, and consider the average rate of return in its deliberations. Tr. 15501, 15502 (Goldfeld). This inconsistency is further evidence that it is the United States, not Wyoming, that has chosen arguments of convenience to further its case.

Under cross-examination, Mr. Dornbusch also admitted he was unaware of average malt barley yields in Fremont County. Tr. 5861. Thus it is clearly Mr. Dornbusch, not

Dr. Jacobs, who ignored credible data. As the Special

Master asked of Dr. Jacobs:

Let me ask you one thing. If the crop yields, long-term average crop yields in Fremont County were 75 bushels per acre and 71 on the Midvale District, do you know why Mr. Dornbusch used 100 on the lowlands and 90 on the highlands?

Tr. 14709. To which Dr. Jacobs replied:

I think you would have to ask Mr. Dornbusch that.

Tr. 14709.

United States Proposed Finding of Fact:

299. The ten percent yield reduction for crops grown in the highland area above 5900 feet used by Mr. Dornbusch was reasonable. Tr. 4948-49.

Wyoming Response:

299. The Record cited by the United States in support of this finding makes no mention of the 10% yield reduction used by Mr. Dornbusch.

United States Proposed Finding of Fact:

300. The 1979 normalized crop prices used by Mr. Dornbusch in his analysis were reasonable. United States Exhibit WRIR C-278, p. 4. There was no major dispute between the parties regarding crop prices, each being within a few cents of each other with the exception of barley prices where Jim Jacobs, Wyoming's economist, used barley prices that were 20 percent higher than those used by Mr. Dornbusch. Tr. 14726-27, Wyoming Exhibit EJ-3 and EJ-4, Tr. 4959-65.

Wyoming Response:

300. This finding refutes the United States' claim that Dr. Jacobs would ignore credible data when it would favor the economic feasibility of the United States' claimed acreage and opt for less desirable data. United States Supporting Brief at 384. To the contrary, Dr. Jacobs did indeed compute normalized 1979 crop prices and use these prices in his analysis even though they were higher than those computed by Mr. Dornbusch.

His actions in this matter are another example of the objectivity and professionalism that characterized Wyoming's economic feasibility analysis.

United States Proposed Finding of Fact:

301. The annual gross returns found by Mr. Dornbusch for the lowland area of \$271 per acre for malt barley, \$26.50 per acre for baled barley straw, \$238.48 per acre for nurse barley, \$238.46 per acre for alfalfa, \$8.22 per acre for alfalfa aftermath, \$318 per acre for corn silage, \$226.95 per acre for corn grain and \$8.77 per acre for corn grain aftermath were reasonable.

United States Exhibit WRIR C-268, p. 4.

Wyoming's Response:

301. The United States cites no evidence from the Record to support its contention that Mr. Dornbusch's annual gross returns for lowland areas are reasonable. The Court should note that Mr. Dornbusch's gross annual returns for malt barley are compared to Dr. Jacob's returns and independent results obtained by Mr. Doug Agee in Wyo. Exh. EA-6. Although Mr. Dornbusch's returns are higher than those achieved by either Dr. Jacobs or Mr. Agee, they are within 2% of Dr. Jacobs' results and thus cannot be a significant factor in the differences between the United States' and Wyoming's analysis.

A similar comparison of alfalfa results shows that although Mr. Dornbusch's returns are slightly higher, they are not significantly different from those projected by Dr. Jacobs. An analysis of Table II-3, page 5, Wyo. Exh. EJ-4, shows that Dr. Jacobs actually used higher returns for nurse barley (80 bushels per acre) than Mr. Dornbusch did (88 bushels per acre) because Dr. Jacobs used a price 20% higher than did Mr. Dornbusch. This is another example of how Wyoming did not, as the United States maintains, attempt to minimize benefits attributable to the projects.

To the contrary, Wyo. Exhs. EA-6, EA-7 and EJ-4 clearly show that Wyoming used comparably high if not higher annual gross returns than did the United States. This is especially clear in Wyoming's substitution of beans for corn and corn silage in the proposed cropping patterns. Page 6 of Wyo. Exh. EJ-4 clearly shows that Wyoming's returns to dried beans are significantly higher than the United States' proposed returns to corn and corn silage. U.S. Exh. 268 (p. 4).

United States Proposed Finding of Fact:

302. The annual gross returns found by Mr. Dornbusch for the highland area of \$243.90 per acre for malt barley, \$26.50 per acre for baled barley straw, \$214.09 per acre for nurse barley, \$217.26 per acre for alfalfa, and \$8.22 per acre for alfalfa aftermath were reasonable. United States Exhibit WRIR C-268, p. 4.

Wyoming Response:

302. Wyoming's gross returns per acre for highland areas at a 4% discount rate are given in Wyo. Exh. EJ-4 (p. 10). The last three rows of that table show that Wyoming used significantly higher returns per acre for both malt barley and nurse barley in highland areas than did Mr. Dornbusch. The parties' returns for alfalfa are almost identical. This result is another refutation of the United States' claims that

Mr. Jacobs would ignore credible data when it would favor the economic feasibility of the United States claimed acreage and opt for less desirable data.

United States' Supporting Brief at 384.

To the contrary, it is evident that Wyoming gave the projects every benefit of the doubt by assuming long-term gross returns per-acre as high if not higher than those used by the United States for both highland and lowland areas. Only during an initial start-up period are Wyoming's gross returns per acre slightly lower than those used by the United States. Wyo. Exh. EJ-4 (p. 9-10).

United States Proposed Finding of Fact:

303. A key point in determining production costs is the determination of farm labor costs. Both the United States and the State of Wyoming agreed on the principle of using zero opportunity cost for some portion of the farm labor that would come from the large amount of unemployed Indians on the Wind River Indian Reservation. Mr. Dornbusch did an investigation that found historically high levels of unemployment on the reservation, that documented the younger Indians' willingness to work and that found a lack of future prospects of employment on or near the reservation, apart from the projects proposed in this litigation, and that Wyoming did not conduct such a study. In view of of the above and the fact that the Indians' desire to remain on the reservation, it was reasonable for Mr. Dornbusch to cost 80 percent of the farm labor at zero opportunity cost and 20 percent at full opportunity cost and to phase in Indian management over a ten-year period, costing management labor accordingly. Furthermore, this was reasonable in light of the fact that there is sustained unemployment on the reservation far in excess of the numbers required to fill the labor positions required. Tr. 4985-89, 5907-14, 5925-26, 5934-43, 14831-32, 15009, Wyoming Exhibit ED-52. N

Wyoming's Response:

303. The assertion that "both the United States and the State of Wyoming agreed on the principle of using zero opportunity for some portion of the labor. . ." is false and unsupported by the Record. To the contrary, Dr. Brookshire, testifying on behalf of Wyoming, stated:

Well, the notion of opportunity cost is it's the cost of the resource measured by the revenues or benefits given up in its next best use. That is almost a textbook definition. By using a zero opportunity cost over a 100 year time horizon is to abuse the definition of what an opportunity cost is.

Tr. 14534 (Brookshire).

Dr. Jacobs also testified that it is not realistic to assume farm labor would remain unemployed over the entire 100-year life of the proposed projects. Tr. 14702-14703. Their position is supported by the Water Resources Council guidelines for preparation of cost benefit analysis, which state that a zero opportunity cost is appropriate for "only those labor resources on site in the construction or installation of a project." Wyo. Exh. ED-6 (p. 72969) (emphasis added).

Dr. Jacobs went on to make it quite clear that, although he agrees with the Water Resources Council on this issue, he conducted his benefit cost analysis using three different levels of unemployed labor over the life

of the project specifically because the concept of zero opportunity cost was an area of controversy between the two parties. Wyo. Exh. EJ-3 (pp. 10-11).

The Court should note that Mr. Dornbusch used the authority of the Water Resources Council to justify his approach:

Q. (By Mr. Echohawk):

Okay we had a brief discussion earlier yesterday about opportunity cost. Could you once again explain to me what you meant by opportunity cost?

A: Yes this is one of the key principles that is used in an economic analysis like this one and like the ones that I have done, and they're used by the World Bank on development projects and recommended by the Water Resources Council.

Tr. 4985 (Dornbusch).

It is quite clear from Wyo. Exh. ED-6, cited above, that far from approving Mr. Dornbusch's approach, the Water Resources Council specifically prohibits the use of zero opportunity cost for labor during the operational life of projects. Furthermore, Mr. Dornbusch goes on to contradict himself by stating that unemployed Indians on the Reservation "in fact, probably would not have the opportunity to work without the development of these projects." Tr. 4987. This clearly contradicts Mr. Dornbusch's "interview" results which indicate farmers in the North Crowheart area had stopped growing corn because

"they were having difficulty in findings laborers to harvest the corn and had discontinued it." Tr. 4949 (Dornbusch).

If the United States maintains that Mr. Dornbusch's interview results are in any sense credible, then the United States is obviously ignoring credible data in the formulation of its Finding 303.

United States Proposed Finding of Fact:

304. A critical factor in determining production costs is farm machinery and equipment prices. Both the United States and the State of Wyoming agreed on the particular items of equipment to be used, but disagreed regarding the prices for that machinery and equipment. The equipment prices determined by Mr. Dornbusch which were those developed by Wyoming witness Doug Agee in Wyoming Exhibit ED-8 and normalized to 1979, were reasonable. The equipment prices used by Wyoming witness Jim Jacobs were unreasonable in view of the fact that they were considerably higher than any tractors and equipment prices found in the National Farm Tractor and Implement Blue Book. Tr. 14883-90, United States Exhibit JJ-4. Mr. Jacobs used Mr. Agee's prices only when he could not find higher USDA prices. United States Exhibit JJ-5; Tr. 14891-00, 15376-79.

Wyoming's Response:

304. The United States did not, through either exhibits or testimony, present the Court with the individual prices Mr. Dornbusch used for tractors and other farm implements. The Court has no basis for finding something reasonable if it is not included in the Record.

Dr. Jacobs provided the Court with 16 exhibits, including five bound volumes encompassing hundreds of pages of documentation of his analysis. He admitted that in some cases his tractor prices were higher than Bluebook prices, but stated that there was a logical explanation:

If you look at these (indicating), these prices are based on the national level. I can show you the set of prices I used which come out of the federal budgets that they use for the Rocky Mountain region. You are welcome to examine those, and that's where my particular prices come. If you compare that price with the price of the machinery that Doug Agee used for that particular area, I think they will be very representative. We are talking about a national market in these kinds (indicating) versus a local market

Tr. 14886, 14887 (Jacobs).

The United States' contention that Dr. Jacobs used Mr. Agee's prices only when he could not find higher USDA prices is false and unsupported by the Record. As Dr. Jacobs testified, "There is [sic] a few instances in here where I couldn't find a price in that USDA publication where I had to go back to Agee." Tr. 14894. The Record

also shows that a number of Dr. Jacobs' implement prices are as low or lower in price than Mr. Agee's prices. The following examples were extracted from Wyo. Exhs. EJ-3, EJ-4, EJ-14, EJ-15:

Implement	Jacobs' 1979 Price	Agee's Price (Indexed to 1979)
30 hp tractor	\$ 9,700	\$10,929
Plow	3,882	4,764
S.P. Windrower	18,382	21,857
Leveler	3,573	3,573
Bale wagon	10,720	10,720
300 gal. sprayer	1,548	1,548

Finally, the real test of Dr. Jacobs' analysis lies not in quibbling over the price of one piece of equipment, but rather in his overall results. Wyo. Exhs. EA-6 and EA-7 clearly show that Dr. Jacobs' total production cost per acre for both alfalfa and malt barley are (in 1979 prices) significantly lower than independently developed production costs by Mr. Agee of the University of Wyoming (in 1980 dollars). This result clearly indicates that Dr. Jacobs did not bias his results to favor the State of Wyoming at the expense of the United States. What Dr. Jacobs did do is present the Court with his cost data for farm implements.

Contrasted with Dr. Jacobs' carefully documented study results, the Court should review the level of documentation supplied by Mr. Dornbusch. Mr. Dornbusch first presented the Court with the results of his feasibility analysis for the future projects in the form of a scantily documented exhibit, U.S. Exh. C-268, covering only 13 pages. At a later date, similar documentation was provided for Mr. Dornbusch's analyses at 5, 6 and 7-1/8%. Mr. Dornbusch did not supply the Court with any of his individual equipment prices for scrutiny by the Court or the State of Wyoming. Mr. Dornbusch did not supply the Court or the State of Wyoming with a statement of what farm size he assumed in his calculations. The Court and the State of Wyoming are faced with evaluating Mr. Dornbusch's work on the basis of a series of barely decipherable hand-scribbled notes such as those depicted by Wyo. Exhs. ED-16, ED-18, ED-52, ED-54, ED-55 and ED-56. The Court should carefully consider whether these documents adequately support the results of Mr. Dornbusch's work. It is certainly clear that, in comparison to Dr. Jacobs' extensive documentation of his analysis, Mr. Dornbusch's work is scarcely documented at all.

United States Proposed Finding of Fact:

305. A critically important factor in determining production costs is the per acre cost of farm equipment and machinery. Key points in determining per acre cost are the farm size for which a complete complement of equipment will be used and equipment efficiency. The United States and the State of Wyoming disagreed on both issues. Tr. 4979-81, 14866, 15014-17.

Wyoming's Response:

305. It is astounding that the United States would suggest that "key points in determining per acre cost are the farm size for which a complete complement of equipment will be used" when nowhere in the Record is there a statement of the farm size used by the United States in its analysis.

United States Proposed Finding of Fact:

306. In view of the fact that the Indians on the Wind River Reservation are not limited to 160-acre farm sizes, Mr. Dornbusch's use of a tribal enterprise or co-op arrangement for the efficient use of farm equipment was prudent and reasonable. Government publications and Wyoming's witness Doug Agee verified that farm equipment could be utilized more efficiently and at a lower per acre cost on larger farms than assumed by Mr. Jacobs for the State of Wyoming. United States Exhibit WRIR DA-1, United States Exhibit WRIR CF-3, p. 7, Tr. 14866, 15014-17, 15334, 15380-88.

Wyoming's Response:

306. Mr. Agee agreed that farm equipment can be utilized more efficiently on larger farms. Tr. 15380-15388. Mr. Agee also pointed out, however, that management of larger farms "becomes a much more complex situation." Tr. 15336. Mr. Agee also testified that:

The largest irrigated unit that I am familiar with in the Worland-Lander area is run by the Sherman family down on Tie-Down Flat, maybe you know where that is. But it was about a 1500 acre irrigated farm, and I can tell you they have all kinds of problems keeping the work up and timely and together.

Tr. 15368. Thus it is not at all clear that Mr. Dornbusch's use of a Tribal enterprise or co-op arrangement was prudent and reasonable. As Dr. Jacobs testified:

Admittedly they could use this equipment over more acres. Then you get into the question in terms of the timing of those individual operations, and it is not entirely clear in my own professional opinion that running that machinery over large acreages, if you take into account problems in terms of management, the timing of that operation that you are actually going to look at, you know, increased returns relative to the cost of using that piece of equipment.

Tr. 14849-14850.

United States Proposed Finding of Fact:

307. Mr. Jacobs' use of approximately 160 small farms of 320 acres each was unreasonable under the circumstances and resulted in adding unreasonable cost burden to his analysis.

Tr. 14840-47, 14878-82.

Wyoming's Response:

307. This finding is totally unsupported by any factual information in the Record. The United States repeatedly cites testimony in support of the fact that equipment can be used more hours on larger farms. Tr. 14787-14882 (cross-Jacobs). The State of Wyoming does not disagree with that contention. In fact, Dr. Jacobs stated under cross-examination that:

If you look just at the fixed costs of that particular item, then there would be some reduction in those fixed costs. But again, as you increase those hours on annual use, you are going to increase the repair costs. You are going to increase the rapidity with which that equipment has to be replaced.

You also have the problems, as I mentioned earlier, in terms of timing of your operations to make sure they get done in a timely manner and as you go to these large units, you are also going to have management problems in terms of making sure those operations are done on time.

Tr. 14882. Dr. Jacobs also stated that:

Studies have indicated that as you expand the farm size, the increases in cost production efficiencies are not that great.

Tr. 14854 (cross-Jacobs).

This point was echoed by Mr. Agee, who introduced Wyo. Exh. EA-8, an excerpt from a study entitled Economics of Size in U.S. Field Crop Farming, published by the U.S. Department of Agriculture in July, 1981. Paragraph 6 of the fourth page of that exhibit reads:

Since medium-sized commercial farms with gross incomes from \$41,000-76,000 achieve most technical efficiencies, society benefits little in terms of lower real food costs from further increases in farm size. Actually, many commercial farms now exceed the size necessary to achieve all available cost efficiencies. With current crop production technology, further growth in medium-size and larger farms will not likely improve overall food production efficiency.

Based upon Mr. Agee's testimony that a 320-acre farm in the Riverton area would gross between \$70,000-90,000 annually, Tr. 15372, there is absolutely no basis for the United States' inference that Dr. Jacobs' 320-acre farm size "resulted in adding unreasonable cost burden to his analysis." To the contrary, the Record shows that Mr. Dornbusch clearly and repeatedly underestimated production costs by assuming accelerated equipment usage without accelerated depreciation. As Dr. Jacobs testified:

The first major difference would be like in our two-ton truck. Okay, Mr. Agee said that the annual use was 1,600 miles per year, and based upon that you would get about 18 years of useful life. Mr. Dornbusch in his analysis increased that mileage to 7,500 miles per year, but left the life of that piece of equipment at 18 years.

Tr. 14783-14784.

The United States clearly wants to have its cake and eat it, too. Mr. Dornbusch testified that "we based our analysis of fixed costs on the estimates on the most efficient use of that equipment," Tr. 4980 (emphasis added), without ever stating what farm size corresponded

to that most efficient use. Yet, Mr. Dornbusch assumed equipment life based upon the assumption of a 320-acre farm size specified by Mr. Agee. Tr. 14783-14784. This approach clearly understates on-farm production costs and is a major reason for cost difference between the United States' and Wyoming's analysis.

United States Proposed Finding of Fact:

308. The production costs used by Mr. Dornbusch are reasonable. These are \$142.73 per acre for malt barley, \$146.53 per acre for nurse barley, \$77.30 per acre for alfalfa, \$172.04 per acre for corn silage and \$148.93 per acre for corn grain.

United States Exhibit WRIR C-268, p. 5.

Wyoming's Response:

308. The United States cites no evidence in the Record (there is none) to support its contention that Mr. Dornbusch's production costs are reasonable. To the contrary, Wyo. Exhs. EA-6 and EA-7 clearly show that Mr. Dornbusch's production costs are significantly lower than costs published by the Agricultural Extension Service as well as those derived by Dr. Jacobs. Furthermore, the Record is clear as to how Mr. Dornbusch arrived at his unrealistically low production costs:

1. Mr. Dornbusch based his equipment fixed costs on some unspecified "optimum" farm size, Tr. 4980 (Dornbusch), but based his depreciation costs on a 320-acre farm size used by Mr. Agee. Tr. 14783-14785 (Jacobs).
2. Mr. Dornbusch did not use 1979 input prices as he claimed. Rather he used a normalization procedure which resulted in prices significantly lower than prices indexed to 1979. Tr. 5808 (cross-Dornbusch). Wyo. Exh. EJ-2, Table 7, p. 15. See also Wyoming's Response to United States' Finding of Fact 317.
3. Mr. Dornbusch assumed that management of his proposed highly complex cooperative farm arrangements would come from the ranks of the unemployed, Tr. 4990-4992 (Dornbusch), and thus included virtually no management charges in his production costs.

As a result, Mr. Dornbusch arrived at the conclusion that alfalfa could be produced on the proposed future projects at a 1979 economic cost of \$17.18/ton, or on a fully costed (including 100% labor) basis of \$19.26/ton. Wyo. Exh. EA-5. These cost figures are highly unrealistic, not only in contrast to Dr. Jacobs' analysis and Agricultural Extension Service Bulletins, Wyo. Exh. EA-5, but also in view of common sense. It is interesting to note that the United States did not introduce evidence from any existing irrigation project or published source to substantiate its claim that alfalfa can be produced for less than \$20.00/ton.

United States Proposed Finding of Fact:

309. Net returns are determined by subtracting the production costs from the gross returns for both highland and lowland areas. Mr. Dornbusch's net return determination of \$154.77 per acre for malt barley, \$118.45 per acre for nurse barley, \$169.38 per acre for alfalfa, \$145.96 per acre for corn silage, and \$86.79 per acre for corn grain in the lowland areas was reasonable. His net return determination of \$127.67 per acre for malt barley, \$94.06 per acre for nurse barley, and \$148.18 per acre for alfalfa in the highland areas was reasonable. United States Exhibit WKIR C-268, p. 5.

Wyoming's Response:

309. The United States cites no evidence in the Record to support its contention that Mr. Dornbusch's net returns for the future projects are reasonable. Nevertheless, since net returns are determined by subtracting production costs from gross returns, and since Mr. Dornbusch's production costs are unreasonably low, see Wyoming's Response to United States' Finding of Fact 308, it then follows that his net returns are unreasonably high.

United States Proposed Finding of Fact:

310. The weighted average net returns were computed using the net returns and the crop percent distribution. Mr. Dornbusch's determination of \$153.55 per acre for the lowland areas and \$136.03 per acre for the highland areas was reasonable. United States Exhibit WRIR C-268, p. 11.

Wyoming's Response:

310. Again, the United States does not cite the Record to support its contention that its weighted average net returns for the future projects are reasonable. By analogy, however, it follows that if the United States' individual returns are unreasonably high, then the weighted average of those returns will be unreasonably high also. See Wyoming's Response to United States' Proposed Finding of Fact 309.

United States Proposed Finding of Fact:

311. Both Mr. Dornbusch and Mr. Jacobs projected the costs and returns from the proposed projects over a 100 year span. Each then brought the 100 year stream of production costs and benefits back to a single present value to compare to the project development costs. Each economist used the technique of discounting to accomplish this. The United States, the Tribes and the State of Wyoming agreed that the discount rate that should be used is a "real" rate, that is, one that is net of expected inflation. This was the appropriate rate to use since all parties projected costs and returns net of inflation. The State of Wyoming disagreed with the United States and the Tribes regarding the actual discount rate to be applied. Tr. 4992, 5002-03, 5008-03, 5021, 5036-42, 5078-82, 14521-22.

Wyoming's Response:

311. This Finding is an accurate statement of the conceptual position of the parties regarding discounting and discount rates with respect to this adjudication. The United States failed to cite any testimony by the Tribes, however, stating their position on the discount rate. The appropriate citations are by Dr. Cummings, a water resource economist, who testified on behalf of the Tribes that:

If you are going to discount, you have got to get at a real discount, that's an interest rate that's inflation free.

Tr. 8875. Dr. Cummings went on to state, however:

. . . there is [sic] no objective ways of choosing a real discount rate, we can get a range of economists in here and some will argue high and some will argue low.

Tr. 8877.

United States Proposed Finding of Fact:

312. Four economists testified regarding the appropriate discount rate. The Tribes' economist, Mr. Ron Cummings, testified that discounting was inappropriate in this situation, but if it was to be applied then an appropriate range for the rate is between 2 and 4 percent. Tribes Exhibit 24, Tr. 8877-78. Mr. Dornbusch testified that the applicable rate was between 2 and 4 percent. Tr. 5049. Mr. Stephen Goldfeld, an economist with impeccable credentials regarding the discount rate, testified that in his opinion the rate was between 1 and 4 percent and if he were to choose one figure, he would use 2.5 percent. Tr. 15517-18. The State of Wyoming's economist, Mr. David Brookshire, testified that the appropriate rate was between 4 and 11 percent. Wyoming Exhibit EB-3, Tr. 14525-27.

Wyoming's Response:

312. This Finding is an over-simplification of the parties' positions regarding specific discount rates. First, Dr. Cummings clearly stated that there is no objective way of choosing a real discount rate. See Wyoming's Response to United States' Finding of Fact 311. Second, Mr. Dornbusch apparently changed his mind several times concerning the appropriate discount rate. He began his analysis using a discount rate of 7-1/8%. Tr. 6071 (Dornbusch). He later testified that the appropriate rate is 4%. Tr. 5042. After a recess in the hearing, he changed his mind again by stating:

I should clarify that. In my professional opinion, the correct rate is in the range of 2%-4%, and it's probably not over 4%.

Tr. 5049. Dr. Brookshire, testifying on behalf of Wyoming, said:

I would argue that one cannot pick a single rate. One must pick a range of rates, again from the obvious observation that the American economy is very diverse, has many sectors, and each of these sectors will have different real rates of return.

Tr. 14522.

Dr. Goldfeld based his range on alternative theories about the discount rate. Tr. 15491-15494; 15517-15525 (Goldfeld). Prior to his rebuttal testimony, however, all parties had agreed to a single theory. Tr. 5039-5082 (Dornbusch); Tr. 8875 (Cummings); Tr. 14521-22 (Brookshire).

United States Proposed Finding of Fact:

313. In determining the appropriate discount rate the relevant considerations are the opportunity cost of capital displaced from investment and consumption in the long term and social time preference. Tr. 15492-94.

Wyoming's Response:

313. The United States' Finding 313 directly contradicts United States' Finding 311. Concepts of social time preference have absolutely nothing to do with a "real" discount rate, a fact recognized both by Mr. Dornbusch, Tr. 6220-6221, and Dr. Goldfeld, Tr. 15492-15494. The fact is that the United States, Wyoming, and the Tribes all agreed that a "real" discount rate should be used in economic feasibility analyses prior to the rebuttal testimony of Dr. Goldfeld. Dr. Goldfeld's testimony that the social time preference argument should be considered is nothing more than an after-the-fact second-guessing of a virtual stipulation reached by all major parties to the adjudication. See United States' Proposed Finding of Fact 311.

As Mr. Dornbusch testified:

If you have some long-range social objectives in mind such an advancement for the future and what you are very concerned about is the preservation of a value that should be appreciated at some future time, what those theorists have done in order to do that is to hypothesize the discount rate you should use should be lower to increase the values in the future. I have chosen not to do this.

Tr. 6220-6221 (emphasis added).

United States Proposed Finding of Fact:

314. The appropriate discount rate to apply in an economic feasibility analysis for proposed agricultural development on the Wind River Indian Reservation is in the range of 1 to 4 percent. Tr. 15517, 5049, Tribes Exhibit 24, p. A.26.

Wyoming's Response:

314. The Court should note that the United States has systematically lowered its estimate of the discount rate from an initial value of 7-1/8%, Tr. 6071 (Dornbusch), to 4%, Tr. 5042 (Dornbusch), to 2-1/2%, Tr. 15517-15518 (Goldfeld); United States' Post-Trial Brief at 402, 407-410; see also Wyoming's Motion to Strike, filed contemporaneously herewith. The United States also has added additional theories such as the opportunity cost of consumption and the social time preference theory in attempts to further lower the range of discount rates. See Wyoming's Response to United States Finding of Fact 313.

The social time preference theory -- originally rejected by Mr. Dornbusch, Tr. 6220-6221, and Dr. Brookshire, Wyo. Exh. EB-3 -- was first argued for by Dr. Goldfeld, the last witness in the trial. Dr. Cummings never mentioned the theory in his testimony.

The "opportunity cost of consumption" approach was also not mentioned by Mr. Dornbusch or Dr. Cummings. In what amounts to a virtual stipulation, the State of Wyoming agreed to focus on the opportunity cost of capital only to have the last witness in the trial -- Dr. Goldfeld -- argue yet for another reason the discount rate range should be lowered further.

The Court should note that, when the "after the fact theories" -- social time preference and opportunity cost of consumption -- are set aside, Dr. Goldfeld arrived at a 4% discount rate based upon adjustments to the Fraumeni and Jorgenson study. Dr. Goldfeld's estimate is based upon a weighted average real rate of return of 4-7/8% from the Fraumeni and Jorgenson study. United States' Supporting Brief at 400. Dr. Goldfeld's adjustment was based upon an assumption that the marginal rather than the average measure of the opportunity cost of capital should be utilized. However, Dr. Goldfeld stated in response to a question as to whether there was direct empirical data as to the magnitude of the marginal rate of return:

There is no direct empirical evidence that would weep [sic] out and would say 'I am the marginal rate of return of capital.'

Tr. 15543 (Goldfeld).

Mr. Dornbusch did not argue for a marginal rate of return, nor did he ever use the word "marginal." Instead, he argued for an average rate by stating:

Yes. On page 96, which is the last page, the last paragraph in the first column, and continuing over to the top of the middle column, they refer to 4 percent which they -- excuse me -- the author says, "Why 4 percent? Because Jorgenson and Auerback believe that is the best estimate of the average real return . . ."

Tr. 6234 (Dornbusch) (emphasis added).

Thus, Dr. Goldfeld again disagrees with Mr. Dornbusch, Dr. Cummings and Dr. Brookshire. By arguing for a "marginal" rate, the United States found another conceptual argument -- in addition to the introduction of new theories -- by which the discount rate range would be lowered on the last day of trial.

As Dr. Cummings testified on behalf of the Tribes:

There is no [sic] objective ways of choosing a real discount rate, we can get a range of economists in here and some we'll argue high and some we'll argue low.

Tr. 8877.

United States Proposed Finding of Fact:

315. Mr. Brookshire's use of a high and wide range of discount rates is unreasonable because he did not correctly interpret the Fraumeni and Jorgensen article regarding rates of return (Tribes' Exhibit DB-1), and because he did not consider marginal rates of return, opportunity cost of consumption or social time preference. Tr. 15490-27.

Wyoming's Response:

315. It is ludicrous of the United States to criticise Dr. Brookshire for not using marginal rates of return, the opportunity cost of capital, or social time preference when their primary witness, Mr. Dornbusch, also failed to do so. See Wyoming's Response to United States' Finding of Fact 314. The United States' other disagreement with Dr. Brookshire is that he did not use the "aggregate own-rate of return for the period 1948-76 which is 0.0478 or 4.78%." United States' Supporting Brief at 397. It is interesting to note that the United States chastises Dr. Brookshire for not using an average, yet chastises Dr. Jacobs for using averages:

Although he was aware of Mr. Dornbusch's interview results . . . Mr. Jacobs chose to rely on averages.

United States' Supporting Brief, p. 382

The United States went on to accuse Dr. Jacobs of ignoring "credible data when it would favor the economic feasibility of the United States claimed acreage and opt for less desirable data." United States' Supporting Brief at 384.

In fact, Wyoming's position has been consistent with regard to both yields and discount rates throughout the adjudication. Dr. Jacobs evaluated the feasibility of the proposed future projects using a range of yields, assuming

both good and superior management over both highland and lowland areas. His approach is entirely consistent with Dr. Brookshire's admonition to evaluate the projects over a range of discount rates. Furthermore, the Fraumeni and Jorgenson study which Dr. Brookshire used to establish his range clearly shows that the majority of sectors in the American economy have real rates of return in the range of 4 to 11%. Tr. 14525. Furthermore, Dr. Goldfeld agrees this study is a "respected" and "sound" piece of work. Tr. 15498.

Asking the Court to evaluate the feasibility of these projects at one single average rate of return such as 4.78% would be equivalent to asking the Court to evaluate the projects using county-wide average yields for alfalfa, malt barley, and other crops. Again, the United States wants to have its cake and eat it, too. As the Special Master noted:

Let me just ask you one thing. If the crop yields, long-term average crop-yields in Fremont County were seventy-five bushels per acre and seventy-one on the Midvale District, do you know why Mr. Dornbusch used 100 on the lowlands and 90 on the highlands?

Tr. 14709. To which Dr. Jacobs replied, "I think you would have to ask Mr. Dornbusch that." Tr. 14709.

United States Proposed Finding of Fact:

316. Mr. Dornbusch determined a single present value for the 100 year stream of annual benefits for each project area using a 4 percent discount rate. His net benefit present value determinations of \$3,633 per acre for North Crowheart, \$3,689 per acre for South Crowheart, \$3,671 per acre for Big Horn Flats, \$3,691 per acre for Riverton East and \$3,704 per acre for Arapahoe was reasonable. United States Exhibit WRIR C-268, pp. 12-13.

Wyoming's Response:

316. The United States again asserts the reasonableness of Mr. Dornbusch's findings by simply citing an exhibit listing them. The United States conveniently ignores the fact that Mr. Dornbusch first performed his feasibility analysis at a 7-1/8% discount rate, Tr. 6071 (Dornbusch), the results of which are given in Wyo. Exh. ED-14. Table 4 of that exhibit shows that the present net benefit per acre for each of the future projects according to Mr. Dornbusch's first calculations were \$1,986 per acre for North Crowheart, \$2,019 per acre for South Crowheart, \$2,009 per acre for Big Horn Flats, \$2,020 per acre for Riverton East, and \$2,027 per acre for Arapahoe. Table 5 of Exh. ED-14 also shows that all benefit cost ratios as calculated by Mr. Dornbusch for all five future projects are less than one.

Regardless of what discount rate is used to determine the net present value of benefits for each project area, there is no evidence in the Record to support the United States' contention that Mr. Dornbusch's determinations are reasonable. To the contrary, Wyoming's Response to United States' Finding of Fact 308 clearly points out that Mr. Dornbusch's production costs are unrealistically low, thus resulting in unrealistically high net benefit measures. This situation is clearly illustrated in the following table:

Comparison of On-Farm Costs
and Returns-Lowland Areas

<u>Crop</u>	<u>Returns</u>		<u>Prod. Costs</u>		<u>Net Returns</u>	
	<u>U.S.</u> ¹	<u>Wyoming</u> ²	<u>U.S.</u> ¹	<u>Wyoming</u> ²	<u>U.S.</u> ¹	<u>Wyoming</u> ²
Malt Barley	\$297.50	\$293.37	142.73	172.16	154.77	138.60
Nurse Barley	264.98	276.30	146.53	186.61	118.45	89.69
Alfalfa	246.68	244.27	77.30	134.69	169.38	109.58
Corn Silage	318.00	--	172.04	--	145.96	--
Corn Grain	235.72	--	148.93	--	86.79	--
Beans ³	--	406.40	--	280.16	--	126.24

1. See U.S. Exh. C-268 (p. 5).

2. See Wyo. Exh. EJ-4 (pp. 9, 17).

3. Wyoming used beans rather than corn as a third cash crop.

The first two columns of the table show a comparison of long-term annual returns per acre as determined by Mr. Dornbusch from the United States and Dr. Jacobs for the State of Wyoming. This comparison totally refutes the United States' claim that "the State of Wyoming, through Dr. Jacobs, did not even try to make fair and reasonable assessment of the economic feasibility of the acreage claimed by the United States." United States' Supporting Brief at 405. The results above clearly show that Dr. Jacobs used comparably high, if not higher, returns for all major comparable crops than did Mr. Dornbusch.

The results in the table also show that the real difference between the two analyses involves on-farm production costs, an area in which Dr. Jacobs is an expert, both by benefit of education and experience, and

an area in which Mr. Dornbusch is totally unqualified in either regard. See Wyoming's Proposed Finding of Fact 18-23. Of special significance is the fact that Mr. Dornbusch claims production costs of \$77.30 per acre for alfalfa, while Dr. Jacobs estimates production costs on a comparable basis of \$134.69. Since alfalfa forms a major portion of the cash crop for both parties, 67% for the United States and 57% for Wyoming, this difference in production costs constitutes one of the major differences between the parties in terms of net present benefits and benefit-cost ratios.

Throughout its Brief in support of its findings, the United States has attempted to mislead the Court into believing that Dr. Jacobs manipulated his data to the disadvantage of the United States. See United States' Supporting Brief at 384, 386, 388, 389, 390, 406. There is no evidence in the Record to support this contention. To the contrary, Wyo. Exhs. EA-4, EA-5, EA-6 and EA-7 clearly show that Dr. Jacobs' costs and returns are clearly more in line with data published by the Wyoming Agricultural Farm Extension Service than are Mr. Dornbusch's.

The United States has further attempted to mislead the Court into believing that Wyoming's assumption of a 320-acre farm size places an unreasonable burden upon the

Tribes in terms of cost. The evidence to the contrary is overwhelming, as detailed in Wyoming's Response to United States' Proposed Finding of Fact 307.

Given these facts, the State of Wyoming urges the Court to take a careful look at Mr. Dornbusch's analysis. It is Mr. Dornbusch who started out using a 7-1/8% discount rate and later testified that the proper range was 2 to 4%. See Wyoming's Response to United States' Proposed Finding of Fact 312. It was Mr. Dornbusch who started his analysis using 80 bushel per acre malt barley yield and later increased the yields to 100 bushels per acre. See Wyoming's Response to United States' Proposed Finding of Fact 298. It was Mr. Dornbusch who decided that full yields of alfalfa, malt barley and corn could be attained up through 5,900 feet in elevation based upon an unknown number of interviews he couldn't recall much about. See Wyoming's Response to United States' Proposed Finding of Fact 295. It is Mr. Dornbusch who told the Court that unemployed Indians had no job prospects other than these projects, and at the same time told the Court that farmers near North Crowheart did not grow corn because they could not find labor to harvest it. See Wyoming's Response to United States' Proposed Finding of Fact 303. It is Mr. Dornbusch who told the Court the future projects could achieve full yields the very first.

year they were planted when all the evidence in the Record is to the contrary. See Wyoming's Proposed Finding of Fact 18-30. It was Mr. Dornbusch who told the Court he "used an approach, techniques that are used by and recommended by the World Bank, the United Nations, our own Water Resources Council," Tr. 4933, and then violated WRC guidelines in costing his labor and normalizing his input prices. See Wyoming's Response to United States' Findings of Fact 303 and 317. Finally, it is Mr. Dornbusch, and only Mr. Dornbusch, who is telling the Court that alfalfa can be grown for \$73.30 per acre or \$17.18 per ton.

In considering this latter claim, the Court should consider the following:

1. Mr. Dornbusch did not submit into evidence any of the implement or tractor prices he used in this analysis. See Wyoming's Response to United States' Finding of Fact 304.
2. Mr. Dornbusch did not testify concerning the farm size he assumed in developing his production costs for the future projects. Although the United States claims in its brief that Mr. Dornbusch used a 2,560 acre farm size, United States' Supporting Brief at 393, there is no evidence in the Record to verify that assertion.

3. Mr. Dornbusch assumed equipment would be used much more heavily on an annual basis than did either Dr. Jacobs or Mr. Agee, yet did not assume it would be replaced any sooner. Tr. 14783, 14784 (Jacobs).

4. Mr. Dornbusch assumed management charges for his highly efficient, cooperative enterprise of unspecified size to be at an astoundingly low \$1.32 per acre per year for alfalfa. U.S. Exh. C-268 p. 6.

5. Mr. Dornbusch used a method of normalizing input prices that resulted in so-called 1979 prices that are in actually lower than 1978 prices. See Wyoming's Response to United States' Findings of Fact 304, 317.

6. The United States did not introduce any published data or corroborating witnesses to support Mr. Dornbusch's determination of production costs.

7. Mr. Dornbusch is clearly not an agricultural economist and is clearly not qualified to estimate on-farm production costs for irrigated agricultural projects in Wyoming. See Wyoming's Proposed Finding of Fact 18-23.

In light of the evidence in the Record, it is clear that the Court has no basis to find that Mr. Dornbusch's net present benefit calculations are reasonable, as maintained by the United States. To the contrary, the Record is clear that they are overstated.

United States Proposed Finding of Fact:

317. Mr. Dornbusch took Dr. Mesghinna's costs for pipe networks, pumps and pumping plants, canals and related structures, drainage, operation and maintenance, energy and demand costs from United States Exhibit WRIR C-245, determined 1979 normalized prices, and determined the expected life for each item over the term of the project. Mr. Dornbusch added to Dr. Mesghinna's costs, reasonable estimates for engineering and contingencies, fencing and land preparation, adjusted for unemployed labor when appropriate, then discounted the stream of costs using appropriate methods to determine a present value. Tr. 5012-24, 5031-33, 5024-31.

Wyoming's Response:

317. The United States again characterizes Mr. Dornbusch's actions as "reasonable" and "appropriate," while the transcript passages it cites only describe what Mr. Dornbusch did. The Court may well question why Mr. Dornbusch took Dr. Mesghinna's costs, which were in 1979 dollars, and "normalized" them. In fact, the Special Master did ask: "What do you do, crank in an inflation factor?" Tr. 5014 (the Special Master).

The answer is, obviously, he did not. As Mr. Dornbusch testified, "in order to convert from a 1979 cost to a normalized cost, you multiply by a factor which takes -- accounts for that smoothing operation I talked about before." Tr. 5014.

The "smoothing operation" which Mr. Dornbusch referred to results in prices which are actually the same as or lower than 1978 prices, as admitted by Mr. Dornbusch under cross-examination, Tr. 5808, and as pointed out by Dr. Jacobs, Tr. 14781, 14782.

Mr. Dornbusch admits this procedure is not standard practice and is not condoned by the Water Resources Council. He attempts to justify his actions, however, by stating that "the WRC makes a fundamental mistake." Tr. 5015.

Mr. Dornbusch had earlier testified, however, that "I used an approach, techniques that are used by and recommended by the World Bank, the United Nations, our own Water Resources Council." Tr. 4933. Thus, the Court is faced with yet another example of how it was Mr. Dornbusch, not Dr. Jacobs, who bent the rules of the game to achieve his own ends.

United States Proposed Finding of Fact:

318. Mr. Dornbusch's present value determination for the total irrigation system costs of \$2,474 per acre for North Crowheart, \$2,682 per acre for South Crowheart, \$3,416 per acre for Big Horn Flats, \$2,945 per acre for Riverton East and \$2,426 per acre for Arapahoe was reasonable. United States Exhibit WRIR C-268, p. 13.

Wyoming's Response:

318. Again, the United States cites an exhibit listing costs as support for their reasonableness. To the contrary, Mr. Dornbusch's "normalization" of Dr. Mesghinna's costs is contrary to Water Resources Council practices, and resulted in so-called 1979 costs that are actually closer to 1977 costs. See Wyoming's Response to United States' Finding of Fact 317. For this reason, Mr. Dornbusch's present value determination of total irrigation system costs is erroneous.

United States Proposed Finding of Fact:

319. All parties determined the benefit cost ratios for the proposed projects by dividing the present value of the net returns by the present value of the costs. Based upon a review of the testimony and exhibits the following benefit cost ratios are reasonable: North Crowheart 1.47, South Crowheart 1.29, Big Horn Flats 1.07, Riverton East 1.25, and Arapahoe 1.53.

Wyoming's Response:

319. All parties did indeed determine benefit-cost ratios for the proposed projects by dividing the present value of net returns by the present value of the costs.

However, since the benefit-cost ratios are a result of Mr. Dornbusch's analysis, they are not reasonable or are based upon unsubstantiated evidence in the Record. See Wyoming's Response to United States' Findings of Fact 292, 294, 295, 296, 298, 301, 303, 304, 306, 307, 308, 309, 310, and 316.

Further, in citing the benefit-cost ratios presented in Table 5, U.S. Exh. C-268, utilizing a 4% discount rate, the benefit-cost ratios from Wyo. Exhs. ED-12, #D-13 and ED-14 should also be stated. For the 7-1/8% discount rate the benefit-cost ratios are: North Crowheart .95, South Crowheart .87, Big Horn Flats .77, Riverton East .86, and Arapahoe .98. Wyo. Exh. ED-14 (Table 5). It follows that even these benefit-cost ratios are unreasonably high or based upon unsubstantiated evidence in the Record. See Wyoming's Response to United States' Findings of Fact 292, 294, 295, 296, 298, 301, 303, 304, 306, 307, 308, 309, 310 and 316.

United States Proposed Finding of Fact:

320. Mr. Dornbusch has made a reasonable determination that the following acreages in the designated areas are economically feasible to develop and irrigate.

North Crowheart	38,773 Acres
South Crowheart	4,695 Acres
Big Horn Flats	2,670 Acres
Riverton East	3,814 Acres
Arapahoe	<u>3,808 Acres</u>
TOTAL	53,760 Acres

These are the same acreages that Dr. Mesghinna designed irrigation systems, drainage and water requirements for in United States Exhibit WRIR C-245, p. 42.

Wyoming's Response:

320. For the reasons cited in Wyoming's Response to United States' Findings of Fact 292 through 318, it is clear that Mr. Dornbusch's determination that the specified acreages are economically feasible to develop and irrigate is far from reasonable. As the United States points out in its brief, "there is not even reasonable agreement among the United States and Tribes on one hand and the State of Wyoming on the other as to the quantity of economically feasible irrigable acreage on the Wind River Indian Reservation." United States' Supporting Brief at 405. It should be clear to the Court that the State of Wyoming went out of its way to accommodate both the United States and the Tribes on a large number of assumptions with which it did not necessarily agree. Tr. 15047-15052 (Merrill). There is, however, one assertion with which the State of Wyoming cannot agree -- the assertion that alfalfa can be produced in Wyoming for a cost of \$17.18 per ton. See Wyoming's Response to United States' Proposed Findings of Fact 308 and 316.

United States Proposed Finding of Fact:

B. Historic Lands
Type VII, Type VIII and
Unadjudicated in Use

321. An economic feasibility analysis was conducted by David Dornbusch on the Type VII and VIII lands. United States Exhibit WRIR C-278, Tr. 5716-6277.

Wyoming's Response:

321. Mr. Dornbusch did indeed testify as to the economic feasibility of both Type VII and Type VIII lands. His testimony hardly required 500-plus pages, though, as indicated by the transcript cite in this Finding. Mr. Dornbusch testified regarding Type VIII lands on transcript pages 5719 through 5739, and regarding Type VII lands on transcript pages 5739 through 5762.

United States Proposed Finding of Fact:

324. Mr. Dornbusch used the same crop selection and mix, same crop yields, same crop price per unit and the same gross returns per acre in the Type VIII analysis as he did in the future project analysis. This was reasonable. Tr. 5721-22, United States Exhibits WRIR C-278, p. 2, WRIR C-268, p. 4. (See Findings 294 through 302.)

Wyoming's Response:

324. The United States again presents no evidence to support its contention that Mr. Dornbusch's gross returns per acre on Type VIII lands are reasonable. Wyoming's Response to United States' Proposed Finding of Fact 316 shows that, for the future projects, there was not a great deal of disagreement between the parties concerning gross returns. Mr. Dornbusch testified, however, that he used "the same crops, the same yields, same prices per unit, and almost the same gross returns" for Type VIII lands, not exactly the same returns as claimed by the United States. Tr. 5721-5722 (Dornbusch).

United States Proposed Finding of Fact:

325. It was reasonable for Mr. Dornbusch to use the same 5,900 ft. elevation breakpoint for yield reduction due to growing season for the Type VIII analysis as he did for the future project analysis. Tr. 5728. (See Findings 295 and 299.) he did in the future project analysis. This adjustment costed 80 percent of farm labor at zero opportunity cost and 20 percent of farm labor at full cost and costed management labor according to the same ten year phase-in period as in the future project analysis. Tr. 5724-25, 4985-89, 5907-14, 5925-26, 5934-43, Wyoming Exhibit ED-52.

Wyoming's Response:

325. The absurdity of Mr. Dornbusch's position regarding an elevation break point for reduced yields is discussed in Wyoming's Response to United States' Proposed Finding of Fact 295.

United States Proposed Finding of Fact:

326. It was reasonable for Mr. Dornbusch to make the same adjustment to farm labor costs in the Type VIII analysis as

Wyoming's Response:

326. Wyoming's position concerning Mr. Dornbusch's costing of labor is discussed in its Response to United States' Proposed Finding of Fact 303.

United States Proposed Finding of Fact:

327. It was reasonable and prudent for Mr. Dornbusch to increase his production costs on the Type VIII lands to account for a loss of efficiency in equipment operation due to the smaller size of parcels. Tr. 5724. In all other respects Mr. Dornbusch's production costs were reasonable and the same as used in the future project analysis. United States Exhibit WRIR C-278, pp. 3-12. (See Findings 303 through 308.)

Wyoming's Response:

327. As discussed in Wyoming's Response to United States' Proposed Findings of Fact 301, 302, 303, 304 and 316, Mr. Dornbusch's production costs are anything but reasonable, and form the major area of contention between the United States' and Wyoming's analyses.

United States Proposed Finding of Fact:

328. Mr. Jacobs' production costs contained in Wyoming Exhibits EJ-3 and EJ-4 were unreasonable as in his future project analysis due to the use of unreasonably high equipment prices and use of a 320-farm size rather than a ~~larger~~ more efficient tribal enterprise or co-op arrangement. (See Findings 304 through 306.) Wyoming Exhibit EJ-3, pp. 12, 13, 18, 19, Appendix A, EJ-4, pp. 2, 7, 8, 9, 10, Appendix IIA.

Wyoming's Response:

328. Wyoming's Response to United States' Proposed Findings of Fact 303, 304, 305, 306, 307 and 308 clearly show that Dr. Jacobs' production costs are not unreasonably high. Rather, Mr. Dornbusch's are unreasonably low.

United States Proposed Finding of Fact:

329. Mr. Dornbusch's production costs for the Type VIII lands were \$155.39 per acre for malt barley, \$158.68 per acre for nurse barley, \$91.61 per acre for alfalfa, \$184.66 per acre for corn silage and \$159.13 per acre for corn grain. United States Exhibit WRIR C-278, p. 3, Tr. 5727.

Wyoming's Response:

329. See Wyoming's Response to United States' Proposed Finding of Fact 328.

United States Proposed Finding of Fact:

330. Net returns in the Type VIII analysis were determined the same way as in the future project analysis. (See Findings 310.) Mr. Dornbusch's determination of \$142.11 per acre for malting barley, \$106.30 per acre for nurse barley, \$155.07 per acre for alfalfa, \$133.34 per acre for corn silage and \$76.59 per acre for corn grain in the lowland area was reasonable. His determination of \$115.01 per acre for malting barley, \$81.91 per acre for nurse malt barley and \$133.87 per acre for alfalfa in the highland area was reasonable. United States Exhibit WRIR C-278, p. 14.

Wyoming's Response:

330. As discussed in Wyoming's Response to United States' Proposed Finding of Fact 316, Mr. Dornbusch's use of unrealistically low production costs resulted in overestimation of net returns to both the future projects and Type VIII lands.

United States Proposed Finding of Fact:

331. The weighted average net returns for the Type VIII lands were computed using the net returns and the crop percent distribution. This is the same procedure used in the future project analysis. Mr. Dornbusch's determination of \$140.04 per acre for the lowland area and \$122.35 per acre for the highland area was reasonable. United States Exhibit WRIR C-278, p. 14, Tr. 5728.

Wyoming's Response:

331. Again, the United States does not cite the Record for its claim for the reasonableness of Mr. Dornbusch's net returns for Type VIII lands. However, as is pointed out in Wyoming's Response to United States' Proposed Finding of Facts 310 and 316, Mr. Dornbusch's use of unrealistically low production costs makes his weighted average net returns unrealistically high.

United States Proposed Finding of Fact:

332. The Type VIII lands were analyzed over a 100-year period, as were the future project lands. The same process for discounting the stream of annual benefits back to a present value was used. The same discount rate of four percent was used by Mr. Dornbusch in his analysis for future and Type VIII lands. Tr. 5729. (See Findings 311 through 315.)

Wyoming's Response:

322. See Wyoming's Response to United States' Findings of Fact 311 through 315.

United States Proposed Finding of Fact:

333. Mr. Dornbusch determined a single present value for the 100-year stream of annual benefits for each of the Type VIII areas using a four percent discount rate. His present value determinations of \$3,501 per acre for the Coolidge, Johnstown, Subagency and Ray Units as well as the Arapahoe Ranch area was reasonable. His present value determination of \$3,059 per acre for the Upper Wind Unit was reasonable. These present values were determined in the same manner as those in the future project analysis. United States Exhibit WRIR C-278, pp. 14 and 16, Tr. 5738. (See Findings 311.)

Wyoming's Response:

333. Again, the United States cites no evidence in support of its contention that Mr. Dornbusch's present value determinations are reasonable. However, due to the fact Mr. Dornbusch's production costs are unrealistically low, see Wyoming's Response to United States' Proposed Finding of Fact 316, it follows that his net present value determinations are unrealistically high.

United States Proposed Finding of Fact:

334. Mr. Dornbusch determined a present value using a four percent discount rate for Dr. Mesghinna's Type VIII irrigation systems, as well as for land preparation and fencing the same way as in his future project analysis. (See Findings 311 through 318.) Tr. 5731-34.

Wyoming's Response:

334. See Wyoming's Response to United States' Findings of Fact 311 through 318.

United States Proposed Finding of Fact:

335. Mr. Dornbusch's present value determination for the total Type VIII irrigation system costs of \$2,361 per acre for the Coolidge Unit, \$2,064 per acre for the Johnstown Unit, \$2,188 per acre for the Upper Wind Unit, \$2,470 per acre for the Subagency Unit, \$2,834 per acre for the Ray Unit and \$3,311 per acre for the Arapahoe Ranch area was reasonable. United States Exhibit WRIR C-278, p. 16, Tr. 5737.

Wyoming's Response:

335. As pointed out in Wyoming's Response to United States' Proposed Finding of Fact 317, Mr. Dornbusch "normalized" Dr. Mesghinna's 1979 costs to make them lower, in violation of Water Resources Council guidelines and standards. Mr. Dornbusch applied the same "normalization" procedure to Dr. Mesghinna's cost figures for Type VIII lands. Tr. 5732 (Dornbusch). For this reason, Mr. Dornbusch's system costs for Type VIII lands are also unrealistically low.

United States Proposed Finding of Fact:

336. Benefit cost ratios were developed for each separate area studied in the Type VIII analysis. Mr. Dornbusch's determination of benefit cost ratios of 1.48 for the Coolidge Unit, 1.70 for the Johnstown Unit, 1.40 for the Upper Wind Unit, 1.42 for the Subagency Unit, 1.24 for the Ray Unit and 1.06 for the Arapahoe Ranch area was reasonable. United States Exhibit WRIR C-278, p. 16, Tr. 5739.

Wyoming's Response:

336. Based upon Wyoming's Response to United States' Proposed Findings of Fact 321 through 335, it is apparent that Mr. Dornbusch's benefit-cost ratios for the Type VIII lands are totally unrealistic.

United States Proposed Finding of Fact:

337. Mr. Dornbusch has made a reasonable determination that the following acreages in the designated areas are economically feasible to develop and irrigate.

Coolidge Unit	: 200 Acres
Johnstown Unit	190 Acres
Upper Wind Unit	492 Acres
Subagency Unit	306 Acres
Ray Unit	28 Acres
Arapahoe Ranch	<u>245 Acres</u>
TOTAL	1,461 Acres

These are the same acreages that Dr. Mesghinna designed irrigation and drainage systems, and computed water requirements for in United States Exhibit WRIR C-277, p. 4.

Wyoming's Response:

337. Since there is doubt as to the underlying assumptions of Mr. Dornbusch's analysis, see Wyoming's Response to United States' Findings of Fact 321 through 335, the United States cannot assert the acreage is economically feasible. See Wyoming's Response to United States' Finding of Fact 336.

United States Proposed Finding of Fact:

338. Mr. Dornbusch's analysis for the Type VII lands was conducted in a similar manner to the analyses for the Type VIII and future project areas with the following exceptions:

- a. lands were analyzed for flood irrigation as well as sprinkler, Tr. 5739;
- b. some Class 4 land was included and the analysis recognized the effect of the lower land quality, Tr. 5740;
- c. some lands were located in areas where a full supply of water is often not available throughout the irrigation season, and a limitation on the productive capacity of those lands was considered, Tr. 5740;
- d. corn was eliminated from the crop mix due to the scattered arrangement and small size of the parcels, Tr. 5741;
- e. different crops were considered for the water short and Class 4 lands, Tr. 5741-43;
- f. soil amendment costs were considered where necessary, Tr. 5755-5757;
- g. separate benefit cost analyses were performed for each Type VII parcel, Tr. 5755;

All exceptions had the effect of increasing the production costs and/or reducing the benefits. Under the circumstances Mr. Dornbusch's adjustments were reasonable.

Wyoming's Response:

338. As detailed in Wyoming's Response to United States' Proposed Findings of Fact 293 through 317, Mr. Dornbusch's analysis of the proposed future projects resulted in unrealistically low production costs. The United States cites no evidence in the Record supporting the reasonableness of Mr. Dornbusch's adjustments for his analysis of Type VII lands. Even if such justification existed, making reasonable adjustments to unreasonable analyses does not lead to reasonable results.

United States Proposed Finding of Fact:

339. The crop selection and mix used by Mr. Dornbusch in the Type VII analysis for lands classified 1-3 within the federal irrigation project areas of 17 percent malt barley, 16 percent nurse barley and 67 percent alfalfa was reasonable. United States Exhibit WRIR C-278, p. 36.

Wyoming's Response:

339. The United States again cites no evidence to support its contention that Mr. Dornbusch's cropping patterns for Type VII lands are reasonable. To the contrary, see Wyoming's Response to United States' Finding of Fact 294.

United States Proposed Finding of Fact:

340. The crop selection and mix used by Mr. Dornbusch in the Type VII analysis for lands classified 1-3 outside the federal irrigation project with full water supply of 17 percent malt barley, 16 percent nurse barley, and 67 percent alfalfa was reasonable. United States Exhibit WRIR C-278, p. 36.

Wyoming's Response:

340. See Wyoming's Response to United States' Proposed Finding of Fact 339.

United States Proposed Finding of Fact:

341. The crop selection and mix used by Mr. Dornbusch in the Type VII analysis for lands classified 1-3 outside the Federal Irrigation project in water short areas of 20 percent nurse oat hay and 80 percent alfalfa was reasonable. United States Exhibit WRIR C-278, p. 36.

Wyoming's Response:

341. See Wyoming's Response to United States' Proposed Finding of Fact 339.

United States Proposed Finding of Fact:

342. The crop selection and mix used by Mr. Dornbusch in the Type VII analysis for all Class 4 lands of 8 percent nurse oat hay and 92 percent grass hayland was reasonable. United States Exhibit WRIR C-278, p. 37.

Wyoming's Response:

342. See Wyoming's Response to United States' Proposed Finding of Fact 339.

United States Proposed Finding of Fact:

343. It was reasonable for Mr. Dornbusch to use the same 5900 ft. elevation breakpoint for yield reduction due to growing season for the Type VII analysis as he did for the Type VIII and future project analyses. Tr. 5728. (See Findings 295, 299 and 325.)

Wyoming's Response:

343. The absurdity of Mr. Dornbusch's position concerning elevation break-points for all proposed irrigation projects is detailed in Wyoming's Response to United States' Proposed Finding of Fact 295.

United States Proposed Finding of Fact:

344. In determining the gross returns per acre for full irrigation Type VII lands, Mr. Dornbusch used reasonable yields attainable in the lowlands of 100 bushels per acre for malt barley, .75 tons per acre for baled barley straw, 88 bushels per acre for nurse barley, 4.5 tons per acre for alfalfa, 1.5 AUM's for alfalfa aftermath, 3 tons per acre for nurse oat hay, 3 tons per acre for grass hay and 1.5 AUM's for grass hay grazing. United States Exhibit WRIR C-278, p. 18.

Wyoming's Response:

344. Wyoming's response to Mr. Dornbusch's yield determinations is contained in its Response to United States' Proposed Finding of Fact 296.

United States Proposed Finding of Fact:

345. In determining the gross returns for full irrigation Type VII lands Mr. Dornbusch used reasonable yields attainable in the highlands of 90 bushels per acre for barley, .75 tons per acre for baled barley straw, 79 bushels per acre for nurse barley, 4.1 tons per acre for alfalfa, 1.5 AUM's for alfalfa aftermath, 2.7 tons per acre for nurse oat hay, 2.7 tons per acre for grass hay and 1.5 AUM's for grass hay grazing. United States Exhibit WRIR C-278, p. 18.

Wyoming's Response:

345. See Wyoming's Response to United States' Proposed
Finding of Fact 344.

United States Proposed Finding of Fact:

346. In determining the gross returns per acre for water short Type VII lands classified 1-3, Mr. Dornbusch used reasonable attainable yields in the lowlands of 2.7 tons per acre for nurse oat hay, 2.7 tons per acre for alfalfa, and 1.5 AUM's for alfalfa aftermath. United States Exhibit WRIK C-278, p. 19.

Wyoming's Response:

346. See Wyoming's Response to United States' Proposed Finding of Fact 344.

United States Proposed Finding of Fact:

347. In determining the gross returns per acre for Class 4 water short Type VII lands, Mr. Dornbusch used reasonable attainable yields in the lowlands of 2.3 tons per acre for nurse oat hay, 2.3 tons per acre for grass hay and 1.0 AUM's for grass hay grazing. United States Exhibit WRIR C-278, p. 19.

Wyoming's Response:

347. See Wyoming's Response to United States' Proposed Finding of Fact 344.

United States Proposed Finding of Fact:

348. In determining the gross returns per acre for water short Type VII lands classified 1-3, Mr. Dornbusch used reasonable attainable yields in the highlands of 2.4 tons per acre for nurse oat hay, 2.4 tons per acre for alfalfa, and 1.5 AUM's for alfalfa aftermath. United States Exhibit WRIR C-278, p. 19.

Wyoming's Response:

348. See Wyoming's Response to United States' Proposed Finding of Fact 344.

United States Proposed Finding of Fact:

350. The 1979 normalized prices used by Mr. Dornbusch in the Type VII analysis were reasonable. They were \$2.71 per bushel for malt barley, \$35.33 per ton for baled barley straw, \$2.71 per bushel for nurse barley, \$52.99 per ton for alfalfa, \$5.48 per AUM for alfalfa aftermath, \$52.99 per ton for nurse oat hay, \$52.99 per ton for grass hay and \$5.48 per AUM for grazing of grass hay.

Wyoming's Response:

350. See Wyoming's Response to United States' Proposed Finding of Fact 300.

United States Proposed Finding of Fact:

351. The annual gross returns found by Mr. Dornbusch for the Type VII, lowland area with full service irrigation was reasonable. Those annual gross returns were \$271.00 per acre for malt barley, \$26.50 per acre for baled barley straw, \$238.48 per acre for nurse barley, \$238.46 per acre for alfalfa, \$8.22 per acre for alfalfa aftermath, \$158.97 per acre for nurse oat hay, \$158.97 per acre for grass hay and \$8.22 per acre for grazing grass hay. United States Exhibit WRIR C-278, p. 18.

Wyoming's Response:

351. The United States again fails to support its contention that Mr. Dornbusch's gross returns for Type VII lands are unreasonable. As pointed out in Wyoming's Response to United States' Proposed Finding of Fact 316, however, the State of Wyoming did not have significant disagreement with the United States concerning proposed gross returns to proposed future irrigated lands.

United States Proposed Finding of Fact:

352. The annual gross returns found by Mr. Dornbusch for the Type VII, highland areas with full service irrigation were reasonable. Those annual gross returns were \$243.90 per acre for malt barley, \$26.50 per acre for baled barley straw, \$214.09 per acre for nurse barley, \$217.26 per acre for alfalfa, \$8.22 per acre for alfalfa aftermath, \$143.07 per acre for nurse oat hay, \$143.07 per acre for grass hay and \$8.22 per acre for grazing grass hay. United States Exhibit WRIR C-278, p. 18.

Wyoming's Response:

352. See Wyoming's Response to United States' Proposed Finding of Fact 351.

United States Proposed Finding of Fact:

353. The annual gross returns per acre found by Mr. Dornbusch for the Type VII, water short, Class 1-3, lowland areas were reasonable. Those annual gross returns were \$143.07 per acre for nurse oat hay, \$143.07 per acre for alfalfa and \$8.22 per acre for alfalfa aftermath. United States Exhibit WRIR C-278, p. 19.

Wyoming's Response:

353. See Wyoming's Response to United States' Proposed Finding of Fact 351.

United States Proposed Finding of Fact:

354. The annual gross returns per acre found by Mr. Dornbusch for the Type VII, Class 4, water short lowland areas were reasonable. Those annual gross returns were \$121.88 per acre for nurse oat hay, \$121.88 per acre for grass hay and 35.48 per acre for grazing grass hay. United States Exhibit WRIR C-278, p. 19.

Wyoming's Response:

354. See Wyoming's Response to United States' Proposed Finding of Fact 351.

United States Proposed Finding of Fact:

355. The annual gross returns per acre found by Mr. Dornbusch for the Type VII, water short, Class 1-3 highland areas were reasonable. Those annual gross returns were \$127.18 per acre for nurse oat hay, \$127.18 per acre for alfalfa and \$8.22 per acre for alfalfa aftermath. United States Exhibit WRIR C-278, p. 19.

Wyoming's Response:

355. See Wyoming's Response to United States' Proposed
Finding of Fact 351.

United States Proposed Finding of Fact:

356. The annual gross returns per acre found by . Dornbusch for the Type VII, Class 4, water short highland areas were reasonable. Those annual gross returns were \$105.98 per acre for nurse oat hay, \$105.98 per acre for grass hay and \$5.48 per acre for grazing grass hay. United States Exhibit WRIR C-278, p. 19.

Wyoming's Response:

356. See Wyoming's Response to United States' Proposed Finding of Fact 351.

United States Proposed Finding of Fact:

357. It was reasonable for Mr. Dornbusch to make the same adjustment to farm labor costs in the Type VII analysis as he did in the Type VIII and future project analyses. This adjustment costed 80 percent of farm labor at zero opportunity cost and 20 percent of farm labor at full opportunity cost, and costed management labor according to the same ten year phase-in period as in the future project analysis. Tr. 4985-89; 5724-25; 5907-14; 5925-26; 5934-43; Wyoming Exhibit ED-52.

(see Findings 303 and 326.)

Wyoming's Response:

357. As pointed out in Wyoming's Response to United States' Proposed Finding of Fact 303, Mr. Dornbusch's use of farm labor at zero opportunity cost is an abuse of the definition of opportunity cost in violation of Water Resources Council guidelines and contradicts the results of his own "interviews."

United States Proposed Finding of Fact:

358. It was reasonable and prudent for Mr. Dornbusch to increase his production costs on the Type VII lands outside of the federal irrigation projects to account for extra equipment movement due to the isolated nature of the parcels. Tr. 5744. It was also reasonable to increase production costs to account for soil amendments where necessary and to account for lower operating efficiencies on the smaller parcels. Tr. 5755-57. In all other respects Mr. Dornbusch's production costs were the same as those used in the Type VIII and future project analyses. United States Exhibit WRIR C-278, pp. 21-34.

Wyoming's Response:

358. Again, the United States jumps to the conclusion that something is reasonable just because Mr. Dornbusch said it. To the contrary, as pointed out in Wyoming's Response to United States' Proposed Findings of Fact 303 and 307, Dr. Jacobs' production costs are quite reasonable. Wyoming's Response to United States' Proposed Finding of Fact 316 also points out that the inclusion of beans in Dr. Jacobs' cropping pattern gave higher returns to the project than alfalfa, thus refuting the United States' contention of unreasonably high production costs.

United States Proposed Finding of Fact:

359. Mr. Jacobs' production costs contained in Wyoming Exhibits EJ-14 and EJ-15 were unreasonable as in the future project analysis due to the use of unreasonably high equipment prices and use of 320-acre farm size rather than a larger more efficient tribal enterprise or co-op arrangement. (See Findings 306 through 307.) Inclusion of beans in the cropping pattern also contributed to unreasonably high production costs by Mr. Jacobs, by adding to the farm budgets the high purchase price of specialized equipment that would be used on relatively few acres each year. Wyoming Exhibits EJ-14, pp. 3, 4, 7, 8, 10, Appendix A, EJ-15, pp. 2-4, 7, 8, 10, Appendix A, Tr. 14840-96, 14719-21.

Wyoming's Response:

359. Again it is not Dr. Jacobs' production costs which are unreasonable, but Mr. Dornbusch's. See Wyoming's Response to United States' Findings of Fact 306 and 307. The introduction of beans by Dr. Jacobs led to higher returns. See Wyoming's Response to United States' Finding of Fact 301.

United States Proposed Finding of Fact:

360. The production costs determined by Mr. Dornbusch for Type VII, full water supply, sprinkler irrigation, inside the federal irrigation projects were reasonable. Those per acre costs were \$155.39 for malt barley, \$158.68 for nurse barley, \$91.61 for alfalfa, \$131.98 for nurse oat hay and \$78.29 for grass hay. United States Exhibit WRIR C-278, p. 20.

Wyoming's Response:

360. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

361. The production costs determined by Mr. Dornbusch for Type VII, full water supply, sprinkler irrigation, outside of the federal irrigation projects were reasonable. Those per acre costs were \$156.99 for malt barley, \$160.19 for nurse barley, \$92.65 for alfalfa, \$133.46 for nurse oat hay, and \$79.20 for grass hay. United States Exhibit WRIR C-278, p. 20.

Wyoming's Response:

361. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

362. The production costs determined by Mr. Dornbusch for Type VII, full water supply, flood irrigation, inside the federal irrigation projects were reasonable. Those per acre costs were \$156.52 for malt barley, \$160.19 for nurse barley, .91.63 for alfalfa, \$133.49 for nurse oat hay, and \$77.49 for grass hay land. United States Exhibit WRIR C-278, p. 21.

Wyoming's Response:

362. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

363. The production costs determined by Mr. Dornbusch for Type VII, full water supply, flood irrigation, outside of the Federal Irrigation Projects were reasonable. Those per acre costs were \$158.33 for malt barley, \$161.91 for nurse barley, \$93.39 for alfalfa, \$134.97 for nurse oat hay and \$78.40 for grass hay land.

Wyoming's Response:

363. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

364. The production costs determined by Mr. Dornbusch for Type VII, water short flood irrigation, Class 1-3 land was reasonable. Those per acre costs were \$128.03 for nurse oat hay and \$69.19 for alfalfa. For Class 4 land the per acre production costs were \$133.83 for nurse oat hay and \$77.53 for grass hay-land. United States Exhibit WRIR C-278, p. 22.

Wyoming's Response:

364. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

365. Net returns for the Type VII lands were computed the same way as in the Type VIII and future project analyses. (See Findings 310 and 331.) Mr. Dornbusch's determination of net returns for full water supply, sprinkler irrigation, Type VII lowlands inside the federal irrigation projects was reasonable. Those per acre net returns were malt barley \$142.11, nurse barley \$106.30, alfalfa \$155.07, nurse oat hay \$35.21, and grass hay \$80.68. United States Exhibit WRIR C-278, p. 20.

Wyoming's Response:

365. Wyoming's Response to United States' Proposed Findings of Fact 303, 305, 306, 307, 308 and 316 clearly indicates that Mr. Dornbusch's production costs are too high. For that reason, Mr. Dornbusch's determination of returns based on those production costs are too low.

United States Proposed Finding of Fact:

366. Mr. Dornbusch's determination of net returns for full water supply, sprinkler irrigation, Type VII lowlands outside of the federal irrigation projects was reasonable. Those per acre net returns were malt barley \$140.51, nurse barley \$104.79, alfalfa \$154.03, nurse oat hay \$33.73, and grass hay \$79.77. United States Exhibit WRIR C-278, p. 20.

Wyoming's Response:

366. See Wyoming's Response to United States' Proposed Finding of Fact 365.

United States Proposed Finding of Fact:

367. Mr. Dornbusch's determination of net returns for full water supply, sprinkler irrigation, Type VII highlands inside the federal irrigation projects was reasonable. Those per acre net returns were \$115.01 for malt barley, \$81.91 for nurse barley, \$133.87 for alfalfa, \$19.31 for nurse oat hay and \$64.78 for grass hay. United States Exhibit WRIR C-278, p. 20.

Wyoming's Response:

367. See Wyoming's Response to United States' Proposed Finding of Fact 365.

United States Proposed Finding of Fact:

368. Mr. Dornbusch's determination of net returns for full water supply, sprinkler irrigation, Type VII highlands outside of the federal irrigation projects was reasonable. Those per acre net returns were \$113.41 for malt barley, \$80.40 for nurse barley, \$132.83 for alfalfa, \$17.83 for nurse cat hay and \$63.87 for grass hay.

Wyoming's Response:

368. See Wyoming's Response to United States' Proposed Finding of Fact 365.

United States Proposed Finding of Fact:

369. Mr. Dornbusch's determination of net returns for full water supply, flood irrigation, Type VII lowland inside of the federal irrigation projects was reasonable. Those per acre net returns were \$140.98 for malt barley, \$104.79 for nurse barley, \$154.75 for alfalfa, \$25.48 for nurse oat hay and \$89.70 for grass hay. United States Exhibit WRIR C-278, p. 21.

Wyoming's Response:

369. See Wyoming's Response to United States' Proposed Finding of Fact 365.

United States Proposed Finding of Fact:

370.. Mr. Dornbusch's determination of net returns for full water supply, flood irrigation, Type VII lowland outside of the Federal Irrigation Projects was reasonable. Those per acre net returns were \$139.17 for malt barley, \$103.07 for nurse barley, \$153.29 for alfalfa, \$24.00 for nurse oat hay and \$88.79 for grass hay. United States Exhibit WRIR C-278, p. 21.

Wyoming's Response:

370. See Wyoming's Response to United States' Proposed Finding of Fact 365.

United States Proposed Finding of Fact:

371. Mr. Dornbusch's determination of net returns for full water supply, flood irrigation, Type VII highland inside of the federal irrigation projects was reasonable. Those per acre net returns were \$113.88 for malt barley, \$80.40 for nurse barley, \$133.55 for alfalfa, \$9.58 for nurse oat hay and \$73.80 for grass hay. United States Exhibit WRIR C-278, p. 21.

Wyoming's Response:

371. See Wyoming's Response to United States' Proposed Finding of Fact 365.

United States Proposed Finding of Fact:

372. Mr. Dornbusch's determination of net returns for full water supply, flood irrigation, Type VII highland outside of the federal irrigation projects was reasonable. Those per acre net returns were \$112.07 for malt barley, \$78.68 for nurse barley, \$132.09 for alfalfa, \$8.10 for nurse oat hay and \$72.89 for grass hay. United States Exhibit WRIR C-278, p. 21.

Wyoming's Response:

372. See Wyoming's Response to United States' Proposed Finding of Fact 365.

United States Proposed Finding of Fact:

373. Mr. Dornbusch's determination of net returns for water short flood irrigation, Type VII lowland, Class 1-3 lands was reasonable. Those per acre returns were \$15.04 for nurse oat hay and \$82.10 for alfalfa. United States Exhibit WRIR C-278, p. 22.

Wyoming's Response:

373. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

374. Mr. Dornbusch's determination of net returns for water short flood irrigation, Type VII highland, Class 1-3 lands was reasonable. Those per acre net returns were $-\$0.85$ for nurse oat hay and $\$66.21$ for alfalfa. United States Exhibit WRIR C-278, p. 22.

Wyoming's Response:

374. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

375. Mr. Dornbusch's determination of net returns for water short flood irrigation, Type VII, Class 4 lowlands was reasonable. Those per acre net returns were -\$11.95 for nurse oat hay and \$49.83 for grass hay. United States Exhibit WRIR C-278, p. 22.

Wyoming's Response:

375. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

376. Mr. Dornbusch's determination of net returns for water short flood irrigation, Type VII, Class 4 highlands was reasonable. Those per acre net returns were -\$27.85 for nurse oat hay and \$33.98 for grass hay. United States Exhibit WRIR C-278, p. 22.

Wyoming's Response:

376. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

377. The weighted average net returns for the Type VII lands were computed by using the crop percent distribution and the net returns. This is the same method used in this Type VIII and future project analyses. (See Findings 310 and 331.)

Wyoming's Response:

377. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

378. The weighted average net returns computed by Mr. Dornbusch for Type VII, full water supply, land Class 1-3, sprinkler irrigation inside of the federal irrigation projects was reasonable. Those per acre costs were \$145.06 for lowland and \$122.35 for highland. United States Exhibit WRIR C-278, p. 36.

Wyoming's Response:

378. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

379. The weighted average net returns computed by Mr. Dornbusch for Type VII, full water supply, land Class 1-3, flood irrigation inside of the federal irrigation projects as reasonable. Those per acre costs were \$144.42 for lowland and \$121.70 for highland. United States Exhibit WRIR C-278, p. 36.

Wyoming's Response:

379. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

380. The weighted average net returns computed by Mr. Dornbusch for Type VII full water supply, land Class 1-3, sprinkler irrigation outside of the federal irrigation projects was reasonable. Those per acre costs were \$143.85 for lowland and \$121.14 for highland. United States Exhibit WRIR C-378, p. 36.

Wyoming's Response:

380. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

381. The weighted average net returns computed by Mr. Dornbusch for Type VII, full water supply, land Class 1-3, flood irrigation outside of the federal irrigation projects was reasonable. Those per acre costs were \$142.85 for lowland and \$120.14 for highland. United States Exhibit WRIR C-278, p. 36.

Wyoming's Response:

381. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

382. The weighted average net returns computed by Mr. Dornbusch for Type VII water short, land Class 1-3, flood irrigation, was reasonable. Those per acre costs were \$68.69 for lowland and \$52.80 for highland. United States Exhibit WR1k C-278, p. 36.

Wyoming's Response:

382. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

383. The weighted average net returns computed by Mr. Dornbusch for Type VII full water supply, Class 4, sprinkler irrigation inside of the federal irrigation projects was reasonable. Those per acre costs were \$77.04 for lowland and \$61.14 for highland. United States Exhibit WRIR C-278, p. 37.

Wyoming's Response:

383. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

384. The weighted average net returns computed by Mr. Dornbusch for Type VII full water supply, Class 4, flood irrigation inside of the federal irrigation projects was reasonable. Those per acre costs were \$84.56 for lowland and \$68.66 for highland. United States Exhibit WRIR C-278, p. 37.

Wyoming's Response:

384. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

385. The weighted average net returns computed by Mr. Dornbusch for Type VII full water supply, Class 4, sprinkler irrigation outside of the federal irrigation projects was reasonable. Those per acre costs were \$76.09 for lowland and \$60.19 for highland. United States Exhibit WRIR C-278, p. 37.

Wyoming's Response:

385. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

386. The weighted average net returns computed by Mr. Dornbusch for Type VII full water supply, Class 4, flood irrigation outside of the federal irrigation projects was reasonable. Those per acre costs were \$83.61 for lowland and \$67.71 for highland. United States Exhibit WRIR C-278, p. 37.

Wyoming's Response:

386. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

387. The weighted average net returns computed by Mr. Dornbusch for Type VII water short, Class 4, flood irrigation outside of the federal irrigation projects was reasonable. Those per acre costs were \$44.89 for lowland and \$22.99 for highland. United States Exhibit WRIR C-278, p. 37.

Wyoming's Response:

387. See Wyoming's Response to United States' Proposed Finding of Fact 358.

United States Proposed Finding of Fact:

388. The Type VII lands were analyzed over a 100-year period, as were the Type VIII and future project lands. The same general process for discounting the stream of annual benefits back to a present value was followed, using a discount rate of four percent. A three step process was used in determining present value of net benefits for the Type VII lands. Net benefits were first computed by considering location, land class, water supply and elevation. United States Exhibit WRIR C-278, p. 38. Thereafter, those net benefits were applied on a parcel by parcel basis using the appropriate values for each parcel. Tr. 6182. Mr. Dornbusch's determination of present values for benefits or returns by drainage basin are reasonable. See Table following Findings 390.

Wyoming's Response:

388. As described in detail in Wyoming's Response to United States' Proposed Findings of Fact 305, 306, 307, 308 and 316, Mr. Dornbusch's production costs are unrealistically low; therefore, his discounted net benefit and benefit-cost ratios are too high.

United States Proposed Finding of Fact:

389. Mr. Dornbusch determined a present value for each Type VII parcel for which irrigation system development costs were developed by Mr. Stetson, in the same general manner as in the Type VIII and future project analyses. (See Findings 311 through 318 and 332 through 335.) Tr. 5746-60, 6107-08. The present values for the irrigation system development costs computed by Mr. Dornbusch are summarized in the table following Findings 390 are reasonable.

Wyoming's Response:

389. See Wyoming's Response to United States' Proposed Finding of Fact 388.

United States Proposed Finding of Fact:

390. Benefit cost ratios were developed for each separate Type VII parcel. The ratios from the feasible parcels were then used to compute an average ratio for each drainage basin. The feasible acreage, present value per acre returns and costs and the benefit cost ratios computed by Mr. Dornbusch, which are reasonable are contained in the following table:

TYPE VII IRRIGABLE LANDS

<u>Description</u>	<u>Feasible Acres</u>	<u>Per Acre</u>		<u>B/C Ratio</u>
		<u>Returns</u> (Present Value)	<u>Costs</u>	
1. <u>Wind River Federal Irrigation Project</u>				
A. Little Wind River ^{15/}	1,769	3,128	948	3.30
Ray Unit	1,161	3,250	885	3.67
Coolidge Unit	200	3,524	1,274	2.77
Subagency Unit				
B. Upper Wind Unit ^{16/}				
Wind River 'A' Canal	99	2,428	1,084	2.24
Dinwoody Bench Area	393	2,956	642	4.60
C. Johnstown Unit ^{17/}	189	1,560	278	5.61
D. Lefthand Unit ^{17/}	587	3,484	1,142	3.05
Subtotal	4,398	-----	-----	-----
2. <u>LeClair Irrigation District</u> ³				
A. Trust Lands	100	3,484	410	8.50
Subtotal	100	-----	---	-----
Total Project Lands	4,498	-----	---	-----

^{15/} Water sources include North Fork Little Wind River, South Fork Little Wind River, Little Wind River, Trout Creek and Mill Creek.

^{16/} Water sources include Wind River, Dinwoody Creek, Dry Creek, Meadow Creek and Willow Creek.

^{17/} Water source is Wind River.

United States Proposed Finding of Fact:

TYPE VII IRRIGABLE LANDS (Continued)

<u>Description</u>	<u>Feasible Acres</u>	<u>Per Acre Returns</u>	<u>Costs</u>	<u>B/C Ratio</u>
<u>Non-Project Lands</u>				
1. <u>Wind River Federal Basin</u>				
A. East Fork Wind River	41	\$1,606	1,185	1.36
B. Dry Creek	4	2,917	308	9.47
C. Bull Lake Creek	37	3,484	499	6.98
D. Meadow Creek	160	2,917	600	4.86
E. Dry (Pasup) Creek	115	1,201	664	1.81
F. Crow Creek	154	1,135	617	1.84
G. Wind River Main Stem	<u>213</u>	3,062	1,246	2.46
Subtotal	724	-----	-----	-----
2. <u>Little Wind River Basin</u>				
A. North Fork Little Wind	357	2,703	815	3.32
B. South Fork Little Wind	44	2,834	277	10.23
C. Main Stem Little Wind	805	3,308	1,462	2.26
D. Mill Creek	10	1,606	1,048	1.53
E. Sage Creek	822	1,233	536	2.30
F. Crooked Creek	3	1,606	716	2.24
G. Trout Creek	<u>63</u>	2,003	422	4.75
Subtotal	2,104	-----	---	-----
3. <u>Bighorn River Basin</u>				
A. Main Stem Bighorn River	24	\$3,484	220	15.34
B. Cottonwood Creek	117	1,710	383	4.46
C. Muddy Creek	<u>186</u>	1,333	577	2.31
Subtotal	327			

United States Proposed Finding of Fact:

TYPE VII IRRIGABLE LANDS (Continued)

<u>Description</u>	<u>Feasible Acres</u>	<u>Per Acre Returns</u>	<u>Costs</u>	<u>B/C Ratio</u>
4. <u>Popo Agie River Basin</u>				
A. North Fork Popo Agie	<u>102</u>	3,279	2,950	1.11
Subtotal	102			
5. <u>Owl Creek Basin</u>				
A. South Fork Owl Creek	64	1,233	672	1.8
B. Main Stem Owl Creek	87	1,630	929	1.75
C. Mud Creek	<u>40</u>	1,620	633	2.56
Subtotal	<u>191</u>			
Total Non-Project Lands	3,448			
TOTAL TYPE VII	7,946			

Wyoming's Response:

390. See Wyoming's Response to United States' Proposed Finding of Fact 388.

United States Proposed Finding of Fact:

391. Mr. Dornbusch has made a reasonable determination that the acreages contained in the foregoing table are economically feasible to develop and irrigate. These acreages contain various adjustments made to those acreage totals testified to by Mr. Stetson.

Wyoming's Response:

391. See Wyoming's Response to United States' Proposed Finding of Fact 388.