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Wyoming's Response to the US and Tribes

Attorney General, State of Wyoming

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case # 4993

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Margaret H. Hayston 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) CIVIL NO. 4993
ALL OTHER SOURCES, STATE OF)
WYOMING)

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

COMES NOW, the State of Wyoming, by and through its Attorney General, and respectfully submits this Response to the United States' and Tribes' Proposed Findings of Fact, Conclusions of Law, Interlocutory Decree and Briefs in support thereof, filed with the Master on or about April 7, 1982, pursuant to the Master's Order of December 23, 1981, and his April 22, 1982, Memorandum to Counsel.

The State has organized this Response as set forth in the Table of Contents on the following pages.

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I. Areas of no Substantial Controversy

Even in a case such as this, there are a few legal issues on which the parties agree, at least in part. Based on the briefs and statements of Counsel during the trial herein, it appears that there is at least partial agreement on the following matters:

- A. Partial agreement that United States Supreme Court decisions serve as the "exclusive guide" for the Master

In its brief of April 7, 1982, the United States asserted:

The reserved water rights doctrine has evolved in Supreme Court precedent over a period of 70 years and should be the exclusive guide in the Special Master's determination of the reserved water rights for the Wind River Indian Reservation. (emphasis added)

The State agrees, in part, with this position.

Wyoming would point out that this action was brought and is being heard in state court. Insofar as the Wyoming Supreme Court has ruled on a specific issue now before this Court, unless expressly reversed by the United States Supreme Court, the Master is bound by our State Supreme Court's decisions. In other words, the Master is not free to disregard controlling precedent from the Wyoming Supreme Court; if that Court wishes to reverse field, it is up to that Court and not the Master to do so.

By the studious avoidance of Wyoming Supreme Court cases which directly contradict their positions (e.g., Merrill v. Bishop, 287 P.2d 620 (Wyo. 1955) and State v. Moss, 471 P.2d 22 (Wyo. 1970)), the United States and Tribes have shown their disagreement with the State's position. Such a reluctance is particularly surprising since this action was brought pursuant to the McCarran Amendment, 43 U.S.C. 666, which provides, in pertinent part:

The United States, when a party to any such suit, shall (1) be deemed to have waived any right to plead that the State laws are inapplicable or that the United States is not amenable thereto by reason of its sovereignty and (2) shall be subject to the judgments, orders, and decrees of the court having jurisdiction, and may obtain review thereof, in the same manner and to the same extent as a private individual under like circumstances.
(emphasis added)

B. Congressional Power to Reserve Water

The United States, at great length, argues that Congress has the power to reserve unappropriated water at the time it reserves land. The State never has taken and does not now take a contrary position.

Wyoming does, however, take the position that, under the facts peculiar to this case, Congress did not intend to exercise its power or that, if Congress did intend to do so, it expressly changed its mind in 1890 as well as in 1905, and refused to create reserved rights in

1914. The United States and Tribes apparently have taken congressional intent for granted; however, the unrefuted evidence concerning intent in the Record is that adduced by Wyoming to the effect that Congress did not intend to reserve water for the Wind River Indian Reservation.

C. Definition of PIA

The United States, Tribes and State all stipulated during trial (Tr. 13160-13161) that the term practicably irrigable acreage ("PIA") means "those acres susceptible to sustained irrigation at reasonable cost." Although the United States and Tribes now refer to "irrigable acreage," they are bound by their earlier stipulation; the resulting distinction between "irrigable acres" and "practicably irrigable acres" which has been adopted by the State in reliance on the stipulation, must be maintained. The Master has already recognized that he and the parties are bound by this stipulated definition. Tr. 14503 (the Special Master).

D. Exterior Boundaries of the Wind River Indian Reservation

On April 15, 1980, the United States, Tribes and State stipulated to the exterior boundaries of the Wind River Indian Reservation. After setting forth the lands

included within those exterior boundaries, the parties carefully provided, at page 14 of the stipulation:

The parties reserve their rights to challenge the validity, priority date, purposes, quantity of water, and any other characteristic of any water rights which may be claimed in the above-described area.

This stipulation shall not affect the jurisdiction of any parties over lands within the exterior boundaries of the Reservation.

II. Wyoming's Discussion of Disputed, General Legal Issues

In its review of the Briefs submitted by the United States and Tribes, Wyoming has identified the following general legal issues which appear to be the subject of substantial dispute; those issues are described and discussed at the pages indicated below:

<u>Issue</u>	<u>Page</u>
A. The nature and extent of federal reserved water rights	5
B. The existence of federal reserved rights in Wyoming	12
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Wyoming's discussion of these and many specific legal issues can be found in its Amended Proposed Master's Report, Findings of Fact, Conclusions of Law and Decree concerning water rights for the Wind River Indian Reservation.

A. The Nature and Extent of Reserved Rights

The United States, under the guise of discussing federal reserved water rights, creates and attacks several strawmen, reaches conclusions wholly unsupported by the Record herein, and provides some renditions of reported cases which would be virtually unrecognizable to the authors of those opinions:

1. Strawmen

The United States' brief dramatically asserts that (1) Congress has the undeniable power to reserve water; (2) equitable apportionment has no place in this controversy; and (3) "balancing of interest" is inappropriate in determining reserved rights.

The State of Wyoming has never suggested nor does it now assert that Congress has no power to reserve water, that this is an equitable apportionment case or that the Court should balance the interests. Wyoming can only conclude that the United States made these extraneous arguments in order to divert the Master's attention from the real threshold question in this case -- whether Congress intended to reserve water for the Wind River Indian Reservation.

2. Conclusion Unsupported by the Evidence

At pp. 234-35 of its Brief, the United States reached the following conclusion:

The United States, however, would like to make clear that the reserved right claims asserted in this case will by no means cause an economic catastrophe. There was no credible evidence presented to the contrary.

This bland assertion, as well as the entire discussion beginning with the last paragraph on page 233 of the Brief, is lifted virtually verbatim from the United States' Legal Parameters for its claims (pages 2-3) which was filed over two years ago on March 6, 1980. The second sentence quoted above, however, is new. In light of the Record herein, the statement can only be described as intentional misrepresentation.

It is obvious that the United States would like the Court to ignore the State's evidence that the federal and Indian claims, if awarded and exercised, will seriously affect the holders of state-awarded rights (but see Wyoming's Amended Proposed Findings of Fact and Conclusions of Law 42-1 et seq.). However, the federal government ignores the fact that its own evidence can lead only to the same conclusion. The United States' and Tribes' own water availability studies showed that there is not enough water to satisfy their instream flow and diversion claims for the Reservation assuming the most senior priority date (1868) in the basin. See Wyoming's Amended Proposed Findings of Fact 27-3 and 27-5 and support therefor; United States' Proposed Findings of Fact 443 and 444; United States' Brief at 413; Tribes' Proposed Finding of Fact 324; Tribes' Brief at 73-74. Wyoming agrees with the general nature of this conclusion. See Wyoming's Amended Proposed Finding of Fact 27-7 and support therefor. If there is not even enough water for what is claimed to be the most senior user on the river, it is beyond doubt that the junior, state-awarded users will be curtailed.

3. Misconstruction of Cases

a. Winters

At pp. 233-34 of its Brief, the United States asserts:

The Supreme Court in Winters held that the Fort Belknap Reservation was entitled to water even though it meant that settlers, who had acquired their homesteads pursuant to public land laws and commenced water use after the creation of the reservation but before the Indians began diverting water, had to yield to the Indians' priority. (emphasis added)

The State has carefully read and reread the Supreme Court's opinion in Winter. Based on the facts reviewed by the Court in its opinion and upon which the Court necessarily ruled, the United States has misrepresented the Winters facts.

The United States says the Winters defendants ". . . commenced water use . . . before the Indians began diverting water . . ." The Supreme Court, however, in its statement of the case, summarized the facts alleged by the United States, including, inter alia:

1. In 1888, the Fort Belknap Reservation was created, 207 U.S. at 565;
2. In 1889, the United States (as trustee) began using 1,000 miners inches from the Milk River. Id. at 566;
3. "Afterwards, but long prior to the acts of the defendants complained of, to wit, on the fifth of July, 1898, the Indians residing on the reservation diverted from the river for the purpose of irrigation a flow of 10,000 miners' inches of water . . ." Id. (emphasis supplied); and

4. In 1900, the diversions by Winters, et al., began. 207 U.S. at 575.

The Winters defendants alleged:

1. Prior to 1898, they entered on their lands. 207 U.S. at 568-69.
2. That at some unspecified later time, they posted the notices and made the filings necessary to perfect a Montana water right, after which they constructed diversion facilities and began to divert water. 207 U.S. at 569.

Nowhere in the Winters opinion does the Court describe the settlers as having made the prior use of water. The best that can be said is that the settlers may have posted notices and made filings before the Indians began their use.

Consequently, Winters simply does not stand for the proposition presented by the United States. The Supreme Court did not knowingly address and was not aware of any previous use of water by settlers. The facts before it were significantly different than those presented to the Master in this case, especially the evidence related to the so-called "future projects."

b. New Mexico

The United States revealed that it has no peer in the art of interpretive disguise by its discussion of United States v. New Mexico, 438 U.S. 696 (1978). It is the United States' position that the New Mexico case authorizes this Court to weight the effects of a reserved

right claim on state awarded water rights only when that claim is made by a national forest. This is not what New Mexico says:

Recognition of Congress' power to reserve water for land which is itself set apart from the public domain, however, does not answer the question of the amount of water which has been reserved or the purposes of which the water may be used. Substantial portions of the public domain have been withdrawn and reserved by the United States for use as Indian reservations, forest reserves, national parks and national monuments. And water is frequently necessary to achieve the purposes for which these reservations are made. But Congress has seldom expressly reserved water for use on these withdrawn lands. If water were abundant, Congress' silence would pose no problem. In the arid parts of the West, however, claims to water for use on federal reservations inescapably vie with other public and private claims for the limited quantities to be found in the rivers and streams. This competition is compounded by the sheer quantity of reserved lands in the Western States, which lands form brightly colored swaths across the maps of these States.

438 U.S. at 699 (emphasis supplied). Thus, the rule of New Mexico applies not only to national forests, but also to Indian reservations and other federal enclaves.

At page 238 of its Brief, the United States also suggested that the Supreme Court in New Mexico:

found that if there was a reserved water right for the forests it could in that case result in a "gallon-for-gallon reduction in water available for water-needy states and private appropriators.

Had the United States wanted to portray fully what the Supreme Court really said, its Brief would have contained

the full paragraph from which the above quoted language was taken:

When, as in the case of the Rio Mimbres, a river is fully appropriated, federal reserved water rights will frequently require a gallon-for-gallon reduction in the amount of water available for water-needy state and private appropriators. This reality has not escaped the attention of Congress and must be weighed in determining what, if any, water Congress reserved for use in the national forests.

438 U.S. at 705. Mr. Justice Powell's dissent makes clear that the Court was unanimous in its belief that impacts are relevant to the determination of reserved water rights.

I agree with the Court that the implied-reservation doctrine should be applied with sensitivity to its impact upon those who have obtained water rights under state law and to Congress' general policy of deference to state water law. See ante, at 699, 701-702, 705.

438 U.S. at 718 (emphasis supplied). The final page referred to in this portion of the dissent contains the "gallon-for-gallon" language quoted above. Even authority cited by the United States in this case has held that the strictures of New Mexico apply to the quantification of Indian reserved water rights. Colville Confederated Tribes v. Walton, 647 F.2d 42 (9th Cir. 1981).

The United States must not be permitted to avoid the major threshold question in this case - intent. As the Supreme Court stated in New Mexico:

The question posed in this case -- what quantity of water, if any, the United States reserved out of the Rio Mimbres when it set aside the Gila National Forest in 1899 -- is a question of implied intent and not power.

438 U.S. at 698 (emphasis added).

B. The Existence of Reserved Water Rights in Wyoming

The United States' Brief opines that the Wyoming Constitution cannot affect the power of Congress to reserve water. Once again, the federal government has resorted to a strawman. Surely, the United States' must understand by now that Wyoming's position is based on congressional passage of Wyoming's Act of Admission (which ratified its Constitution) and that congressional intent (not power) is the issue. Even the Department of Justice must appreciate the difference; we all know men of incredible strength who neither intend to nor exercise that strength to unnecessarily harm others.

The United States understandably fails to make any mention of the only United States Supreme Court opinion which has directly addressed the result of collision between the Wyoming Act of Admission, 26 Stat. 222 (1890) and the provisions of the Second Treaty of Fort Bridger which, in 1868, created the Wind River Indian Reservation, Ward v. Race Horse, 163 U.S. 504 (1896).

At issue in that case was whether the express Treaty provision granting off-reservation hunting and fishing rights survived after Wyoming's admission to statehood. The Wyoming Act of Admission and the Constitution which it ratified included no contrary provision, but state statutes did. In Race Horse, the Supreme Court held, as a matter of congressional intent, that the express provision of the Treaty were subordinate to the import of the Act of Admission.

The United States has suggested that United States Supreme Court opinions "should be the exclusive guide in the Special Master's determination of the reserved water rights for the Wind River Indian Reservation." United States' Brief at 232. In this instance, the State again agrees. The Supreme Court has dealt with the general issue, finding that even mere statutes promulgated pursuant to the Wyoming Act of Admission (and the Constitution it ratified) will defeat express rights under the Treaty.

In the instant controversy, an implied right under the treaty conflicts with an express provision of the Constitution (not simply a statute enacted later) ratified by the Act of Admission.

As the Supreme Court, the "exclusive guide," said in Racehorse:

Here the enabling act not only contains no expression of the intention of Congress to continue the burdens in question in the state, but, on the contrary, its intention not to do so is conveyed by the express terms of the act of admission.

163 U.S. at 515 (emphasis added).

Doubtless the rule that treaties should be so construed as to uphold the sanctity of the public faith ought not to be departed from. But that salutary rule should not be made an instrument for violating the public faith by distorting the words of a treaty, in order to imply that it conveyed rights wholly inconsistent with its language and in conflict with an act of Congress, and also destructive of the rights of one of the states.

Id. at 516.

The United States cited Winters, Arizona v. California, Cappaert and New Mexico in support of its proposition that reserved rights survived the Act of Admission or, rather, the Constitution which it ratified. New Mexico does discuss the matter - but hardly in a way supportive of the United States' argument. At 438 U.S. 698, the Court stated:

The Court has previously concluded that whatever powers the States acquired over their waters as a result of congressional Acts and admission into the Union, however, Congress did not intend thereby to relinquish its authority to reserve unappropriated water in the future for use on appurtenant lands withdrawn from the public domain for specific federal purposes. Winters v. United States, 207 U.S. 564, 577 (1908); Arizona v. California, 373 U.S. 546, 597-598 (1963); Cappaert v. United States, 426 U.S. 128, 143-146 (1976).

In the instant case, of course, the Master is faced with an alleged reservation in the past, long before Wyoming's Act of Admission.

Finally, in addition to the pronouncements of the "exclusive guide," the Special Master is bound by the principles of stare decisis to uphold and follow the decisions of the Wyoming Supreme Court. In Merrill v. Bishop, 287 P.2d 620 (1955), the Wyoming Supreme Court reviewed the conflict between the treaty and the Act of Admission:

It must, of course, be admitted that according to the holding in Winters v. United States, supra, the water rights appurtenant to the Indian Reservation here in question were reserved to the Indians by the treaty of 1868. At the same time it appears to be equally well settled that the rights of the Indians are under the absolute control of Congress and may be modified or nullified or repealed by a subsequent act of Congress. In Ward v. Race Horse, 163 U.S. 504, 16 S. Ct. 1076, 41 L.Ed. 244, it was held that hunting rights reserved to the Indians in a treaty were nullified by the act of admission of Wyoming to the Union on an equal footing with the remainder of the states.

2878 P.2d at 623.

The provisions of the act of admission had the same effect, we think as an independent act of Congress enacting the provisions of our constitution heretofore quoted. That was the view expressed by this court in Farm Investment Co. v. Carpenter, 9 Wyo. 110, 135, 136, 61 P. 258, 50 L.R.A. 747.

Id. at 624.

. . . [W]hen Congress provided, when it accepted and approved the constitution of the state, that priority of appropriation of water should give the better right, without making any exceptions, it thereby seems to have created a usufructuary right in appropriators without regard to whether these appropriators are Indians or white men. The rule is uniform and explicit and we cannot see that we can engraft an exception thereon in favor of individual Indians.

Id. at 625.

C. Congressional Intent

As the United States Supreme Court has stated, the threshold question in reserved right litigation is the issue of intent, not power. Surprisingly, neither the United States nor the Tribes address the issue in their Briefs. Neither the United States nor the Tribes has presented any evidence whatsoever to support a finding that Congress intended to reserve water for the Wind River Indian Reservation. Under Wyoming law, the Master's findings are made according to a preponderance of the evidence. In this action, the only evidence before the Master is in support of the proposition that Congress did not intend that reserved rights be created for the Wind River Indian Reservation, as shown by, inter alia:

1. A congressional program of western settlement, the interest of which would be defeated if the reserved rights now claimed are granted and exercised.

2. Congressional enactment in 1890 of Wyoming's Act of Admission, ratifying the state's constitution which adopted the doctrine of prior appropriation which is inconsistent with the reserved right doctrine.

3. Express congressional provision in 1905 requiring that water rights for the Indians be obtained pursuant to Wyoming law.

4. The acquisition of water rights, between 1905 and 1915, under state law for the irrigation of 145,000 acres of land, many of which are now the subject of reserved right claims.

5. The congressional refusal, in 1914, to recognize or create reserved rights for the Wind River Indian Reservation.

See Wyoming's Amended Proposed Findings of Fact and Conclusions of Law 3-1 et seq.

D. Purposes of the Reservation

Even as this case draws to a close, the United States and Tribes persist in their argument that the purposes of any reserved right found to exist on behalf of the Wind River Indian Reservation far exceed those of any other reserved right ever decreed. This position is unsupportable.

A reserved water right exists only to serve the primary purposes of any federal reservation. United States v. New Mexico, 438 U.S. 969 (1978); Colville Confederated Tribes v. Walton, 647 F.2d 42 (9th Cir. 1981). The sole, and hence primary purpose for which Wind River Indian Reservation was created was to convert the

Indians living thereon from a nomadic people dependent upon hunting for their livelihood, to a settled people dependent upon agrarian pursuits.

The agricultural purpose of the Reservation is established by the Treaty of Ft. Bridger, July 3, 1868, 15 Stat. 673, which created the Reservation. Article VII of that Treaty expressly described the reservations created by it as "agricultural reservations." No other portion of the Treaty suggests that the Wind River Indian Reservation had any other purpose. Indeed the remainder of the Treaty confirms its agricultural purpose. See Articles VI, VIII, IX, XII. The assertion of the United States and Tribes that the "permanent homeland" language of Article IV expands the purposes of the Wind River Indian Reservation is refuted by case after reserved right case confirming the narrow agricultural purpose of numerous reservations established under treaties containing "permanent home" language. See Winters v. United States, 207 U.S. 564 (1908); United States v. Powers, 308 U.S. 527 (1939); United States v. McIntire, 101 F.2d 650 (9th Cir. 1939); Colville Confederated Tribes v. Walton, supra; Tweedy v. Texas Co., 286 F.Supp. 383 (D. Mont. 1968); Anderson v. Spear-Morgan Livestock Co., 79 P.2d 667 (Mont. 1938).

Wyoming's interpretation of the Treaty of July 3, 1868, has been accepted by the United States Supreme Court. In United States v. Shoshone, 304 U.S. 111 (1938), the Supreme Court ruled that the purpose of the United States in creating the Wind River Indian Reservation was to create an independent farming community on the Reservation. The issue has been settled. The evidence adduced in this case is fully consistent with the Supreme Court's decision.

Because the purpose of the Wind River Indian Reservation is solely and primarily agricultural, any reserved right found to exist on its behalf may be quantified only as necessary to irrigate practicably irrigable lands ("PIA") on the Reservation. Arizona v. California, 373 U.S. 546 (1963) (opinion); 396 U.S. 340 (first decree); and Report of Elbert P. Tuttle, February 22, 1982, at 88-103; Colville Confederated Tribes v. Walton, supra. This is all the more true with respect to the Wind River Indian Reservation, which the United States Supreme Court has said was created to establish a farming community on the Reservation. The reserved right may be quantified for no other purpose.

In sum, the Wind River Indian Reservation was created solely for agricultural purposes. Any reserved right existing on behalf of the Reservation is dependent

upon this purpose and may be used solely for irrigation. For further argument on this issue, the State of Wyoming would respectfully refer this Court to its Amended Proposed Findings of Fact and Conclusions of Law 5-1 et seq., its Brief in Support of Its Response to the Claims of the United States and Tribes, at pages 33-41; and its presentation of Evidence Regarding the Purpose of the Wind River Indian Reservation. Tr. 11333-11356, Oct. 7, 1981.

E. Standards for Quantification

1. General

The reserved right, if it exists, does not extend to every conceivable use of water on the Reservation, notwithstanding the claims and briefs of the United States and Tribes herein. It is limited to the primary purposes of the Reservation and its quantity is severely constrained. In New Mexico, the Supreme Court stated:

While many of the contours of what has come to be called the "implied-reservation-of-water doctrine" remain unspecified, the Court has repeatedly emphasized that Congress reserved "only that amount of water necessary to fulfill the purpose of the reservation, no more." Cappaert, supra, at 141. See Arizona v. California, supra, at 600-601; District Court for Eagle County, supra, at 523. Each time this Court has applied the "implied-reservation-of-water doctrine," it has carefully examined both the asserted water right and the specific purposes for which the land was reserved, and concluded that without the water the purposes of the reservation would be entirely defeated.

438 U.S. at 700 (emphasis supplied). In Cappaert, supra, the Court enunciated the "minimal need" doctrine.

The District thus tailored its injunction, very appropriately, to minimal need, curtailing pumping only to the extent necessary to preserve an adequate water level at Devil's Hole, thus implementing the stated objectives of the Proclamation.

426 U.S. at 141. In the Record herein, there is:

1. No evidence that the amounts of water claimed by the United States and Tribes are necessary to meet the "minimal need" of the Wind River Indian Reservation;
2. No evidence that the claims represent "only that amount of water necessary to fulfill the purpose of the reservation, no more"; and
3. No evidence that, without the water claimed to be reserved, "the purposes of the reservation would be entirely defeated."

Without findings that the water claimed meets the standards established by the Supreme Court or, more appropriately here, without any evidence to support such findings, the claims of the United States and Tribes must necessarily fail.

F. Reserved Rights to Ground Water

Citing Cappaert, the United States' Brief unblushingly tells the Special Master, "Reserved water rights can exist in either surface or ground water."

Unfortunately, the United States did not also explain that, in Cappaert, 426 U.S. 128, 142, the Supreme Court stated:

No cases of this Court have applied the doctrine of implied reservation of water rights to groundwater. Nevada argues that the implied-reservation doctrine is limited to surface water. Here, however, the water in the pool is surface water.

G. Priority Dates

In their Briefs, the United States and Tribes suggest that any trust or Indian-owned fee land within the exterior boundaries of the Wind River Indian Reservation is entitled to a reserved right with a priority date of July 3, 1968, regardless of the history of land status for such land. Such a position flatly ignores the applicable decisions of both the United States and Wyoming Supreme Courts.

1. Reserved Rights for Disestablished Lands

The United States Supreme Court has held in circumstances, virtually identical to those involved here (surrounding the 1905 Act), that a disestablishment occurs. Rosebud Sioux Tribe v. Kneip, 430 U.S. 554 (1977).

The Wyoming Supreme Court, in State v. Moss, supra, expressly held that the lands ceded in 1905 (north of the Wind River and east of the Popo Agie River) were disestablished.

Neither the United States nor the Tribes have presented any United States Supreme Court decision which even suggests, much less holds, that reserved rights continue in disestablished lands.

2. Reserved rights for Allotted Lands

In Merrill v. Bishop, supra, the Wyoming Supreme Court held that allotments within the ceded portion of the Reservation enjoy no reserved rights. Under Merrill, no other result may be reached with respect to allotted lands within the diminished Reservation.

3. Reserved Rights for Acquired Lands

The United States and the Tribes claim reserved rights for lands which were never part of the Reservation until they were purportedly acquired in trust in the 1940s, e.g., the Arapahoe Ranch area, outside of the exterior boundaries of the Reservation. No Supreme Court decision supports a reserved right for such land.

4. Lands Outside the Reservation Boundaries

The United States and Tribes claim reserved rights for lands outside the stipulated boundaries of the Reservation (e.g., along the north bank of Owl Creek). No Supreme Court decision supports reserved rights for such lands.

5. State Position

Based on the above, Wyoming's position is that, if a reserved right exists for the Wind River Indian Reservation, it exists only for unallotted lands in the diminished portion of the Reservation which have been held in continuous trust for the Indians by the United States.

H. State Adjudication

The United States and Tribes ask the Master to take judicial notice of the fact that the State of Wyoming has issued Certificates of Appropriation to certain trust lands. Once notice is taken, the Special Master is asked to rule that the state certificates constitute prima facie evidence that the subject lands are practicably irrigable.

There is absolutely no evidence that the State makes any determination that the certificated lands are irrigable. To the contrary, the unrefuted testimony of the Chairman of the Board of Control, George L. Christopoulos, was that the State makes no determination of irrigability when issuing a certificate, no finding with respect to physical or chemical characteristics of the soil and no finding of economic feasibility. If the land is irrigated only once, a certificate issues.

I. Irrigated v. Irrigable

The United States and Tribes argue that any trust or Indian-owned fee land, no matter how poor, which was irrigated in 1980, is somehow entitled to a reserved water right. This claim ignores the stipulation of the parties that "practicably irrigable land" is that which can "support sustained irrigation at reasonable cost." Tr. 13160-13161. As the Master well knows, the fact that lands are irrigated in one year hardly attests to their ability to support sustained irrigation, especially at reasonable cost.

As the claim for water for the large quantity of formerly irrigated but idle Type VII lands attests, many parcels in the area go out of production every year. For further arguments concerning the standard of proof and irrigated lands, see Wyoming's Amended Proposed Findings of Fact 15-1 et seq. and 24-1 et seq. and support therefor.

J. Burden of Proof

The United States, apparently having finally read Wilson v. Omaha Tribe, 442 U.S. 653 (1979) appears to have abandoned its argument that 25 U.S.C. Section 194 shifts the burden of persuasion to the State of Wyoming concerning the Indian claims. Compare Tr. 9270-9271 (Echohawk) with United States' Brief at 439-440.

Now, the United States seeks to rely (if only selectively) on Merrill v. Bishop, 69 Wyo. 45 (1959) to establish its burden of proof. The elements set forth on page 434 of the United States' Brief ignore subsequent decisions of the United States Supreme Court (alleged elsewhere in the United States' Brief to be the "exclusive guide" for the Master) such as Arizona v. California, supra; Cappaert v. United States, supra; United States v. New Mexico, supra; as well as the stipulations of the major parties herein.

III. Wyoming's Response to Discussion of Factual Issues in the Briefs of the Parties

Although Appendix A sets forth Wyoming's Response to the United States' and Tribes' Proposed Findings of Fact, the Briefs of the United States and Tribes contain many factual allegations as well. Many of these are not supported by the material cited, are taken out of context or are simply blatant misrepresentations of the Record. The following which responds to certain of the factual allegations in these Briefs is divided into general and specific sections.

In many instances, the Briefs of the United States and Tribes contain repeated allegations or suggestions which are not supported by the Record. Rather than address these each time they occur, the State has chosen to respond to some of these generally in Part 1 below. Specific errors or misrepresentations which are amenable to a short response are set forth in Part 2, infra.

Of course, the fact that a particular allegation or statement is not responded to herein should not be construed as an admission by the State.

1. General Issues

A. United States' Brief:

Of all of the discussion in the United States' Brief, the treatment of records concerning land classification is the most incorrect and misleading. Because land classification is the most important element (indeed it is the foundation) in the determination of practicable irrigability, this portion of Wyoming's Response addresses the following areas of the United States' Brief concerning land classification:

1. Qualification of States' Witnesses.
2. Use of Bureau of Reclamation Information.
3. Drainage Investigation.
4. State Evaluation of Future Arable Lands.
5. Historic Lands.

Wyoming's Responses to other portions of the United States' Brief appear throughout Appendix A, infra.

1. Qualifications of State's Witnesses

When you are weak on the law, argue the facts; when weak on the facts, argue the law; when you are weak on the facts and the law, attack the qualifications of the other side.

- Unknown

Mr. Fowkes' testimony concerns geologic complexity and the intensity of soils investigations in complex areas. His opinion is that the intensity of the investigation must be commensurate with the complexity of the soils. Tr. 10581 (Fowkes). Mr. Fowkes recommended an evaluation of all the available data since there was no opportunity for the State to perform intensive field work to support land investigations. Tr. 10643-10647 (Fowkes).

The United States has apparently side-stepped this testimony and has instead concentrated on discrediting Mr. Fowkes. In its Post-Trial Brief, the United States submits that Mr. Fowkes has only a "general soil science background" and is "unsuited and unqualified to examine and 'weigh the evidence'". This assertion is unfounded. Mr. Fowkes is eminently qualified to testify concerning the sufficiency, reliability, and accuracy of soils-related work. His 25 years of soils experience, including his work as State Soils Correlator for Wyoming, supports this fact. Wyo. Exh. WRIR SF-A. In addition, the Record indicates that Mr. Sommers, not Mr. Fowkes, was

responsible for the examining and "weighing the evidence." Tr. 10765-11187 (Sommers).

The United States further attempts to attack Mr. Fowkes' credibility by suggesting that his work experience is not related to the determination of arability, land classification or drainage. This presumption is without support. Furthermore, the subject of Mr. Fowkes' direct testimony was not arability or drainage but was the geologic complexity of the Reservation and the intensity necessary for a reliable investigation. Tr. 10537-10651 (Fowkes); Tr. 10861 (Sommers).

Soil surveys are much like land classifications. This was pointed out by Mr. Waples:

The actual mechanical process is all but identical . . . the same exact parameters that go into irrigation, into drainage. .

Tr. 3287 (Waples). Mr. Fowkes' 25 years of experience observing and classifying soils involved indicating the soil and land characteristics which cause drainage problems. Tr. 10724 (Fowkes). It is his business to know, observe, and indicate soil characteristics relating to drainage while classifying soils. See Wyo. Exh. WRIR SF-5 through 23. Moreover, the United States attempts to discredit Mr. Fowkes by comparing his work on the Westside Project, a prefeasibility study, to the HKM semidetalled land classification and drainage investigation used for the

determination of practicably irrigable acreage. The standards used on the Westside project were not created by Mr. Fowkes (Tr. 10695 (Fowkes)) nor did the scope of his direct examination address land classification standards. Tr. 10694 (Fowkes). Furthermore, there was no engineering or economic input into this classification and there is no evidence that any lands with 20 to 40 inches to barrier would survive further engineering and economic analyses, particularly in the unique setting of the Reservation. Tr. 10748-10749 (Fowkes). U.S. Exh. WRIR CF-2. Since a prefeasibility study is just a cursory review, more refinements are required of a detailed investigation (Tr. 10701 (Fowkes)), and any analogy between the two studies is irrelevant.

Mr. Sommers testified concerning arability. The Record indicates he has far more experience in soils and land classification than either Mr. Waples, the United States' soils scientist, or Mr. Kersich, the United States' agricultural engineer who testified regarding arability. Wyo. Exh. WRIR SS-A1. However, in the voir dire of Mr. Sommers' qualifications, the United States presented an innocuous letter which criticized a project on which Mr. Sommers once worked; this letter was subsequently withdrawn from evidence. Tr. 10867 (Sommers). The United States further criticized Mr.

Sommers' work experience in soil surveys for strip mine reclamation. This assertion is contrary to the opinion by one of the United States' own experts, Mr. Waples, who contends that:

The actual mechanical process is all but identical [to land classification] . . . the same exact parameters that go into irrigation, into drainage. .

Tr. 3287 (Waples).

The United States continued to attack Mr. Sommers' credibility. They contend that the use of HKM standards in his analysis is inconsistent with his criticism of those standards. The Record indicates that Mr. Sommers used HKM standards to evaluate HKM work. This is an appropriate method if there is not enough information to develop and apply another more applicable set of standards. This method provides for the benefit of the doubt. Tr. 11032-11033 (Sommers).

Contrary to the opinion of the United States, the Master recognizes that Mr. Sommers, though not a drainage engineer, is very qualified to discuss soil drainage. Tr. 10873-10874. As a soil scientist, he is capable of evaluating and providing all soil characteristics pertinent to drainage. Tr. 10876, 10937, 10996-10997 (Sommers).

Mr. Sommers was admitted as an expert in soil science and agronomy (Tr. 10770 (Sommers)), and is duly

qualified to judge arability, as indicated by Counsel for the United States. Tr. 12446 (Echohawk). His qualifications and experience as a professional have been outlined in great detail. See Wyoming's Amended Proposed Finding of Fact 18-9 and support therefor. Either the United States considers Mr. Sommers a very potent witness for the State or they are prone to attack qualifications when unable to attack the facts. The State would like to think it is the first reason.

2. Use of Bureau of Reclamation Information

A recurring theme throughout the United States' Post-Trial Brief concerns HKM's consultations with the Bureau of Reclamation, the use of data from the Bureau's land classification and drainage studies performed on the Wind River Indian Reservation, and the assertion that the State failed to recognize this use. The United States' and the State of Wyoming's soils experts agree that the Bureau of Reclamation is widely accepted as the authority on arable land classification for irrigation projects and its methods are state-of-the-art. Tr. 3487 (Waples); Tr. 10821-10822 (Sommers); See also Wyoming's Amended Proposed Finding of Fact 15-3 and support therefor. As a result of the geologic complexity and the complex nature of drainage problems in the Wind River Basin, the Bureau of

Reclamation conducted investigations of greater intensity than usual in the Riverton area and the Reservation. Tr. 10561-10562 (Fowkes), Wyo. Exhs. SF-2 (pp.1 and 6), and SF-29. Thus, it is logical that the United States would seek the Bureau as support for the HKM arable land determinations, but it is neither logical nor consistent support, especially since HKM used only that Bureau data which was supportive of HKM arable land determinations. See Wyoming's Amended Proposed Finding of Fact 18-6 and support therefor.

The United States attempts to explain HKM's select use of the Bureau land classifications data by stating in their Post-Trial Brief:

This work was analyzed and utilized on a case-by-case basis due to certain problems that had been previously recognized by HKM and noted by the USBR.

Tr. 1847-1848, 3748-3750. This statement is incongruous with the Record; the transcript passage referred to involves only the Bureau's hydraulic conductivity values and HKM's recognition of the "combination of little errors that make the data questionable. So as a consequence, [HKM] did not rely on that information at all." Tr. 3748-3750 (Toedter). This passage is unrelated to, and in no way explains HKM's use of select Bureau of Reclamation land classification data.

The United States also asserts that the HKM land classification standards are based on Bureau standards. There is no record of any meetings or review by the Bureau nor do the standards reflect any input from the Bureau. The HKM land classification standards, without justification, are significantly relaxed relative to the Bureau of Reclamation standards. In addition to their failure to consider economics, HKM's standards are relaxed with respect to: depth to barrier, minimum size acreage delineations, slope percentage, Class 4 lands, hydraulic conductivity, drain spacing, and definitions of barrier and arable land. See Wyoming's Amended Proposed Finding of Fact 18-3 and support therefor and Wyoming's Response to United States Proposed Finding of Fact 22.

The United States' assertion in their Post-Trial Brief that "Mr. Sommers' analysis of the HKM land classification did not consider that the Bureau of Reclamation data was used as a supplement" is based solely on a statement by Counsel for the United States. United States' Supporting Brief at 311, 323. There is no evidence in the Record to substantiate this claim. To the contrary, the State of Wyoming agrees that information from the Bureau study was used by the United States, but only those select portions which support the HKM conclusions of arability. These select portions are only

applicable to about 31,000 of the 84,000 acres claimed as arable by HKM and the State considered all the 31,000 acres as arable. See Wyoming's Response to United States' Proposed Finding of Fact 30.

The United States attempts to deceive the Court in the same fashion as it attempted to deceive Mr. Fowkes during cross examination. The United States stated:

Mr. Fowkes made a similar mistake when he called the HKM study "wholly inadequate." Tr. 10634. When pursued on this opinion during cross-examination regarding Mr. Toedter's work map (U.S. Exh. WRIR C-231-A) which clearly show all of the HKM and USBR holes HKM relied upon, Mr. Fowkes could not give an answer. Tr. 10735. From this two things are obvious. First, Mr. Fowkes was obviously not given all of the HKM information to evaluate before reaching his harsh conclusions. Second, when he was confronted with the map that showed the numerous holes used by HKM, it was apparent that Mr. Fowkes had a change of heart.

United State's Supporting Brief at 323.

There are portions of Mr. Toedter's work maps with a relatively intense number of holes. U.S. Exh. WRIR C-231-A through C-236A. However, the fact is that many, many of the HKM and Bureau of Reclamation holes depicted were not relied upon by HKM. Seventy-two of the holes depicted are holes with barrier less than 6 feet, which were all ignored by HKM as "statistical outliers." Many of the holes depicted are of the 533 Bureau drainage borings and pits not used by HKM. See Wyoming's Amended Proposed Finding of Fact 18-6 and support therefor.

Asking Mr. Fowkes to draw a conclusion from the the depicted holes on the work map, without any explanation of whether information from the holes was actually used, was an attempt to mislead him. It is no surprise that Mr. Fowkes was confused. Tr. 10732-10736 (Fowkes).

3. Drainage Investigation

The United States attempts to discredit Mr. Sommers' conclusions regarding the HKM "drainage investigation" on the basis of Mr. Sommers qualifications. This approach is not surprising since the Record clearly supports Wyoming's discovery of the serious inadequacies of the HKM methods and conclusions in this area of their work. Wyoming's Amended Proposed Finding of Fact 18-6 and support therefor describes in detail the following deficiencies of the HKM "drainage analysis":

1. The inadequacy of the land classification standards relating to drainage.
2. The lack of application of the minimum drain spacing standard and the resultant substandard drain spacing design.

3. The unreasonably inadequate intensity of investigation on lands not classified as arable by the Bureau of Reclamation.

4. The lack of uniformity within study areas.

5. The inaccuracy of some data.

6. The reliance of HKM on information not supportive of final conclusions.

7. The consideration by HKM on select information.

8. The subjective selection of some information to support arability of lands which would have been classified nonarable.

9. The reliance on information from nonarable land to support arability and the occurrence of areas with no data to support arability.

10. The occurrence of areas which may require additional drainage but which were not actually considered in the final drainage design.

The only deficiencies the United States address in their Post-Trial Brief concern the intensity of the HKM investigation and the land classification standards pertaining to drainage. As discussed in detail in Wyoming's Amended Proposed Finding of Fact 18-4 and support therefor, if supplemented by the select Bureau of Reclamation information, the HKM investigation is of a reasonable level of intensity on about 31,000 acres of the total 84,000 acres claimed as arable by the United States. These acres are all considered arable by the State of Wyoming. Outside these acres, the investigation intensity drops by eighty to ninety percent. See Wyoming's Amended Proposed Finding of Fact 18-4 and support therefor.

The drain spacing standard is based on the assumption that drainage costs cannot economically exceed \$1,600 per acre. Tr. 3893-3898 (Toedter). However, this is only the opinion of Mr. Toedter who did not perform or rely on any economic analysis. The drain spacing standard of 200 feet is also in direct conflict with the finding of the Bureau of Reclamation in the Riverton area that drain spacings less than 350 feet are generally uneconomical. Tr. 11157 (Sommers); Wyo. Exh. WRIR SF-2. The drain spacing is based on soil depth to barrier and hydraulic conductivity, yet the minimum value standards of 6 feet to

barrier and 0.1 inch per hour hydraulic conductivity would result in a drain spacing unknown to Mr. Toedter or the Court, but admittedly, less than 200 feet. Tr. 3739-3740, 3770 (Toedter). In addition, the six foot depth to barrier standard refutes the Bureau's use of a seven foot standard on the Reservation and the currently preferred standard. Wyo. Exh. WRIR SF-1 (p. 20); Wyo. Exh. WRIR SS-A13 (Items 8 and 11).

In absence of a successful defense of the inadequate methods and conclusions of the HKM "drainage investigation", the United States' only recourse was to attack the credibility and qualifications of the States' witness, Mr. Sommers. As we have seen, the United States' attack on Mr. Sommers' qualifications was unsuccessful. Likewise, the attack on the qualifications of Mr. Sommers to evaluate the methods and conclusions of the HKM "drainage investigation" is irrelevant and without support. Mr. Sommers is not a drainage engineer and he did not perform any drainage engineering. Tr. 10770, 10936-10937 (Sommers). The United States attempts to establish that this is a serious defect in the qualifications of Mr. Sommers, but this is not the case. Mr. Toedter, the United States' witness, performed no drainage engineering nor was he admitted as a drainage engineer. Dr. Mesghinna acted as the drainage engineer

and was even referred to as the drainage engineer by Mr. Toedter and Counsel for the United States. Tr. 3827 (Toedter). Other than his input into the standards, Mr. Toedter's only responsibility was to provide Dr. Mesghinna with average hydraulic conductivity and soil depth to barrier data for use in drain spacing design, data which does not require a drainage engineer to determine. Tr. 3754-3755, 3823-3830 (Toedter); Tr. 10937, 10996-97 (Sommers). The one area of Mr. Toedter's work which may require drainage engineering experience is that of identifying areas which may require special consideration and additional drainage, but this information was never provided Dr. Mesghinna. Tr. 3870-3871, 3886-3888 (Toedter).

As a soil scientist, Mr. Sommers is equally qualified to evaluate and provide data on texture (from which hydraulic conductivity was directly determined), depth to barrier, the representativeness of holes, the intensity of observations and the evidence of a water table. Tr. 10569-10570 (Fowkes); 10876, 10936-10937 and 10996-10997 (Sommers). The implication by the United States that experience with drain spacing analysis is necessary for "proper" determination of depth to barrier is preposterous and is without any support in the Record. The implication by the United States that experience with

computation of weighted hydraulic conductivity is necessary is equally absurd since this is merely a simple mathematical computation. See U.S. Exh. WRIR C-241 A and B.

4. State Evaluation

From the United States' critique of the procedures used by the State in its evaluation of the HKM arable land base, it is obvious that the United States either misunderstood the procedures or has misrepresented the facts and data in the Record. The States' objectives, methods, and conclusions are discussed in detail under Wyoming's Amended Proposed Finding of Fact 18-10 and support therefor, and are clearly supported by the facts and data in the Record. The State of Wyoming's specific response to the United States on these issues is addressed in detail elsewhere in this Response and in the Wyoming Response to United States' Proposed Findings of Fact 15-47.

5. Historic Lands

The deficiencies and application of the historic project and nonproject standards used by HKM are well documented in Wyoming Amended Proposed Findings of Fact 20-2, 20-3, 23-3, 23-4 and 23-6 and support thereof. The non-project standards are more lenient than the project

standards for tillage and drainage considerations. The relaxation of standards in these two areas was based on observations of currently irrigated lands which did not meet project standards. Drainage requirements for all lands were deemed unnecessary and the depth to barrier standard for Class 4 was reduced to 4 feet. In addition, the requirement of minimum depths of "good, free-working soil" was deleted. Tr. 3335-3336 (Waples); U.S. Exh. WRIR C-226 (p. 14).

One example of an errant result of relaxing the non-project standards was observed on Mr. Enos' farm where he stated that he had no intention of ever irrigating a portion of his Type VII land because it was "too rocky." Tr. 11139 (Sommers). The leniency of the non-project standards does not account for the pervasive drainage problems and high water table within the Type VII areas. Tr. 10997-11000, U.S. Exh. C-228A.

The State evaluation of Type VII and Type VIII lands by Mr. Sommers excluded land which did not meet HKM's own standards, had no documentation from which to determine arability, or was classified as Class 4 (very marginal land). Tr 10966, 10989-10990. However, the United States would have the Court believe the State evaluation was unfounded. Errors indicated by the United States on Wyoming Exhibits WRIR SS-7 and SS-8 were

remedied by reference back to Mr. Sommers' work sheets and notes. Tr. 10970-10985 (Sommers). Those lands which were questioned were determined nonarable for one of reasons described above.

The United States stated in its Post-Trial Brief that Mr. Sommers' exclusion of Class 4 lands is "unwarranted" since he failed to recognize the Bureau of Reclamation use of Class 4 lands in the Muddy Ridge land classification. This is a blatant misrepresentation of the Record. The Bureau of Reclamation does not now classify Class 4 lands for irrigation projects in the Wind River Basin, nor did they use Class 4 in the Muddy Ridge land classification. The exclusion of Class 4 lands is well justified. Wyo. Exhs. WRIR SF-1, SS-6 and SS-10A.

Examples such as these indicate that relaxation of standards for nonproject lands is unjustified and that the criticisms of the State evaluation by the United States are unwarranted. As a result, the HKM historic lands study for Type VII and Type VIII lands is inadequate and deficient. The State's objectives, methods, and conclusions are discussed in Wyoming's Response to United States' Proposed Findings of Fact 48-88, infra.

B. Tribes' Brief:

The following sections respond to the portions of the Tribes' Brief concerning:

1. Future Lands;
2. Adjudicated Lands;
3. Type VII and Type VIII lands.

Wyoming's Responses to the remaining portions of the Tribes' Brief appear throughout Appendix B, infra.

1. Future Lands

In their Post-Trial Brief, the Tribes stated that the 63,370 acres of future lands claimed represents an "extremely modest figure." The Tribes' Post-Trial Brief at 4-5. The Record indicates this is not the case.

The Reservation encompasses roughly 2.3 million acres. HKM developed a screening process, sifting out those lands which "displayed the capabilities of having the most chance of being declared arable." Tr. 1120 (Kersich). This resulted in 490,000 acres being studied. The remainder of the 2.3 million acres must obviously be unsuitable for irrigated agriculture. Of the 490,000 acres, 281,000 acres "had a reasonable chance of meeting the irrigability criteria" (Tr. 1124 (Kersich)), therefore "confining [HKM's] studies . . . to [the study areas]." Tr. 1125 (Kersich). There is no support in the record

which indicates the entire 490,000 acres were ever "mapped" or that they are "arable", as claimed by the Tribes. The exclusion of 209,000 acres was based upon major engineering and economic considerations, specifically water availability and limited cropping patterns, not on time and money constraints (Tr. 1124 (Kersich)) as suggested by the Tribes. Thus, these are not "potentially irrigable" acres as claimed in the Tribes Post-Trial Brief.

Of the 281,000 acres, 84,469 acres were classified as arable by HKM. After engineering and economic considerations, United States' and Tribes' witnesses determined 63,370 acres were irrigable. Considering that HKM's arable lands study suffers from a multitude of problems and, hence, is unreliable (see Wyoming Amended Proposed Findings of Fact 15-2, 15-3, 15-5, and 18-1 et seq. and support therefor) and in light of historical drainage problems and current economics, the irrigable acreage determined by the State evaluation, 36,971 acres, represents the most realistic figure. See Wyoming's Amended Proposed Findings of Fact 18-16 and 19-4 and support therefor.

A recurring theme throughout the Tribes' Post-Trial Brief concerns HKM's use of Bureau of Reclamation information on the Wind River Indian

Reservation, and the assertion that the State failed to recognize this use. The Tribes are inconsistent if not absurd on this point; they attempt to cast doubt on the State's evaluation of the HKM arable land base because of the State's reliance on the Bureau study (Tribes' Supporting Brief at 8), yet they attempt to support the HKM arable land determinations with HKM's alleged reliance on the Bureau land classification standards and logged holes. The United States' and the State of Wyoming's soils experts agree that the Bureau of Reclamation is widely accepted as the authority on arable land classification for irrigation projects and its methods are state-of-the-art. Tr. 3487 (Waples), 10821-10822 (Sommers); see Wyoming Amended Proposed Finding of Fact 15-3 and support therefor. It is logical that the Tribes would cite the Bureau study as support for the HKM arable land determinations, but it is neither logical nor consistent support, especially since HKM only used that Bureau information which was in support of the HKM arable land determinations. See Wyoming Amended Proposed Finding of Fact 18-6 and support therefor. In addition, the HKM standards and definitions the Tribes assert are based on the Bureau's, are in fact significantly relaxed. See Wyoming Amended Proposed Finding of Fact 18-3 and support therefor. The State recognized that HKM

used the portion of about 31,000 acres which was supportive of the HKM determinations; these acres were all determined arable by the State of Wyoming. However, about 22,000 Bureau Class 6 acres were classified arable by HKM (gravity); this portion of the Bureau study was obviously not used as support of the HKM work.

The intensity of HKM's work is purported to be "exceptionally thorough." However, as Mr. Fowkes testified, because of the geologic complexity of the Reservation, more intensive soils work was necessary. The Tribes assert that there was little support for this testimony, but in reality the evidence is overwhelming with support. Wyoming Amended Proposed Findings of Fact 15-5 and 18-4 contain 12 pages of support based on the Record. The Tribes further assert that the State's witnesses did not consider the need for a more intense investigation a serious matter, since the State did not conduct a more intense investigation. However, the State did conduct a more intense evaluation since all the existing data was considered by Mr. Sommers, not just select information or that which supported the State's position. This included logs and data not considered by HKM from the Bureau study and the information from the State's field work, which is all in addition to the HKM data. See Wyoming Amended Proposed Finding of Fact 18-10

and support therefor. Furthermore, Mr. Sommers felt that as a result of the inadequacies of the HKM investigation a considerable amount of field work would be useful for verification of the HKM arable land determinations. This proposal was not granted and the State was limited in the time and extent of its field investigation. Tr. 2996-3205 (Sommers).

The Tribes attempt to support the arable land determinations of HKM by comparing the qualifications and titles of the United States' and Tribes' witnesses. This attempt is ineffective. Mr. Kersich, as an agricultural engineer, is not qualified to make arable determinations. Mr. Kersich has no previous field experience in soil science or land classification prior to his limited involvement in this case. Tr. 1221-1222 (Kersich). Also, see Wyoming Amended Proposed Finding of Fact 18-2 and support therefor. Mr. Toedter, erroneously referred to as "the only drainage engineer to testify," performed no drainage engineering nor was he admitted as a drainage engineer. He only provided data to the drainage engineer for use in drain spacing design; data which does not require a drainage engineer to determine. Tr. 10876, 10937, 10996-10997 (Sommers); 3823-3827 (Toedter). Dr. Mesghinna acted as the drainage engineer and was even referred to as the drainage engineer by Mr. Toedter and Counsel for the United States. Tr. 3827 (Toedter).

Mr. Sommers did not testify, as asserted by the Tribes, that arable lands must be at least 7 feet to barrier. Tr. 10842 (Sommers). Although he considered them to be inappropriate, Mr. Sommers implicitly used HKM standards and definitions to evaluate the HKM arable lands which do not coincide with arable lands classified by the Bureau. There was inadequate information to apply more rigorous standards and definitions. By the use of HKM standards and definitions in the State evaluation of arable lands, the benefit of the doubt was given to the HKM arable land determinations. Tr. 10835-10838, 10897 (Sommers).

Mr. Sommers reviewed and considered all of the available information regarding soils on the Reservation. His office analysis determined that wherever the consensus was arability, those lands were considered arable. That is, wherever HKM delineated arable land supported by appropriate documentation, this land was included in the land base; land without supporting evidence was excluded. Tr. 11057-11062.

Field work conducted by the State yielded a variety of results. Some land excluded during the office analysis was determined to be arable. Some land excluded during the office analysis was confirmed to be nonarable after field work. In addition, some lands mapped by HKM as

arable were excluded after field work by the State experts. All additions and deletions were on the magnitude of several hundreds of acres, plus or minus ten percent. Tr. 11067-11072 (Sommers). The Record indicates that the State's evaluation was much more thorough than the United State's evaluation of arable lands. See Wyoming's Amended Proposed Finding of Fact 18-10 and support therefor and Wyoming's Response to Tribes' Proposed Finding of Fact 17.

2. Adjudicated Lands

State-awarded water rights are not "prima facie" evidence of "irrigability." Tr. 2459-2468 (Christopoulos). See Wyoming's Amended Proposed Finding of Fact 26-4 and support therefor. The State evaluated the HKM information regarding land type for irrigated land and arability classification for non-irrigated land. Tr. 11011 (Sommers). This procedure and conclusions therefrom are described in detail in Wyoming's Amended Proposed Finding of Fact 26-14 and support therefor. From this procedure, it is clear that even if adjudication of a water right were prima facie evidence of irrigability, that evidence is clearly and unequivocally refuted by the United States' own analysis, at least with regard to those lands they classified as nonarable.

Of the remaining land not eliminated by the United States' own analysis, no evidence was presented regarding engineering or economic feasibility. The only shred of evidence that might support an inference of engineering or economic feasibility of the land is evidence that the parcel was irrigated at least once. This, by definition, excludes all Type VII adjudicated lands. Therefore, if the United States is entitled to any reserved water rights for adjudicated lands, it is limited to those adjudicated lands that are presently irrigated. The number of presently irrigated adjudicated acres as tabulated in Exhibit WRIR HSO 7, 2d. Rev., is approximately 4,300 acres.

3. Type VII and Type VIII Lands

The HKM study of Type VII and Type VIII lands suffers from enumerable deficiencies and is not reasonably thorough, accurate or reliable. See Wyoming's Response to Tribes' Proposed Findings of Fact 145, 147 and 149. See Wyoming's Amended Proposed Findings of Fact 20-2, 23-4, 23-6 and 23-7 and support therefor.

The Tribes have attempted to justify relaxation of non-project standards by implying that currently irrigated land which would not meet the more stringent project

standards is arable land which it indeed may not be. Furthermore, most Type VII lands are adjacent to irrigated lands or streams and have problems with high water table. See U.S. Exh. C-228A, Tr. 10999.

The State evaluation of Type VII and Type VIII lands by Mr. Sommers excluded land which did not meet HKM's own standards, had no documentation from which to determine arability or was classified as Class 4 (very marginal land). Tr. 10966, 10989-10990. However, the Tribes would have the Court believe the State evaluation was unfounded. Mistakes indicated by the United States on Wyoming Exhibits SS-7 and SS-8, during Mr. Sommers' testimony, were remedied by reference back to Mr. Sommers' worksheets and notes. Tr. 10970-10985 et seq. Those lands which were questioned were determined nonarable for one of the reasons described above.

2. Specific Issues

A. United States' Brief:

1. On page 284, the United States states:

"The problem with Mr. Sommers' analysis, his testimony and his exhibits is that one cannot decide how he reached his broad brush conclusion that "approximately 50% of those lands were non-arable. Tr. 1107."

The cited evidence does not substantiate the assertion. The testimony presented in the transcripts on page 1107 is not that of Mr. Sommers, but rather that of Mr. Kersich.

2. On page 285, the United States cited page 126,666. This cite should be 12,666.

3. On page 285, the United States states:

"Mr. Sostrom testified in the review of the adjudicated trust acres claimed by the United States, that the State's consultants, when undertaking the tract by tract analysis, did not examine the tracts or parcels on any of the photographs that had previously been questioned by Mr. Sommers. Tr. '126,666', 12,688."

The cited evidence does not substantiate the assertion. Mr. Sostrom testified that he relied on Mr. Sommers' analysis of the HKM photographs which had classified portions of the land as non-arable or class 4. Tr. 12,668.

4. On page 285, the United States states:

"The State admits that all of the adjudicated tracts are lands that have a history of irrigation. Tr. 12,886-888."

The cited evidence does not substantiate the assertion. It refers to a discussion between the Special Master and Mr. Webster, counsel for the private parties. This could be a numerical transposition for the discussion does take place at Tr. 12686-12688. Counsel for the State of Wyoming pointed out that certification of tracts relied upon the State Board of Control's determination that the land had been irrigated once. This does not imply that it had a continuous history of irrigation, nor does the State admit this.

5. On page 291, the United States cited Wyoming Exh. EB-8. There is no such exhibit.

6. On page 292, the United States states:

"The specific results are based on absolutely no field work by Mr. Sommers. Trs. 11034-35, 11127."

The cited evidence does not substantiate the assertion. Mr. Sommers testified that he spent approximately 15 days in the field on the Reservation and in addition, 5 days

either in a car or in a helicopter, stopping to survey Type VII lands from the road. Tr. 11034-11035. At page 11127, Mr. Sommers stated that there was land declared or found to be non-arable through his analysis which he did not visit because of constraints on his access to the Reservation.

7. On page 293, the United States states:

"The most important fact to note in comparing Wyoming's step-by-step analysis is that land which was clearly found to be irrigated by Wyoming's initial analysis was excluded by Mr. Sommers. United States Exh. WRIR CS-101. Trs. 12480-96. It is unreasonable to exclude irrigated land as being non-arable."

The cited evidence does not substantiate the assertion. The discussion at Tr. 12480-12496 concerned Mr. Sommer's determination that some of the land was non-arable and thus should be excluded as non-irrigable. Whether or not land has been previously or is presently irrigated bears no relation to the arability of the land, admitted by the United States to be an integral component in determining the practicability of irrigation.

8. On page 293, the United States states:

"While this study was undertaken under Mr. Sostrom's 'direction and control', Mr. Sostrom himself did not personally participate in the assessment of many tracts in this analysis. Trs. 12618. . ."

This cited evidence does not substantiate the assertion. The quote "direction and control" is not found on page 12618. Mr. Sostrom testified that the tract-by-tract evaluation was conducted under his supervision with other personnel, but that he was responsible for the primary analysis. Tr. 12618-12619.

9. On page 294, the United States states:

"Mr. Sostrom stated that this was not standard procedure for mapping irrigated lands. Trs. 12598."

The cited evidence does not substantiate the assertion. Mr. Sostrom did not admit "that this was not standard procedure for mapping irrigated lands". He did testify that one also had to supplement photointerpretation with ground truthing. Tr. 12598.

10. On page 294, the United States states:

"It did not include any photographs of parcels that Mr. Sommers had previously 'found' to be non-arable. Mr. Sommers was not part of the team that conducted the 'tract-by-tract' analysis. Tr. 12626."

The cited evidence does not substantiate the assertion. At Tr. 12626 Mr. Sostrom discussed his tract-by-tract analysis of the Type VII, or Waples' lands, and stated that he incorporated Mr. Sommers' testimony and evaluations in

his analysis. Mr. Sommers was a member of the team that conducted the tract-by-tract analysis.

11. On page 295, the United States states:

"Their analysis was again limited to aerial photographs of those tracts that had not been questioned by Mr. Sommers. Tr. 12690."

The cited evidence does not substantiate the assertion. The acreage reductions that were made were for Class 6 lands included within the unadjudicated in-use tracts. These lands had previously been identified as Class 6 by HKM personnel. Mr. Sommers simply passed this information on to Mr. Sostrom.

12. On page 296, the United States states:

"He (Sostrom) explicitly disavowed any intention that either HSO-2A or any other of his exhibits be used by this Court as a basis for quantifying a reserved water right of the Shoshone and Arapahoe Tribes of the Wind River Indian Reservation. Tr. 13081."

The cited evidence does not substantiate the assertion. Mr. Sostrom actually testified that "I don't feel that we are attempting to deny that tract of land or any tract of land from a quantity of water." On further examination by the Special Master, this statement was clarified to show that although some lands were excluded in certain

years, Mr. Sostrom was not trying to deny those lands the right to some water. He was just illustrating that in a given year some lands are not under irrigation.

13. On page 298, the United States states:

"The Court cannot accept the definition of 'presently irrigated' used by Mr. Sostrom as being of legal significance. Mr. Sostrom stated that the term meant 'currently irrigated according to the 1980 photographs'. Tr. 12747."

The cited evidence does not substantiate the assertion. Mr. Sostrom actually testified that "our evaluation is that they are not currently irrigated according to the 1980 photographs. We are using the theme that Mr. Billstein had testified to that all lands were served with water in 1980."

14. On page 299, the United States states:

"Counsel for the State advised the Court that the purpose of the evidence offered through Mr. Sostrom was to show that photographic interpretation is a 'subjective art'. Tr. 13019."

The cited evidence does not substantiate this assertion. Although Mr. Merrill did offer the evidence and testimony to show that photointerpretation is somewhat of a subjective art and science or discipline, he qualified his statement by asking the Court to recognize that limitations

should be placed on how one can look at historically irrigated lands over whatever period the Court should decide as relevant. He also stated that another reason for the testimony was simply to show a professional difference of opinion between the work Mr. Sostrom and his associates developed and that testified to by Mr. Billstein, who also used photographic interpretation. Tr. 13019.

15. On page 299, the United States states:

"Mr. Sostrom's unreliable work product stems from the use or non-use of certain photographs which he personally took on his field visits to the parcels. Tr. 12998. Mr. Clear pointed out on cross-examination that a certain tract, excluded by the State as not being irrigated, was depicted in Mr. Sostrom's photographs as showing a well-sustained corn. . . ."

The statement is incomplete.

16. On page 307, the United States states:

"In the analysis of arable lands in this case, Mr. Sommers disagreed with the HKM land classification standards but used them in his analysis. Tr. 11032."

While this statement is true, it should be clarified to show that Mr. Sommers' use of the HKM land classification standards was the result of a lack of time available to go out into the field and apply his own set of standards. He

felt that HKM's standards should have been more stringent; thus, in using those standards he gave HKM the benefit of the doubt in making arable determinations. Tr. 10835-10838, 10897.

17. On page 309, the United States states:

"Contrary to Mr. Sommers' assertions at trial, both the project and the non-project standards of inherent economic considerations would allow the separation of arable from non-arable lands. Tr. 1127-29, 1171, 1430-34, 3488."

The cited evidence does not substantiate the assertion. At the pages cited, Mr. Sommers did not testify. There is no support in the Record that Mr. Sommers' assertions were contrary to those of HKM.

18. On page 311, the United States states:

"This is important to note because Mr. Sommers' analysis of the United States' work did not take into consideration the fact that the USBR data was used as a supplement. Trs. 10944-45."

The cited evidence does not substantiate the assertion. The cited quote is merely a statement by Counsel for the United States. Wyoming agrees that HKM used selected portions of the USBR data.

19. On pages 312-313, the United States states:

"Mr. Toedter . . . determined that minimum drain spacing could be at approximately 200 feet . . . Tr. 3739-40."

The cited evidence does not substantiate the assertion. The actual quote was that drain spacing should be at least 200 feet, not that it could be. Tr. 3739.

20. On page 313, the United States states:

"In situations where depth to barrier was shallow and weighted hydraulic was low, extra drainage was proposed and was subsequently evaluated as being economically feasible. Trs. 11156-59."

The cited evidence does not substantiate the assertion. Mr. Sommers testified that Dr. Mesghinna's drain spacing of 150 feet, in the area east of the Crowheart Butte, does not correspond to the 200 foot minimum standards established by HKM. In addition, Dr. Mesghinna's plan does not consider the Bureau of Reclamation's determination that the most economically feasible spacing in the area is 350 feet. In addition, areas requiring extra drainage were not evaluated individually but averaged with the entire project in the economic analysis. Tr. 11156-11159.

21. On page 313, the United States states:

"Furthermore, cross-examination of Mr. Fowkes clearly shows that soils he mapped as having a shallow depth to barrier 20 to 40 inches in the Riverton area were under sustained irrigation. U.S. Exh. WRIR CF-1, pp. 25-26, 30; Tr. 10662-65."

The cited evidence does not substantiate the assertion. Mr. Fowkes testified that he was unable to determine whether or not the lands in question were under sustained irrigation due to the fact that he did not have the information necessary to make such a determination. Tr. 10669.

22. On page 315, the United States states:

"Mr. Sommers' exclusion of arable lands with holes of less than 6 feet is unreasonable in light of the fact that even the USBR only calls for 5 feet holes in its land classification program. Wyo. Exh. SS-A8, p. 512.2.1(b). Mr. Sommers also admitted that this was the case. Tr. 11103."

Mr. Sommers agreed that the Bureau of Reclamation requires five foot holes for land classification, but noted that their drainage studies require deeper holes. He pointed out that the majority of the holes logged by HKM stopped short of five feet, or else they went on down to six feet and were later used in the drainage evaluation to determine depth to barrier and arability. Tr. 11105. It is

noted elsewhere, however, that insufficient deep holes were used by HKM for their arability analysis. See Wyoming's Amended Proposed Finding of Fact 18-1, et seq. and support therefor.

23. On page 322, the United States states:

"He (Sommers) did not account for HKM's consideration and use of the holes from that study, or for the projection of soil depth from one hole to another within the same landform. Trs. 3330, 11116."

The cited evidence does not substantiate the assertion. Mr. Sommers did take the landforms into consideration when making his determinations of where he would put his holes and how he would use those holes. However, he also pointed out that he could not take one hole as an adequate basis for classification over large areas due to the complexity of the various landforms. Tr. 11117.

24. On page 322-323, the United States states:

"He also failed to consider the USBR classification was for gravity irrigation only. Certain areas that may be classified Class 6 under gravity classification due to slope or water holding capacity would be arable under a sprinkler classification. Trs. 11109-10."

The cited evidence does not substantiate the assertion. Mr. Sommers did indeed consider that the USBR clas-

sification was for gravity irrigation only. He also performed studies to determine whether or not land classified by the Bureau of Reclamation as Class 6 could have been arable under sprinkler irrigation. Trs. 11109-11110.

25. On page 323, the United States states:

"It is clear that Mr. Sommers did not account for the fact that HKM relied upon the 1961 USBR study in making his assessment of intensity because he compared only the number of holes that HKM drilled to the USBR holes. Tr. 10945."

The cited evidence refers to a statement by Mr. Echohawk. It is not supported in the record.

26. On page 325, the United States states:

"This exclusion of Class 4 lands is unwarranted. Mr. Sommers' reasons for exclusion were that the land is marginal and that allegedly the USBR does not now classify lands as Class 4. Mr. Sommers failed to acknowledge that the 1977 USBR Muddy Ridge classification standards in the area allow for Class 4 lands. Wyo. Exh. SS-10A."

The cited evidence does not substantiate the assertion. Wyoming Exhibit SS-10-A makes no reference to Class 4 lands.

27. On page 325, the United States states:

"As a result of this type of armchair analysis which was supplemented by only 15 days of field work and 50 soil observations (transcript 11034) Mr. Sommers excluded from the United States' arability determinations in the future project areas 22,954 acres for gravity classification and 30,321 acres for sprinkler classification. Wyo. Exh. SS-255."

The cited evidence does not substantiate the assertion in that Mr. Sommers made no specific reference to the number of soil observations he conducted. He also testified that his 15 days of field work were supplemented by Mr. Fowkes' and Mr. Martin's time spent on the Reservation. Tr. 11034.

28. On page 325-326, the United States states:

"Additionally, in the Type VII and VIII areas, Mr. Sommers with no field work, excluded 6,422.8 acres from the arability determination made by Mr. Waples. Wyo. Exhs. SS-8 rev., SS-7 rev., Tr. 11150."

The cited evidence does not substantiate the assertion. The United States does not support its contention that Mr. Sommers did no field work with regard to the Type VII and Type VIII lands. Mr. Sommers stated, at Tr. 11035, that he did in fact do surveying of the Type VII lands from the road. It is also unclear as to how the United States

arrived at their conclusion that Mr. Sommers excluded 6,422.8 acres as non-arable.

29. On page 332, the United States states in footnote 9 that:

"Mr. Fassett developed other climatic data for his computer model, but Dr. Mesghinna's data, rather than Mr. Fassett's was used by the State's consultants in estimating irrigation requirements and diversion requirements."

This statement is not cited.

30. On page 337, the United States states in footnote 13 that:

"Mr. Bishop again was confused when he testified. He first stated that, rather than using the Jensen-Haise formula (the formula is by Dr. Mesghinna to determine evapotranspiration), he uses the Blaney-Criddle formula because he was more familiar with it and because it was used in the 'Wyoming water planning program report No. 5'. Tr. 12163."

The cited evidence does not substantiate the assertion. Mr. Bishop testified that he would have used the Blaney-Criddle formula because he was more familiar with it, not that he had used the Blaney-Criddle formula. Tr. 12163.

31. On page 339, the United States states:

"The data supplied to him (Bishop) by HKM and the intake rate, water holding capacity, net depth of irrigation, and effective root zone were provided to the State of Wyoming's experts (Tr. 12354), but, according to Mr. Bishop were never reviewed by them. Tr. 12170."

The cited evidence does not substantiate the assertion. Mr. Bishop testified that there were soils consideration in the determination, however, he personally did not review them. Tr. 12170.

32. On page 341, the United States states:

"Mr. Bishop, an expert called by the State of Wyoming, stated he had not tried to determine the on-farm efficiency, the distribution efficiency, or the conveyance efficiency. Tr. 13724."

The cited evidence does not substantiate the assertion. Mr. Bishop stated that he had calculated the efficiencies of Dr. Mesghinna's projects in total, not in part.

33. On pages 345-346, the United States continually cites transcript 12774 as referring to testimony by Mr. Bishop about Dr. Mesghinna's efficiency designs. At this cite, Mr. Sostrom is testifying. There is no discussion relating to efficiency. Tr. 12774.

34. On page 352, the United States states:

"That Banner Associates for whom Mr. Sostrom and Mr. Bishop are employed are not in the business of designing or constructing irrigation or facilities. Tr. 12605-06."

The cited evidence does not substantiate the assertion. Mr. Sostrom stated that one of the fortes of Banner Associates is water resource projects and although they do not construct irrigation projects, they do evaluate irrigation projects on water right transfers. Tr. 13472.

35. On page 353, the United States states:

"It shows that Sostrom when he was operating in familiar territory recognized that Dr. Mesghinna had done a better job at estimating costs than had members of the Banner team. Tr. 13501-03."

The cited evidence does not substantiate the assertion. Mr. Sostrom testified that he accepted Dr. Mesghinna's prices, but he did not do so in preference to the estimate of the Banner team.

36. On page 354, the United States states:

"However the Westside Irrigation Project study introduced through Mr. Fowkes, (United States Exh. CF-1) showed that it is common practice to estimate engineering and contingency expenses at a total of 20% of the investment costs. Tr. 13457-61."

The cited evidence does not substantiate the assertion. On pages 13457-13461 Mr. Sostrom read from Mr. Fowkes' exhibit that Mr. Fowkes had quoted a figure of 20% of the investment costs. However, it is not stated that it is common practice to do so. Also, Exh. CF-1 is the Riverton Irrigation Report whereas the report the United States was referring to, the Westside Irrigation Project study, is Exh. CF-2. The Westside study is also a pre-feasibility study developed only to evaluate whether additional funds should be spent. Wyo. Exh. WRIR CF-2.

37. On page 355, the United States states:

"That the cost the United States has incurred in defending this lawsuit initiated by the State of Wyoming, were assessed by him against the project itself as engineering costs. Tr. 13468."

The cited evidence does not substantiate the assertion. Mr. Sostrom testified that the engineering costs were included in his estimate. He did not state that the costs of defending the lawsuit are included in the project costs.

38. On page 355, the United States states:

"He further admitted that the ASCE guide says that 40% of the engineering costs are incurred during the preliminary design phase - that is the phase completed by Mr. Mesghinna. Tr. 13471."

The cited evidence does not substantiate the assertion. Mr. Sostrom testified that although the ASCE guide does indicate 40% of the engineering costs are incurred during a preliminary design phase it is only useful as a general guide. He did not state that this phase had been completed by Dr. Mesghinna. In fact, he stated that Dr. Mesghinna's work was only the beginning of the preliminary design phase.

39. On page 355, the United States again states:

"Banner Associates does not design or construct irrigation projects. Tr. 13472."

The cited evidence does not substantiate the assertion. Mr. Sostrom testified only that Banner Associates does not construct irrigation projects. See Wyoming's Response to United States' Supporting Brief, 36.

40. On page 355, the United States states:

"The fee proposed by Mr. Sostrom was not compared to engineering fees on any other irrigation project. Tr. 13472."

The cited evidence does not substantiate the assertion. There is no discussion at Tr. 13472 of a comparison of the engineering fees between this and any other irrigation project.

41. On page 356 the United States states:

"But as Dr. Mesghinna testified, his projects are designed ". . . beyond any doubt to anyone who is going to give money for loan or anything for the project and in that way I am including such costs that are not included there such as mobilization by the contractor, such as certain contingencies or insurance or something of this sort, have been included in the cost here. Tr. 12386."

The cited evidence does not substantiate the assertion. Tr. 12386 contains no discussion of contingency fees or any other costs and does not contain the item quoted.

42. On page 357, the United States states:

"Dr. Mesghinna's figure includes only the costs for further engineering studies that may be necessary. Tr. 4873."

The cited evidence does not substantiate the assertion. Dr. Mesghinna testified that there will be additional engineering work to be done, including a design and specification study, and that in his cost-calculations he will have included that cost. He did not clearly state that he was only including the costs of future engineering studies.

43. On page 362, the United States states:

"These diversion requirements developed by Mr. Stetson were used by the State's witness Mr. Fassett in developing his model."

The cited evidence does not substantiate the assertion. Mr. Fassett used these diversion requirements only in part of his work. He did not use them to develop the model.

44. On page 364, the United States states:

"Mr. Bishop agreed that 35% was the overall efficiency for the historic lands. Tr. 12151, 12196, 12214."

The cited evidence does not substantiate the assertion. At the pages cited Mr. Bishop does not discuss a 35% overall efficiency for the historic lands.

45. On page 365, the United States states:

"Mr. Stetson, through inspection of each tract of Type VII land, determined the amount of money that would have to be spent to bring each parcel to the point where it could be currently irrigated. Tr. 5255."

The cited evidence does not substantiate the assertion. Mr. Stetson testified that he analyzed each tract on the topo maps and on the aerial photos, and that he visited some of them in a field by helicopter. He did not state that he inspected each tract.

46. On page 367, the United States states:

"Mr. Bishop agreed with Mr. Stetson that the current overall efficiency of the historically irrigated lands is 35%. Tr. 13718."

The cited evidence does not substantiate the assertion. Mr. Bishop testified that he agreed with Mr. Stetson's efficiency as being the historic efficiency, but he did not agree that 35% is the current efficiency.

47. On page 367, the United States states:

"Mr. Sostrom later testified that the State consultants did not change any of Mr. Bishop's costs for Type VIII land. Tr. 12629."

The cited evidence does not substantiate the assertion. Mr. Sostrom testified that the State's consultants did some changing of the costs in Stetson's analysis of Type VII lands.

48. On page 368, the United States states:

"Mr. Bishop testified that in estimating the crop watering requirements for the State of Wyoming's historic land base, the State's consultants had used ... the modified Jensen-Haise formula that was utilized by Mr. Stetson. Tr. 13720, 13730."

The cited evidence does not substantiate the assertion. There is no reference on the page cited to the Jensen-Haise formula.

49. On page 370, the United States states:

"When determining the net irrigation requirement for lands in a water short drainage, the State's consultants assumed that the tract would receive no water after July 15 and therefore reduced the net irrigation requirement by approximately one-half. Tr. 13694."

The cited evidence does not substantiate the assertion. Mr. Bishop testified that "for those streams that were determined to be water-short we assumed that there would be full supply up to the middle of July and no water thereafter. Since the water requirements for many of the crops are primary during the first half of the growing season, this does not assume that you reduce the net irrigation requirement by approximately one-half." Tr. 13694 (emphasis added)

50. On page 370, the United States states:

"As Mr. Bishop testified on cross-examination, under his methodology a parcel of Type IV or VI land in a water-short drainage receives only about .15 of its net irrigation requirement. This is so because Type IV and VI land were assigned only 30% of their full net irrigation requirement in the first instance, and then that was reduced in half by assuming no water deliveries after July 15 in each year. Tr. 13731-35."

The cited evidence does not substantiate the assertion. Mr. Bishop testified that he did not reduce the water requirement to .15 for all crops. He said it depended on the crop involved especially since small grain crops use the majority of their consumptive demands by July 15. In fact, Mr. Bishop certified that "if you only irrigate 30% of a Type IV land in a given year, you have got enough water provided for a full supply for those that are being irrigated." Tr. 13761.

51. On page 373, the United States states:

"According to Mr. Bishop, canal lining, installation of pipe distribution system, and use of sprinkler irrigation, rather than flood irrigation, would be necessary in order to achieve the 50% efficiency for the historic lands. Tr. 13725-26."

The cited evidence does not substantiate the assertion. Mr. Bishop testified that he believes that in the historic system that canal lining, pipe distribution systems, and in some cases, sprinklers, may be desirable improvements. He did not say that they would be necessary improvements. Mr. Bishop stated that one of the most important factors to consider in an efficiency analyses is improved management of the land.

52. On page 376, the United States states:

"The farmers and irrigation officials who testified in Worland all repudiated Mr. Bishop's theory that land can be consistently irrigated if it only receives 30% of its net irrigation requirement or has its supply shut off every year on July 15. See testimony of William Hamilton; testimony of Gideon Davis; testimony of William Daniels; testimony of Carl Duane Rush; testimony of Matt Brown."

The cited evidence does not substantiate the assertion. The farmers and irrigation officials who testified were not asked in detail about Mr. Bishop's theory. No answers demonstrated that the witnesses clearly understood Mr. Bishop's ideas.

53. On page 377, the United States states:

"Mr. Allen's state water rights have priority dates of 1909, 1910, and 1935, that is, they have a much lower priority date than Mr. Keith's. Tr. 14124."

The cited evidence does not substantiate the assertion. There is no reference on page 14124 to Mr. Allen's state water right priority dates.

54. On page 379, the United States states:

"Projects were designed and costs determined only for lands classified by HKM as classes 1-3 lands. Tr. 5589."

The cited evidence does not substantiate the assertion. Dr. Mesghinna's testimony stated that he used only Class 1 and Class 3 lands in his study. Other exhibits show that he included substantial amounts of Class 6 land. Wyo. Exh. WRIR FM-1249A through 1255A.

55. On page 379, the United States states:

"In the analysis of Dr. Mesghinna's testimony regarding Type VIII lands, Mr. Sostrom, Wyoming's consultant, adopted the acreage used by Dr. Mesghinna. Tr. 13424."

The cited evidence does not substantiate the assertion. Mr. Sostrom testified that the acreage he used was derived from his work and the work of the State's soil scientists. He stated that he did not personally exclude any of Type VIII lands, but certain lands that had topographic problems were excluded by the soils scientists.

56. On page 380-381, the United States states:

"The United States, the Tribes, and the State of Wyoming all performed economic feasibility analyses on the proposed irrigation developments on the Wind River Indian Reservation... All three economists utilized an economic rather than a financial analysis approach, which views the projects from the national perspective and evaluates them in the same way that any other projects of that kind would be evaluated anywhere in the United States. Tr. 4933, 4937."

The cited evidence does not substantiate the assertion. The cited pages refer only to the United States' economic evaluation. They do not support the United States' conclusion that the Tribes and the State of Wyoming performed similar analyses.

57. On page 381, the United States states:

"Economic feasibility was evaluated by Mr. Dornbusch by comparing the present value of the expected stream of future costs, using a discount rate that was appropriate for this type of analysis. Projects or areas were declared to be feasible where the benefit cost ratio was greater than or equal to 1.0. Trs. 5046-49."

The State pointed out that the benefit-cost ratios testified to by Mr. Dornbusch assumed a discount rate of 4%. Due to the ambiguous nature of a benefit-cost ratio the record should reflect what particular discount rates are assumed when figures are read into the record.

58. On page 383, the United States states:

"the interviews conducted by Mr. Sommers for the State of Wyoming showed that Mr. Larson was getting 80 to 100 bushels of barley per acre, Mr. Rohn was getting 95, Mr. Rein was getting 90 to 115, and that Mr. Fike was getting 100 bushels of barley per acre in the highland area. U.S. Exh. WRIR-JJ-10, Trs. 14937-40."

The cited evidence does not substantiate the assertion. U.S. Exh. WRIR JJ-10 does not refer to Mr. Fike's returns. Dr. Jacobs stated that he was not aware of Mr. Fike's interview.

59. On page 383, the United States states:

"Mr. Jacobs stated that if yields to be considered did not have Class 4 or 6 soils in them, the yields should be higher than those he used, an important point since the acreage claimed by the United States only has insignificant amounts of Class 4 or Class 6 soils. Trs. 14946-47."

The cited evidence does not substantiate the assertion. Mr. Jacobs testified that he would expect to get better yields if the Class 4 and Class 6 lands were excluded. He further noted, on page 14947, that both his and Mr. Dornbusch's yields were above the county averages.

60. On page 384, the United States states:

"Mr. Dornbusch, on the other hand, conducted interviews of the farmers on the Reservation and found that not only did farmers obtain yields in excess of 100 bushels of malt barley, but also found that the yields were not greatly reduced by the increase in elevation. Wyo. Exh. ED-16."

A review of Exh. ED-16 indicates that the yield for feed barley, not malt barley, was 100 bushels per acre on some of the land.

61. On page 385, the United States states:

"Thus, Mr. Jacobs' 'good management' projections must be disregarded. Wyo. Exh. EJ-3, pp. 23, 24, 32. EJ-4, pp. 2, 7, 8 16, 18, 19."

The evidence stated does not substantiate this remark.

62. On page 386, the United States states:

"Mr. Jacobs, on the other hand, once again chose to ignore the credible evidence and relied upon data which he did not attempt to verify, the result of which was to reduce yields and therefore returns in the project areas. The information which Mr. Jacobs did not verify was a preliminary report prepared by other United States' consultants, HKM Associates, who were reviewing the prospective study areas in which they would ultimately conduct their land classification analysis to determine arability. Wyo. Exh. ED-15."

The cited evidence does not substantiate the assertion. There is no support in the Record for the statement that Mr. Jacobs chose to ignore 'credible evidence', as he did state that he did rely in part on the HKM report. Tr. 14907.

63. On page 387, the United States states:

"Although Mr. Agee agreed with the report, he incorrectly used the degree days reported in the "50F" columns instead of the modified equation columns. Trs. 15318-19."

The cited evidence does not substantiate the assertion. The United States never established that Mr. Agee incorrectly used the degree days in the exhibit.

64. On page 387-88, the United States states:

"It was brought out on cross-examination that although Mr. Agee had done substantial field work in the area in preparing his Riverton Area crop reports (Wyo. Exh. ED-8), he had not interviewed anyone above 5500 feet. Trs. 15390-91."

The cited evidence does not substantiate the assertion. Mr. Agee testified that he could not say for sure whether the people he had interviewed were farming above 5500 feet.

65. On page 388, the United States states:

"One additional point of difference regarding the crop yields was that Mr. Jacobs chose to reduce the yields obtained from the crops during the first five years to account for startup period. He used five years despite the advice he received on the subject which indicated that only two years should be used. Tr. 14953."

The cited evidence does not substantiate the assertion. Dr. Jacobs pointed out that Mr. Iiams did not discuss what he thought should be a start-up period but rather his recommendation that they grow small grains during the first two years.

66. On page 389, the United States states:

"Mr. Jacobs, on the other hand, made no attempt to determine long range unemployment on the reservation or the possibility of future equipment for those unemployed Indians. He did not even attempt to consult a fellow employee of Wyoming Research Corporation who had conducted such an analysis. Tr. 14832."

There is no evidence in the Record to support the United States' contention that the cited analysis concerned employment, or rather unemployment, on the Indian Reservation. Tr. 14831-14832.

67. On page 412, the United States states:

"Mr. Billstein has conducted an evaluation of the municipal and industrial water requirements of the United States' claim. He determined that there was sufficient water available to serve those claims. Trs. 3389, 7392-93."

The cited evidence does not substantiate the assertion. Tr. 3389 does not refer to testimony by Mr. Billstein, but rather that of Mr. Waples. Tr. 7392-7393 discusses the availability of water to serve Fort Washakie. Thus, the statement does not support the United States' evaluation that water is available to serve all of the municipal and industrial claims of the United States.

68. On page 413, the United States states:

"It (the Fassett model) was thus not designed to rebut or challenge the results of Mr. Keene's natural flow analysis or Mr. Billstein's systems operation study. Tr. 9504."

The cited evidence does not substantiate the assertion. Mr. Rice testified that the "Fassett model" "included the administration of the priority system within the basin, the operation of all the water rights, claims, state-awarded water rights, and reservoirs. It includes, but it not limited, to the Wind River Indian Reservation." Tr. 9504.

69. On page 414, the United States states:

"Thus, there is no significant difference in the geography of the claims in the testimony of the witnesses for the United States and Wyoming."

As pointed out earlier, this is not a true statement. Wyoming's aesthetics claim includes less than half the area claimed by the United States. See Wyo. Exh. WRIR AK-1.

70. On page 416, the United States states:

"Dr. Carver's figure is based on an 8 year average of BIA statistics." Tr. 283, Wyo. Exh. WRIR LC-5."

The cited evidence does not substantiate the assertion. The evidence cited, Wyo. Exh. WRIR LC-5, was not admitted.

71. On page 416, the United States states:

"Dr. Carver includes that it is feasible to expand the cattle industry by 25% . . . Wyo. Exh. LC-4."

The cited evidence does not substantiate the assertion. The exhibit cited, Wyo. Exh. WRIR LC-4, does not address the question of livestock industry expansion.

72. On page 417, the United States states:

"Mr. Merchant concludes that an economic analysis also shows feasibility. Tr. 373."

The cited evidence does not substantiate the assertion. Mr. Merchant stated that it is economically feasible to expand the livestock industry on the Wind River Indian Reservation by 50%. He does not state that he did an economic feasibility analysis.

73. On page 419, the United States states:

"Given these above factors, the respective conclusions of Mr. Merchant and Dr. Carver as to total evaporation losses are: Mr. Merchant - current 1400 acre-feet per year; future - 2100 acre-feet per year. U.S. Exh. WRIR C-17, Wyo. Exh. WRIR LC-4."

The cited evidence does not substantiate the assertion. U.S. Exh. WRIR C-17 cites water requirement acre-feet per year current - 1820; full potential - 2730.

74. On page 433, the United States states:

"In his direct examination Mr. Sinning testified that Mr. Vogel had made numerous errors in his computer and field analyses. His testimony, however, never amounted to more than conclusory statements unsupported by anything other than argumentative testimony. Tr. 15264."

The cited evidence does not substantiate the assertion. Mr. Sinning discussed the errors that he found in Mr. Vogel's testimony and methodology. He listed 16 categories of errors. In each category he documented errors in such areas as substrata, habitat, velocity, the hydraulic model, dead profile, and the presence of the fishery.

B. Tribes' Brief:

1. On page 6, the Tribes state:

"The standards were site specific and based upon land classification standards of the Bureau of Reclamation, the Bureau of Indian Affairs, and the Soil Conservation Service. (Tr. Vol. 10, pp. 1,126-27)."

The cited evidence does not support the assertion. Mr. Kersich testified that the HKM standards were developed using Bureau of Reclamation studies done in 1947-48, in the 1950s, in the 1960s and some in the 1970s. There are also discussions with the regional soil scientist and some of the BIA people involved in the irrigation management on the Reservation but, Mr. Kersich did not testify on these pages that the land classification standards of the Bureau of Indian Affairs and the Soil Conservation Service were used.

2. On page 7, the Tribes state:

"Mr. Toedter performed an investigation to determine the necessity of artificial drains to supplement natural drainage. (Tr. Vol 10, pp. 1119-20); U.S. Exh. C-43, pp. 15, 16-18, 20-21)."

The cited evidence does not substantiate the assertion. Mr. Kersich did not testify that such an investigation was performed by Mr. Toedter. In U.S. Exh. C-43,

admitted during Mr. Kersich's testimony, pages 15, 16-18, 20, and 21 involve the methodology of a drainage study. It is not indicated that this study was done by Mr. Toedter.

3. On page 23, the Tribes state:

"How Dr. Jacobs, who admittedly had never before even worked on determining feasibility for any large irrigation project (transcript 158, p. 14673), arrived at these incorrect figures became apparent on cross-examination."

The cited evidence does not substantiate the assertion. Dr. Jacobs stated that while he had never worked on the feasibility analysis for a large irrigation project, he had done the kind of work that is involved in determining the feasibility of such a project.

4. On page 23, the Tribes state:

"His stated reason for doing so was that 320 acre farms have been used in a study of farm costs by Mr. Doug Agee and were typical of farm sizes in the Riverton area (tr. Vol. 159, p. 14866)."

The cited evidence does not substantiate the assertion. Dr. Jacobs did not discuss his use of Mr. Agee's farm study.

5. On page 24, the Tribes state:

"Mr. Agee agreed that farms considerably larger than 320 acres are farmed in that area and that economies of scale would result. (Tr. 5, 164, pp. 15534-35, 15366-38)."

The cited evidence does not substantiate the assertion. The pages cited, 15534-15535, should be 15334-15335, and the cite 15366-15338 should be 15366-15368.

6. On page 24-25, the Tribes state:

"Dr. Jacobs also used equipment costs substantially higher than those shown in accepted lists (e.g., National Farm Tractor and Instrument Blue Book, 1981), and apparently when choosing between costs found in Blue books, other publications, and interviews with dealers, often shows the highest costs (Tr. 5, 159, pp. 14883-98)."

The cited evidence does not substantiate the assertion. Dr. Jacobs stated that he consistently used the set of prices which came out of the federal budgets used for the Rocky Mountain region. When specific prices were not available, he used Mr. Agee's prices and those of other publications, for example, the Blue Book. He did not intentionally seek to report the highest costs. Tr. 14883-14898.

7. On page 25, the Tribes state:

"When the Master brought this to his attention (Tr. 5159, p. 14885-86) he had no satisfactory explanation."

The cited evidence does not substantiate the assertion. Dr. Jacobs explained his reason for using the federal budgets as opposed to the prices presented in the Blue Book.

8. On page 25, the Tribes state:

"Dr. Jacobs used yields of 90 bushels for lowlands and 80 bushels for highlands beginning in the sixth year of the project with lower yields in the first five years (State's Ex. EJ-4, Part II, Table II-1, p. 2)."

The cited evidence does not substantiate the assertion. Table II-1 of State's Exh. EJ-4 does not refer to highland or lowland yields, nor does it cite such yields at 80 and 90 bushels.

9. On page 30, the Tribes state:

"These photos were taken in 1979 and 1980, and had a scale of 1"= 1,000'. (Id., 1902)."

The cited evidence does not substantiate the assertion. There is no reference on the page cited to the date of the photos or the scale used.

10. On pages 32-33, the Tribes state:

"Similarly Mr. Sostrom excluded lands from the in-use category which were identified by HKM as Class 6. As to these lands, the State's reviewers did not even consider if they were in-use. (Tr. Vol. 137, p. 12,688)."

The cited evidence does not substantiate the assertion. On the page cited Mr. Sostrom is testifying as to the exclusion of Class 6 lands from adjudicated lands, not from historic in-use lands as asserted by the Tribes.

11. On page 33, the Tribes state:

"Jack Long, manager of the Midvale Irrigation District, testified in Worland that there are over 9,000 acres of Class 6 land in Midvale receiving irrigation water, for which the operators pay construction, operation, and maintenance charges." (Tr. Vol. 151, pp. 13130-36, 13729-30)."

The correct citations for this part of Mr. Long's testimony are: Tr. 13630w-13636w; Tr. 13729w-13730w.

12. On page 46, the Tribes state:

"He (Bishop) agreed with Mr. Stetson's testimony concerning current efficiencies on the Reservation -- that is, that at best a 35% overall efficiency is being achieved (Id., pp. 13718-19)."

The cited evidence does not substantiate the assertion. Mr. Bishop did not support Mr. Stetson's testimony

concerning current efficiencies on the Reservation. He stated that "the 26% figure that's included in the SCS report is obviously based on a historic diversion rate that is, in my view, excessive", and further that "the difference between our 50% suggestive achievable efficiency is justified as compared to the 26% of the SCS report." On these pages he did not refer to Stetson's 35% overall efficiency rate.

13. On page 47, the Tribes state:

"This was based on the assumption that 30% of the Type IV lands were irrigated in a given year (Tr. Vol. 149, pp. 13737, 13761)."

The cited evidence does not substantiate the assertion. At page 13736 Mr. Bishop testified that "if you only irrigate 30% of a Type IV lands in a given year, you have got enough water provided for a full supply for those that are being irrigated."

14. On page 47, the Tribes state that:

"Mr. Bishop testified that he had not investigated the Type IV lands to attempt to verify the assumption (Id., p. 13807)."

The cited evidence does not substantiate the assertion. While Mr. Bishop did testify that he had not investi-

gated the Type IV lands, he clarified his answer by noting that the data used was based on Mr. Toedter's testimony and determinations on the subject.

15. On page 48, the Tribes state:

"Mr. Bishop stated that an irrigator with a state-awarded water right for lands in these water short streams would be entitled to irrigate after July 15, up to the amount of his right, so long as there is a sufficient supply of water (Tr. Vol. 149, pp. 13744-45)."

The cited evidence does not substantiate the assertion. This statement by the Tribes is out of context. It should be clarified to the extent that it points out that Mr. Bishop was referring to non-Indian irrigators with a state-awarded water right.

16. On page 49, the Tribes state:

"Mr. Bishop testified that for Type IV lands in water short drainages he reduced the water requirement once by 70%, based on its being Type IV, and again by applying the abbreviated irrigation season for water short lands. Even Mr. Bishop conceded that for a specific tract it (his conclusions on diversion requirements) may reflect an inadequate amount of water." (Tr. Vol. 149, p. 13761).

The cited evidence does not substantiate the assertion. Mr. Bishop actually stated:

"They are trying to apply the theory to a specific tract, when it's intended to evaluate the broad picture. The Type IV's, the theory is that they are irrigated 30% of the time. 70% of the time they are not.

For a specific tract, it may reflect an inadequate amount of water, but in a broad sense, I think it reflects an adequate amount of water.

And it should also be mentioned that there is a limited amount of Type IV land on water short streams, a very limited amount."

Tr. 13761.

Respectfully submitted this 5th day of May, 1982.

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