

BEFORE THE ARIZONA NAVIGABLE STREAM  
ADJUDICATION COMMISSION

2

In re: Determination of )  
Navigability of the Upper Salt ) No. 04-008-NAV  
River, Small and Minor ) No. 04-010-NAV  
Watercourses in Gila County, ) No. 05-014-NAV  
Small and Minor Watercourses in ) No. 03-007-NAV  
Maricopa County, the Gila River, ) No. 04-009-NAV  
and the Verde River. )  
\_\_\_\_\_ )

MEETING OF THE  
ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

Phoenix, Arizona  
November 16, 2005

Prepared by:  
Gerard T. Coash, RPR, RMR  
Certified Reporter  
Certification No. 50503

(Original)





1 MEETING OF THE ARIZONA NAVIGABLE STREAM ADJUDICATION  
2 COMMISSION was taken on November 16, 2005, commencing at  
3 9:33 a.m., at the La Quinta Inn, 2510 West Greenway Road,  
4 Phoenix, Arizona, before Gerard T. Coash, a Certified  
5 Reporter in the State of Arizona.

6  
7 \* \* \*

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16 From the Arizona Navigable Stream Adjudication  
17 Commission:

18 Mr. George Mehnert, Executive Director

19 Mr. Earl Eisenhower, Chairman

20 Ms. Dolly Echeverria, Vice-Chair

21 Mr. Jay Brashear, Member

22 Mr. James Henness, Member

23 Mr. Cecil Miller, Member

24 Also Present:

25 Mr. Jonathan E. Fuller, PE, RG, PH, MS, CFM

Mr. Dennis Gilpin, RPA

Mr. David Weedman

Dr. Gary Huckleberry

Mr. T. Allen J. Gookin

Dr. Doug Littlefield

Dr. Stanley Schumm

Ms. Barbara Tellman

Mr. Jerrold E. Knight

Dr. Jack L. August

Mr. Donald C. Jackson

## 1 TRANSCRIPT OF PROCEEDINGS

2 CHAIRMAN EISENHOWER: Ladies and gentlemen,  
3 the time has come to call the meeting of the Arizona  
4 Navigable Streams Adjudication Commission to order.

37:47 5 Mr. Mehnert, would you call role please?

6 EXECUTIVE DIRECTOR MEHNERT: Commissioner  
7 Miller?

8 COMMISSIONER MILLER: Present.

9 EXECUTIVE DIRECTOR MEHNERT: Commissioner

37:55 10 Echeverria?

11 COMMISSIONER ECHEVERRIA: Here.

12 EXECUTIVE DIRECTOR MEHNERT: Commissioner

13 Hennes?

14 COMMISSIONER HENNESS: Present.

15 EXECUTIVE DIRECTOR MEHNERT: Commissioner

16 Brashear?

17 Chairman Eisenhower?

18 CHAIRMAN EISENHOWER: Here.

19 EXECUTIVE DIRECTOR MEHNERT: Mr. Chairman,

38:06 20 we have four present and one absent. We have a quorum.

21 Although, I do believe that Mr. Brashear is on his way, as  
22 is our attorney.

23 CHAIRMAN EISENHOWER: The first order of

24 business for us would be to approve the minutes of the

38:22 25 last meeting. Are there any corrections from any of the

1 commissioners to the minutes?

2 COMMISSIONER ECHEVERRIA: Move to approve.

3 COMMISSIONER HENNESS: Second.

4 CHAIRMAN EISENHOWER: There's been a motion

38:38 5 and a second approving the minutes from our meeting in  
6 October. Are there any comments on those minutes? If  
7 not, I call for a vote. All in favor of approving the  
8 minutes say aye.

9 COMMISSIONER ECHEVERRIA: Aye.

38:41 10 COMMISSIONER HENNESS: Aye.

11 COMMISSIONER MILLER: Aye.

12 CHAIRMAN EISENHOWER: Opposed?

13 Hearing none, the minutes are approved.

14 The next item of business -- a little bit of  
38:50 15 housekeeping -- I would like to address to the members of  
16 the audience -- I would ask that you turn off all of your  
17 cell phones and pagers so that it doesn't interrupt the  
18 speakers when they're up here.

19 When you want to speak before the  
39:05 20 commission, please come to the podium, give your name and  
21 who you represent, and give any copies of written  
22 material -- one copy to the court reporter so that he has  
23 it. There will be some other little things that -- like  
24 that that occur, so just as a matter of courtesy to your  
39:27 25 fellow attendees, please keep things to a minimum and we

1 will try to expedite our hearing as rapidly as possible.  
2 We have a lot of people who have expressed an interest in  
3 testifying and so we will take a little pause here while  
4 our member and counsel get somewhat situated.

40:07 5 (An off-the-record discussion ensued.)

6 (Commissioner Brashear and Curtis Jennings  
7 entered the room.)

8 CHAIRMAN EISENHOWER: Another little  
9 housekeeping, we will take a break about noon, because  
40:26 10 last time we kind of ran on through. So we will have a  
11 little lunch break and we'll settle on how long it will be  
12 as we get there -- get down to that point. But it gives  
13 our poor court reporter a little break for his fingers  
14 too, so we'll get that taken care of in due time.

41:20 15 EXECUTIVE DIRECTOR MEHNERT: Mr. Chairman,  
16 do you want to reflect that Mr. Brashear came in?

17 CHAIRMAN EISENHOWER: Yes. We have all five  
18 members present.

19 Okay. Everyone situated and all the members  
41:29 20 are present now. And our first item on the agenda is an  
21 issue that has arisen about whether we have the  
22 jurisdiction to adjudicate Roosevelt Lake, and at this  
23 time, I would listen to the arguments both for and against  
24 that proposition.

41:56 25 MR. MCGINNIS: Mark McGinnis on behalf of



1 Salt River Project. We did file a motion -- it's been a  
2 couple months ago now. I know you've got a full agenda  
3 today. We argued this some last time. And we also filed,  
4 pursuant to your petition, a reply. So I think the only  
42:11 5 thing I would say is that our motion asked for two things:  
6 One, that you didn't have jurisdiction to determine  
7 navigability of the lake itself; and also with respect to  
8 the former rivers that run underneath the lake. Nobody  
9 responded and said anything about the jurisdiction of the  
42:27 10 lake, the big part of the lake. The only dispute we have,  
11 the land department said, "No, you have to go ahead and  
12 adjudicate the navigability of the river, the old river  
13 beneath the lake." We have said pretty much everything I  
14 know to say about that, both in our motion and reply and  
42:45 15 last time, so unless you have questions, I won't take up a  
16 bunch of your time on this issue.

17 CHAIRMAN EISENHOWER: I would ask, does  
18 anybody have any questions on that issue?

19 COMMISSIONER BRASHEAR: Sometimes I feel  
42:56 20 like it's time to tell Toto, "We're not in Kansas  
21 anymore." Whenever we adjudicated the Lower Salt River is  
22 nobody brought up the fact that this was a -- or they did  
23 bring it up -- it was a man-made watercourse. But nobody  
24 said, "You can't adjudicate it because the water was all  
43:14 25 sucked out of it and it was man-made and the way it was on

1 the day of statehood, and so therefore it is beyond your  
2 jurisdiction." Now we go right up a hundred feet upstream  
3 in the same river and we're told, "Oh, no, there's not a  
4 lake." It's now everything different. The dam is still  
43:34 5 there that was there in 1912. We know we adjudicated the  
6 Lower Salt, but now it's got water behind it and so  
7 therefore we can't touch it now. Why is it that the Salt  
8 River -- as it comes down, the dam is there, but why is it  
9 the water control regulatory mechanism expands the banks  
43:59 10 of the Salt and it is navigable up to the high water mark  
11 if it is navigable in other places of the river? And how  
12 do we manage to come to this thing where we have got two  
13 entirely different rivers and two entirely different rules  
14 to apply to them?

44:17 15 MR. MCGINNIS: Well, Commissioner Brashear,  
16 I think the short answer is we're not in Kansas anymore,  
17 and we're stuck with the statute. The definitions in the  
18 statute, none of them exclude anything in the Lower Salt  
19 River. We're just trying to do what your statute says  
44:33 20 you're supposed to do. The Lower Salt River is the  
21 watercourse and clearly the Lower Salt River below Granite  
22 Reef. The Upper Salt River has a dam on it. The dam is  
23 part of a municipal and irrigation -- it's called man-made  
24 water conveyance. That's the way the legislature drew the  
44:52 25 statute, and I think we're stuck with it. I understand

1 the problems you're having with that, but you're stuck  
2 with what the statute says. And I don't think it's  
3 inconsistent necessarily, but what the statute says is, if  
4 it's a man-made water conveyance system, it's not part of  
45:04 5 a watercourse.

6 This -- the -- Roosevelt is different than  
7 all the other SRP lakes because it was prestatehood. The  
8 other SRP lakes -- I think everybody agrees -- are clearly  
9 out of what you're doing because they weren't there on  
45:17 10 February 14th, 1912. Roosevelt was. But the statute  
11 says, if it's a man-made water conveyance system, even if  
12 it was there on February 14, 1912, it's not under your  
13 jurisdiction. I don't know how else to explain it to you  
14 other than that's what the statute says.

45:35 15 COMMISSIONER BRASHEAR: We could essentially  
16 find that the Salt River is navigable but it will be  
17 navigable at the bottom of a 600-foot lake that isn't  
18 there. By statute.

19 MR. MCGINNIS: I think the answer to your  
45:49 20 question is no. I mean, our position is -- you've  
21 determined already that the Salt River below Granite Reef  
22 Dam is not navigable.

23 COMMISSIONER BRASHEAR: Yeah.

24 MR. MCGINNIS: The lake itself, we don't  
45:59 25 think you need -- can or need to make any determination at

1 all. The river below the lake, we also think you don't  
2 need to or can -- can and can't make any determination  
3 about that. You still, I think, should make a  
4 determination about the rest of river that is not covered  
46:12 5 by Roosevelt Lake, including the river that is under what  
6 is now Saguaro, Apache, and Canyon.

7 But the way the statute -- it's right there  
8 in 37-1101-11 -- says, "Watercourse does not include a  
9 man-made water conveyance system described in paragraph 4  
46:23 10 of this section, except to the extent that the system  
11 encompasses lands that were part of a natural watercourse  
12 as of February 14, 1912." So if Roosevelt is a man-made  
13 water conveyance system -- which nobody's disputed at this  
14 point -- it does not include lands that were part of the  
46:45 15 natural watercourse on February 14th, 1912. That river  
16 under the -- the old river under the lake didn't exist on  
17 February 14th, 1912. It was part of the man-made water  
18 conveyance system. And I'm not sure I'm getting to where  
19 your question is; we're just trying to construe the  
47:02 20 statute as best we can.

21 COMMISSIONER BRASHEAR: Let me ask one other  
22 question, is there any significance in what the commission  
23 does? I think that there is a good chance that the Upper  
24 Salt, at least, is probably going to go into court, if not  
47:16 25 the whole river, and would it elaborate or complicate

1 things which way we went on the Roosevelt Lake? Would it  
2 be better if we did say, "Okay, we're going to take the  
3 jurisdiction even though --" Or would it be better for us  
4 to say, "Well, we won't do it"?

47:33 5 MR. MCGINNIS: My reading of the statute is  
6 that if you make a determination about Roosevelt Lake, it  
7 basically means nothing because you don't have  
8 jurisdiction. I guess I would be concerned if I was  
9 representing the commission or on behalf of the commission  
47:45 10 about the commission going into areas that the statute  
11 says you're not supposed to go into.

12 In the end, it probably doesn't mean  
13 anything if you do determine Roosevelt -- the river is  
14 under Roosevelt because it's pretty clear, I think, the  
47:56 15 statute says you don't have jurisdiction over it. So I'm  
16 not giving you advice about whether you should do it or  
17 not. I think you can't do it.

18 COMMISSIONER BRASHEAR: Okay. Thank you.

19 MR. MCGINNIS: If there are no other  
48:10 20 questions, that's all I have.

21 COMMISSIONER ECHEVERRIA: The statutes may  
22 govern our actions, but they're not our statutes.

23 MR. MCGINNIS: I understand. You're subject  
24 to what the legislature said, and we're just trying our  
48:21 25 best to tell you what we think the legislature said. I

1 know you didn't draft them.

2 COMMISSIONER ECHEVERRIA: Thank you.

3 CHAIRMAN EISENHOWER: Mr. Jennings, you have  
4 a question?

48:32 5 COMMISSION COUNSEL JENNINGS: I've been  
6 looking while the discussion has been going on, but it  
7 seems to me that I read in your brief somewhere that the  
8 Salt River Project maintained that the federal government  
9 actually withdrew and owns all of the land under Roosevelt  
48:48 10 Lake. But I can't find it in your brief. Was that -- am  
11 I correct or am I --

12 MR. MCGINNIS: That is certainly our  
13 position. I think it's in the reply where we talk about  
14 the City of Mesa case. And maybe it's in the motion. But  
49:02 15 that's not the basis for this motion.

16 COMMISSION COUNSEL JENNINGS: I understand.  
17 But it does, seems to me, go to your point as to why  
18 should the commission take up the issue if, in fact, the  
19 land underneath it was already withdrawn and is owned by  
49:21 20 the federal government and withdrawn from the public trust  
21 for other public uses?

22 MR. MCGINNIS: There are several --

23 COMMISSION COUNSEL JENNINGS: To wit, the  
24 public conveyance -- water conveyance system.

49:35 25 MR. MCGINNIS: If you get into that, there

1 are a couple of different reasons, aside from what we've  
2 got in our motion, one of which is the -- Dr. Littlefield  
3 talked about the last time -- the water power designations  
4 which withdrew land or designated land outside of the  
49:46 5 public domain. There were also reclamation withdrawals  
6 which were under a different statute for Roosevelt. And  
7 Roosevelt itself is unique to some extent because in  
8 addition to those, the federal government went out and  
9 purchased and condemned the property underneath the  
50:01 10 reservoir before it was built. So I think the City of  
11 Mesa case makes it clear, but the United States holds  
12 title to that. We didn't put that in our motion because  
13 our motion really deals just with what the statute says  
14 about what you're supposed to do.

50:15 15 I think those other issues come up if you do  
16 make a finding of navigability for Roosevelt, if it stands  
17 up on appeal, and then the State goes to trial, a quiet  
18 title action against the United States under the Federal  
19 Quiet Title Act, which is, I assume, where it would go.  
50:30 20 Then all those reservation withdrawal questions really  
21 come up more squarely there than they do here.

22 COMMISSION COUNSEL JENNINGS: And the idea  
23 would be to what purpose would the State have in claiming  
24 title under the public trust doctrine to lands under  
50:47 25 600 feet below water? Is that --

1 MR. MCGINNIS: I'm perplexed by that one  
2 too, but I can't speak for the State about what their  
3 purpose would be for claiming that.

4 I guess the other thing that -- where one of  
5 those issues, the reclamation withdrawal issue, probably  
6 would be if you made a finding of navigability, then you  
7 go to the public trust determination that you make and  
8 sort of the -- the second stage is -- that we have never  
9 gotten to -- and those other issues will probably come up  
10 there too.

11 COMMISSIONER BRASHEAR: Is this land under  
12 Roosevelt Lake somehow different from a military  
13 reservation or a national forest or a national monument or  
14 other properties that the federal government owns?

15 MR. MCGINNIS: It's the same to the extent  
16 that the title is held by the federal government. It's  
17 different to the extent that it was reserved or purchased  
18 or condemned, however they got it, for different specific  
19 purposes than military reservation. I mean, every  
20 reservation has a different purpose why the United States  
21 got it in the first place. We think, when we get into  
22 this -- if we get into this -- that the reservations for  
23 Roosevelt were different than a reservation for -- Indian  
24 reservation for example -- or military base or anything  
51:46 25 like that. Because here it was withdrawn for a specific



1 purpose. It was tied to the fact it's a lake which is, I  
2 think, different.

3 COMMISSION COUNSEL JENNINGS: Mr. Chairman,  
4 one other thing, is there any other lakes or lands that  
5 :52:03 5 pertain to lakes that will come under this same motion or  
6 rule that you're proposing that the commission adopt to  
7 not take jurisdiction in this matter? Is there any other  
8 thing that we need to look at down the road?

9 MR. MCGINNIS: Not that I know of. We've  
10 :52:28 10 looked all over the United States to find another  
11 reclamation project. It was the 1902 Reclamation Act.  
12 It's odd because it had to be after the Reclamation Act  
13 and before 1902 and before statehood, which for Arizona  
14 was 1912. I think maybe there are only one or two other  
15 :52:39 15 states -- not counting Alaska and Hawaii -- that had  
16 statehood after 1902. So really the big dams, like  
17 Roosevelt and Salt River dams, didn't really start until  
18 1902 when the federal government decided they were going  
19 to pay for them. I don't know of any other ones in  
20 :52:52 20 Arizona that's a prestatehood dam.

21 COMMISSION COUNSEL JENNINGS: That's what I  
22 was getting at. There aren't any other in Arizona that  
23 are similar to the situation of Roosevelt. It's a unique  
24 issue in that sense. Is that correct?

53:04 25 MR. MCGINNIS: Well, my firm represents the

1 watercourse in the statue does include lakes.

2 CHAIRMAN EISENHOWER: Yeah.

3 COMMISSION COUNSEL JENNINGS: I think the  
4 only other two natural lakes are Mormon Lake and Stoneman  
54:25 5 Lake.

6 CHAIRMAN EISENHOWER: Those are the only  
7 ones that I know of.

8 MR. MCGINNIS: Thank you.

9 CHAIRMAN EISENHOWER: Is there anybody who  
54:32 10 would like to speak to this issue on the jurisdiction of  
11 this commission vis-a-vis Roosevelt Lake?

12 MR. HELM: My name is John Helm. I'm an  
13 attorney, and I represent Maricopa County. I would  
14 suggest to you that the request is way overly broad if  
54:59 15 it's even valid at all. I thought that the Court of  
16 Appeals, in Defenders of the Wildlife, put a stake in the  
17 heart of that argument. They specifically dealt with  
18 diversions, and any way you slice it, that dam is a  
19 diversion. All right. And let me just quote you, this is  
55:21 20 under Diversions, it says, "Appellees" -- and that happens  
21 to have been Mark's client at the time -- "failed to  
22 support this section of the statute and we are unable to  
23 comprehend how such a presumption of non-navigability. We  
24 therefore conclude that section 36 is inconsistent with  
55:43 25 Daniel Ball." Now, that's what you're here to do, to be

1 consistent with Daniel Ball and if you go off and you're  
2 not consistent with Daniel Ball, we're right back where we  
3 were five years ago. We're back up to Court of Appeals,  
4 Court of Appeals is going to tell you you were  
:55:59 5 inconsistent with Daniel Ball, and we're back in the ball  
6 game again.

7           Let me talk to you for a minute about  
8 federal law on this subject because that's what controls  
9 it, all right. There's no question, prestatehood, that  
:56:12 10 the federal government had the right to dispose of land  
11 under navigable waterways. That's probably as  
12 well-established law as there could be. But if they were  
13 going to do that, they had to do certain things and the  
14 two cases that you should be concerned with are the Holt  
:56:33 15 State Bank case and the Cherokee and Choctaw versus the  
16 State of Oklahoma case.

17           On the second case, you can find my  
18 fingerprints on it because I argued it in the 10th Circuit  
19 Court of Appeals for the United States. That holding  
:56:50 20 says, in Cherokee-Choctaw, that if the United States wants  
21 to withdraw/give away/sell land under a navigable stream,  
22 they've got to declare it, so you look at the deed. Have  
23 they got a deed where the United States declares prior to  
24 statehood that they gave away the land under Roosevelt  
57:17 25 Lake that would have otherwise been navigable? If they

1 don't, they got a problem. If you look at Holt State  
2 Bank -- and it's simple, it says -- Holt State Bank United  
3 States Supreme Court case -- it says, "It follows from  
4 this that the disposal by the United States during the  
:57:38 5 territorial period are not likely to be inferred and  
6 should not be regarded as intended unless the intention  
7 was definitely declared or otherwise made very plain."  
8 Okay.

9           The Choctaw-Cherokee case was a fight over  
:58:05 10 the Arkansas River and the oil rights, all right, under  
11 that had been taken by the State of Oklahoma for -- I'm  
12 not sure when -- when was it that the Sooners ran, the  
13 1870s or whatever -- but they have been taking the oil  
14 royalties that ultimately the Cherokees and the Choctaws  
:58:25 15 were entitled to because they claimed that they owned the  
16 land under it as a navigable river, and the Supreme Court  
17 said, "No, no, no. The United States gave those tribes --  
18 they were part of the five civilized tribes -- those water  
19 rights before you ever became a state. Sorry, State of  
:58:41 20 Oklahoma, you don't get it, and get your checkbook out."

21           The other thing, you have to remember what  
22 the standard is. And I would hate to see this issue get  
23 confused because the standard that you measure is natural  
24 and ordinary. All right. That's federal law. All right.  
58:57 25 That's how you measure what's -- what's navigable and

1 what's not navigable. All right. That's stated about as  
2 clear as you can read it in the Defenders of Wildlife  
3 case, that's our seminal case on navigability to date in  
4 the State of Arizona. All right.

:59:16 5 Well, I would suggest to you that short of a  
6 beaver dam, you won't find a natural dam made out of  
7 concrete or brick in the world. It didn't happen. It's  
8 not a natural structure. All right. And since it's not a  
9 natural structure, and you're directed to determine the  
:59:37 10 river according to the natural and ordinary standard, I  
11 would suggest that you have to omit the impact of  
12 Roosevelt and look at that place like that water flowed  
13 through there and everything like that. What happens  
14 outside of the river to the extent that they're federal  
:59:57 15 land is an entirely different question. Because there's  
16 no trust right in those lands outside -- no footing  
17 doctrine of impact on those lands outside of the mean high  
18 water marks of the river. All right.

19 So that's a whole different deal. Sure,  
:00:18 20 feds could give that away, deed it away, sell it, do  
21 whatever they wanted if they owned it at any time  
22 prestatehood, post-statehood, but that river occupies a  
23 special place. All right. And I would suggest to you  
24 that the Defenders of Wildlife case put a stake in the  
:00:36 25 heart of "you don't consider dams." It's dead. They said

1 it in the case. And to say, "Well, we've got a statute  
2 that says otherwise," what are you going to do? Are you  
3 going to take the Court or you going to take the statute?  
4 If you take the statute, we're cooked.

00:53 5 One of the jobs you got to do is harmonize  
6 this stuff when you have conflicting situations. What I  
7 would suggest, if you conclude that, that you go ahead and  
8 make your finding and treat the river just as it was, and  
9 we can shake this out in court if necessary without having  
01:12 10 to come back and do it all over again. I'd like to avoid  
11 that. I mean, I've made nice friends on your commission  
12 over the years that I have been here so much, but we'd all  
13 like it to come to an end. So my suggestion -- it's kind  
14 of a compromise -- is go ahead and treat it like -- and  
01:32 15 make your findings about it, as it's navigable or it's  
16 not, and Mark will have plenty of opportunity to fight  
17 that out in the Superior Court or the Supreme Court or the  
18 Court of Appeals or wherever he wants to go if he really  
19 believes that the Defenders of Wildlife don't destroy that  
01:58 20 issue.

21 (Mr. Helm is answering questions.)

22 BY COMMISSIONER BRASHEAR:

23 Q. Are you telling us that we should assume  
24 jurisdiction over Roosevelt Lake or we should not?

02:08 25 A. Not all of Roosevelt Lake. The river portion.

1 Q. The river portion.

2 A. In fact -- I forget who -- I think it was Mr.  
3 Jennings who asked, "Why would you worry about land 600  
4 feet down under? Why would the State?" And there's a  
:02:24 5 couple of real simple answers; one is cash. You know,  
6 under the standard that I'm most familiar with, it would  
7 be value of the land and whenever they occupied it plus  
8 statutory interest then to now, so cash. And the reason I  
9 say "cash" is, it would have been illegal for the State to  
:02:49 10 give it away, and so if the feds couldn't have given it  
11 away, the State got it in 1912, they couldn't have given  
12 it away without that cash because it would be a violation  
13 of gift law. So I'm not telling you, "Deal with Roosevelt  
14 Lake because Roosevelt" -- I mean, I fish there. I was  
:03:05 15 there last weekend flashing the water.

16 There is a lot of that lake that isn't in  
17 the river, and you probably don't have jurisdiction over  
18 that. But as the river goes through that lake, you've got  
19 to deal with these issues of the public trust, Defenders  
:03:28 20 of Wildlife, the Cherokee and the Choctaw case, the Daniel  
21 Ball decision, Holt State Bank; and every one of those  
22 says you deal with it unless the Salt River Project can  
23 show up with their deed that says the federal government  
24 withdrew it. And it's got to say that. You can't infer  
03:54 25 it. If you look at Cherokee and Choctaw, you can't infer

1 that by just meets and bounds that includes it. That's  
2 not enough.

3 Q. All right. In your argument, you made reference  
4 to the natural and ordinary.

:04:08 5 A. Uh-huh.

6 Q. Does the phrase "natural" mean that we go back to  
7 the days before Indians were hunting mastodon in these  
8 parts?

9 A. That's correct.

:04:21 10 Q. In the beginning of time, whichever way we think  
11 it happened, is -- that is the -- that was the last day of  
12 the natural way in Arizona and all the other stuff that's  
13 happened since is unnatural?

14 A. It's not necessarily unnatural under various  
:04:38 15 definitions of unnatural. For purposes of the equal  
16 footing doctrine, you don't consider the Verde. All  
17 right. That's unnatural. All right. You don't consider  
18 man-made dams. That's unnatural. All right. You can't  
19 just say, oh, the word "natural" has this broad context  
:04:59 20 that we all use in everyday life and apply to some very  
21 specific, very technical case law and history that's gone  
22 on about the equal footing doctrine.

23 Q. Is that ordinary -- are those the exclusive  
24 terms?

05:18 25 A. They are terms of art. There's absolutely no



1 question about that.

2 Q. But it's an oxymoron. It's either natural or  
3 ordinary, but it can't be both.

4 A. Not within federal jurisdiction because  
5 ordinary -- they define it as the mean high water mark.

6 All right. That's ordinary. All right. Okay. So

7 natural is controlled by ordinary, because natural would

8 say we take a flood, wouldn't we? That's the widest

9 extent. All right. So you put the ordinary on it and

10 we've got a limitation on natural. That's what I'm

11 saying, you can't just apply logic without putting it in

12 the context of a long, long history of Supreme Court cases

13 and jurisprudence in this United States and back to

14 England. You can run it back to Roman law if you want, if

15 you're a real history buff. It's just simply that portion

16 of the river in its natural and ordinary condition, you've

17 got your own Court of Appeals telling you to do that. I

18 don't know what to say. The Court of Appeals made

19 perfectly clear that the legislature can't change the

20 Daniel Ball standard. They said it. I mean, they said

21 not once, but they said it 16 times in Defenders of

22 Wildlife.

23 Q. I thank you for the explanation, and I will

24 observe. I don't understand why logic escapes the law

25 constantly.

1 A. Don't think I'm here to make that argument.

2 CHAIRMAN EISENHOWER: Thank you.

3 COMMISSION COUNSEL JENNINGS: Mr. Chairman,  
4 may I ask a couple questions of the witness -- or the  
:07:07 5 counsel?

6 CHAIRMAN EISENHOWER: Sure.

7 MR. HELM: Lawyer. I'm not a witness.

8 BY COMMISSION COUNSEL JENNINGS:

9 Q. Would you agree this commission is a creature and  
:07:13 10 was created and the powers that were given to us were by  
11 the legislature?

12 A. Uh-huh.

13 Q. So that we only have the power to consider what  
14 the legislature has told this commission to do. Is that  
:07:22 15 correct?

16 A. Huh-uh.

17 Q. Now, are you arguing that the Holt case -- I  
18 think you call it the Defenders of Wildlife.

19 A. Holt's the other end of the name.

:07:37 20 Q. That it mandates that we consider --  
21 notwithstanding what the legislature says -- that we go  
22 ahead and consider the navigability of Roosevelt Lake?

23 A. Well, if you want to get us in a separation of  
24 powers argument, I would make that argument to you. But  
07:52 25 what I would suggest to you is that the legislature, in

1 its last piece of wisdom on what you're empowered with,  
2 told you to do it according to the Daniel Ball.

3 Q. I'm not arguing about Daniel Ball. What I'm  
4 trying to get at -- are you saying that even though the  
08:12 5 legislature has specifically excluded the Colorado River  
6 from our consideration, that because of the Holt case, we  
7 must go and consider the question of the navigability of  
8 the Colorado River?

9 A. No. That's a bad example. And the reason it's a  
08:28 10 bad example is because that's already been determined  
11 navigability and you aren't here to redetermine rivers  
12 that have already been determined navigable.

13 Q. And the legislature's told us not to.

14 A. That's fine.

08:42 15 Q. Well, now the legislature has also said here that  
16 man-made -- that watercourses means the main body and so  
17 forth but then excludes water conveyance systems as  
18 defined -- man-made water conveyance systems as defined by  
19 paragraph four of the same section.

09:03 20 A. Curtis, can I ask you a question?

21 Q. No, you can't, god dang it.

22 Included in that is -- in paragraph B is, "a  
23 municipal, industrial, domestic irrigation or drainage  
24 water system including dams, reservoirs, and diversion  
09:22 25 facilities." Are you saying that notwithstanding that the

1 legislature has made that statement, that because some  
2 judge on the Court of Appeals wrote a decision that says  
3 that and we have to do it anyway?

4 A. Yep. And let me help you out a little.

5 Q. Let me ask you one other thing then. Have you  
6 considered the fact that this statute was written and  
7 passed by the legislature after the Hull decision?

8 A. Absolutely. And therefore, the legislature knew  
9 what the Hull decision said, didn't they?

10 Q. And maybe decided to overrule it.

11 A. The legislature can't overrule it in those terms.

12 Q. Well, there are many examples of the legislature  
13 changing.

14 A. I agree with you, but not on the -- the equal  
15 footing doctrine predetermination when you're making it  
16 under federal law. The last time I checked, the  
17 legislature of the State of Arizona was subordinate to  
18 federal law, and I think we even regrettably have a few  
19 cases in Arizona that say -- that have gone to the Supreme  
20 Court where the Supreme Court admonished us because  
21 with -- we were passing statutes that were apposite to  
22 federal law. The point being that the standard that the  
23 legislature set up for you was the Daniel Ball standard.  
24 The Daniel Ball standard says that you don't consider  
25 dams. So you've got a conflict within that statute.

1 Q. The Daniel Ball decision says nothing about dams,  
2 it was an admiralty case and it dealt with navigation on a  
3 river having to do with admiralty decisions.

4 A. No question about that.

11:06 5 Q. I don't quibble with the principle it states, but  
6 it doesn't mention dams or anything else in it like that.

7 A. Curtis, the interpretation contained in Defenders  
8 of Wildlife versus Hull says it does. And it says, "We  
9 therefore conclude that section 37-1128-D-4 is

11:29 10 inconsistent with the Daniel Ball test." Now, that means  
11 that you and I might disagree with those guys, but those  
12 guys have found that part of the Daniel Ball test includes  
13 diversions. It includes dams. It includes sluices or  
14 whatever you got that you're taking water out of a natural  
11:53 15 watercourse.

16 I understand where you're coming from, but  
17 you've got to harmonize that language. I can suggest to  
18 you how it would harmonize beautifully, but the  
19 legislature really intended was what the legislature  
12:04 20 intended. That language to mean, if you've got a canal  
21 over here that's carrying 10,000 CFS, it would be  
22 navigable under any federal test you wanted to make. And  
23 what the legislature is telling you is don't go running  
24 afar and take jurisdiction over that type of artificial  
12:31 25 conveyance and look at it. And that harmonizes perfectly

1 with Daniel Ball, which is dealing with natural and  
2 ordinary watercourses. That is not a natural nor ordinary  
3 watercourse. It harmonizes. So regrettably, Curtis, we  
4 see the law 180 apart, and I don't think I can convince  
5 you of it, and I don't think you can convince me of it.

6 Q. I'm only trying to get your position.

7 A. My position is -- you've heard it. The river  
8 portion of the lake should be considered, and I have  
9 arguments to present on it.

10 Did somebody else have a question? I'm  
11 sorry.

12 MR. MCGINNIS: I would like to respond to  
13 Mr. Helm, but I'll get back up after everybody else. If  
14 anybody has anything to say, I'd rather wait for the end.

15 CHAIRMAN EISENHOWER: Does anybody else wish  
16 to speak to this issue? We're actually talking about the  
17 navigability of Roosevelt Lake and not the Salt River.  
18 And I understand Mr. Helm's position, vis-a-vis the river,  
19 and that's, I think, kind of a separate issue from the  
20 lake per se. And we're discussing the lake at this point.

21 MR. MCGINNIS: So much for keeping this a  
22 short item on the agenda. I apologize for that.

23 Two things I guess I want to say. First of  
24 all, Mr. Helm didn't participate -- wasn't here the last  
25 hearing. But he says if they have a deed, then it's not

1 an issue. Well, we do have a deed. The deeds are in the  
2 record. The Federal Reservation Acts are in the record.  
3 The withdrawals are in the record. Dr. Littlefield last  
4 time had a map of the reservation withdrawals that you  
14:08 5 saw. All the deeds -- a big pile of these we filed that  
6 show the United States acquired the title under the dam  
7 before the dam was built.

8           As a matter of fact, in some of those  
9 instances, Mr. Helm's own client, Maricopa County,  
10 acquired the title from the private ownerships and then  
11 conveyed to the United States. So it's clearly -- it was  
12 conveyed to the United States, reserved to the United  
13 States for the purpose of building a reservoir for  
14 irrigation. That's really what it was about.

15           Second of all, with respect to his argument,  
16 Mr. Jennings, about the Defenders of Wildlife case. I  
17 would like to point out two things. First of all, the  
18 statute we're relying on today, 37-1101-11, was in  
19 existence in the Act before the Hull case was passed.  
20 That statute and definitions there were not challenged in  
21 the Hull case. The Arizona Court of Appeals did not --  
22 contrary to what he tried to lead to you believe this  
23 morning, the Arizona Court of Appeals did not knock down  
24 this part of the statute. The portion of the statute that  
15:02 25 that court dealt with was a presumption, if you remember

1 all the list of presumptions in old statute that said if  
2 there are diversions from the river you have to assume  
3 it's non-navigable -- presume it's non-navigable. The  
4 court said you can't do that. The court didn't deal with  
5 this provision. The provision, again, the expectation in  
6 the definition doesn't say you should find that the river  
7 below the lake was not navigable. That's not what this is  
8 about. This provision just says the old river below the  
9 lake is outside your jurisdiction, you shouldn't do  
10 anything with it. If somebody wants to raise that issue  
11 later on or today, they can do it, but they can't do it in  
12 front of you. That's the difference. He wants to talk  
13 about harmonizing the statutes, this does not go to the  
14 Daniel Ball test, this goes to what is the scope of this  
15 commission's jurisdiction, which is very different. It's  
16 not saying it's not navigable, it's just saying you  
17 shouldn't deal with it.

18 I think that's all I have.

19 I guess last thing is, Mr. Helm says that  
20 the man-made waters conveyance system is all about --  
21 definition is all about canals. Well, it's not all about  
22 canals because the definition said -- in the definition  
23 says "including dams, reservoirs and diversion  
24 facilities," so it's not just about canals. It's about  
25 dams, reservoirs, and diversion facilities too. That's



1 37-1101-4C -- 4B. And I'm sure Mr. Jennings can quote it.

2 Thank you.

3 CHAIRMAN EISENHOWER: Is there anybody else  
4 that wishes to speak to the issue of navigability of the  
16:30 5 Roosevelt Lake?

6 With that, we will close that part of our  
7 hearing and we will go on to next item on our agenda. And  
8 that would be -- and I'll have -- just some quick  
9 housekeeping. We're going to adopt the Pima County Small  
17:05 10 and Minor Watercourse Report. We've all had a chance to  
11 see the draft report, and we've given our corrections to  
12 our counsel. And I will ask if there is any questions  
13 about the Pima County Small and Minor Watercourses?

14 Mr. Miller? Ms. Echeverria? Mr. Henness?  
17:31 15 Mr. Brashear, any questions?

16 If not --

17 COMMISSIONER MILLER: I move to motion for  
18 the report.

19 CHAIRMAN EISENHOWER: I have a motion and  
17:37 20 second to accept the report on the Pima County Small and  
21 Minor Watercourses. All those in favor say aye.

22 COMMISSIONER ECHEVERRIA: Aye.

23 COMMISSIONER HENNESS: Aye.

24 COMMISSIONER MILLER: Aye.

17:40 25 COMMISSIONER BRASHEAR: Aye.

1 CHAIRMAN EISENHOWER: Opposed?

2 So be it. We've adopted the Pima County  
3 Small and Minor Watercourse report.

4 Our next issue is -- this is where we get  
:17:59 5 into fun -- hearings on the evidence regarding the  
6 navigability or non-navigability of the Gila River. And  
7 with that, I will ask the State Land Department and their  
8 representatives to come forward and make their  
9 presentation.

:18:25 10 MS. HACHTEL: Good morning, I'm Laurie  
11 Hachtel with the Attorney General's Office representing  
12 the State Land Department. This is usually Cheryl's  
13 hurrah, but I think that she purposely stepped out so that  
14 she didn't have to do it. If I could introduce John  
:18:39 15 Fuller, who is the -- our expert and will do a  
16 presentation on the Gila River.

17 CHAIRMAN EISENHOWER: Thank you, Laurie.

18 MR. FULLER: Mr. Chairman, members of the  
19 commission, my name is John Fuller, the principal of JE  
:18:59 20 Fuller Hydrology and Geomorphology, and I'm here to talk  
21 to you about navigability studies that were done for the  
22 Gila River. And I'm using this PowerPoint presentation.  
23 I also have members with the study team, I'll be  
24 introducing them as they come along. At the end of that,  
:19:18 25 we have an additional speaker to talk about boating in

1 general. I guess the best place to start out is to point  
2 out that the Gila River is a long river. It crosses from  
3 border to border. It crosses the state of Arizona. It  
4 flows in the Colorado River ultimately near Yuma and comes  
5 out at the Gila National Forest in New Mexico; that's the  
6 state line right there. And in reference to our  
7 discussion earlier, is right about here.

8           If we look at the western side, you see  
9 where the major tributary comes into the Salt River, so  
10 this is a map of the western part and it encompasses most  
11 of what -- the lower Gila River report as it was earlier  
12 presented to you. And we also did a -- there was a  
13 separate report done for the upper Gila which extends from  
14 the New Mexico border down to Safford and comes out the  
15 Gila boss. As I mentioned, there were two -- actually two  
16 studies.

17           The first study was done chronologically,  
18 covered the area from the Colorado River confluence up to  
19 Safford, Arizona. That original report was done in 1994  
20 and was done by staff at the State Land Department. Our  
21 firm did a revision of that, attempting to remove language  
22 from the earlier report -- earlier version of the report  
23 that referenced part of the statute that had been struck  
24 down. The original team members with the Land Department  
25 that worked on the history, hydrology, and land use

1 portions of the report. The firm SWCA did the archeology  
2 under contract with Land Department and will be speaking  
3 to that portion of the report. And then Arizona  
4 Geological Survey -- that would be under contract to us,  
5 Gary Huckleberry wrote that report on the geomorphology  
6 section, so that was a separate chapter.

7           The second report is the upper Gila River  
8 navigability study and that covered from Safford up to the  
9 New Mexico border. That original report was done by the  
10 consulting firm George V. Sabol Consulting Engineers. Pat  
11 Quinn was the project manager. That report was revised in  
12 a similar manner, as mentioned earlier, by our firm in  
13 2003. It was done by George V. Sabol, but our firm was  
14 the sole project manager for that particular report. We  
15 worked on the geomorphology, hydrology, and preparation of  
16 the report itself. SWCA did the archaeology, history, and  
17 land-use portion of that report. You see we brought  
18 together the team. Both of these reports cover the five  
19 subject areas that we talked in the past: archaeology,  
20 history, hydrology, geomorphology, land use, and boating.  
21           Picture at the left here is Gila River at  
22 Pima Road bridge near Safford, and this is from a report  
23 recently done by the Bureau of Rec and the title of this  
24 report is "Gila River at Bank Full Conditions." Again,  
25 our reports were orientated at answering two questions:

1 To look at the actual or historical use of the river for  
2 navigation, and also to address the susceptibility to  
3 navigation of the river.

4 At this point, I'm going to ask Dennis  
5 Gilpin to speak to his findings on archaeology and  
6 history.

7 MR. GILPIN: Good morning, Mr. Chairman, and  
8 members of the commission. I'm Dennis Gilpin, I work for  
9 SWCA Environmental Consultants. I'm a historical  
10 archaeologist, and as John said, my role in this project  
11 was I supervised the archaeological study of the lower  
12 Gila, below Safford. And I contributed some information  
13 to the historical study of that reach, although I didn't  
14 actually do any writing on that.

15 I also wrote both the archaeological and  
16 history reports for the upper portion of the Gila above  
17 Safford. The main thing I want to say is that in those  
18 studies we identified nine accounts of boating along the  
19 entire Gila between about 1846 and statehood. One of  
20 those accounts was an account of boating from state line  
21 to state line. Another one was described putting in --  
22 into the San Francisco River at Clifton, floating down to  
23 the Gila, going all the way to Sacaton, then transporting  
24 the boat over land to Phoenix and then taking it on down  
25 to Yuma. There were a couple of accounts that described

1 boating between Phoenix and Yuma. There were a couple of  
2 accounts -- two accounts -- that described boating between  
3 Phoenix -- or Maricopa and Gila Bend, and then there were  
4 three accounts that described boating between  
5 approximately Gila Bend and Yuma.

6           The earliest of those chronologically was  
7 the account in 1846 -- or the winter of 1846/1847 during  
8 the Mexican War in which the Mormon battalion took the  
9 route pretty much following Interstate 10 across southern  
10 Arizona, went to Tucson, journeyed to -- down the Santa  
11 Cruz to the Gila and then, somewhere about 70 miles or so,  
12 they said, above the mouth of the Gila, they took their  
13 wagons and converted a few of their wagons into rafts,  
14 which they then used to transport -- they were trying to  
15 transport some of their supplies down to the mouth of the  
16 Gila. It was not a successful experience. They were  
17 forced to leave their corn and their flour, which they  
18 really needed -- they were forced to leave that behind to  
19 get the wagons -- which the wagons slash rafts, which they  
20 didn't need, and their troops all the way down to the  
21 mouth of the Gila, so that was really an unsuccessful  
22 experience and the commander, Captain Philip St. George  
23 Cooke, in his journal bitterly denounced his subordinate,  
24 Lieutenant George Stoneman, for basically not warning him  
25 that this wouldn't work, and then once he tried it, not

1 being successful.

2           Despite that bad first attempt, the '49ers  
3 apparently did do pretty much the same thing that the  
4 Mormon battalion tried and they apparently did it  
0:27:11 5 successfully. We have a couple of accounts there. One is  
6 an account of a particular group of '49ers who described  
7 doing just that, transporting some of their stuff down the  
8 Gila from about Gila Bend to the mouth.

9           There's also an account in which a '49er  
0:27:35 10 wrote to the New York Tribune and described how -- and  
11 this wasn't real specific -- but he described how, in  
12 general, a number of '49er groups did that, they would  
13 lighten their loads when going across the desert by  
14 transferring some of their goods and equipment onto rafts  
0:27:54 15 or both or whatever and taking them on down.

16           We did have sort of a fairly long gap --  
17 about the 1880s that we start to see what is -- in most  
18 cases, are sort of recreational attempts at boating the  
19 Gila. In 1881, Buckey O'Neill and two others took a boat  
0:28:16 20 that they named the "Yuma or Bust" and they both floated  
21 it and apparently dragged it part way from Phoenix to  
22 Yuma, and it took them about six days.

23           Also in 1881, two men named Cotton and  
24 Bingham announced that they were going to take an 18-foot  
28:36 25 flat-bottom skiff from Phoenix to Yuma. We really don't

1 know whether or not that was successful. In 1895, a guy  
2 named Amos Adams and J.W. Evans, or possibly G.W. Evans,  
3 put it in at Clifton. And this is the one where they put  
4 in at Clifton on the San Francisco, floated down to the  
5 Gila, took the Gila to Sacaton, and then transported it  
6 over land to Phoenix, and then went on down from Phoenix  
7 to Yuma.

8 In 1889, there was a ferry boat that was  
9 being used at the Maricopa Wells Fair, and they attempted  
10 to float that down to Gila Bend to use at that ferry  
11 crossing, but it made it about 40 miles and then it hit a  
12 snag and broke in half. So that was unsuccessful.

13 In 1905, there was a guy named Jack Shibley  
14 who went from Phoenix to Gila Bend and capsized once. And  
15 in 1909, Stanley Sykes is said to have actually gone the  
16 entire river from the New Mexico line all the way to Yuma.

17 Also during the territorial period, ferries  
18 were really common along the Gila. They were pretty  
19 regularly spaced. The lower -- most of them I know was at  
20 Dome, which is near -- just above Yuma. There's the one  
21 at Gila Bend, Maricopa. There's one at Lawrence. The  
22 Mormon ferry, which was at Maricopa Wells, was apparently  
23 established in 1867 and used for 25 years. The big year  
24 for ferries was 1905 when a lot of ferries sprung up along  
25 the river, and of course, that was a major flood year.



1           We also have accounts of people using boats  
2 all along the river and especially up as far as Safford,  
3 which apparently didn't have a ferry, but there were boats  
4 used in flood times to cross rivers. None of these, of  
5 course -- these ferries and boating across the river, they  
6 don't represent boating up or down it, but I think that  
7 they address the issue of susceptibility in terms of  
8 demonstrating that there were times when the Gila was  
9 large enough that one needed -- and so full of water you  
10 had to come up with a way of getting across it and it was  
11 obviously full enough of water that one could use a boat  
12 on it.

13           In all the historical research -- I  
14 mentioned this at the last meaning -- in all the  
15 historical research, you really have to question the  
16 reliability of your data and you have to evaluate --  
17 critically evaluate it. And we have a number of, sort of,  
18 criteria that we use. Including the -- trying to get at  
19 the intent of the author. Whether or not there's  
20 corroboration in some way of what we see. In the  
21 document, we're interested in knowing if the document --  
22 or the description is consistent with what's known  
23 generally about the time and place of which it's written.  
24 And then we sort of look at documents across the full  
25 range to see if they all present a consistent picture. In

1 the case of the accounts that we have of navigation -- of  
2 boating on the Gila, we have mostly newspaper accounts,  
3 but we do have a military report, we have some journals,  
4 we have some books, and we have a transcribed tape -- oral  
5 history tape, so there's a broad range of accounts here.

6 We have seen that there are several  
7 different intents on the parts of authors. I mean,  
8 there's obviously Caption Cooke of the Mormon battalion is  
9 writing in his journal in part for his own purposes, but  
10 that will get turned into a military report, and he's  
11 trying to place blame for his failure on his subordinate.

12 We have examples of '49er writing journals  
13 about their experience. There's probably at least one  
14 account, the Amos Adams and G.W. Evans account, this is  
15 kind of a colorful story, and there may be some stretching  
16 of the truth there. But it doesn't -- it's not enough to  
17 discount the fact that that may have actually occurred.

18 Overall, I think what the picture that we  
19 get from this is, is that -- and this has to do with sort  
20 of internal consistency of reports, the consistency across  
21 the -- whether it's consistent with what we know about  
22 Arizona and the Gila River at the time that these were  
23 written. Consistency, as a body of documents, is that  
24 boating of the Gila was pretty rare, but we also have to  
25 recognize that what we're looking at is a sample, and we

1 really can't determine whether or not it's a 5 percent  
2 sample or 95 percent sample, but it is a sample of what's  
3 out there. We do think it's a substantial-sized sample  
4 because all of these events are still newsworthy, and in  
5 most of the cases on the Gila, where it's reported in the  
6 newspaper, with the exception of the '49er, who are  
7 described in something that is routine, it really does  
8 appear that it's still newsworthy to take a boat down the  
9 Gila throughout most of history.

10 It's also fairly sporadic, it didn't happen  
11 that often. It's mostly recreational. The exceptions to  
12 that are the Mormon battalion, they were boating the river  
13 to boat the river, they were doing it because they wanted  
14 to get someplace. And the same thing is true with the  
15 '49er. They weren't boating just for the fun of it, they  
16 were trying to get someplace. And the ferry boats, they  
17 were actually trying to transport the ferry boats from one  
18 location to another using the river, and of course, it was  
19 unsuccessful. That also brings up -- we have these two  
20 unsuccessful cases, the Mormon battalion case and the  
21 transport of the ferry, but the others met varying degrees  
22 of success --

23 CHAIRMAN EISENHOWER: Excuse me, Mr. Gilpin,  
24 are there any -- Mr. Brashear, do you have any questions  
25 for the witness?

1 Mr. Hennes? Mr. Miller?

2 COMMISSIONER MILLER: Yes.

3 What portions of the year were these  
4 navigation trips planned? Because, you know, you go back  
10:36:21 5 into 1895 and you have tremendous drought. You could walk  
6 across most of these rivers. Then you hit the wet spell.  
7 And I'm sure that had to be in the spring.

8 MR. GILPIN: In some cases, we don't have  
9 dates, like the discussion of the '49ers where the guy  
10:36:42 10 wrote to the New York Tribune. It was sort of "This is  
11 something that generally happens." The Cooke -- the  
12 Mormon battalion, that was over the winter, December to  
13 January, 1846 to 1847. The others, I don't have. John  
14 may have that.

10:37:05 15 MR. FULLER: Mr. Chairman, Mr. Miller, the  
16 dates -- I'll just read off the months and the accounts we  
17 have. December-January time frame, unknown, unknown.  
18 November, February, April, February, February, March,  
19 March, March, April, December, August, February, so  
10:37:24 20 there's a waning toward wintertime use.

21 CHAIRMAN EISENHOWER: Is there any other  
22 questions from the commissioners? Is there anybody -- any  
23 audience who would like to ask Mr. Gilpin any questions?

24 MR. FULLER: Mr. Chairman, would it be  
37:49 25 possible to finish our presentation, because I think some

1 questions may be answered along the way here.

2 CHAIRMAN EISENHOWER: They might have  
3 specific questions at this time for Mr. Gilpin.

4 MR. FULLER: Okay.

:38:02 5 CHAIRMAN EISENHOWER: If you'll come down to  
6 that microphone, state your name and who you represent.

7 MR. HESTAND: May it please the commission,  
8 my name is John Hestand. I am here on behalf of the Gila  
9 River Indian community.

:38:12 10 (Mr. Gilpin is answering questions.)

11 BY MR. HESTAND:

12 Q. Sir, am I correct that as an expert on historic  
13 use of boating, that the American Indians who resided in  
14 the areas of rivers would develop means of using the river  
:38:29 15 as a highway of commerce and transportation?

16 A. With regard to the Gila --

17 Q. No, no, no. Generally. This is a general  
18 question, then we'll go to the Gila River.

19 A. I would say that there are groups that have used  
):38:51 20 the rivers and some that have not.

21 Q. If an Indian tribe lived consistently in the area  
22 of a river and the river was essential to their life and  
23 survival, would they make maximum use of the river,  
24 including using the river as a means of transportation and  
39:17 25 commerce?

1 A. Again, I can think -- I wouldn't make that broad  
2 of a generalization.

3 Q. Okay. Were American Indians capable of  
4 developing devices that could be used as means of  
10:39:33 5 transportation and commerce on rivers?

6 A. Yes, they were.

7 Q. Have you studied whether the Akimel Au-Authm  
8 Indians -- and that's the Pima Indians -- have ever in  
9 their history used boats or other devices along the Gila  
10:39:57 10 River in the area that is now encompassed within the Gila  
11 River Indian Reservation as a highway of commerce or  
12 transportation?

13 A. I actually don't recall that we addressed that  
14 specifically with the -- with the Au-Authm Akimel.

10:40:14 15 Q. Okay. Would you believe that this would be  
16 important in determining whether or not a river was  
17 navigable prior to statehood, as to whether or not the  
18 Indians who had resided in that area for 2,000 years had  
19 ever used the river as a means of transportation or  
10:40:31 20 commerce?

21 A. It is. And we did, I think, describe the use, by  
22 the river, by humans. We did find -- and the reason I  
23 bring this up is we did find descriptions of the river  
24 used, using rafts on the Colorado, for example. We also  
40:56 25 found an example -- or an account describing how the

1 Chiricahua and Apache built bull boats which they used on  
2 just rivers generally, bull boats being hide-covered  
3 frames that they used for crossing rivers. And just in  
4 the course of our research, I don't believe that we found  
10:41:21 5 anything specifically like that for the Tohono.

6 Q. No, not the Tohono.

7 A. I'm sorry, Au-Authm Akimel.

8 Q. Okay. The Tohono Au-Authm are the desert people,  
9 the Akimel Au-Authm are the river people?

10:41:38 10 A. Right.

11 Q. The Pima Indians.

12 Now, you've talked about the fact that when  
13 Indians used boats for means of transportation or commerce  
14 that there are records of them.

10:41:53 15 A. Right.

16 Q. Okay.

17 A. In some cases.

18 Q. Okay. And in the case of the river people of the  
19 Gila River, you have no knowledge of any record of any  
10:42:09 20 nature that at any time over the last 2,000 years these  
21 people -- these river people ever used that stretch of the  
22 river that is currently encompassed within the Gila River  
23 Indian Reservation as a highway of commerce of  
24 transportation. Is that correct?

42:26 25 A. I do not recall that.

1 Q. I'm not asking if you recall. Do you know of any  
2 instance?

3 A. I can't give you an instance in which I know that  
4 that occurred.

0:42:37 5 Q. Okay. I'm going to ask you some hypothetical  
6 questions here. If an Indian tribe such as the river  
7 people engaged in regular commerce with Mexicans, the  
8 Spanish, other Indian tribes, the human tribes, the  
9 Yavapai, the Hopi, if a river were capable of being used  
0:43:14 10 as a highway of commerce and they were moving items such  
11 as food, would you expect, if it was possible to do so,  
12 that they would have done so?

13 A. Not necessarily. There are instances in which --  
14 it may be more efficient for them to carry the material  
0:43:37 15 than it would be to actually use the river for that  
16 purpose.

17 Q. Okay. So you're saying that it's more efficient  
18 for people to carry on their backs something than to use a  
19 river to transport it?

0:43:51 20 A. If that is the case. It may be -- that may be  
21 the case in some instances. And if that is the case, I  
22 would predict, hypothetically, that they probably would  
23 not use the river, they would probably carry it.

24 Q. Okay. So basically what you are saying is if the  
44:10 25 river can't really effectively be used, they'll carry it?



1 A. Right.

2 Q. Very good.

3 If a river were a viable means of  
4 transportation and you had a military/political  
10:44:28 5 confederation made up of the river people and the  
6 Piipaash -- or the Maricopas -- where they lived stretched  
7 out along the river on both sides of the river and were in  
8 a position where they had to have mutual defense against  
9 other Indians who would come in and raid for purposes of  
10:44:51 10 stealing food, horses, women, and children --

11 MR. SPARKS: Especially women.

12 BY MR. HESTAND:

13 Q. Yes, Pima women were extremely attractive.

14 -- and a river were capable of being used as  
10:45:12 15 a highway of transportation, would you expect that army to  
16 use the river as a means of transportation in order,  
17 first, to do commerce within their confederation; second,  
18 to visit relatives within their confederation; and third,  
19 as a means of getting their army from one place to another  
10:45:33 20 to defend against invaders, as a means of transportation?

21 A. Again, I think it would -- it really depends on  
22 efficiency and effectiveness. And if there are more  
23 efficient and effective ways to accomplish that, I think  
24 that they would not use the river. If that is the most  
45:55 25 efficient and effective way of accomplishing those goals,

1 then they probably would.

2 Q. And so, if they never did it in the entire  
3 history of their 2,000 years, would that indicate that it  
4 was never efficient or practical for them to do so?

5 A. I think it would indicate that it was -- that  
6 generally, it was not as effective or efficient to do so.  
7 I think -- and this is just sort of based on cultural law,  
8 if you will -- the way the culture operates is that it  
9 takes a while to recognize the effectiveness and  
10 efficiency of an opportunity. And it only -- so it may  
11 actually -- there may be events or moments in time when it  
12 becomes really effective and efficient for someone to  
13 adopt a new cultural trade or new practice. But unless  
14 it's a fairly long-term thing, they wouldn't take  
15 advantage of it. You have to have a certain length of  
16 time for people to recognize it and then to actually make  
17 the cultural and technological change.

18 Q. Is it your contention --

19 CHAIRMAN EISENHOWER: Excuse me,  
20 Mr. Hestand, we have a long way to go today.

21 MR. HESTAND: One more question and I'll be  
22 done.

23 CHAIRMAN EISENHOWER: Okay. Thank you, sir.

24 BY MR. HESTAND:

25 Q. Is it your contention that the Akimel Au-Authm,

1 the river people, were so unsophisticated that over a  
2 period of 2,000 years living and depending on a river,  
3 living within a mile of the river, at all times, they were  
4 so unsophisticated that they could not figure out to build  
10:47:45 5 a raft?

6 A. No, that is not will -- not my contention.

7 Q. Thank you, sir.

8 CHAIRMAN EISENHOWER: Thank you, Mr. Gilpin.

9 John, please finish.

10:47:55 10 MR. FULLER: This is one reason we preferred  
11 to go through -- some of the questions he was asking would  
12 have been better answered by other people during the  
13 presentation -- as part of our presentation.

14 So Dennis was telling you about the  
10:48:13 15 archaeological history and historical information that was  
16 put together. There's information in the report about the  
17 extensive irrigation use in the Gila River, fish  
18 populations, location of population centers up and down  
19 the river, historical accounts where people did boating as  
10:48:33 20 Dennis mentioned, as well as descriptions of the river and  
21 the water there.

22 We also have -- at the end of our talk,  
23 Barbara Tellman will speak to us, reminding us of some  
24 information she submitted for the small and minor  
:48:45 25 watercourses, types of boats that were in use. With

1 respect to the questions that were just asked, I also  
2 would point out that I don't know that we have full  
3 records of everything that the various Native American  
4 communities did. We do know that there were certain types  
:49:01 5 of boats they used in certain places to a limited extent.  
6 We don't have written records, obviously, so it's harder  
7 to research. There is in our report a reference to some  
8 of the boat materials that would be used that would tend  
9 not to be preserved. Also in Barbara Tellman's report,  
:49:16 10 she starts out with a Tohono Au-Authm creation story which  
11 interestingly involves a canoe. So the concept was not  
12 unknown to them. Be that as it may, let's move on.

13           The next topic we looked at, geomorphology.  
14 Again, because the two different reports by Gary  
:49:37 15 Huckleberry were talking about what we refer as the lower  
16 Gila River, by that I mean everything below Safford. I  
17 worked on the upper Gila River, everything above Safford,  
18 and we'll present that information separately. So I will  
19 ask Gary here to speak. And just so you know, Gary will  
:49:51 20 speak, I will speak and wrap up, and then we'll have  
21 Barbara speak at the end.

22           MR. HUCKLEBERRY: Good morning. My  
23 presentation lasts about 10 minutes.

24           CHAIRMAN EISENHOWER: Would you identify  
50:08 25 yourself for the record?

1 MR. HUCKLEBERRY: Yes. I will begin by  
2 introducing myself. I'm Gary Huckleberry. I am an earth  
3 scientist born and raised here in Phoenix, actually grew  
4 up right down the street from here, this is kind of a  
10:50:22 5 homecoming for me. I have a Ph.D. in geosciences from the  
6 U of A, and I graduated '93. After that, I was professor  
7 at Washington State University for nine years. My wife  
8 and I got tired of the rain. We just recently moved back  
9 to Tucson. And I now am an adjunct faculty member at WSU,  
10:50:44 10 but I make my living as an engineer consultant.

11 So let's begin with -- next slide. There we  
12 go.

13 Project background on this, when I was  
14 working on my dissertation in the early '90s, I was also  
10:50:58 15 working at the Arizona geological survey and mapping basin  
16 deposits, including stream terraces along the middle Gila  
17 River. And in 1993, I completed my doctoral dissertation,  
18 which was an archival stratigraphic study of the middle  
19 Gila River. That is, I both looked at the historic  
10:51:22 20 documents of historic channel changes, and then also put  
21 in some backhoe trenches in the floodplain and dated flood  
22 deposits, prehistoric flood deposits.

23 During the same time, I also worked on a  
24 report, the historical geomorphology of the Gila River as  
51:41 25 part of data collection for determining the navigability

1 of the Gila River at the time of statehood.

2 CHAIRMAN EISENHOWER: Quick comment --  
3 question, what do you define as the "middle Gila"?

4 MR. HUCKLEBERRY: I will show that in the  
51:55 5 next slide, but essentially, to answer your question  
6 immediately, essentially from the Asherthene dam to the  
7 mouth of the Salt.

8 Actually, as John was saying earlier, this  
9 is obviously a very large river. It drains 60,000 square  
52:19 10 miles, approximately, and it has -- you can divide this  
11 river up into different reaches. What I have done here is  
12 divided up into three main reaches, the lower Gila River,  
13 middle Gila River, and upper Gila River. These are the  
14 parts that I studied.

52:33 15 The upper Gila River included a part from  
16 essentially the Gila Box down to the San Carlos Apache  
17 Reservation, another short segment between Winkleman and  
18 Kelden. The middle Gila River where I did my doctoral  
19 dissertation work, essentially, as I said, from the Asher  
52:50 20 Staddon down to the mouth of the Salt, and then the lower  
21 Gila River essentially from the mouth of the Salt down to  
22 the Colorado River. And again, I just want to stress that  
23 being a large river, it's a fairly complex system and each  
24 reach really has its own unique characteristics.

53:06 25 Obviously as you go downstream, geology changes, the

1 topography changes, the catchment area changes, so I like  
2 to think that each of these segments has to be considered  
3 individually.

4           Methods. What I did is -- obviously I  
5 compiled a series of archival records; general land  
6 office, or GLO, maps; as well as photographs, various  
7 historic accounts of the river. Obviously also considered  
8 various principals of geomorphology. That is, how does  
9 the channel change in response to changes of discharge and  
10 sediment load? Also was very interested in looking at  
11 recent river behavior, in particular the 1993 flood,  
12 perhaps as an analog to floods that were occurring around  
13 the time of statehood as well.

14           Took much of this information and plotted  
15 the historical channel positions of 1 to 24,000  
16 topographic maps, and also as a field component to this  
17 where I'd go out and observe and actually did survey, not  
18 only as part of my dissertation but also some additional  
19 work on the middle Gila River and lower part of the upper  
20 Gila River.

21           Before I talk about the individual reaches,  
22 let me begin general observations. These are very dynamic  
23 components of the landscape, rivers in general. And if  
24 you look at rivers in dry lands, in deserts, very much so  
54:38 25 because the discharge is fluctuating so much. As you

1 alluded to earlier, talking about how much water in the  
2 channel can vary depending on the time of year you're  
3 there, so these are rivers with discharges that vary quite  
4 a bit, and the channel has to accommodate those  
10:54:53 5 fluctuations in flow. What we have seen is -- because  
6 floods change the morphology of the channel, that's a  
7 dynamic channel and -- because flood frequency will change  
8 through time in relationship to climate -- climate  
9 variability.

10:55:11 10 So the pattern that we have seen on the Gila  
11 is an increase in large flood frequency and magnitude  
12 tends to favor wide, braided conditions; whereas periods  
13 of few floods, relatively dry conditions, we tend to see a  
14 condition where they tend to be a narrow, single, low-flow  
10:55:28 15 channel. And again, this idea here, the flood regime  
16 changes through time because climate changes through time.  
17 We're looking at a creature that is moving and then our  
18 goal is to try to take a snapshot in February 1912 and see  
19 what position that creature was in that time.

10:55:47 20 Beginning with the upper Gila River, here we  
21 have the good fortune that there was a very comprehensive  
22 study done by Burkham in 1972 as part of a study by the  
23 U.S. Geological Survey in early 1970s of the Yavapai  
24 study. And this -- what he did in his 1972 publication is  
56:08 25 essentially looked at historic documents, GLO plots, and



1 other archival accounts, and basically did a history of  
2 the channel changes up into the '70s. And looking at some  
3 of those historic documents, what we see in 1870s when  
4 some of the first GLO plats were surveyed, the upper Gila  
56:28 5 River in the Safford Valley consisted largely of the  
6 single narrow channel. And certainly this is corroborated  
7 by various historical accounts by some of the first  
8 settlers coming into the area.

9           Then, as you are probably already familiar,  
56:46 10 there were a series of large floods around the turn of the  
11 century -- particularly 1905, 1906, and 1916 -- on the  
12 upper Gila River seem to result in some considerable  
13 channel changes. And it's pretty well documented by this  
14 map here which was constructed by Olmstead in 1919 which  
57:02 15 shows essentially the channel as he said it was in 1903,  
16 which is the single sort of ribbon coming through here.  
17 And then the channel as it was in 1916, which is this more  
18 hash wider section next to it. So the large floods  
19 obviously had an impact on the channel. The flood channel  
57:22 20 particularly was widened and my estimate is in 1912 we had  
21 pretty much a wide, braided flood channel. The middle  
22 Gila River, here the -- really the historical channel  
23 changes had not been documented systemically until I did  
24 my doctoral work. And again, much like Burkham, I turned  
57:49 25 to early GLO surveys. And some of the surveys of this

1 reach in the river go back to 1860s as well as the 1870s;  
2 pretty much indicate a single deep channel, and this is  
3 corroborated by a lot of historic accounts because this  
4 was a thoroughfare for Anglo-Europeans working their way  
10:58:00 5 out west as early as the late 1840s. So a lot of the  
6 accounts seem to support the maps that were drawn later  
7 that a single channel was pretty common at that time.

8           Now, subsequent surveys occur after 1905 and  
9 1906 when the river experienced tremendous flooding, and,  
10:58:24 10 of course, in 1916. This photograph on the right is --  
11 was taken in 1915 near Sacaton. And which shows a pretty  
12 wide, braided flood channel. I love this picture because  
13 I'm interested in the impact of floods on society both in  
14 past and present and these are some Akimel Au-Authm  
10:58:46 15 reconstructing a head gauge on the Santan canal that was  
16 blown by the floods in channel cutting. But nonetheless,  
17 certainly around the time of the statehood, I estimate  
18 that the middle Gila River largely had a wide, debraided  
19 flood channel at that time.

10:58:58 20           Moving down to the lower Gila River, again,  
21 we have a series GLO surveys, they extend all the way from  
22 the 1860s up to 1890s. Most of those seem to indicate a  
23 low-flow channel that dominates a single channel, much  
24 like this low-flow channel here taken in '92 near Wellton  
: 59:22 25 downstream from Painted Rock Dam, which later was

1 subsequently overwhelmed by the flood down below in '93.

2           There are some conflicting historic accounts  
3 though. Some indicate a wide, shallow lower Gila River  
4 where others suggest a deep, narrow single channel and it  
59:42 5 may be that people are describing different reaches --  
6 maybe the bedrock reach was more than a single channel,  
7 the alluvial reach was wide. They might be describing a  
8 compound channel, where you have a low-flow channel that's  
9 narrow and deep and set within a much broader, braided  
59:59 10 channel system that someone else is describing. So I'm  
11 not really sure how to accommodate those conflicting  
12 accounts.

13           We do know, though, that unlike the middle  
14 and the upper Gila River, there is probably a series of  
00:07 15 channel changes occurring in 1891, and that was a very  
16 large flood, particularly on the Salt; much of that water  
17 coming out of the Salt and escaping along the bank and  
18 widening it at that time, further maintained by the floods  
19 of 1905, 1906, and 1916. So my best estimate is that --  
00:29 20 at least certainly for the alluvial reaches of the lower  
21 Gila River, we have a wide, braided flood channel in 1912.

22           So my conclusions: One, obviously again,  
23 the Gila River has a dynamic floodplain that changes in  
24 response to changing flood regime. The period 1905 to  
00:50 25 1916, a 12-year period that includes, obviously, the

1 Arizona statehood, that was the wettest period in at least  
2 three centuries based on tree branch studies that were  
3 done, particularly on the upper Gila River watershed. So  
4 we had a lot of water going through the system during that  
11:01:09 5 period. Increased large flood frequency leads to  
6 generally wide, braided flood channel along most of the  
7 alluvial reaches of this channel. In between those  
8 floods, when water is -- there's less water going through  
9 there, we do have a low-flow contained within one or more  
11:01:28 10 narrower channels, called the low-flow channel. And I'll  
11 conclude with that.

12 CHAIRMAN EISENHOWER: Okay. I'll let John  
13 finish up then we'll have questions for everybody.

14 MR. FULLER: I'll just take over, and I'll  
11:01:43 15 try to be very brief here and wrap up quickly. I know  
16 that it's lining up behind me.

17 The geomorphology of the upper part, two  
18 sections moving upstream from Safford, that's called the  
19 Gila Box, a relatively deep canyon confined by bedrock;  
11:01:57 20 river remains perennial in that reach. Then upstream of  
21 that, we cross what used to be Route 66, it is now 191, up  
22 through the Duncan Valley, it begins an alluvial stream, a  
23 much broader valley. It's naturally perennial through  
24 that channel and there it's just more sinuous.

02:18 25 The Bureau of Reclamation study they looked

1 at that was mentioned earlier describes that meandering  
2 slightly different up there, similar more to what's  
3 between Safford and San Carlos. So in summary, with  
4 respect to the geomorphology, we do find great variation  
02:33 5 over the entire river. It's important that when you're  
6 asking questions and trying to delve through some -- work  
7 through some of this information, that you think about  
8 what reach are you talking about. Is it a canyon reach?  
9 There are several of those. Is it one of the alluvial  
02:47 10 valleys? So you have variation in geology and the channel  
11 pattern throughout.

12                   And we also find that there is a flood  
13 channel, which has certain characteristics, and a low-flow  
14 channel within that, which also has characteristics.  
02:58 15 Typically we boat on the low-flow channel for the flood  
16 channel has to be broader and greater than during the  
17 floods. It's not the smartest time to be on the river.  
18 We do find that flood impacts are significant to this  
19 river. It does change the shape and the location of the  
03:14 20 low-flow channel as well as flood channel. And also we  
21 found that humans have significantly impacted in changing  
22 the natural character from what it was to what it is now.  
23 And that would be building the levees, encroaching on the  
24 flood plain for agricultural use, bridges, diversion of  
03:29 25 the water, those sorts of things.

1 Speaking of the water, the next section  
2 would be the hydrology, and we present quite a bit of  
3 information in the report. For the sake of brevity right  
4 now, I'm going skip through these slides and let you know  
11:03:49 5 the information that is in there. I will say to you that  
6 the entire river was perennial prior to taking the water  
7 out artificially.

8 The river, once you get past the box, turns  
9 into exotic rivers; that means its source of flow is much  
11:03:57 10 further away, not derived from adjacent to the river  
11 primarily from the upper watershed. The Nile is the  
12 classic example of an exotic river. So flowing through  
13 the desert, we have this source that's derived from the  
14 mountain up above. We have ranges in flows, and we slice  
11:04:19 15 and dice that different ways. We gathered our information  
16 primarily from USGS data, also from irrigation records,  
17 mouths that they were diverting, also from historical  
18 accounts. So we took whatever sources we could find in  
19 the course of our extensive data collection effort. There  
11:04:35 20 are a number of gauges that were present at the time of  
21 statehood. Those flow rates are recorded in the Land  
22 Department's report in the hydrology chapter for both  
23 reaches of the river, staying back before statehood --  
24 some gauges obviously started after statehood -- at the  
04:56 25 period of record that is in there in the report, and we

1 also see that the average annual flow is not  
2 insignificant. Several hundred range.

3           Again, as we have spoken before, this a  
4 desert river so floods tend to skew the averages above the  
05:13 5 mean, so we also record the median information. We also  
6 report average minimums, average maximums. We report a  
7 wide variety of data so that the commission can see the  
8 range of data. And again, these are standard  
9 methodologies that are used that are normally relied on in  
05:30 10 the course of hydrology studies.

11           Let's just skip past these. Archeological  
12 data -- we also did rating curves -- determine what would  
13 the depths be that would go with those flow rates. From  
14 these data, you can determine where the river is 90,  
05:50 15 99 percent of the time. What range would you normally see  
16 it excluding what? You see that 99 percent of the time  
17 the flow is within reasonable ranges.

18           I also have chapters in there regarding  
19 historical accounts of boating, which Dennis talked about  
06:06 20 in some detail. One note on that we didn't mention was  
21 that there was some steamboat use at the very lower end of  
22 the Gila up to about where Dome is today. So there was  
23 some larger boats in very early history like that on the  
24 Colorado. The more we took the water out, the less  
06:22 25 boatable it was for that type of boat. And apparently,

1 they were coming upriver to get wood, and there are  
2 several reaches where modern recreation and boating occur  
3 right now.

4           The Gila Box is a popular boating area that  
1:06:36 5 is managed by the Bureau of Land Management. There's a  
6 reach upstream of Winkleman, about a 16-mile reach, where  
7 people canoe when water is being released from San Carlos  
8 and Coolidge Dam. And then there are some people that  
9 like to boat in which is basically affluent and irrigation  
1:06:50 10 water exchanges between the Salt River confluence with  
11 Granite Reef Dam. Those are the information that  
12 summarizes briefly, not as brief as I hoped, but of what  
13 we presented, and I would be happy to answer questions.  
14 Meanwhile, why don't we answer questions on this part,  
1:07:07 15 then we have Barbara speak?

16           CHAIRMAN EISENHOWER: One other thing, if  
17 you would manage to get a copy of your PowerPoint  
18 presentation to Mr. Mehnert, I would appreciate it.

19           MR. FULLER: I will do that.

1:07:21 20           CHAIRMAN EISENHOWER: There might be some  
21 questions from Mr. Huckleberry and also -- Mr. Miller, do  
22 you have any questions?

23           MR. MILLER: No, I don't.

24           (Mr. Fuller is answering questions.)

07:31 25 BY COMMISSIONER BRASHEAR:



1 Q. One, the earlier reiteration of this dance with  
2 the yellow brick road is that when we -- on the Gila, when  
3 we got close to the Salt, there was area in there that  
4 dealt with backwater that was -- wasn't really Gila River  
11:07:51 5 water, it was Colorado water, and I think we had a  
6 technical determination of where that was. Is that  
7 calculated in what you've told us? Is that still there?  
8 Because you mentioned the boating going at the dam there,  
9 and I just wondered if you --

11:08:09 10 A. As I was saying, I was not the author of that  
11 report. That's a separate report that was submitted to  
12 the commission specifically for the backwater area. The  
13 community of Dome, which is where it was thought that  
14 steamboating went up to -- in very early Anglo history --  
11:08:23 15 is upstream of the backwater.

16 Q. How far from --

17 A. Dome is -- you know, I don't specifically, but I  
18 believe it's in the range of 18 miles, something like  
19 that.

11:08:37 20 CHAIRMAN EISENHOWER: Mr. Jennings, do you  
21 have any questions?

22 BY COMMISSION COUNSEL JENNINGS:

23 Q. This up to Dome, was this prestatehood?

24 A. Yes.

08:43 25 Q. Or approximately at statehood?

1 A. My understanding is it was prestatehood.

2 Q. So what about at statehood, 1912 itself? Was  
3 there actual water that would allow steamboats to go up  
4 the Gila River in it or are we talking, as Mr. Brashear  
09:02 5 said, the backwater from the Colorado?

6 A. By the time of statehood, I don't believe there  
7 were any steamboats in operation at all on the Gila River.  
8 And the exact reason of that probably has to do with the  
9 lack of flow. In the month of February at the Dome gauge  
09:23 10 in 1912 it says "No flow is recorded," and the same for  
11 the previous and the next month. And that's a condition  
12 that is similar today. But by 1912, of course, we had --  
13 Roosevelt was filling. So they were only releasing the  
14 water that they had to. And there were plenty of  
09:43 15 irrigation diversions up and down the river that were  
16 depleting the water supply.

17 Q. If you can answer this, would the data in the  
18 report submitted to us regarding the back flow of the  
19 Colorado going up the Gila, would that still be valid  
09:57 20 information?

21 A. Yes.

22 CHAIRMAN EISENHOWER: Are there any  
23 questions for Mr. Fuller from the audience?

24 MS. GOLDBERG: I'm Rebecca Goldberg on  
10:16 25 behalf of the Salt River Project. I have some questions

1 for Mr. Fuller and for Mr. Gilpin on the archeology and  
2 historical sections of their two reports.

3 (Mr. Gilpin is answering questions.)

4 BY MS. GOLDBERG:

11:10:27 5 Q. I guess the first question -- I'm not sure  
6 whether it would be for you or Mr. Gilpin -- just in  
7 general, in the archeological sections of the two reports,  
8 there was no evidence of any boating on the Gila River  
9 specifically -- I know there were some questions in  
11:10:44 10 general prior -- even though many of these prehistoric  
11 populations lived near the river. Is that correct?

12 A. That's correct. I do want to reemphasize the  
13 adage that absence of evidence is not evidence of absence.

14 Q. Thank you.

11:11:12 15 Turning now about some of the sections on  
16 your history of the Gila River. And I think we covered  
17 this a little bit earlier, but the evidence about the  
18 Indian tribes that were located near the Gila River, there  
19 was no evidence in the report that any of these  
11:11:28 20 populations used the river for boating. Isn't that true?

21 A. As I mentioned before, there is the account of  
22 bull boats being used by the Apaches, but there are no  
23 Apaches, although it wasn't specific to the Gila and  
24 there's also the account of the river -- humans using  
11:53 25 rafts to cross, specifically, the Colorado, but it's the

1 same tribe as the Maricopa. It would be both.

2 Q. But there are no accounts on the Gila?

3 A. Oh, yeah. There's also the -- and John reminded  
4 me -- there is reference in the Coronado expedition to the  
12:21 5 Rio de -- River of Rafts, and there's a couple of -- one  
6 interpretation of where that name came from is that it  
7 referred to Native Americans using rafts, but the other is  
8 actually used by the Coronado expedition. The Coronado  
9 expedition, in fact, was required to construct rafts and  
12:38 10 to get across one of the rivers between the Sonoran Desert  
11 and the highlands, which could have been the Salt River,  
12 we don't know.

13 Q. But it is not clear, based on your evidence that  
14 you looked at, that it was the Gila River. Is that  
12:55 15 correct?

16 A. That's correct.

17 Q. And regardless of which river the Coronado  
18 expedition was referencing when they used that term River  
19 of Rafts, they used that to cross the river, correct?

13:08 20 A. That's correct.

21 Q. Not to travel up and down?

22 In your report, you also talk about, along  
23 with the Coronado expedition, some other explorers that  
24 came into the area in the mid-1500s, I believe -- later  
13:23 25 you talk about Spanish expeditions, Spanish explorers, Don

1 Juan Bautista de Anza -- and that you talk about his  
2 traveling along the Gila. That is, as far as based on  
3 your evidence, that trip was over land. Is that correct?

4 A. That's correct.

11:13:41 5 Q. The same question with a later Spanish explorer,  
6 Juan de Yarte -- and I apologize, I'm sure I'm butchering  
7 his name here.

8 A. That's okay.

9 Q. -- reported that he also explored the lower Gila  
11:13:53 10 River and there was no evidence that that was on the  
11 river, that it was over land?

12 A. That's correct, it was over land.

13 Q. Later in 1800, you talk about trappers that came  
14 to the Gila River, and isn't it true that there's no  
11:14:06 15 evidence that any of these trappers ever boated the Gila  
16 River?

17 A. That's correct. And I think you mentioned before  
18 there is evidence that they boated the Colorado.

19 Q. But there is no evidence that they used those  
11:14:18 20 boats or canoes?

21 A. That's correct.

22 Q. Later you also talk about, in 1800, the army  
23 explorations that came through the area, surveying the  
24 area. Isn't it true that there is no evidence that they  
14:37 25 traveled on the Gila River, most of their travel was over

1 land?

2 A. The exception was the Mormon battalion.

3 Q. Sure. And I hadn't mentioned that earlier. And  
4 you said that that was an unsuccessful trip and that they  
14:52 5 had to leave provisions on the side of the road. Is that  
6 correct?

7 A. On the side of the river.

8 Q. On the side of the river, excuse me.

9 A. That's correct.

15:00 10 Q. I wanted to ask you some questions about some of  
11 the historical boating accounts specifically. And I have  
12 just a chart of some of them, and I wanted to offer a copy  
13 of this chart into evidence to the commission.

14 You earlier had mentioned that there were  
15:35 15 nine accounts. I counted some more, and maybe one or two  
16 that you had mentioned I didn't capture, but I wanted to  
17 ask you some questions about that.

18 First one, number 1, we already talked  
19 about. You mentioned that trip was unsuccessful.

15:50 20 The next accounts I wanted to talk about are  
21 numbers 2 and 3, what you called the '49er accounts. The  
22 first one, Edward Howard party, it's in your report that  
23 this happened in 1849, but isn't it true that you don't  
24 have information on what time of year this was taken?

16:11 25 A. That's correct.

1 Q. Same question for the next boating account,  
2 number 3, where there was the letter to the New York Daily  
3 Tribune about the '49er account. Again, we don't know  
4 what time of year this was taken?

11:16:23 5 A. That's correct.

6 Q. There were a number of ferries operating on the  
7 Gila River, as you mentioned earlier, and I just wanted to  
8 clarify that there is no information in the record that  
9 any of these ferries were used to cross the river other  
10 than, as you mentioned, the 1889 trip with the ferry?

11 A. I suppose you misspoke. You said that there was  
12 no evidence that they were used to cross the river.

13 Q. They were only used to --

14 A. They were used only to cross the river.

11:16:52 15 Q. I apologize.

16 A. Except for the one event where they were trying  
17 to transport the ferry boat itself down the river and was  
18 unsuccessful.

19 Q. Wouldn't you agree that essentially these ferries  
11:17:03 20 operated similar to how a bridge would if there were a  
21 bridge there?

22 A. Yes, a conveyance across the river.

23 MR. FULLER: Except that they were on water.

24 MS. GOLDBERG: Right.

17:18 25 BY MS. GOLDBERG:

1 Q. Would you agree that there is no evidence that  
2 what time of year these ferries operated on the river or  
3 what percentage of the year -- portion the year they  
4 operated?

11:17:26 5 A. There is evidence on that. I don't know that  
6 it's in our report. But there's -- there are several  
7 accounts of -- newspaper accounts that described the  
8 operation of ferries. And one go can through and -- in  
9 the report, I'm sure that there are newspaper accounts,  
11:17:53 10 and they will list the date of the newspaper account that  
11 describes the operation of the particular ferry.

12 Q. But you don't know what percentage of the year  
13 these ferries operated, whether they are -- were  
14 year-round operations or certain seasons?

11:18:08 15 A. Well, I don't know that answer.

16 MR. FULLER: I have a question. Do you have  
17 information regarding what season of the year they were  
18 used?

19 MS. GOLDBERG: I don't. I'm just asking if  
11:18:17 20 you did. I'm just basing it on your information in the  
21 report.

22 MR. FULLER: We're here to find facts. I'm  
23 curious.

24 BY MS. GOLDBERG:

18:25 25 Q. The next boating incident that you mentioned and



1 I want to ask you a couple of questions about was number  
2 5 -- excuse me, number 6, about Buckey O'Neill who  
3 departed from Phoenix in a boat called "Yuma or Bust."  
4 Isn't it true that in one of your newspaper articles in  
5 the report, the editor of the paper said that they pushed  
6 the boat a great portion of the trip?

7 A. That's correct.

8 Q. And then they were wading in the water?

9 A. That's correct also.

10 Q. And they didn't actually boat on the boat their  
11 whole trip from Phoenix to Yuma. Isn't that correct?

12 A. That's correct.

13 MR. FULLER: Actually, in that account, it  
14 does describe them boating to a certain point and then  
15 they were seen happy in the mud or something. It also  
16 mentions the boat itself was a 20-by-5-foot flatboat that  
17 they had built. It also mentions that they consumed their  
18 entire liquor supply, so I'm not sure their boating skills  
19 were really good.

20 MS. GOLDBERG: I must have missed the liquor  
21 portion of that report.

22 BY MS. GOLDBERG:

23 Q. My next question is about the 5th boating  
24 account, also in 1881 -- February of 1881, the two men  
25 who, in the article, they were to take off the next day,

1 and I believe you had said that we don't know for sure if  
2 trip actually happened. You don't have any further  
3 evidence?

4 A. That's correct.

19:53 5 Q. And a couple of questions about the trip that  
6 G.W. Evans or J.W. Evans and his companion Adams took down  
7 the San Francisco River down to the Gila. It appears to  
8 be that one of the reports is a letter to editor by Evans.  
9 Isn't that correct? That he was reporting on the trip  
20:18 10 himself?

11 MR. FULLER: I think so, yes.

12 MS. GOLDBERG: And they discovered there  
13 were a number of problems on this trip. Isn't that true?

14 MR. FULLER: They ran into some trouble when  
20:27 15 they got to below what's now San Carlos, went through the  
16 canyon there. They actually, I think, broke the front  
17 half of their boat off and had to line the boat through.

18 MS. GOLDBERG: And what I read, in addition  
19 to that, they hit a number of serious rapids, they fell  
20:43 20 out of the boat, and they had other sorts of problems  
21 along that stretch of the river?

22 MR. FULLER: Interestingly, they took  
23 90 days off, they had 90 days to make this trip. They had  
24 this trip and broke the boat up in this canyon reach where  
20:57 25 the rapids come in. Pretty nasty. Others have boated

1 through that reach and not had that problem. So it would  
2 probably be at relatively high flow rate is what I would  
3 guess, but I don't know. It's not a factual part. But we  
4 do know that broke their boat and then repaired it --  
11:21:12 5 either repaired it and hauled it to Phoenix or they hauled  
6 it to Phoenix and repaired and got back in their boat and  
7 continued on their trip, and said, "It was a once in a  
8 lifetime and that was enough."

9 MS. GOLDBERG: But they did haul their boat  
11:21:25 10 over land, they didn't boat the entire way?

11 MR. FULLER: They didn't boat that stretch  
12 from probably about eight measures down to the confluence  
13 of the Salt.

14 MS. GOLDBERG: Okay.

11:21:33 15 BY MS. GOLDBERG:

16 Q. My next question is about a boating event that  
17 you, I believe, did not mention, in March of 1905, from  
18 your report, in where you talk about, in relation to some  
19 of the ferries that operate on the river, there was one  
11:21:56 20 boat that failed to cross the river? I just wanted to  
21 confirm.

22 A. That's correct. And the reason I -- in my  
23 summary of the nine accounts, there I was excluding  
24 ferries from that series of accounts and sort of  
22:08 25 summarizing it the best I can for that portion.

1 Q. I just included them all, so that's why we have  
2 different numbers.

3 MR. FULLER: Are you referring to the  
4 hand-driven side propeller boat?

22:22 5 MS. GOLDBERG: That's correct. That was not  
6 actually boating a boat with a sail.

7 MR. FULLER: Unable to navigate the river,  
8 so.

9 MS. GOLDBERG: My next question there is  
22:35 10 another event in 1905, there was a boat that was intended  
11 to be launched in the river, but again, that was an  
12 unsuccessful attempt. Isn't that correct?

13 MR. FULLER: Which account?

14 MR. GILPIN: Number 11, March 1905, I  
22:43 15 assume?

16 MS. GOLDBERG: Actually, I'm referring to  
17 the next one, December 1905.

18 MR. FULLER: Yes.

19 BY MS. GOLDBERG:

22:55 20 Q. And my last question about the boating events in  
21 your report is about Stanley Sykes, who is reported to  
22 have canoed the entire length of the Gila River. Isn't it  
23 true that in a later biographical sketch -- biography of  
24 Mr. Sykes, that this boating incident is not mentioned at  
23:17 25 all?

1 A. That's correct. There is an article -- a  
2 biographical article on Stanley in the Journal of Arizona  
3 History that did not mention this particular event.

4 Q. And isn't that true that we don't know what time  
11:23:36 5 of the year this trip occurred?

6 A. That's correct.

7 Q. And a few other questions on the history portions  
8 not related to the specific boating events. You talk  
9 about a few instances when there were wire ropes stretched  
11:23:56 10 across the river and a cage apparatus to stretch across  
11 the river, and this is evidence of a cage not floating on  
12 the river, but in fact, above the river to bypass it.

13 MR. FULLER: That's correct. There was one  
14 case of the cage, the Jack Henness one.

11:24:16 15 MS. GOLDBERG: Yeah, Jack Henness one, and  
16 then there's also a cage -- in your lower Gila report, you  
17 talk about another wire rope and cage stretched across the  
18 river.

19 MR. FULLER: The one with Jack Henness, as I  
11:24:26 20 read -- it was a wire -- he says he was looking down at  
21 the boats that were carrying things across. So it sounded  
22 like there was a cage and a boat in that case. And there  
23 were other cases where there were footbridges and whatnot  
24 for use in crossing the river. I would imagine there are  
11:24:42 25 probably wires in those areas too.

1 MS. GOLDBERG: But this particular account  
2 was over the river?

3 MR. FULLER: I think it was both. That was  
4 my recollection. Henness was up above looking down at the  
24:55 5 boat. So maybe we go back and look at the exact language.

6 MR. GILPIN: That is my interpretation of it  
7 as well, is that there was a ferry boat running back and  
8 forth across, but in addition to the ferry, there was a  
9 wire with a cage that was also -- so there are two ways of  
25:14 10 getting across the river.

11 MS. GOLDBERG: But these are some of the  
12 other ferries that we've already talked about in going  
13 across the river?

14 MR. GILPIN: Right.

25:21 15 MS. GOLDBERG: I just have a couple other  
16 questions. In your upper Gila River report -- this is  
17 more for you, Mr. Fuller -- in your upper Gila report you  
18 had a separate section on boating and I just wanted to  
19 confirm that you mentioned that circle boating on the  
25:46 20 river includes the use of boats, canoes, and rafts. And I  
21 just wanted to confirm that those are only related to the  
22 historical accounts that we were talking about this  
23 morning. You make, I believe, a general statement and I  
24 just wanted to confirm that you're only referring to the  
26:01 25 boating accounts.

1 MR. FULLER: I'm not sure I understand the  
2 question. Are you asking me if the historical accounts  
3 are limited to low-draft boats?

4 MS. GOLDBERG: Sure.

11:26:06

5 MR. FULLER: Yes.

6 MS. GOLDBERG: And that is, I believe, all  
7 the questions --

8 MR. FULLER: With the exception of  
9 steamboats down at the bottom.

11:26:17

10 MS. GOLDBERG: Actually, I do have one  
11 question about that. There is the evidence of steamboats,  
12 which I must have missed, I guess, in your report -- those  
13 operated on the very lower portions of the Gila at the  
14 confluence of the Colorado. Is that correct?

11:26:33

15 MR. FULLER: Yes, that's correct.

16 MS. GOLDBERG: That's all my questions.

17 CHAIRMAN EISENHOWER: Is there somebody else  
18 who wishes to question the witness?

11:26:54

19 MR. HESTAND: With the commission's  
20 permission, I have a couple questions for Mr. Fuller and a  
21 couple of -- for -- and I apologize, I did not catch the  
22 gentleman's name?

23 MR. HUCKLEBERRY: Huckleberry.

24 MR. HESTAND: Huckleberry. Thank you, sir.

27:02

25 (Mr. Fuller is answering questions.)

1 BY MR. HESTAND:

2 Q. Mr. Fuller, since you're here, I'll deal with you  
3 first. Now, I didn't mean that to sound quite as ominous  
4 as it did.

27:15 5 Now, in support of your theory that the Gila  
6 River was navigable, you talked about the --

7 A. Excuse me, sir. If you read the report, you'll  
8 see that there is no conclusion as to fact-finding there.

9 Q. Very good. I stand corrected.

27:33 10 You mentioned the Tohono creation story  
11 involving a canoe; are you aware of the fact that the  
12 Tohono order are a completely separate tribe that never  
13 lived anywhere near the Gila River?

14 A. Yes.

27:49 15 Q. Okay. And are you aware that the Akimel  
16 Au-Authm -- or river people's creation story involved a  
17 massive uncontrolled flood in which the two original  
18 people were swept away uncontrolled in a ball-like thing  
19 and later then deposited in the area that they currently  
28:13 20 reside in? Did the ball float for commercial purposes?

21 A. No, sir, it did not.

22 Q. And am I correct that American Indians maintained  
23 a detailed and comprehensive oral history, knowledge of  
24 their own existence, their own practices, their own  
28:38 25 culture, and these oral histories are every bit as much



1 worthy of respect as your own American history?

2 A. I'm not an expert on Indian records.

3 Q. Thank you.

4 CHAIRMAN EISENHOWER: Mr. Helm, I believe  
11:28:53 5 you had some questions.

6 MR. HELM: Thank you. Just a few.

7 (Mr. Gilpin is answering questions.)

8 BY MR. HELM:

9 Q. First couple questions for Mr. Gilpin.

11:29:07 10 You indicated the Mormon battalion trip was  
11 not successful and it wasn't quite clear to me. They  
12 dumped the flour out, but did they get there with the  
13 wagons?

14 A. They did get there with wagons.

11:29:22 15 Q. Okay. So they floated down the river in the  
16 wagons, they just had to lighten the load a ways?

17 A. Right. And Captain Cooke flat out stated that he  
18 considered it an unsuccessful --

19 Q. Sure. But all I'm saying is the wagons got  
11:29:37 20 there?

21 A. The wagons got there.

22 Q. On the river?

23 A. Yes.

24 Q. Do you have any descriptions of the size of those  
29:42 25 wagons?

1 A. I don't. They must be mentioned somewhere, but I  
2 don't know where that is.

3 Q. Do you -- just from your general knowledge of the  
4 kinds of wagons that would have been used in that time of  
:29:58 5 history, do you have any idea of how big they would be,  
6 for example, how long, how wide?

7 A. I can't give you that information right now. I'm  
8 sure that the information is available, but I don't have  
9 that.

:30:10 10 Q. Is it fair to assume that when they went to float  
11 those wagons, they took the wheels off of them?

12 A. It's likely stated.

13 Q. They did.

14 Okay. Do you have any idea how deep a draft  
:30:24 15 those wagons would have drafted fully loaded?

16 A. I don't.

17 Q. Or, for that matter, how deep a draft would they  
18 have pulled empty?

19 A. No, I don't know that.

:30:37 20 Q. And I take it on the wagons that did get to the  
21 mouth of the Gila, they were able to transport the people  
22 that were riding in them?

23 A. That's correct. Well --

24 Q. They didn't just get there empty?

30:57 25 A. There might have been people on either side

1 dragging them.

2 Q. Somebody probably rode it.

3 A. Somebody else probably did ride in them.

4 Q. Okay. Now, you talked about the use of ferry

:31:10 5 boats to some degree, and you state they were used to take  
6 people across the river. Do you know the size,

7 dimensions, that sort of thing, of the ferry boats that  
8 were in use?

9 A. We do have some dimensions on some of the ferry  
:31:26 10 boats.

11 Q. Can you tell the commission what they were here  
12 now, or is that something that just is in the report?

13 A. That is in the report.

14 Q. Okay. Do you recall the draft of those ferry  
:31:36 15 boats?

16 A. No.

17 Q. Okay. Would it be fair to say that while those  
18 ferry boats didn't go up and down the river, by the very  
19 fact that they crossed the river, there was enough water  
:31:49 20 present in the location where the ferry boat was located  
21 to float your boat, so to speak?

22 A. Absolutely.

23 Q. And the river could be used in that area for a  
24 boat?

31:59 25 A. Yes.

1 By the way, you're asking about the draft of  
2 some of those. I do recall one account saying that the  
3 ferry boat was large enough to haul a six-horse team.

4 Q. How big would a six-horse team be?

11:32:14 5 A. Well, six horses.

6 Q. It's fairly large, in other words?

7 A. Yes. And that was --

8 Q. And I'm not sure whether John talked about this  
9 or you do, but in your cross-examination there was some

11:32:35 10 discussion that the boats were all low-draft boats?

11 A. Yes.

12 Q. I.e., meaning they weren't 25 feet deep into the  
13 water, correct?

14 A. That's correct.

11:32:44 15 (Mr. Fuller is answering questions.)

16 BY MR. HELM:

17 Q. Do you have a sense of the size of those  
18 low-draft boats? I mean, I have seen records that you can  
19 take a ferry boat in a foot and a half, does that qualify  
11:32:57 20 as a low-draft boat?

21 A. Yes.

22 Q. Like a paddle wheeler? There are some accounts  
23 of paddle wheelers on the Colorado that only drew a foot  
24 and a half?

33:10 25 A. I'm unaware of that. That sounds reasonable.

1 Q. What I am driving at is, that kind of draft would  
2 be considered a low-draft boat?

3 A. When I was -- when I answered the question, what  
4 I had in mind was canoes and skiffs and whatnot, but I do  
11:33:28 5 remember reading some things about the Colorado River  
6 boats where they had specially modified the river boats so  
7 that they would be lower draft.

8 Q. Do you know how much draft the river boat that  
9 ran up to Dome had?

11:33:39 10 A. I don't.

11 Q. But that was a Colorado River boat, wasn't it?  
12 That was also used on the Colorado?

13 A. I don't know.

14 Q. I have some questions. And I'm not sure -- maybe  
11:33:58 15 I could try and group them for both you and Mr.  
16 Huckleberry, if I could, John?

17 A. In terms of size of the boat -- you just asked  
18 that question -- I don't know that there's answers to that  
19 in the report. There are dimensions for where we know it,  
11:34:11 20 we reported it.

21 Q. Okay. I wasn't sure, did your two guys both do  
22 the geomorphology and hydrology? I got kind of confused.

23 A. It is confusing. On the lower -- the low Safford  
24 report, Cary worked on the geology and the geomorphology.  
34:35 25 The hydrology was done by the Land Department staff.

1 Q. Okay.

2 A. Upstream of Safford, I did that. I did the  
3 hydrology and the geomorphology.

4 (Mr. Huckleberry is answering questions.)

5 BY MR. HELM:

6 Q. Let me see if I can craft the question that will  
7 encompass it all. In the studies that you did on those  
8 things, were those studies that looked at what was  
9 actually occurring on the ground at the time you were  
10 studying subject to man's invasions, the dams he built,  
11 the diversion structures he built?

12 A. I'm not sure I understand your question. When I  
13 was out there through the early 1990s doing my fieldwork?

14 Q. I made a note of all the ones you did, but what  
15 I'm driving at is, did your fieldwork arrive at any  
16 conclusions based on the natural and ordinary flow of the  
17 river, i.e., without divisions from man or without  
18 diversions for dams and this sort of stuff, or were your  
19 studies based on records of the river that would have had  
20 those diversions in place?

21 A. I wasn't looking at discharge. I was looking  
22 floodplain morphology. So -- I mean, at that time, there  
23 were some divisions already in place.

24 Q. Floodplain morphology, to a certain degree, is  
25 controlled by the diversions that are made on the alluvial

1 river system, aren't they?

2 A. Let me rephrase that. I would say that the  
3 morphology is influenced by the discharge which can be  
4 modified by the diversions or irrigation.

5 Q. Sure. And all I'm asking is that the studies  
6 that you did or the studies that you reviewed that other  
7 people did -- I think you talked about Burkham study and  
8 that sort of stuff -- were based on whatever condition the  
9 river was in at the time they were studying it, not on a  
10 river that had no diversions that was in what's called its  
11 natural state?

12 A. If I understand your question correctly, when  
13 they were studying the river, it was impacted by the  
14 diversions. It was not a natural state. They also looked  
15 at historic documents that went back in time. And as you  
16 suggested earlier, defining natural is bug-a-boo. But  
17 certainly there were less impacts in the 1800s than there  
18 were in the 1900s.

19 Q. Sure. But for example, in around 1912, wouldn't  
20 you agree that virtually all of the Gila had been  
21 appropriated and subjected to diversions?

22 A. I can't answer that.

23 Q. You don't have any knowledge about when  
24 diversions took place and that sort of stuff?

25 A. Not for the entire river, no.

1 Q. For any portions of the river?

2 A. For the middle Gila River, I'm aware of some of  
3 the diversions that were taking place near Florence in the  
4 1870s, 1880s.

:37:30 5 Q. For example, at statehood, Roosevelt Dam was  
6 already in place?

7 A. That's possibly the Salt.

8 Q. Right. But that becomes a tributary to the Gila?

9 A. Yes.

:37:36 10 CHAIRMAN EISENHOWER: Excuse me,  
11 Mr. Huckleberry, would you move closer to the microphone?

12 MR. HUCKLEBERRY: Yeah.

13 Correct. In 1911, I think the dam was  
14 constructed so it would have been --

:37:43 15 Q. And the flows at the lower Gila?

16 A. Yes.

17 Q. And that, therefore, would have influenced the  
18 geomorphology on the lower Gila after the dam went into  
19 place?

:38:03 20 A. Yes.

21 Q. And that's, kind of, the general question I'm  
22 trying to get from both of you. Is that -- I'm not  
23 obviously having a very good time doing it, but -- would  
24 be diversions that effected the geomorphology?

38:12 25 A. I would answer yes.



1 Q. Okay. And that none of the studies that you did  
2 looked at the Gila without those diversions before the  
3 white man came to the West?

4 A. Well, before the white man came to the west,  
5 there were no historic documents at that time.

6 Q. Right.

7 A. Some of the early GLO plats of the rivers are  
8 dated in the 1850s, and by the late 1860s, there were very  
9 few diversions -- Anglo-European diversions.

10 Q. But by 1912, weren't there quite a bit?

11 A. Yes.

12 (Mr. Fuller is answering questions.)

13 BY MR. HELM:

14 Q. Same basic question for you, John.

15 A. I think I got the question. We have an idea  
16 that's from systematic data would have been impacted by  
17 diversions to some degree. The long-term records that  
18 were available from the USGS are also impacted by  
19 diversions and that's how they're reported in the USGS  
20 records. And the tendency would be to lower the flow of  
21 the river relative to what it would have been  
22 prediversion. In terms of information we looked at that  
23 was prediversion, in the river's natural characteristic,  
24 the earliest records we have would have been the GLO  
25 records and those sketches of the channels they drew.

1 However, those are neither coincident, really, with that  
2 occurred in the watershed, and we also, to some extent, on  
3 the upper Gila and to some extent the lower Gila, the  
4 irrigation points and mouth that had moved. So to answer  
5 your question, most of the data in the report is in a  
6 watershed-disturbed condition.

7 MR. HELM: Thank you. I don't have any  
8 other questions.

9 MR. SPARKS: Mr. Chairman, members of the  
10 panel, my name is Joe Sparks, and our firm is Sparks,  
11 Tehan and Ryley, P.C. This particular hearing we're  
12 representing the San Carlos Apache tribe of the upper  
13 Gila. And I just have a couple of questions for the  
14 hydrologist and the geomorphologist. And I'll say an  
15 introduction.

16 (Mr. Huckleberry is answering questions.)

17 BY MR. SPARKS:

18 Q. Mr. Huckleberry, I've been handling this area;  
19 when I speak your name, it is with true reverence.

20 A. Thank you.

21 Q. And you see me genuflecting anywhere around you,  
22 don't think it's unusual, we always do.

23 I wondered if either of you studied the  
24 effect of the introduction of European grazing animals on  
25 the geomorphology of the river?

1 A. No, I did not.

2 Q. Do you know whether, in your opinion, the  
3 introduction of grazing animals in the Gila drainage would  
4 have changed the nature of the runoff and timing of the  
:41:17 5 runoff of the river?

6 A. Any alteration of the vegetation in the catchment  
7 area would alter runoff and the flow of the river. How it  
8 would do that exactly, I don't know.

9 (Mr. Fuller is answering questions.)

:41:24 10 BY MR. SPARKS:

11 Q. And did either of you study the changes of the  
12 repairing of vegetation along the upper Gila River in  
13 terms of the native species that were historically and at  
14 the time of European contact present there, such as  
:41:50 15 cottonwoods, sycamores, willows, walnuts, and reeds  
16 and what else? Did you study the changes in that  
17 vegetation in your studies of the geomorphology of the  
18 river?

19 A. I would have to say that we did not study the  
1:42:16 20 cause directly as part of this study. We made  
21 observations as to how the river changed and not  
22 necessarily trying to delve down or answer that very  
23 extensive debate about what does grazing do to watershed  
24 or what does invasive do to the channel pattern.  
42:34 25 Certainly there are impacts.

1 Q. You got to the part of the question that I didn't  
2 ask yet, namely invasive species, and did you study the  
3 introduction of the Egyptian tamarisk or commonly known as  
4 salt cedar to the upper Gila in terms of the changes in  
5 the geomorphology?

6 A. Not specifically. I think there may be a part of  
7 the report where it referenced the invasion of tamarisk,  
8 but again, we were looking at more of what happened rather  
9 than how it happened.

10 Q. And finally, did you study the impact of  
11 post-European timbering practices on the upper Gila  
12 watershed on the geomorphology of the river?

13 A. No.

14 MR. SPARKS: Thank you, Mr. Chairman.

15 CHAIRMAN EISENHOWER: Are there any other  
16 questions?

17 MR. HESTAND: With permission from the  
18 committee, just a couple for Mr. Huckleberry.

19 BY MR. HESTAND:

20 Q. Mr. Huckleberry, will you explain to the  
21 commission what a Shoshone is?

22 A. What a Shoshone --

23 Q. Shoshone.

24 A. Shoshone? I believe that is an indigenous tribal  
25 group.

1 Q. No, I'm sorry. Let me put it in your own  
2 American terms, then. The -- are there areas in the Gila  
3 River where there are times where the river will regularly  
4 go dry or virtually dry and then the geology uplifts bring  
5 the ground water or subflow back to the surface,  
6 recreating the stream?

7 A. On the Gila River?

8 Q. Yes.

9 A. Now we're going back a ways from reading the  
10 documents. It's been 10 years, but I believe that might  
11 take place at Pima View.

12 Q. Are you aware of the fact that there are a number  
13 of places within the Gila River Indian Reservation where  
14 the outcroppings would bring water -- subflow back to the  
15 surface, when the subflow existed.

16 A. Yeah. It wouldn't surprise me. I can't recall  
17 because it has been a while since I looked through a lot  
18 of that hydrologic literature, but certainly it occurs on  
19 the tributaries to the Gila, like the Santa Cruz. I don't  
20 see why it would not also happen on the middle Gila River.

21 Q. And would the effect of that be that there would  
22 be wide stretches of the river that would be dry or  
23 virtually dry for purposes of navigability but the water  
24 would reemerge and be available for a certain space for  
25 agricultural uses, then redisappear and then come back,

1 based on the understanding that the subflow is the  
2 underground river?

3 A. I think you're describing intermittent flow, and  
4 during the dry season, it would not surprise me at all if  
:45:27 5 the middle of the river had an intermittent reach.

6 MR. SPARKS: Okay. Thank you.

7 MS. COPELAND: Kirsten Copeland here  
8 representing Buckeye Irrigation Company and Buckeye Water  
9 Conservation Drainage. I just have a couple of real quick  
10 questions for Mr. Hucklebee.

11 MR. HUCKLEBERRY: Huckleberry.

12 MS. COPELAND: I'm sorry, Mr. Huckleberry.

13 (An off-the-record discussion ensued.)

14 (Mr. Huckleberry is answering questions.)

15 BY MS. COPELAND:

16 Q. I actually wanted to back up. I was sort of  
17 intrigued by the photograph that you showed of the repair  
18 work, I think, in 1915 on the -- you don't have to show  
19 it -- the repairing of the head gate. I think the photo  
:46:06 20 was a 1915 photo?

21 A. Yes.

22 Q. And I was curious, in the discussion that has  
23 been going on regarding the effect of diversions on the  
24 river, on how you might compare the impact on the river  
46:21 25 channel of diversions? In other words, the effect of

1 diversions versus the effects of floods on -- and of  
2 course, I'm thinking of the period from about, what, 1905  
3 up through and including statehood?

4 A. That is a very good question. My feeling is that  
5 in terms of channel changes in the floodplain, the floods  
6 have a much greater impact on the morphology of that  
7 channel than the diversions do. The diversions certainly  
8 can have an effect on the reformation of the low-flow  
9 channel, but in terms of the overall geometry of the  
10 floodplain, and particularly the flood channels, it's the  
11 floods that have the greatest impact.

12 Q. And following up on that, then, is -- and I may  
13 be putting words in your mouth. If I am, please tell  
14 me -- but it sounds like you sort of made a distinction in  
15 terms of the characteristics of the channel -- in  
16 particular, the middle Gila, as you described it, and even  
17 the lower Gila -- where you talked about, in probably the  
18 mid- to late 1800s, there was a low-flow, more definable  
19 channel on the Gila, but then the flooding -- flood  
20 events -- and I recognize there was one, I think, in 1891,  
21 but you identified the period more 1905 to 1916.

22 A. For the middle and the upper Gila River, the 1905  
23 and 1916 floods were big. The lower Gila river, I think,  
24 the 1891 flood was pretty dramatic.

25 Q. Okay. But in both instances, whatever, I guess,

1 more definable or recognizable low-flow channel may have  
2 been on either stretch of that river would have been  
3 significantly altered, if not essentially blown out, at  
4 various times -- and I recognize you can't talk to the old  
:48:08 5 stretch -- but various times of flooding. Various floods  
6 would have significantly changed, if not blown out,  
7 whatever definable channel might have been present in the  
8 early time period of preflood?

9 A. Yeah. The only thing we can really work with are  
:48:21 10 analogs for recent floods for that, because the historic  
11 documents don't really focus on that low-flow channel  
12 after it becomes a wide, braided flood channel. But based  
13 on recent floods, yes, that low-flow channel does get  
14 blown out, I guess -- abandoned. You may get a completely  
:48:36 15 new low-flow channel forming in different locations.

16 MS. COPELAND: That's it. Thank you.

17 CHAIRMAN EISENHOWER: Thank you.

18 Are there any other questions?

19 MS. HERR-CARDILLO: I'm joy Herr-Cardillo  
:48:52 20 representing Defenders of Wildlife. I have questions for  
21 Mr. Fuller and Mr. Huckleberry, so I can --

22 (Mr. Fuller is answering questions.)

23 BY MS. HERR-CARDILLO:

24 Q. Mr. Fuller, there has been a lot of discussion  
49:03 25 about diversions and maybe you covered this in your



1 report, but can you just clarify for me what diversions  
2 existed on the Gila River at the time of statehood?

3 A. Well, there were a lot. I believe there were  
4 several dozen in Duncan Valley alone, so there were quite  
5 a number of diversions as of the time of statehood. There  
6 was a major diversion at the head of the Safford Valley --  
7 Solomon, I believe, is the name of the town there. There  
8 was a major diversion at Hayden Ashers. And --

9 Can you speak to what is lower down --

10 Mohawk takes water some place.

11 MR. HUCKLEBERRY: Yeah. I would just add  
12 that in the Safford Valley, there were several diversions  
13 beginning up above Solomon -- or Solomon today -- and then  
14 all the way down through Thatcher and Pima. And in the  
15 middle Gila River, there were quite a few diversions in  
16 the Florence area that impacted downstream diversions on  
17 the Gila originally. They had canals that went back well  
18 into -- well, before we actually documented them  
19 historically. And below that, I'm less familiar with  
20 lower river.

21 MR. FULLER: There's a list of diversions in  
22 the upper Gila-San Francisco reports, to direct you to  
23 that or direct the record to that.

24

25 BY MS. HERR-CARDILLO:

1 Q. And just maybe there is a stalemate on that, but  
2 the purpose of these diversions was to take water out of  
3 the river?

4 A. Yes. Well, to irrigate lands.

:50:39 5 Q. Right.

6 A. That is how you did it.

7 Q. Okay. Were all the diversions for the purpose of  
8 irrigation?

9 A. I would imagine some people drank the water or  
:50:53 10 turned the paddlewheel or did something else, but as I'm  
11 aware of them, they are called irrigation diversions.

12 MR. HUCKLEBERRY: Yes.

13 BY MS. HERR-CARDILLO:

14 Q. And is there any way for us today to quantify how  
1:51:05 15 much water was being taken out of the river?

16 A. Yeah. Actually there are probably others in the  
17 room that are more qualified, who spent time talking  
18 about -- or thinking about the Gila River adjudication,  
19 and that would be one source of information as to what was  
20 actually taken out. I was looking at some more  
21 appropriate than was actually in river, so any given time,  
22 all the water could have been removed. So the answer to  
23 your question is yes, there would be that information.

24 (Mr. Huckleberry is answering questions.)

51:35 25 BY MS. HERR-CARDILLO:

1 Q. And Mr. Huckleberry, I have a question for you  
2 about the wide, braided channel. My understanding from  
3 listening your testimony here is that the wide, braided  
4 channel was created at high flood water times, correct?

11:51:52 5 A. Yes.

6 Q. Okay. And then obviously that would subside;  
7 what would happen to the channel once we were at low flow?

8 A. Well, you would be left with a -- still a wide,  
9 braided flood channel, but the lower -- the smaller flow,  
11:52:09 10 the lesser flow would be contained within one or more  
11 smaller channels within that larger set of braided  
12 channels, and that's what I call a low-flow channel. And  
13 it would gradually reestablish itself. You'd have a  
14 period of very few large floods for a while and it would  
11:52:27 15 become quite distinct, but as we see between 1905 and  
16 1916, there's a lot of flood going on; to what degree it  
17 reestablished itself, I'm not sure.

18 Q. So there is no way for us to know today what it  
19 looked like at low flow during the time of statehood? Do  
11:52:43 20 we know whether they were single channels?

21 A. It's not recorded well in the survey notes, in  
22 the documents. They tend to focus on the wide  
23 floodplains -- the wide flood channels, excuse me. And  
24 they don't focus so much on the low-flow channel.  
53:00 25 Probably because it's moot anyways in talking of change

1 before it became reestablished. So to answer your  
2 question, no, we don't have much good information on that  
3 low-flow channel, at least in the study that I did on my  
4 reaches.

5 MS. HERR-CARDILLO: Thank you.

6 COMMISSIONER ECHEVERRIA: Can I ask a  
7 question?

8 In regards to diverting water from the Gila,  
9 have you any estimate about how much water was diverted  
10 from the Gila prior to the arrival of the Anglos?

11 MR. HUCKLEBERRY: In terms of Native  
12 American diversions?

13 COMMISSIONER ECHEVERRIA: Uh-huh.

14 MR. HUCKLEBERRY: We know that the Akimel  
15 Au-Authm practiced canal irrigation, and we know the  
16 Hohokam practiced canal irrigation. Was that ever  
17 quantified, I don't believe so.

18 CHAIRMAN EISENHOWER: Are there any other  
19 questions for these two gentlemen?

20 MR. HELM: I just --

21 CHAIRMAN EISENHOWER: Do you have a question  
22 for these gentlemen?

23 MR. HELM: For you, Mr. Chairman. It's  
24 unclear to me when the State's presentation ends.

25 CHAIRMAN EISENHOWER: It's going to end

1 right now.

2 MR. HELM: And I mean the boating  
3 presentation because I had one question basically that --  
4 or actually two. One that was brought up just as I was  
:54:42 5 back there, but one I wanted to ask at the end of -- the  
6 total end of the State's presentation.

7 CHAIRMAN EISENHOWER: You're there right  
8 now.

9 MR. FULLER: We have Barbara Tellman that  
:54:54 10 would like to speak to us about boats in specific. She is  
11 also a witness for the State.

12 CHAIRMAN EISENHOWER: Oh, I didn't -- I did  
13 not realize that. Would you bring her up now?

14 MR. FULLER: Yes.

:55:04 15 MR. HELM: I'll save the question then.

16 CHAIRMAN EISENHOWER: Okay.

17 MR. FULLER: Let me introduce Barbara  
18 Tellman. Barbara Tellman is part of a number of different  
19 navigability studies; most recently she was part of a team  
1:55:12 20 that developed the small and minor watercourse.

21 CHAIRMAN EISENHOWER: Okay.

22 MR. FULLER: And so she is speaking from a  
23 piece of her report as it relates to boating in general.

24 CHAIRMAN EISENHOWER: Would you adjust the  
55:23 25 mic there, please?

1 MS. TELLMAN: My name is Barbara Tellman.  
2 I'm retired from the Water Resources Research Center at  
3 the University of Arizona. And in that capacity, I worked  
4 on water policy issues and water environmental  
5 history-type of studies. I participated in a number of  
6 the studies for the State Land Department; particularly, I  
7 wrote the history for the Virgin and Santa Cruz Rivers. I  
8 wrote this history of boating for the small and minor  
9 watercourses, and subsequent to that, I got very  
10 interested in topic and did much more additional research  
11 and extensive search for photos throughout archives in  
12 Arizona and Southern California.

13 Once I had done that, I became an Arizona  
14 scholar, and as a scholar, did a series of lectures on  
15 boating in Arizona and about seven different communities  
16 as part of a program that they had. My role here is not  
17 to talk specifically about the Gila River but to talk  
18 about what kind of boats were available and how were boats  
19 used.

20 (An off-the-record discussion ensued.)

21 MS. TELLMAN: Okay. Basically a boat is  
22 anything that -- pretty small, float on the river, and  
23 could be maybe placed inside one of the steamers. The  
24 steamer age was pretty much over by the time of statehood  
25 on the Colorado River. I'm talking entirely about the

1 small boats.

2 To correct the misstatement that John made  
3 earlier, the legend I'm referring to is the Hopi legend.  
4 It deals with the origin of snake clans and the young man  
5 and the Colorado, the one to know where the water went  
6 that kept the flow away from him. And according to the  
7 legend, he took this hollowed-out log all the way down to  
8 the Gulf of California from the Colorado plateau. This is  
9 a modernized rendering of that legend.

10 Native tribes from South America all the way  
11 up to Alaska all had some kind of boating if they lived  
12 anywhere near water. This is a Seri boat, a New Mexican  
13 boat made of balsa. The Mohave and the Colorado River  
14 also had a variety of rafts. This is bundles of reeds put  
15 together. And the Rio de la Salsa that the Spaniards  
16 referred to, at least in this case, was the Colorado River  
17 and they did call it that because there were so many rafts  
18 on the river. The Mohaves were said to go routinely up  
19 and down the river all way from what is now about Parker  
20 all the way down to the ocean.

21 They had a variety of types of rafts. Here  
22 we have another design in Native America reeds, and they  
23 also used small logs. They were extremely helpful to the  
24 Spaniards when they came through and they were to Anglo  
25 settlers when they came by.

1                   This is an ingenious craft used by the  
2 Hecksan tribe to carry watermelons to market and they may  
3 look like a rickety thing, but it beats carrying it on  
4 your head.

58:51 5                   This is example of a bull boat. This tribe  
6 is actually from Canada and illustrates what we're talking  
7 about. The bull boat was made in Canada out of the skin  
8 of one male buffalo. You can see the tail there on the  
9 right. Down in Arizona, the bull boats tended to be made  
10 out of cow hide. There's a wonderful description by a  
11 woman who, in old age, was recalling that as a young girl,  
12 she and father had traveled all the way from Idaho down to  
13 the Gulf of California, trapping. And she talked about  
14 how when they would get to the river, they would kill a  
15 couple of their horses and make boats out of them and get  
16 across the river, then discard them. At the next river,  
17 they would kill some more horses.

18                   This is the first inflatable boat in Arizona  
19 that we know of. This is on the Ice expedition crossing  
20 the Colorado River. The artist was Bobby Mullhousen who  
21 had a wonderful sense of humor that described the terrible  
22 time they had getting across the Colorado River in this  
23 very awkward boat, which at one point tipped over  
24 completely and all their supplies dumped in river. And  
59:58 25 the Mohave who had their flexible raft that they could



1 steer went around and around and picked up all the  
2 supplies. And it was his conclusion that they should have  
3 hired the Mohaves in the first place, which a lot of  
4 people did.

2:00:12 5 Now, what kind of boats did people have?  
6 They either could order them by mail order from the Sears  
7 catalog. And on this particular page, the catalog has  
8 metal boats and canvas boats. They also sell wooden  
9 boats. This is from the 1912 catalog. So many things  
2:00:28 10 were easily available and could reach Arizona fairly  
11 quickly by railroad. This is -- may have been an example  
12 of one of the those mail-order boats.

13 This picture wasn't dated, but it appears to  
14 be from about the same period. And there were manuals on  
2:00:45 15 how you could build your own boats and canoes. This is  
16 beautifully illustrated manual of boat building. Godfrey  
17 Sykes was a master craftsman, and he had a boat yard where  
18 he built boats right at the foot of tolinmock in Tucson.  
19 This is one of his boats he built to sail in the Gulf of  
12:01:08 20 California.

21 Another one that he used to sail on the  
22 river when he was doing Salt and sea investigations and so  
23 forth. He made quite a few boats. And this is the  
24 houseboat that he actually built in his boatyard in Tucson  
01:25 25 which carried his family for long extended trips. Now,

1 Stanley Sykes was mentioned earlier. In his old age, he  
2 did write an account of his youthful trip. It was in the  
3 middle of winter when he was living in Flagstaff and he  
4 was sick and tired of how cold and snowy it was. So he  
5 and his friends decided to see if they could go from  
6 Phoenix the Yuma by boat. They built themselves this  
7 little canvas boat. This is not a picture of his boat,  
8 but it's what I envision it probably looked like. The  
9 trip was -- the trip was quite unsuccessful. Only one  
10 person could be in the boat at the time because the other  
11 one would weigh it down too much. So one person would  
12 walk along and pull the boat while the other one sat in  
13 it, or sometimes they both would pull the boat. His  
14 conclusion was, "We were dumb to do this in the middle of  
15 winter. We should have done it after the snow melt."

16 There were many other imaginative designs  
17 for homemade boats. This is one of my favorites. And  
18 this is another, this is a duck boat. The man in front  
19 has his rifle ready to aim at whatever he can get. The  
20 other guy is laying down in the front. So we have a great  
21 variety of homemade boats in Arizona at this time.

22 This is a toy boat that was found in an  
23 archeological excavation along the Virgin River from the  
24 19th century. Nothing more is known about it than it must  
25 have been from child's play.

1 Crossing the river. We had some discussion  
2 of that. Every river in Arizona was portable at some  
3 time. And this is -- across the Colorado River at the  
4 same place where at other times of year steamboats could  
5 navigate.

6 We have a variety of ferries. This is the  
7 famous Union Ferry. And it was obvious they were still in  
8 operation even after the railroad bridge had been built.  
9 This is another ferry with reference to, but have not been  
10 able to follow up, I have no idea where this ferry was or  
11 whether it was successful. People asked earlier about the  
12 size of the ferries, they ranged drastically. This is one  
13 that just made up one little old model, the -- or whatever  
14 it is. This one is quite a bit bigger, probably carried  
15 custom cars and some horses across the Alamo River in  
16 southern California just across the border. And along  
17 with the ferry, you can see a rowboat off to the left.

18 This is a picture of the Dome ferry. Again,  
19 a very small boat. It operated for quite some time and  
20 the location of the ferry is now where the bridge is,  
21 across the Gila River.

22 Here we have a very experienced ferry. This  
23 is a surveyor's blueprint of the property of Jose Redondo,  
24 who was a very well-known gentleman in Yuma, was mayor of  
25 Yuma, legislature, and if you look where the arrow is

1 pointing, we'll blow that up, it says "Road to Redondo's  
2 Ferry." I have been unable the find anything out about  
3 this ferry after extensive research, but apparently  
4 Redondo did have a ferry.

2:04:51 5                   There are lots of attempts to cross rivers.  
6 Some of them were more successful than others. A number  
7 of the ways to cross rivers were elevated above the river.  
8 So you can see there's a cable stretched here and the boat  
9 is pulled -- people are pulling on the cable as they cross  
2:05:11 10 the river. Now is this evidence that river could not be  
11 boated? Because if it could be boated, wouldn't they be  
12 on the water? Well, if you look down along the shore, the  
13 middle of the picture, you can see some kind of a rowboat  
14 kind of thing and some kind of a flat boat along the  
2:05:28 15 shore. There are a couple of reasons why you would  
16 elevate your ferry, one of which is that this shore line  
17 wasn't suitable to get your wagons down into the water.  
18 The other was, you might want to hedge your bets. This is  
19 the ferry at Needles. Again, in an area where the  
2:05:45 20 steamboats were able to come some times of the year. At  
21 other times of the year, the river was far too violent to  
22 cross, and at some times of the year, it was way too low  
23 and people would get stuck in sandbars. So you have an  
24 elevated ferry high enough for the steamboats to get under  
06:00 25 and you hedged your bets when you crossed the river at all

1 times of year.

2 Some of the ferries were quite unsuccessful.

3 And this is a quotation from the Florence Blade-Tribune.

4 Now, the editor of this newspaper had a wonderful sense of

12:06:17 5 humor. In those days, especially with that newspaper, it

6 was assumed that the local people knew the local news that

7 was going on. They would be out there watching it happen

8 and gossiping. So he had very pragmatic commentary on

9 what was going on. The question was asked earlier, what

12:06:36 10 was the exact size of the ferries? We don't know a lot of

11 this because what we have is just information from the

12 newspapers and they often exaggerated.

13 Here we have one of my favorite pictures.

14 This is Governor Hunt in 1916 crossing the Gila in a boat

2:06:54 15 on the way to inspect the prison. The reason that I find

16 this picture very interesting is when I look at the

17 newspaper articles for about that time, they talked about

18 Governor Hunt coming to Florence but there was absolutely

19 nothing whatsoever unusual about him putting his boat --

2:07:12 20 his car on the little boat of some kind and taking it

21 across the river. It seemed to be totally routine. And

22 the way that the editor of the newspaper tended to comment

23 on things, if there was anything unusual about this, he

24 would have said something like, "And Governor Hunt bravely

2:07:28 25 battled the wild seas." So this was apparently perfectly

1 routine activity.

2 But were all the ferry boats these little  
3 kind of dinky little things that didn't last very long or  
4 anything? This is the Nellie T. ferry system across the  
12:07:48 5 Colorado River in the vicinity of Parker in the 1920s.  
6 I'm getting a little bit out of area here just to talk a  
7 little about the Nellie because she was such a remarkable  
8 woman.

9 By the 1930s, her business had grown  
12:08:06 10 extensively and she had quite an extensive fleet which  
11 became part of the well-known Arizona Navy that operated  
12 for a couple of days in the battle against California.

13 This map indicates the locations that I have  
14 been able to identify, with the red pins indicating known  
12:08:22 15 ferry locations, the yellow pins indicating other kinds of  
16 boat travel, not just across the river but down the river  
17 to some degree. The ferries actually played a very  
18 important part in Arizona history. This is a sign that I  
19 found under the I-10 freeway bridge where it crosses the  
12:08:45 20 Colorado River. And the old Ehrenberg ferry was at this  
21 site and this was very common throughout -- the ferry  
22 locations were pretty much the places where the bridges  
23 and their highways were located. And the main three  
24 freeway crossings of the Colorado River were all old ferry  
12:09:05 25 locations, and the ferry owners often were quite

1 prosperous. Daniel Binelli operated a ferry where the  
2 Virgin River comes into the Colorado. You know, he was --  
3 going to and from the ferry he owns a lot of land where he  
4 raised cattle and he raised hay. So that anybody coming  
12:09:29 5 across the river there had to pay him for the toll road,  
6 for the ferry, for some hay, for some meat, for some fire,  
7 and then they stayed overnight. And he became a very  
8 influential citizen and we could still visit his historic  
9 mansion in Kingman.

12:09:43 10 What other uses were there for boats? This  
11 is one example, an army document, this raft was built, the  
12 army was trying to get across the river in the middle of  
13 winter, freezing cold, and without any warning, the raft  
14 just sank, disappeared, and was never seen again.

12:10:02 15 Okay. People had boats that they had by  
16 their places, this was one at a mining location. This is  
17 a boat along the canal, and if you'll look way down the  
18 canal, right by the house, you will see the rowboat tied  
19 up by the edge of the canal. So people did have boats  
12:10:26 20 that they used for various kinds of purposes. We don't  
21 know who these people were and what they used the boat  
22 for, but they did have this little boat along the canal.

23 They carried their goods to the ferries,  
24 some people trying to transport their vehicles, and one of  
10:44 25 the major problems was the shoreline. Look at that poor

1 horse trying to get up on the shore.

2 Gasoline boats were in use in the area by  
3 1910. And flood rescue was one of the major things where  
4 we have references to boating. We have this at Maricopa  
2:11:14 5 Wells where ferry rescued people when the train would stop  
6 in Maricopa Wells, and the bridge was down, the ferry  
7 would take them across the river and let them get into  
8 Phoenix that way. It was pretty paralyzing; this was the  
9 big 1905 flood. Now, along farther up the river we have a  
2:11:31 10 lot of descriptions of what was going on with the ferry  
11 boats at that time. And there is absolutely no way that  
12 we can say what the size of these ferries were because  
13 we've got the newspaper editor blowing it all out of  
14 proportion. He's talking about the Gila Queen, which then  
2:11:47 15 became in great competition with the Gila King and two  
16 boats were fighting for the big commercial business in  
17 this area. And they got to the point where he was talking  
18 about somebody being the admiral of the fleet. And you  
19 just can't take any of this seriously at all. So you take  
2:12:07 20 it with a grain of salt, so we really don't know. And  
21 finally the whole competition was settled between them and  
22 the stages that they could only operate on the shallow  
23 reaches.

24 This is another very intriguing one. In  
12:20 25 1914, the Arizona National Guard dispatched its



1 collapsable boat in Tucson. This did not work. They  
2 didn't rescue the people. But what surprised me was that  
3 National Guard in Tucson had a boat at all. What were  
4 they doing with a boat? So I started looking in National  
5 Guard records. Maybe this was standard issue and every  
6 National Guard got a boat just routinely. But in those  
7 days, nothing was standard issue and people pretty much  
8 supplied their own things. So somebody in Tucson National  
9 Guard had a collapsible boat. We don't know what he used  
10 it for or why they had the boat, but there it was.

11 Boats were also used for recreation  
12 purposes. Here we have a canoeist on the Arizona canal.  
13 Here we have a little sailboat that was trying to go down  
14 the much narrower canal. It's not clear to me whether  
15 they are stuck, wedged in there or whether the wind just  
16 gave out and they couldn't sail any further.

17 This is at Fort Grant where we have a sailor  
18 taking a leisurely afternoon rowing on this very small  
19 pond down from the fort. People used their boats for  
20 family picnics, take a leisurely trip along the river.  
21 And resorts, such as this one in the Prescott area,  
22 advertised boating, bathing, and so forth.

23 And this is Granite Dell, a little lake near  
24 Granite Creek.

25 So we have boating used for a lot of

1 purposes. We have people just going sailing for fun.  
2 Lake Dell, Lake Mary, Walnut Grove Lake before the dam  
3 collapsed, and so forth. And this is a sort of  
4 unexplained picture that I found in the Arizona Historical  
5 Foundation. It says "Boating on the Salt River," and I  
6 believe the date was 1914. Here we have so many lakes,  
7 great fishing there, people went duck hunting. We saw  
8 earlier they were fishing. Boats were pretty common as  
9 far as I can tell. But they were not news, they were not  
10 newsworthy. If someone went fishing in a boat, the  
11 newspaper was not allowed to cover it. If somebody went  
12 fishing in a boat and had a big disaster, they might get  
13 in the newspaper. So when the unexperienced cede earlier  
14 about the absence of evidence not being the evidence of  
15 absence, is very true. People did things, accomplished  
16 things, but unless they were exciting, out of the  
17 ordinary, it just wasn't mentioned in the newspapers.

18 So here we have a -- I previously spoke to  
19 one of the guys who traveled the Gila River from source to  
20 the mouth in May 1891. And here we have somebody boating  
21 Clear Creek up in northern Arizona. Boating technology  
22 changed considerably around this time, or earlier. The  
23 picture on the left is Powell's boat that he used for  
24 exploring the Grand Canyon. He had his chair latched onto  
25 the boat so that he could watch what was going on all the

1 way. His boats were not at all suited for Grand Canyon  
2 travel, it's amazing that he got through. Quite a bit of  
3 technology improved the boating along the river, they  
4 tried hard wood and soft wood. They tried to close  
2:15:41 5 changes, but one of the greatest innovations for the  
6 Colorado River was turning the rower around. Ordinarily  
7 when you row a boat, you're facing the wrong direction,  
8 you can't see where you're going to. So this boat, as you  
9 can see, has two seats. And when you're going down the  
2:15:56 10 rapids, you can actually sit in that direction and watch  
11 what you're doing as you go down rapids. But it wasn't  
12 foolproof, and even here, they got stuck and some of them  
13 crashed. This one is a little later period, but I wanted  
14 to follow up on the inflatable boat story. This is from  
2:16:14 15 the 1940s. This is the first inflatable boat that we know  
16 of in Arizona -- this is the Verde River -- made up of  
17 modern artificial rubber, which was developed during World  
18 War II. Natural rubber did not turn out to be very useful  
19 for inflatable boats in the conditions of being wet and  
2:16:33 20 suddenly being very hot and dry. And artificial rubber  
21 could easily get over these conditions. So here we have  
22 this gentleman who's the first rafter on the Verde River  
23 as far as we know. And it wasn't very long before modern  
24 rafting technology developed, and we have trips like this  
16:52 25 on the Salt River, the Verde, the Virgin, some other

1 rivers in Arizona.

2                   We've had people who just made -- just went  
3 out for the heck of it to see if they could do it. And  
4 four years later, somebody else made the trip down the  
12:17:14 5 Gila River. It doesn't say where he started, but he tried  
6 that again and -- probably never did.

7                   And finally, my favorite boating description  
8 of all. In the State -- somebody mentioned earlier Jacob  
9 Shibley -- the Phoenix newspapers were just as much fond  
12:17:31 10 of making fun of people as was the editor of the Tribune.  
11 So they followed Mr. Shibley building his gigantic boat  
12 that could rival the Emperor Tojo. It was a funny-looking  
13 boat and they made great fun of watching him go down the  
14 river. He sends periodic reports, which they published  
12:17:53 15 verbatim, until he grounded at Gila Bend. What I thought  
16 was interesting was this. No one has any business on the  
17 river with a boat less than 6 feet wide, 14 feet long, 6  
18 feet high and 2 feet deep. So it was a gigantic boat that  
19 would challenge the Emperor Tojo. He must have been  
12:18:13 20 smaller than him.

21                   And so we have, I think, evidence from lack  
22 of evidence that actually there was a lot of boating going  
23 on with a great variety of boats, from canoes to  
24 canvas-covered boats to metal boats, scows, bigger boats  
18:29 25 for crossing rivers. A lot of them knew it was happening,

1 but it just wasn't coming to them because it wasn't  
2 newsworthy, it was routine.

3           So I believe that actually boating was  
4 fairly common. People boated on canals, ponds, lakes,  
2:18:47 5 wide boating on the rivers. We probably will never know,  
6 and this is one of many really unknown questions that I'm  
7 leaving you with. We just don't know. Can we conclude  
8 that -- we don't know. We don't have specific examples of  
9 people boating up and down the rivers, that it didn't  
2:19:02 10 happen, and how can you use this kind of information.

11           So in conclusion, I would be happy to answer  
12 any questions about the kinds of boats and how boats were  
13 used in the area. Any questions?

14           (Ms. Tellman is answering questions.)

2:19:22 15 BY COMMISSIONER BRASHEAR:

16       Q.    Aside from the Nellie Bush ferry, it seems like  
17 that was a substantial prolonged commercial operation?

18       A.    Right.

19       Q.    Do you find anything elsewhere in Arizona that  
2:19:35 20 would measure to that as being a successful commercial  
21 operation?

22       A.    Yes, the Yuma ferry was extremely successful, and  
23 in fact, it is so successful that there was a great deal  
24 of fighting over who was going to get to have the Yuma  
19:50 25 traffic. And then the Nellie ferry was quite a prolonged

1 operation, and it only ended when Lake Mead actually --

2 Q. These were all on the Colorado?

3 A. Those were Colorado. Then we have whatever was  
4 happening on the Gila River with Hunt -- I have no idea  
12:20:08 5 anymore about Hunt's trip there and the kind of ferry that  
6 was than what you see in that one photo. We have other  
7 examples of the little Colorado. A couple of the  
8 examples, none of them great big long-term commercial  
9 operations.

12:20:24 10 Q. You did mention -- apparently didn't find that  
11 there was any kind of a boat manufacturing industry here  
12 or that there was a company that was building boats in the  
13 desert. What you told us is most of them were built in  
14 backyards, barns --

12:20:39 15 A. That is my impression. Or were ordered from the  
16 catalog.

17 Q. Or ordered from a catalog.

18 A. Yeah. But then there were people like Godfrey  
19 Sykes who definitely had a big boat building operation.

12:20:46 20 And when you talk -- when the newspaper is talking of  
21 Jacob Shibley, they talk about building it in, quote, the  
22 Phoenix boatyard. But again, you just can't take what you  
23 read in those papers seriously because the Phoenix  
24 boatyard may have been Shivley's backyard, so we just  
21:03 25 don't have that kind of verification.

1                   And I did look in the commercial directories  
2 for about that period for Phoenix, and I didn't see  
3 anybody listed as a boatmaker. But that doesn't mean that  
4 there wasn't any. That they didn't do it as a sideline to  
5 carpentry or some other thing.

6                   CHAIRMAN EISENHOWER: Thank you, Ms.  
7 Tellman.

8                   MS. TELLMAN: And I'm submitting this  
9 original report that I did in 1998. You already have  
10 this, but I'm submitting it as a separate document.

11                   COMMISSIONER BRASHEAR: One of the things  
12 was the -- Ms. Tellman, Mr. McGinnis would like to ask you  
13 a few questions.

14                   (Ms. Tellman is answering questions.)

15 BY MR. MCGINNIS:

16                   Q. Mark McGinnis on behalf of SRP. Just so I didn't  
17 miss it, of all the pictures we looked at, the only one I  
18 saw that was on the Gila River for sure was Governor Hunt.  
19 Is that right?

20                   A. Yes. There were no pictures of all those  
21 workers, they just were verbal.

22                   Q. Even though we had text about the Gila, the  
23 picture was someplace else?

24                   A. Yes. We don't have pictures.

25                   Q. Okay. And you've done a pretty exhaustive study,

1 it sounds like, to look for pictures, and this is all you  
2 found?

3 A. Except I didn't look in the Salt River Project  
4 archives because I wasn't allowed to.

2:22:20 5 Q. Did you ask?

6 A. Yes.

7 Q. Okay. That's all I have.

8 CHAIRMAN EISENHOWER: Thank you very much.

9 Mr. Helm, if you have a passing comment, then we're going  
2:22:41 10 to break for lunch after your comment.

11 (Mr. Fuller is answering questions.)

12 BY MR. HELM:

13 Q. I just have a question for John Fuller, maybe  
14 one, maybe two. But now that the State's report is  
2:22:50 15 finished, as the head of the report, I would like to ask  
16 him -- I realize that the reports that you have done,  
17 John, for the commission both on the Gila and all the  
18 others don't express any opinion as to whether the report  
19 has a conclusion on navigability. But you've been the  
2:23:12 20 leader of the people who have done all the studies, you've  
21 reviewed all the work that produced the report on the  
22 Gila, correct?

23 A. That's correct.

24 Q. Have you formed an opinion regarding whether the  
23:23 25 Gila is navigable?



1           A.    And everybody up here is smiling because they  
2 know that I try to avoid answering that question, John.  
3 My role in preparing the report is to present factual  
4 information.  I'm just presenting information, and you  
12:23:40 5 folks, it's your job to make that decision.  And you're  
6 asking me this question because you know that the case is  
7 near and dear to your heart.  That after these reports  
8 were prepared the first time, I was retained as a  
9 potential witness for the reach that is downstream of Salt  
12:24:01 10 River, basically Painted Rock, and in that case, my  
11 opinion was that the river was navigable.

12           Q.    So you have an opinion yourself based on the  
13 studies that you have done that -- what I'll call the  
14 lower Gila below the confluence where the Salt is in  
12:24:18 15 fact -- or was in fact navigable or susceptible to  
16 navigation at the time of statehood?

17           A.    Let me clarify.  That is not the objective of the  
18 these reports.  The reports don't draw any conclusion, but  
19 as I looked at the evidence, yes.

12:24:34 20           Q.    That is your opinion and that's based on what we  
21 call the Federal Standards for Navigation?

22           A.    Yes.

23                   MR. HELM:  I don't have any other questions.

24                   COMMISSION COUNSEL JENNINGS:  Following up  
25 on that question, can you define the specific area of the  
24:42

1 river about which you were just testifying?

2 MR. FULLER: Yeah. The reach of the river  
3 that I was involved with extended from the Salt River  
4 confluence down to Painted Rock Dam.

2:24:59 5 MR. MCGINNIS: Can I ask a couple of  
6 questions to follow up on that?

7 (Mr. Fuller is answering questions.)

8 BY MR. MCGINNIS:

9 Q. Mark McGinnis on behalf of SRP.

2:25:02 10 Did you testify that you had been retained  
11 by somebody in the Gillespie Dam case?

12 A. Yes.

13 Q. Were you compensated for that?

14 A. Yes.

2:25:11 15 MR. MCGINNIS: Okay. That's all I have.

16 COMMISSIONER ECHEVERRIA: May I ask Mark  
17 what relevance that has, whether or not he was  
18 compensated?

19 MR. MCGINNIS: Well, I'll tell you what  
2:25:23 20 relevance I think it is, and that is that we've been  
21 10 years now with these folks being what we thought was a  
22 relatively unbiased technical expert on behalf of the  
23 commission, and now we know that he is actually working  
24 for an advocate on one of the parties. I just wanted to  
25:38 25 bring it up. Whether it has any relevance to you or not,

1 is up to you. On this particular watercourse.

2 MR. HELM: Could I point out that that has  
3 relevance also to all of Mark's witnesses who were  
4 compensated for an advocate.

12:25:55 5 MR. MCGINNIS: I think that's true, sure.  
6 But what I thought is clear to testifying on behalf of the  
7 party or maybe it wasn't.

8 COMMISSIONER ECHEVERRIA: I guess one of my  
9 problems has always been with this body, when that  
12:26:05 10 question is asked and someone is working for something  
11 that is not the State or an educational entity, to ask if  
12 they were compensated is asinine; of course they're  
13 compensated. Are you compensated, Mark?

14 MR. MCGINNIS: Yes, I am.

12:26:22 15 COMMISSIONER ECHEVERRIA: Thank you.

16 MR. MCGINNIS: But it's clear that I'm here  
17 as an advocate.

18 COMMISSIONER ECHEVERRIA: But the fact  
19 you're compensated does not suggest to me that you are  
12:26:30 20 biased personally, if you were biased professionally for  
21 obvious reasons, but it doesn't mean that you're biased  
22 professionally.

23 MR. MCGINNIS: And that's certainly -- and  
24 it's your decision, not mine. It's my job to --

26:42 25 COMMISSIONER ECHEVERRIA: I understand that.

1 But as I say, when you guys ask this question, I don't  
2 notice that any of us has Gookin on ourselves. I think  
3 you can safely assume we can figure that out. And I'm  
4 being facetious, I know, but that has a real owee personal  
5 point with me because that has been asked with less than  
6 civility, and --

7 MR. MCGINNIS: And I understand that. I was  
8 president the last time and I remember your reaction. I  
9 thought that was the point of your question before because  
10 your concern was somebody asked about the amount of  
11 compensation. I certainly wasn't going to ask that. I  
12 just wanted to make clear that Mr. Fuller represented a  
13 party -- or worked for a party other than the Land  
14 Department, who is doing this sort of technical review.

15 COMMISSIONER ECHEVERRIA: Understood. I'm  
16 with you now.

17 (Mr. Fuller is answering questions.)

18 BY MS. HERR-CADILLO:

19 Q. Joy Herr-Cadillo.

20 I just want to clarify. You just opined as  
21 to a portion of the river, and I just want to be clear  
22 that there isn't a inference to be drawn that you have  
23 concluded that other than the part that you described as  
24 navigable that you concluded as non-navigable, which is a  
25 very unclear question, but do you understand what I'm

1 asking?

2 A. I have not issued an opinion of any form  
3 regarding any other segment of the river one way or the  
4 other. I think that's the question that you were asking.

12:27:59 5 Q. And you did a much better job of stating it.

6 A. I'd like to clarify, the reports were written  
7 prior to my being retained, so the information in the  
8 report that was done, that contract was completed. As far  
9 as we knew, the process was over. The only work we've

12:28:14 10 done since that time was to just remove language from  
11 the -- that related to the bill -- part of the bill that  
12 was struck down. So we didn't change the technical  
13 contents of any matter. And I think if you read the  
14 report it's pretty clear it's an unbiased presentation of  
15 the facts. Information that I'm sure, when you see the  
16 post-memorandum hearings, the people will be studying the  
17 report on either side. I think I could be criticized by  
18 both sides, so I guess we're doing okay.

19 MS. HERR-CADILLO: Thank you.

12:28:46 20 CHAIRMAN EISENHOWER: Thank you, John,  
21 appreciate it.

22 I think right now -- it's 12:30, let's take  
23 an hour break for lunch and get everybody walked around,  
24 get a little bite to eat. We will be back here at 1:30  
29:03 25 ready to go.

1 (The lunch recess was taken.)

2 CHAIRMAN EISENHOWER: Ladies and gentlemen,  
3 we're back in session, but first let me apologize. We had  
4 a waiter that had difficulties today, so that's why we're  
5 a little late. But on top of that we have so many  
6 witnesses, particularly on the Gila River, that I hope you  
7 will bring your evidence and do it quickly and politely,  
8 but bring all your evidence that you have to bring in. I  
9 would appreciate it and I think all the other people here  
10 who want to testify will appreciate it too, because I do  
11 have quite a stack of speakers who wish to talk about the  
12 Gila River.

13 So with that, first witness on the top of my  
14 pile here is Mr. Mark McGinnis.

15 MR. MCGINNIS: I'm not a witness.

16 MR. SPARKS: Could we swear this witness,  
17 Your Honor?

18 MR. MCGINNIS: Mark McGinnis, Salt River  
19 Project. We have two witnesses. I don't know where they  
20 are in your stack. You want us to do ours now?

21 CHAIRMAN EISENHOWER: Yes.

22 MR. MCGINNIS: Dr. Littlefield and  
23 Dr. Schumm.

24 CHAIRMAN EISENHOWER: Yes.

25 MR. MCGINNIS: My first witness is

1 Dr. Douglas Littlefield.

2 DR. LITTLEFIELD: Mr. Chairman, members of  
3 the commission, good afternoon. As you know, I've  
4 testified before you in the past, and in the interest of  
5 brevity I'm not going to go through my qualifications  
6 again. I just want to refer you to my testimony in  
7 October, which describes some of those qualifications.  
8 And also I want to point out that with regard to that  
9 testimony, as well as this testimony on the Gila, and my  
10 forthcoming testimony on the Verde, all three of those  
11 reports have my curriculum vitae in the appendix so you  
12 can refer to that for the details about my background.

13 Similarly, I'm not going to go through in  
14 great detail the sources that I used in research -- those  
15 are described in the introduction of these reports --  
16 other than I want to say I've used a huge amount of  
17 material in reaching the conclusions that I have in  
18 archives from all over the country, including National  
19 Archives, state archives, historical societies, government  
20 reports, and so forth.

21 I did want to add a little bit of  
22 information to clarify some of my earlier testimony about  
23 surveying, particularly as a government -- general land  
24 office surveyors particularly pertains to the Gila. The  
25 surveys that relate -- the general land office original

1 surveys that relate to the Gila were undertaken over a  
2 wide range of years. There has been some testimony about  
3 those surveys here earlier. But just to deal with the  
4 original surveys for the different townships along the  
14:07:50 5 Gila had only those took place in 1868, 1871, 1874, 1877,  
6 1878, 1882, 1883, 1890, 1910, and 1911. Those are the  
7 prestatehood surveys.

8           There was also a resurvey done as part of  
9 one of the townships that was done in 1907 and several of  
14:08:23 10 the townships were surveyed after 1912, including one that  
11 took place in late 1912, one in 1915, and one in 1936. As  
12 I explained in my testimony with regard to the Salt, there  
13 were a number of different survey manuals that governed  
14 how surveyors were to undertake their work. And I want to  
14:08:45 15 really stress here, these surveyors were charged  
16 specifically with looking for evidence of navigability.  
17 This was not a sideline or something that they threw in  
18 there, but part of their specific instructions in each of  
19 these manuals said specifically to address the question of  
14:09:02 20 navigability. But I also want to make it clear, a couple  
21 of things about the Gila. First of all, the vast majority  
22 of the surveyors that undertook the surveys at those  
23 different years, the overwhelming majority of them did no  
24 meanders of the river at all. Meanders were what they  
09:18 25 were to do if they deemed the river to be navigable.



1 There were, however, two instances where there were some  
2 meanders done of the Gila River, and I specifically wanted  
3 to address those here and now just to clarify what that  
4 those meanders meant.

14:09:34

5 First of all, let me pull up Exhibit 3 here.

6 Actually, I want to back up one second and  
7 cover a little bit about what I didn't do in my research  
8 because that's always useful in terms of what I did and  
9 didn't do.

14:10:18

10 First of all, I did not do historical  
11 research in relation to Native Americans. My field of  
12 expertise is not Native Americans and I felt others could  
13 do that better, so my report doesn't cover that. Also, in  
14 addition to the survey exhibits that I have here, I was

14:10:38

15 selective in what I chose on these large exhibits, but I  
16 did, in fact, examine all the survey materials and all the  
17 homestead patents for the entire reach of the Gila from  
18 the Salt down to the Colorado. In relation to what I  
19 didn't do, I did not examine any reach of Colorado -- I'm

14:10:57

20 sorry, of the Gila River above its confluence with the  
21 Salt River, so I'm addressing any part of that portion of  
22 the Gila.

23 Let me put one other exhibit up and then

24 I'll turn to what I wanted to say about Exhibit 3.

11:06

25 (An off-the-record discussion ensued.)

1 DR. LITTLEFIELD: This map illustrates the  
2 reach of the Gila River that I looked at specifically with  
3 regard to all of the surveys prestatehood and also the  
4 homestead patent files. Because of the length of the  
4:11:40 5 river, I felt that I really couldn't describe and discuss  
6 every single patent and every single survey in my report  
7 covering this reach of the river. But I do want to  
8 emphasize, I did review every single set of field notes  
9 and every single patent for the entire length of the  
4:11:56 10 river. I simply didn't discuss them in my -- all of them  
11 in my report. Nothing in what I did not discuss in my  
12 report conflicts with what I am saying here, what's in my  
13 report. As you can see, there were four sample areas on  
14 the Gila River. Those were chosen primarily because they  
4:12:14 15 tended to have a high level of original settlement and  
16 therefore it made it easier to get a significant number of  
17 patents for my discussion purposes. But again, nothing  
18 that is outside the sample area conflicts with what's  
19 inside the sample areas.

4:12:32 20 Now, going back to Exhibit 3, I was talking  
21 about the small number of cases where there were meanders  
22 along the Gila River. Exhibit 3 contains one of the  
23 locations where there were, in fact, meanders. These were  
24 meanders that were done by deputy surveyors Solomon  
12:57 25 Foreman in 1871. He did the original surveys for township

1 5 south, range 4 west along the Gila River. And in that  
2 particular instance, he did meander one bank of the Gila  
3 River, not both banks, but one bank. And I don't have it  
4 in my notes here, but my recollection is that he switched  
5 from one bank to the other part way down. The reason why  
6 he undertook that meander was not for navigability. The  
7 surveyor, Mr. Korman, was operating under the 1864  
8 surveyors' instruction manual, which had added a new  
9 reason for doing meanders to the original survey  
10 instructions, which were 1851 and then 1855.

11 The original 1851 and 1855 instructions only  
12 said meander navigable bodies of water, it said nothing  
13 about any other types of bodies of water to meander.  
14 1864, though, that manual said, "Do meanders of one bank  
15 of rivers" -- and I want to get the exact quote here. I  
16 don't have the exact quote -- yes, I do. Just a moment  
17 here.

18 Exact quote with that Mr. Foreman was  
19 supposed to operate under -- is he was to meander one  
20 bank, the right-hand bank, facing downstream of, quote,  
21 rivers not embraced in the class nominated "navigable"  
22 under the statute, which are well-defined in natural  
23 arteries of internal communication and have a uniform  
24 width.

25 And surveyors' -- Foreman did indicate that

1 he was following the instructions that he was given in his  
2 surveying contract, and he did meander the one bank  
3 because he deemed it to be a route of internal  
4 communication, meaning something that people followed a  
5 path along, such as the Gila Road.

6           There was one other instance where there  
7 were historical meanders that were done, and that's in  
8 Exhibit 5. A little further down the river. By the way,  
9 the reason why there are Exhibits 1 through 5, are that  
10 one of the exhibits is to be the overall overview map.  
11 This is Exhibit 5 where the Gila River meets the Colorado  
12 River. In this particular case, the surveyor involved was  
13 James Martineau, that's M-a-r-t-i-n-e-a-u. And he  
14 surveyed township 8 south, range 21 west and he did that  
15 survey in 1890. He was operating under the 1890 surveyors  
16 manual which had just been issued by the General Land  
17 Office.

18           The 1890 manual contained all the original  
19 instructions for surveying, meaning not-navigable bodies  
20 of water, but it did add one new classification to  
21 surveys, that was that he was to -- surveyors were also to  
22 meander not-navigable bodies of water that were over three  
23 chains in width. The reason for that was simply that part  
24 of the purpose of these surveys was to identify lands to  
25 homesteaders so they could go out and make a precise

1 location of where their lands were going to be. And  
2 everyone knew that washes of rivers and the like were not  
3 potentially good farm land, and therefore, the land office  
4 didn't want to sell land in a block of land that was going  
14:16:51 5 to be in something that couldn't be farmed.

6 So Mr. Martineau did, in fact, operate under  
7 the 1890 manual. He did, in fact, meander both banks of  
8 the river, but he also indicated that the reason why he  
9 was doing that was because the Gila River in this  
14:17:07 10 particular reach was over three chains in width, which was  
11 the requirement of the surveying manual at the time.

12 I also wanted to point out one or two things  
13 about where this information comes from in terms of  
14 meanders and how one reads it. First of all, surveyors  
14:17:24 15 took field notes when they were actually in the field and  
16 they did them in small little notebooks. They were  
17 handwritten. And surveyors then took them back to an  
18 office or some other location and they then drew the plats  
19 from which these surveys were -- from their field notes.

14:17:41 20 I have an example of the plat which is actually on the  
21 Verde River, but as an example, would work just as well  
22 for both the Gila and the Verde for the purposes that I'm  
23 talking about here.

24 The meanders that were done either for  
17:58 25 navigability on any river -- if a river was meandered the

1 actual details of the survey's degree bearings and the  
2 lengths that were walked on particular lines for the  
3 meanders were recorded in the actual field notes, these  
4 notebooks that I mentioned. But they were also reported  
5 on the plats that were drawn from the field notes.

6           And as I said earlier, this is a sample from  
7 the Verde that I brought for my Verde testimony, but it  
8 would work just as well for the Gila. On the left-hand  
9 side, you can see that there's a block that's printed on  
10 the standardized form for the plat, and the block is  
11 labeled "meanders up" and it then gives a place for the  
12 surveyors to enter the meander post number where they put  
13 them in, the course that they had at the degree bearing,  
14 and then the length. And all those details were to go on  
15 the plat in addition to their field notes.

16           In any event, as I indicated, Mr. Solomon  
17 Foreman did one-bank meanders under the 1864 manual and  
18 then James Martineau did the meanders as well on both  
19 banks under the 1890 manual. It's important to stress  
20 here that with those two exceptions, none of the other  
21 surveyors did any meanders at all and they were  
22 specifically charge with looking at navigability.

23           The other thing that I mentioned in my  
24 previous testimony on the Salt as well and will be  
25 bringing up again are the homesteads. Homestead

1 applications. And in those particular cases, as I said  
2 moments ago, there were well over 100 patents that were  
3 issued all along the Gila River. And in those cases where  
4 those patents contained the bed of the river, there was  
14:20:01 5 never any indication in any of those patents or their  
6 accompanying files that included their applications,  
7 testimony of witnesses, correspondence if there were any  
8 disputes. There was never any indication that anyone  
9 thought the river was navigable by withholding the land or  
14:20:15 10 for any other reason.

11 I also wanted to mention some of the other  
12 historical documents such as government reports that deal  
13 with the question of navigability. We were talking  
14 about -- some of the other testimony came up regarding  
14:20:38 15 government reports, and I do have some selections here  
16 from various government reports about what the -- how they  
17 described the Gila before statehood.

18 The 1891 annual report from the U.S.  
19 Geological Survey described the river in the following  
14:20:56 20 way: The floods of the Gila are usually short and  
21 violent. The highest water occurring during the month of  
22 January and February. During a fresh flood the river  
23 rises in some places from 8 to 12 feet and increases in  
24 width from 300 feet to a mile and a half. It is sometimes  
:21:14 25 impassable weeks and has the appearance in places of a sea

1 of muddy water. The season of low water occurs during the  
2 month of June and July, the river bed being then dry in  
3 places.

4 Another example comes from the report of  
:21:27 5 progress of stream measurements for the calendar year  
6 1905, part 11, Colorado River drainage above Yuma, but  
7 this particular description is of the Gila. "The river  
8 now," meaning 1905, "flows in a channel fully one mile  
9 north of the original channel. At every flood, the  
:21:47 10 channel shifts. The valley at its narrowest is half a  
11 mile wide and the waters may occupy any part or all of  
12 it." He also adds that the river, quote, contains, quote,  
13 an enormous amount of mud and sand. At times the waves of  
14 sand traveling along the river of the stream were so  
:22:06 15 large, the current is so swift, and the stream so shallow,  
16 the water is broken into a uniform succession of waves  
17 two feet high or over. And that's in contrast to the  
18 previous testimony that said in places the river was dry.  
19 So there's a clearly major change in the amount of flow of  
:22:20 20 water.

21 A U.S. Geological water supply paper  
22 published in 1910 called the river torrential, and that's  
23 their word, and the reporter described the Gila as, quote,  
24 sometimes impassable for weeks and it has the appearance  
22:37 25 of muddy water. And then the water -- that same paper



1 added that in the season of low water, in June and July,  
2 the river bed then being dry in places.

3 Another report was written by an engineer by  
4 the name of Murphy. Mr. Murphy was sent out in 1915  
14:22:58 5 specifically to look for hydroelectric power dam sites,  
6 because under the Enabling Act of 1910, Arizona could not  
7 select for its state lands, lands that were suitable for  
8 the development of hydroelectric power. Murphy was  
9 actually in the field identifying those lands on behalf of  
14:23:17 10 the U.S. so that the State could not select those lands.

11 But Mr. Murphy's report does contain some good descriptive  
12 material about the Gila River. Murphy said that, quote --  
13 I'm sorry, the Gila, quote, flows through a broad flat  
14 valley in a broad, sandy changing channel. It is dry for  
14:23:43 15 a month or longer each year at Florence and below Gila  
16 Bend it is dry all the time expect during large and  
17 long-continued floods.

18 There are many ditches diverting water from  
19 Gila in this part, and the area that can be irrigated from  
14:23:56 20 them is very large, but the area actually irrigated is  
21 comparatively small on a kind of small and uncertain  
22 supply. As previously stated, there may be several years  
23 in succession of very small runoff. These years only  
24 ground water -- I'm sorry, during these years, only ground  
24:12 25 water is available for some of this land. The irrigation

1 ditches, and especially the headworks, are allowed to get  
2 out of repair. And when a flood comes, it damages or  
3 destroys the headworks and little, if any, of the flood  
4 water is utilized. At some places on the Gila Indian  
4:24:30 5 Reservation, the underflow comes to the surface and is  
6 diverted for irrigation. Also below the mouth of the Salt  
7 River where the Buckeye and Arlington canals are located.  
8 The canals and the ditches that tap the underflow have a  
9 permanent supply, but those that depend on the surface  
4:24:44 10 flow are not a success.

11 And I also won't put it into the record  
12 because it has already been put in, but my report also  
13 included some direct quotations from Mr. Cooke on the  
14 Cooke expedition in 1846. The direct quote of where  
4:25:07 15 Mr. Cooke stated that the trip was a failure is quoted in  
16 my report of page 106. Also the Emory expedition. I  
17 don't believe that one was discussed. There's also a  
18 direct quote about the nature of the Gila River in 1846 to  
19 1847 on pages 108 and 109.

4:25:30 20 And I guess that's all that I have for  
21 today. If you have any questions, I would be glad to  
22 answer them.

23 CHAIRMAN EISENHOWER: Commission Brashear?

24 (Dr. Littlefield is answering questions.)

25:39 25 BY COMMISSIONER BRASHEAR:

1 Q. There has been mention many times that you have  
2 these surveyors here operating according to the very  
3 specific manual.

4 A. That's correct.

14:25:48 5 Q. But I'm wondering, if you dig a little bit  
6 deeper, if these people were operating in an environment  
7 that was not unlike Iraq today. I mean, especially the  
8 early ones. If Geronimo had not surrendered, it was very  
9 dangerous out here, very lonely, and I'm wondering how  
14:26:07 10 much can we depend that some guy came out here from  
11 graduate school, picked up some kind of credentials as an  
12 engineer and came out here, took that manual, and said,  
13 "By god, we're going to take this thing every step of the  
14 way." That he didn't say, "I don't care. Put the stake  
14:26:25 15 there. It's not going to ever make any difference to  
16 anybody." So I would just like to --

17 A. Your question speaks to the accuracy of the  
18 survey and I think it's a good question.

19 I would respond to it in a couple of ways.  
14:26:37 20 One, there was unquestionably fraud involved some of the  
21 surveys, not just in Arizona but throughout the west. And  
22 in fact, in some of the cases, there were resurveys for  
23 precisely that reason.

24 But I think it's also telling that the  
26:52 25 surveyors that were involved in, for example, the Gila and

1 the Salt River on the upper Salt -- I testified about  
2 Theodore White, he did all the surveys up there --  
3 Martineau and Solomon Foreman did -- I can't remember the  
4 names of the other ones -- but there were only eight or  
4:27:09 5 nine surveyors total on the lower -- the Gila between the  
6 Salt River and the confluence with the Colorado. And I  
7 think, given the reliance on these particular surveyors  
8 who have done as many of the surveys as they did, to me is  
9 testimony that what they did is fairly accurate. But your  
4:27:26 10 point is absolutely correct that in some cases they didn't  
11 do surveys because of Indian attacks. Although, in the  
12 contract files, which I have been through for the  
13 surveyors, there will be correspondence to that effect,  
14 sometimes that they couldn't complete the job because of  
4:27:41 15 the Indians.

16           And as I noted with the surveyor Theodore  
17 White, they were honest when they couldn't survey certain  
18 areas, that it was just too difficult. So I personally,  
19 as a historian, I'm satisfied about the accuracy of the  
4:27:59 20 surveys on the Gila, and for that matter, the Upper Salt  
21 that I testified about and also about the Verde.

22       Q.    Are you more confident of the layer that came --  
23 does that increase confidence? Like, as you mentioned,  
24 some of them go back as far as 1881. Some go into 1906,  
28:11 25 1907. I was just wondering, in that period of time there

1 was a lot taming going on out here, and I wondered if  
2 there was any reason to believe that the later ones were  
3 more accurate than the earlier ones?

4 A. With regard to the dates on the surveys, some of  
4:28:34 5 the early ones on the Gila took place in the late 1860s,  
6 and then they continued depending on where you were on the  
7 river up until -- the bulk of them were done by the time  
8 of statehood, but there were a few after statehood.

9 With regard to accuracy over time, what I  
4:28:51 10 found is that the surveyors tended to be told to do more  
11 detail, not less, as time went on. Their manuals were  
12 more, for example, required them to do smaller sections  
13 within the original townships, like quarter sections and  
14 so forth. And the manuals became more precise over time  
4:29:09 15 to correct problems that had arisen with regard to, for  
16 example, meanders. Part of the provision of that 1890  
17 discussion about the three chains and water, the  
18 instructions in the manual said that part of the reason  
19 why they were putting in there was that there had been  
4:29:26 20 some dispute over the use of meandering with regard to  
21 surveying the boundaries of Indian reservations, and they  
22 were trying to clarify that by the instruction that they  
23 were putting in there.

24 Q. Now, were these -- if my history is right, some  
29:41 25 of these surveyors were military personnel in Arizona and

1 the others were government employees, or were they  
2 contract employees, or who were -- who did these people  
3 work for?

14:29:55 4 A. I don't know the exact backgrounds on all the  
5 surveyors. The ones that I have run across were all  
6 contract employees, hired in the contracts. Their  
7 contract files that I've been through are at the National  
8 Archives. Those contract files typically will say, "You  
9 will follow the instructions" -- this is the surveyor  
14:30:11 10 general speaking -- "in the manual of such and such a  
11 date," and if there is anything else unusual that they  
12 were to do, they would do as well.

13 There would also sometimes be correspondence  
14 from the surveyors saying why he couldn't carry out the  
14:30:26 15 instructions that he was asked to do, if that was the  
16 case. But all the surveyors that I have run across in  
17 Arizona were all contract workers working through a  
18 contract with the U.S. government.

19 Q. Was there any kind of a compliance check that was  
14:30:39 20 done at the end of one of these contracts or to make sure  
21 that the contract had been lived up to by the contractor?

22 A. The surveyor didn't operate by himself. He  
23 typically had a work crew with him and then the work crew  
24 would sign off under penalty of perjury along with  
30:59 25 surveyor that they had done the job accurately. But there

1 were resurveys that were done, notably in 1907 along the  
2 Gila, although I don't remember precisely why that one was  
3 done.

4 COMMISSIONER BRASHEAR: Okay. Thank you.

14:31:18 5 CHAIRMAN EISENHOWER: I have no questions.

6 Is there anybody in the audience that would  
7 like to ask Dr. Littlefield -- Laurie, please come  
8 forward.

9 Again, I ask everybody -- not just you this

14:31:40 10 time -- everybody, as you come up, make sure that it's  
11 brief, to the point, and relevant, because we have so much  
12 to get through and so many speakers.

13 (Dr. Littlefield is answering questions.)

14 BY MS. HACHTEL:

14:31:49 15 Q. Laurie Hachtel from the Attorney General's for  
16 the State Land Department. I just have a few questions  
17 for you, Dr. Littlefield.

18 My first question is, in the first year of  
19 research, did you examine the GLO contracts?

14:32:04 20 A. Yes, I did.

21 Q. And in the GLO contracts, did they have specific  
22 instructions to the surveyors as far as whether they would  
23 consider the river navigable or non-navigable?

24 A. Generally, the contracts that I have seen say to  
32:21 25 the surveyor, "You," meaning the surveyor, "will follow

1 the instructions that are outlined in" -- in some cases,  
2 they state the specific title of the manual then in force  
3 or in another cases it says, "You will follow the  
4 instructions under the published rules of the land  
14:32:39 5 office."

6 Q. And your earlier testimony on the Upper Salt,  
7 just to clarify, I thought you had said -- and I would  
8 like you to confirm this for me if it's accurate -- that  
9 the courts are not bound to base navigability decisions on  
14:32:59 10 whether the GLO surveyors meandered a river or not. Is  
11 that correct?

12 A. I don't believe I testified about that. You may  
13 have gotten it from someone else, but I don't think it was  
14 from my testimony.

14:33:12 15 Q. Well, then, is it your opinion that a meandered  
16 delineation by a GLO or BLM surveyor is definitive for  
17 navigability?

18 A. They are what they say there are. It's the  
19 surveyor's opinion as to the date of the surveyor that in  
14:33:24 20 his view the river either was or wasn't navigable.

21 Q. But you don't have an opinion based on -- I mean,  
22 if they determined that it is or is not navigable, you  
23 base your opinion on that as far as for non-navigability  
24 of the Gila?

33:38 25 A. It's one of many sources that I considered. And



1 in relation to all the other sources put together, that  
2 leads me to my general conclusion. But in and of itself,  
3 I would only consider that if I felt, as the Land  
4 Department mentioned this morning, what tends to validate  
5 their sources by looking at whether they are supported or  
6 disputed by other sources. And in relation to the  
7 surveyors, pretty much all the other sources agreed with  
8 what those surveyors had found.

9 Q. Just a few more questions, Dr. Littlefield.

10 Dr. Littlefield, wouldn't you agree that  
11 diversions and canals in existence at statehood altered  
12 the conditions, particularly the flow, of the Gila?

13 A. Yes, they did.

14 Q. And wouldn't you agree that by statehood,  
15 virtually all the flow had been impacted -- or I should  
16 say, had been diverted?

17 A. I don't know what the numbers are on that.  
18 They -- the diversions, unquestionably, had an impact on  
19 the flow.

20 Q. And do you know what the term "ordinary and  
21 natural" means in the context of navigability --  
22 determining navigability?

23 A. Only in the general sense. I'm not an attorney,  
24 and I haven't gotten any detail on that.

25 Q. In the general sense, can you explain to me what

1 you think it means?

2 A. I think the land department described it this  
3 morning -- maybe it wasn't the land department -- but  
4 meaning, sort of, the average of what the average flow  
5 would be, not the extremes of the flow or the extremes of  
6 drought.

7 Q. And Dr. Littlefield, your report doesn't assess  
8 or consider the river in its ordinary and natural  
9 conditions without diversions or man-made obstructions,  
10 does it?

11 A. Some of the surveys, I believe the earlier ones,  
12 were done before most of the diversions were put on the  
13 river. But my report, as a accumulative document, does  
14 not deal with what might be called the natural flow of the  
15 river without any impact by humans.

16 Q. And those surveys would then -- which ones in  
17 particular, the 1868 survey and the 1871 survey up to --  
18 what surveys would you include in that?

19 A. As was testified to this morning, as you get  
20 later in time, there are more diversions, and I don't know  
21 the precise flows of which diversions took additional  
22 waters out of the river, when and how that would have made  
23 it -- a certain percentage less natural. All I know is  
24 that the later in time you go, the more of the river was  
25 appropriated and diverted.

1 Q. And Dr. Littlefield, isn't the surveyor's meander  
2 line simply his opinion on the day he viewed that  
3 particular river? Isn't that true?

4 A. Yes, the day that he was there.

4:36:36 5 Q. So it doesn't -- that in and of itself, on that  
6 particular snapshot of the river, does not necessarily,  
7 would you agree, prove conclusively navigability of the  
8 river in general?

9 A. No. But when taken in consideration of the fact  
14:36:54 10 that -- I believe it was nine separate surveyors being  
11 there in separate years and separate times of years all  
12 reached the same conclusion that many, many other --  
13 literally hundreds of parties reached, either implicitly  
14 or explicitly, the river was not navigable. I think it's  
14:37:09 15 pretty persuasive that the river was not navigable.

16 Q. But it doesn't conclusively prove it though?

17 A. One particular document, no, it does not.

18 Q. And Dr. Littlefield, did you check to determine  
19 if any of the surveyors of the Gila were given special  
14:37:29 20 instructions for their surveys?

21 A. I went through their contract files, and I don't  
22 remember the specifics, but there was nothing unusual in  
23 them that I recall.

24 Q. And if they were given special instructions in  
37:40 25 particular, they would have been in contract files?

1 A. Not all the contract files could be located, so I  
2 don't know the details on all of them. But sometimes  
3 there were special instructions and sometimes there were  
4 not.

14:37:50 5 Q. And those would have been included in the report?

6 A. Sometimes, yes.

7 Q. And your conclusions about what manual a surveyor  
8 was working under, aren't those simply assumptions because  
9 you don't have records that establish exactly which manual  
10 that particular surveyor was operating under, do you?

14:38:08 11 A. Not in every case. In some cases, the contract  
12 files say explicitly, "You will follow the instructions as  
13 laid out in the such and such manual," and it gives the  
14 title of the manual. In others it just says generically,  
15 "You will follow the published instructions now in force,"  
16 or something to that wording. And in some of the others  
17 it says, "You will follow the legal instructions of the  
18 general land office." It was just sort of a mixed bag as  
19 to what the particular instructions were.

14:38:24 20 Q. We know what the instructions were, but as far as  
21 what the -- if surveyor actually followed that particular  
22 manual, we don't know. Let's say, if he didn't have a  
23 particular -- that copy never was sent to him, the updated  
24 one from, let's say -- I can't of the one -- any of the  
38:58 25 different ones if there was an update. We don't know

1 particularly for a fact that that surveyor had that in his  
2 hands and actually followed that manual when he did the  
3 survey?

4 A. I think you're correct in that regard. I think I  
14:39:11 5 testified about Theodore White in regard to upper Salt.  
6 His survey was done in 1880. I believe it was done  
7 sometime in the middle of the year. I don't remember  
8 exactly, but there was a manual that came out in 1880, and  
9 there was no indication about whether he was following the  
14:39:26 10 new 1880 manual or working under the previous one, which  
11 is the 1864 manual, I believe it was. I think the further  
12 apart the survey work was done from the date of the  
13 published manual, more likely it is that they were using  
14 whatever the current manual was. But your general point  
14:39:45 15 is correct.

16 MS. HACHTEL: That is all the questions that  
17 I have. Thank you, Dr. Littlefield.

18 CHAIRMAN EISENHOWER: Thank you, Laurie.  
19 Is there anybody else that has a question  
14:39:56 20 for Dr. Littlefield?

21 (Dr. Littlefield is answering questions.)

22 BY MS. HERR-CARDILLO:

23 Q. Dr. Littlefield, my name is Joy Herr-Cardillo.  
24 I'm with the Arizona Center for Law in the Public  
40:06 25 Interest, and we're here to represent Defenders of

1 Wildlife in this proceeding.

2           Could you clarify for me, when you use the  
3 term "navigable" in the context of your study, what the  
4 definition of that term is?

14:40:18 5           A.    My personal definition?

6           Q.    The one -- yes, what your understanding of the  
7 term is as you used it here in this hearing and in your  
8 study.

9           A.    What I tried to do with my report is I tried to  
14:40:33 10 examine the widest range of documents possible that would  
11 shed some light on whether the river was considered  
12 navigable under any definition. And that would be the  
13 Daniel Ball case, which I didn't bring any documents  
14 precisely related to Daniel Ball, or whether it would be  
14:40:55 15 under any other type of precise definition or just a  
16 general commonsense definition.

17                       But I felt that looking at hundreds and  
18 hundreds of documents would shed some light on whether any  
19 of the parties thought the river was navigable, and if so,  
14:41:11 20 to what degree. And I what I found was that pretty much  
21 under any reasonable standard of assessment by parties who  
22 were on the scene at the time, the river was not reliable  
23 as a progressive means of transportation.

24           Q.    Are you familiar with the Defenders of Wildlife  
41:33 25 versus Hull decision?

1 A. I've only heard the case -- the title. I don't  
2 know anything about the decision.

3 MS. HERR-CARDILLO: I have nothing further.

4 CHAIRMAN EISENHOWER: Thank you.

14:41:42 5 Any other questions for Dr. Littlefield?

6 (Dr. Littlefield is answering questions.)

7 MR. HELM: Mr. Chairman, John Helm for  
8 Maricopa County.

9 We have a very extensive cross-examination  
14:42:04 10 of Mr. Littlefield. I know that you have been admonishing  
11 everybody to keep it short.

12 CHAIRMAN EISENHOWER: Is it relevant?

13 MR. HELM: We think it is, or we wouldn't  
14 have done it. We're not here to waste anybody's time,  
14:42:20 15 Mr. Chairman, but we do have an extensive  
16 cross-examination. Part of that comes from the fact that  
17 Mr. Littlefield -- or Dr. Littlefield just filed a whole  
18 new report. We've had it since yesterday morning from  
19 your offices. So we haven't had an awful lot of time to  
14:42:40 20 go through it. We have obviously had no time to refer to  
21 our experts for their review to supplement the record.

22 We have gone through it. We have devised  
23 questions. We have divided that process up. Mrs. Livesay  
24 from my office has worked on the portions regarding the  
43:01 25 survey. I have taken the rest of that report. In

1 addition to that, we have questions regarding the first  
2 report that are extensive in nature. As you well know, I  
3 took Dr. Littlefield's deposition regarding that report.

4 So it's been filed. We view the deposition  
14:43:22 5 as an exhibit, and we've got a lot of questions on that.  
6 And we -- regrettably, we do feel they're relevant to the  
7 voracity of Dr. Littlefield and what he did. I just  
8 wanted to bring that to your attention before we start,  
9 because if there is somebody here that has a few questions  
14:43:36 10 for Dr. Littlefield, they might want to go ahead and get  
11 it out of the way so that they don't have to come back, if  
12 we run over, tomorrow or if we end up staying late  
13 tonight.

14 CHAIRMAN EISENHOWER: Make it as brief as  
14:43:55 15 you possibly can, please.

16 MR. HELM: I certainly will. We're not here  
17 to drag it out, but we've got to make a record. Mr.  
18 Chairman, you have to understand, this record is what goes  
19 to court in this case. And if I don't ask him the  
14:44:05 20 question, and I don't get the answer back, I don't ever  
21 get another chance to do that. So this answer that I get  
22 here today is the answer that goes to the court.

23 MR. KNIGHT: Mr. Chairman, can I ask a  
24 question before him?

44:24 25 CHAIRMAN EISENHOWER: Please approach the



1 microphone and give us your name and who you represent.

2 MR. KNIGHT: My name is Jerry Knight. I'm a  
3 retired BLM surveyor. I don't represent anybody. I'm  
4 just a surveyor that would like to know where the boundary  
14:44:38 5 is so I know where to survey.

6 But I have one question from the BLM manual  
7 that I would like to ask Dr. Littlefield, that's section  
8 7-49 and just clarify one thing, I think. I don't know if  
9 he cited extensively from the manual, but the way I use  
14:44:57 10 this is as my textbook in the class I teach at the Phoenix  
11 College on surveying.

12 7-49 says, "The legal question of  
13 navigability is determined by the facts in any particular  
14 case and not from the action on the part of the surveyor."  
14:45:13 15 And it cites the case -- U.S. Supreme Court case --  
16 Oklahoma versus Texas, 258 U.S. 574, and then it quotes  
17 that case. Just a short sentence here. "A legal  
18 inference of navigability does not arise from the action  
19 of surveyors in running meander lines along the banks of  
14:45:28 20 rivers."

21 And I just wanted to bring that one  
22 clarification. I don't think he's really saying that. He  
23 says the way that the surveyors are thinking. But I did  
24 want to point out that the manual does say and quotes the  
45:45 25 court cases that we surveyors don't have authority to

1 determine navigation and anybody that says that is  
2 contrary to law. And I don't know if you all have a copy  
3 of the manual. I would be happy to donate one to you.

4 DR. LITTLEFIELD: Did you have a question?

14:46:05 5 MR. KNIGHT: I was going to ask you if you  
6 were aware of that sentence in the manual.

7 DR. LITTLEFIELD: The manuals that I worked  
8 with were the historical ones, not the current manual.

9 And you're correct that the surveyors were not precisely  
10 given the responsibility to determine navigability. Their  
11 instructions said that they were to meander bodies of  
12 water that were navigable, and I believe the wording in  
13 the manuals were "under the statutes." And so they made  
14 judgments about what they thought might be navigable, but  
15 it was their particular -- whether they meandered it or  
16 not was not the final say in the matter. They were just  
17 using their own opinions.

18 MR. KNIGHT: That's correct.

19 COMMISSION COUNSEL JENNINGS: Mr. Chairman?

14:46:46 20 CHAIRMAN EISENHOWER: Yes?

21 COMMISSION COUNSEL JENNINGS: Doesn't -- in  
22 Oklahoma versus Texas, though, go on to say that while it  
23 is not a inference or determining factor, it is evidence  
24 that can be used in determining and considered by the  
47:01 25 Court as to whether or not a stream or watercourse is, in

1 fact, navigable?

2 MR. KNIGHT: I have the case right here. I  
3 could quote the case, if you would like me to, sir.

4 COMMISSION COUNSEL JENNINGS: Well, I'm just  
5 asking. That was my recollection of what the case said,  
6 that it while it's -- you're right, I agree it is not  
7 mandatory, but it is evidence that can be considered.

8 MR. KNIGHT: I think that you can always use  
9 evidence, and that's why I say that it was indicative of  
10 the thinking at the time is what he's saying. But I did  
11 want to make clear that just because we surveyors do it,  
12 it doesn't really, according to the Supreme Court, have  
13 any inference of navigability, it's just an opinion at the  
14 time. And in the totality, Dr. Littlefield is correct  
15 that there is a whole lot of inference that the surveyors  
16 at the time considered navigable -- non-navigable, and I  
17 agree with that thought. And it can be as part of the  
18 whole factors, like Dr. Littlefield said, it can be  
19 considered, but to say that just because a surveyor  
20 meandered, that doesn't have anything to do with whether  
21 it's navigable or non-navigable because the surveyor -- we  
22 just don't have that authority to determine that.

23 CHAIRMAN EISENHOWER: Okay.

24 DR. LITTLEFIELD: Can I add one thing to  
25 that? I agree with everything that you said. I did want

1 to stress that of all the history parties out here,  
2 surveyors were the only ones that I ran across who were  
3 told precisely that they were to, as part of their job,  
4 they were to consider navigability in doing what they were  
5 doing.

14:48:31

6 MR. KNIGHT: Thank you.

7 CHAIRMAN EISENHOWER: Thank you, sir.

8 MS. COPELAND: Mr. Commissioner, we actually  
9 have a proposal that might help us out timewise I'm

14:48:36

10 betting you'll want to hear.

11 CHAIRMAN EISENHOWER: Would you state your  
12 name again?

13 MS. COPELAND: Kirsten Copeland for Buckeye  
14 Irrigation Company and Buckeye Water and Conservation

14:48:55

15 Drainage District. We also have historian Jack August  
16 who's here to testify, and we were thinking that it might  
17 be appropriate to go ahead and get both the historians  
18 taken care of and let Mr. Helm have at them at once as  
19 opposed to putting on one after the other. Is that --

14:49:15

20 MR. MCGINNIS: Mark McGinnis on behalf of  
21 SRP. I don't object to Mr. Helm taking a reasonable  
22 amount of time, whatever it is, to cross-examine  
23 Dr. Littlefield. I was just wondering, if there are other  
24 people here that want to testify, you might not want to  
25 stay here until whatever time we get done with that to

49:29

1 testify. So it's fine with me if we want to put off  
2 Dr. Littlefield's cross until after you do some other  
3 witness, because Mr. Helm says he has two or three hours  
4 to put in, and I'm assuming the rest of the people in  
5 audience might not want to sit here for two or  
6 three hours.

7 CHAIRMAN EISENHOWER: Why don't we do that  
8 then?

9 MR. HELM: I'm not interested in that part  
10 of the proposal that Buckeye Irrigation District does  
11 because this stuff is fairly adequate to go into a  
12 courtroom, and I don't want these witnesses to be confused  
13 in the transcript about their answers. I would rather  
14 have them testify separately.

15 MR. MCGINNIS: I think that's what we're  
16 proposing.

17 MR. HELM: You can do it one at a time, is  
18 all I'm saying.

19 CHAIRMAN EISENHOWER: I think the proposal  
20 was -- as I understood it, was we'll delay  
21 Dr. Littlefield's examination by you until a later time  
22 and get these other witnesses done and over with.

23 MR. HELM: I thought Buckeye's proposal was  
24 that we put them all up here, let them all answer, and I  
25 get them all at the same time. I want to have an orderly

1 process. I don't want to go and do that.

2 MS. COPELAND: Sorry, Mr. Chairman, my  
3 proposal -- and if anybody wants to leap on board, that's  
4 certainly fine with me -- but we only have the one witness  
4:50:43 5 so there's not a long line for Buckeye. But because they  
6 are both historians, I thought it made sense in the  
7 context to go ahead and get both of their testimonies on  
8 the record and whatever Mr. Helm wants to do, that's fine.

9 MR. HELM: As long as it's done separately,  
4:50:57 10 I don't have a problem.

11 MS. COPELAND: Separately, of course.

12 CHAIRMAN EISENHOWER: Okay.

13 MR. MCGINNIS: Like pull them back.

14 MR. HELM: Bring Buckeye up, I have no  
4:51:04 15 problem with that.

16 MR. MCGINNIS: That's okay. We'll just  
17 do -- what are we thinking about in terms of how late  
18 we're going to do today, I guess would be the next  
19 question. I don't have a problem, if you guys are willing  
14:51:12 20 to do it, finishing the rest of it and then we'll stay  
21 with Dr. Littlefield as long as you can stand it and get  
22 that done; that way other people can go on and people who  
23 aren't interested can listen to cross.

24 CHAIRMAN EISENHOWER: From what I see on my  
51:28 25 speaker list, most of the people are interested in the

1 Gila River. Have very little interest in the Verde right  
2 now. That may change, but right now I don't. So I would  
3 rather get as much of the Gila River out of the way. And  
4 if Mr. Helm is planning on two hours, I mean, that seems,  
5 to me, a long time.

6 MR. HELM: I took over two days taking his  
7 deposition, Mr. Chairman. It's not a long time, there's a  
8 condensation.

9 CHAIRMAN EISENHOWER: Well, let's -- okay --

10 EXECUTIVE DIRECTOR MEHNERT: Mr. Chairman,  
11 we can have the room as late as we want and we can have it  
12 as early as we want tomorrow.

13 CHAIRMAN EISENHOWER: What we'll do is we  
14 will defer Dr. Littlefield for this time and hold him off  
15 until a little bit later time. Thanks.

16 And we'll go ahead with your historian.

17 MS. COPELAND: Well, you all know him  
18 anyway, this is Dr. Jack August. And I'll just let him go  
19 ahead and take care of all the preliminaries, except just  
20 to -- copies of his report are right here, more than you  
21 could ever want to have, I'm sure.

22 And also just to get clear on the record,  
23 you're being paid, right, Jack?

24 DR. AUGUST: I'm being paid.

25 MS. COPELAND: On time?

1 DR. AUGUST: On time and --

2 CHAIRMAN EISENHOWER: Everybody in the room  
3 is except us, but that's fine.

4 (An off-the-record discussion ensued.)

4:53:16 5 DR. AUGUST: I know most of you have  
6 appeared before this commission before.

7 MR. WOODFORD: Just for the record, my name  
8 is Brad Woodford with the law firm of Moyes Storey. And  
9 Jack August is also the historian for Paloma Irrigation  
10 Drainage and District. I just wanted that to be known for  
11 the record, not just for Buckeye.

12 CHAIRMAN EISENHOWER: Thank you.

13 MS. COPELAND: And I apologize, that was my  
14 fault for not bringing my notes up here.

14:53:52 15 DR. AUGUST: All right. In order to try to  
16 move this forward, you have what is 36, 40 pages of  
17 narrative, and what I want to do is -- I know that the  
18 heart of Dr. Littlefield's testimony chronologically runs  
19 from roughly 1848 to 1912 and a little bit beyond, of  
14:54:16 20 course. I want to kind of bracket his information. For  
21 the most part, there's a significant degree of continuity  
22 with his extensive report, both the previous version and  
23 current version that has just been handed in. There is  
24 very little change in terms of the erratic or kind of  
54:44 25 intermittent nature of the Gila River. I also want to



1 stress that what I am going to do for the first five  
2 minutes here is stress that this is -- I'm going to talk  
3 about material prior to 1848, before dams, the natural  
4 flow of the river. And then I thought I'd end with kind  
4:54:59 5 of just adding a little bit about some of the diaries,  
6 monographs, contemporary accounts, newspapers, and other  
7 accounts that may just elaborate upon the nature of the  
8 river to statehood.

9 I'll try not just to read from the  
4:55:09 10 narrative, but I do want to start with this, that on  
11 June 10th of 1913, just shortly after statehood, Howard S.  
12 Reed who was an employee of the -- then -- called the U.S.  
13 Reclamation Service -- responded to an inquiry from fellow  
14 worker Lewis C. Hill about stream flow in the Gila and  
4:55:37 15 southwestern Maricopa County. And I quote, Mr. Reed said,  
16 "On the 10th of August 1911, I made current meter  
17 measurement. The original notes which are here with it  
18 closed when I found a discharge of 103 feet per cubic  
19 second and this with no flow at all below Buckeye dam."  
4:55:59 20 And again, my report is geared toward Buckeye and Paloma,  
21 but it's placed in the broader context of our hearings  
22 here.

23 In fact, one could walk across the river and  
24 hardly dampen the shoes. I think this vivid depiction of  
56:10 25 a meager, almost ephemeral stream in many ways

1 encapsulates what contemporaries described as an  
2 unpredictable -- undependable and unpredictable  
3 watercourse that over time flowed intermittently and  
4 infrequently during the early decades of the 20th century.  
4:56:30 5 Again, I pertain similarly to Dr. Littlefield, and I think  
6 we are -- our historical methodology -- I think mine  
7 mirrored his in terms of what we looked at. He had much  
8 more extensive time in the field looking at surveyor's  
9 notes and all of that. But I basically would affirm that  
14:56:50 10 his finding of his report and as I -- I think I quote at  
11 the end of this opening paragraph, the Gila River was  
12 highly erratic, subject to flooding and major channel  
13 changes, blocked by obstacle, both natural and man-made,  
14 and diverted for irrigation needs. In short, the Gila  
14:57:09 15 River was not navigable on February 14th, 1912. And  
16 again, I refer to the various attempts to describe legally  
17 and impressionistically, I guess, as to what was navigable  
18 or not navigable as I've heard here today and in previous  
19 hearings.

14:57:24 20 Now, if the areas -- I'm going to forego any  
21 analysis that I did here of Native American issues  
22 pertaining to navigability or non-navigability of the  
23 river. But I do want to talk about the Spanish and  
24 Mexican periods in order just to add something -- to  
57:44 25 elaborate on Dr. Littlefield's report and others in the

1 statements, the land commissioner's as well.

2 Spanish priests, soldiers, civilian  
3 explorers, in the 17th and 18th centuries took note of the  
4 inhospitable environment, the inadequate water supplies of  
4:58:04 5 the lower Gila River system. And with few major  
6 exceptions, according to the distinguished historian  
7 Michael Meyer, from down at the U of A -- he's done some  
8 pioneering work. His book "Water in the Hispanic  
9 Southwest: A Social and Legal History, 1550 to 1850" I  
4:58:21 10 recommend to everyone in this room, historians or not. I  
11 quote from that -- he says, "The water sources, the Rio  
12 Grande, the Colorado, Huarte, the Yaqui, the Gila, being  
13 the most notable, which the Spanish dignified with the  
14 word "Rio" were scarcely rivers at all. Not even the  
4:58:38 15 largest, the Rio Grande, proved valuable for  
16 transportation and commerce either before or after the  
17 Spanish conquest. Although scientific evidence suggests  
18 forcefully that they carried a larger flow than they do  
19 now. That's obvious. Most rivers were not perennial.  
4:58:56 20 They ran only part of the year, trying their best to carry  
21 the excess of a sudden summer rain or capturing the excess  
22 of an exceptional winter snow cover and the surrounding  
23 mountains." Unquote.

24 The more common pattern, according to  
59:14 25 Dr. Meyer, was for the water to sink quickly into the

1 sandy bed and within a short distance, disappear from  
2 human sight. On occasion, however, they ran partly on the  
3 surface, and in fact, we found out at the Santa Cruz  
4 hearings that underground, protected from the evaporative  
14:59:28 5 powers of the environment, to be forced to the surface  
6 again by the geological structure of a given area.

7 To move forward, these rivers like the Gila  
8 did not always carry sufficient water. They nevertheless  
9 proved basically attractive, drawing the surrounding  
14:59:50 10 animal life, providing moderate moisture required for  
11 desert flora. It was along rivers like the Gila, arroyos  
12 and quicksand streams that most Indian populations, like  
13 the departed at Hohokam, adapted to desert life.

14 The alluvial plains, ranging in width from a  
15:00:08 15 few feet to several miles, were rich and an unreliable  
16 source of water. Here too, Spanish towns, missions, and  
17 presidios would claim to a precarious existence. And I  
18 would argue also that as these two groups, the Spaniards  
19 and the Indians, were forced by physical and historical  
15:00:28 20 circumstance to increasingly closer contact, precious  
21 water soon became -- came to dominate the very contest for  
22 power and survival among these two groups in the 17th to  
23 19th centuries.

24 Now, to get more specific even for the time  
00:46 25 of Father Kino and his extension of the river Christian in

1 the lower Santa Cruz and Gila valley in the 1690s. The  
2 Gila River played a prominent role as a transportation  
3 route, a land route, in furthering Spanish aims. And in  
4 fact, this is on page 7 of my report, and if you look at  
15:01:10 5 explanatory footnote, the literature is extensive  
6 concerning this.

7           Often diarists noted the remnants of the  
8 Hohokam civilization that marked the lower reaches of the  
9 Gila from its confluence with the Salt. Sergeant Juan  
15:01:28 10 Bautista de Escalante on reconns of the Gila basin in  
11 November of 1697 took note of ruins on the north side of  
12 the, quote, irregular river. And I quote him again: "On  
13 the 18th, we continued west over an extensive plain,  
14 sterile and without pasture, and at the end of five miles,  
15:01:45 15 we discovered on the other side of the river" -- this is  
16 the Gila -- "other houses and edifices. The sergeant swam  
17 over with two companions to examine them. And they said  
18 the walls were two yards in thickness like those of a  
19 fort. And that there were other ruins about, all of  
15:02:03 20 ancient date."

21           Later in 1775 and '76 -- and this has been  
22 referenced earlier by several people -- Don Juan Bautista  
23 de Anza led a colonizing expedition from Tucson to San  
24 Francisco. Father Pedro Font -- and I don't know why I  
02:21 25 stuck this phrase in here -- who irritated Anta greatly.

1 Anta and he didn't get along, obviously. Nevertheless, he  
2 kept the best diary of this historic expedition which  
3 followed the Santa Cruz to the Gila then down to its  
4 confluence with the Colorado River. The Gila portion of  
15:02:44 5 the journey, which lasted from October 30th to November  
6 28th, 1775, covered 231 miles, brought forth some  
7 noteworthy observations of the Gila's flow. According to  
8 Font, there were Indian agricultural systems diverting  
9 water, dry stretches, and occasional deep reaches that  
15:03:02 10 coursed slowly down the stream bed. In effect, the Gila,  
11 in the fall of 1775 -- and this is another one of these  
12 snapshots that we have been hearing about and I have heard  
13 reference to today -- was intermittent and erratic and in  
14 many reaches dry.

15:03:19 15                   References to the Gila from the period of  
16 the Mexican revolution of 1810 - 1821 and through the  
17 Mexican period -- historians like the 1821 to  
18 1848 reference here -- they vary little from accounts of a  
19 deep flow with an occasional destructive flooding in  
15:03:41 20 spring. Pressure -- so to end this short section, which  
21 precedes, I think, the heart of Dr. Littlefield's account,  
22 I think are historic of American expansions, are unanimous  
23 in their interpretation of the primary objective of the  
24 war with Mexico, which was from 1846 to '48. The  
04:00 25 acquisition of California, and with the treaty of

1 Guadalupe Hidalgo in 1848 and the subsequent Gadsden  
2 Purchase of 1853-'54 affirming the American title to the  
3 land bisected by the Gila. Much change in legal,  
4 political and social context, yet the Gila continued to  
15:04:20 5 serve, as it had for centuries, as an overland  
6 transportation route. For the Mormon battalion in 1846,  
7 which Mr. Gilpin and others have referenced; it's shortly  
8 thereafter for thousands of gold seekers, which was  
9 referenced as well; it worked well as a thoroughfare to  
15:04:40 10 California as the westward tilt of American civilization  
11 commenced in earnest. And with that, I think research and  
12 collections detailing American settlement and organization  
13 of these western territories lends insight into the nature  
14 of the Gila during the period 1848 to 1912, which you will  
15:04:59 15 be discussing and hearing about for the next couple of  
16 hours. One of the largest and most important groups of  
17 records created in relation to the Gila prior to statehood  
18 were those of the U.S. government, particularly federal  
19 surveys and therefore, I defer to your subsequent  
15:05:17 20 discussion.

21 Now, let me skip toward the end of my  
22 written account for you and discuss a little bit about  
23 statehood and some accounts prior to statehood. I think  
24 the further buttress of my discussion in this report and  
05:44 25 analysis of the evidence that I presented for you, there

1 are a variety of documents, press accounts, military  
2 records, unpublished manuscripts, and personal memoirs  
3 that suggest a lack of commercial navigability of the Gila  
4 River. Gregory McNamee, he's a noted environmental  
5 writer, and some of you may remember him as an editor at  
6 the University of Arizona Press. He got on the other side  
7 and started writing, and in his well-received 1994 book  
8 "Gila: The Life and Death of an American River," he cites  
9 several examples of the river's non-navigability at  
10 statehood. According to McNamee, the Gila began to dry up  
11 with the arrival of Anglo-American farmers whose crops  
12 included plants not well-suited for the desert. And I  
13 think we did hear some reference to that today. Egyptian  
14 cotton, soft wheat, and eventually citrus and nuts. The  
15 effect, according to McNamee, was it contains. Further,  
16 he asserts that within a few years, the river being  
17 diverted by Mormon planters upstream, quote, the bed of  
18 the middle and lower river was dry.

19 That's on page 125 of his book on the Gila.

20 Sue Summers, another example, this is a contemporary  
21 account. She arrived at the desert oasis town of  
22 Florence, Arizona with her attorney husband in 1879. She  
23 rode her stagecoach pride from Casa Grande to their new  
24 home along the Gila River. She noted that this was  
25 shortly after, quote, the Mormon dams had been built.



1 Quote, I had so much of the raging Gila which I now  
2 understood we would have to cross before reaching our  
3 destination that I must confess I had a feeling of fear at  
4 the prospect of fording it. Imagine my astonishment when  
15:07:42 5 we came to a halt within a short distance of Florence and  
6 my husband, with an amusing smile, announced that the huge  
7 valley of sand on which we are resting was the bed of the  
8 Gila River.

9 I think, moreover, industrialized farming  
15:07:58 10 changed the nape of the Gila River and the Gila basin,  
11 beginning with the Mormon colonization which I just  
12 referenced, of the fertile Mill River. Agriculture had  
13 provided a strong lure for settlement and exploit. The  
14 end of the Apache wars of the 1880s proved the last  
15:08:17 15 disincentive. The farmers came, founding towns like  
16 Coolidge and Casa Grande, swelling the populations of  
17 Phoenix and the surrounding agricultural communities.  
18 Coupled with the homestead and the desert land act  
19 referenced earlier in this report -- and of course  
15:08:32 20 others -- the Gila soon sprouted up patchwork of small  
21 farms that produced beans, corn, tomatoes, melons,  
22 pumpkins in Phoenix's early days, and other goods.

23 The vigorous exploitation of the use of the  
24 river's resources further depleted the river's flow  
08:53 25 downstream along the Gila. Couple more examples and then

1 I'll get off and we can go forward.

2           When Anglos first came to the southwest in  
3 large numbers, particularly after 1850, the Gila no longer  
4 carried enough water to float a raft. That's in Tom  
15:09:10 5 Sheridan's kind of classic account, "Arizona: A History,"  
6 University of Arizona Press, 1996. So I'm deferring to  
7 Dr. Sheridan, who actually is an anthropologist, but he  
8 writes like a historian. I don't know if that's good or  
9 bad. For newcomers who had read of the abundant waters of  
15:09:28 10 the desert, this was a source of no small amount of  
11 confusion. One government inspector charged with Indian  
12 affairs when he came to Arizona in the 1880s carried with  
13 him an official map showing the Gila was a live -- as  
14 live, flowing river. He asked at Yuma when the next boat  
15:09:46 15 would sail for the Pima villages and was told, quote,  
16 well, when the Gila gets water, we'll be sure to get a  
17 line of boats running for your convenience.

18           The inspector, thereupon, produced his map,  
19 declared the surveyors of the U.S. government could not  
15:10:03 20 possibly be wrong. Eventually frustrated at his -- the  
21 refusal to admit that the river was navigable, he took a  
22 stagecoach. At the stage stop at Maricopa Wells, he  
23 related his Yuma story to the driver who told him, quote,  
24 you must have fallen in with a damn lot of liars working  
10:21 25 in the interest of the stagecoach line. The Gila is

1 navigable. A boat leaves Yuma every day for the Pima  
2 villages. Look, there's one now. He pointed to a column  
3 of whirling smoke-like dust a few miles in the distance.  
4 The inspector grabbed his bag and went off to the column  
15:10:42 5 of smoke, an hour later the driver wandered into the  
6 saloon and bragged about his prank. Fortunately for the  
7 inspector, a good samaritan retrieved him because he had  
8 fainted in the desert. The tale relates how  
9 contemporaries viewed the river. It was literally a joke  
15:10:59 10 concerning navigability.

11 I think similar to the pranks, which is  
12 something well below in recent history, two days before  
13 Christmas in 1944, 25 German sailors who had been interred  
14 as prisoners in Papago Park on the bank of the Salt  
15:11:16 15 tunneled out with the intention of stealing a boat and  
16 sailing down the Gila and Colorado to Mexico. They too  
17 carried maps that showed the Gila to be a perennial river.  
18 But when they reached its banks and saw a trickle of  
19 water, they abandoned the plan and set downriver on foot;  
15:11:34 20 within days both were rounded up and returned to the  
21 prisoner camp. Their leader, Captain Wolfgang Claress,  
22 later complained, "I only wished the Gila really had been  
23 a river. If it has no water, why do the Americans show it  
24 on their maps?"

11:53 25 One or two more then we'll move on.

1 Odie B. Faulk. I think last generation's  
2 kind of popular historian of Arizona. I think his  
3 productive years span out, I think, 1950 to 1970. I don't  
4 know where he is now. But in one of his books, kind of a  
15:12:12 5 classic account, "Destiny Road - The Gila Trail and the  
6 Opening of the Southwest," was undeniable but the river  
7 itself was not useful for transportation. He allowed,  
8 quote, that the Gila trail should be of such importance it  
9 was incomprehensible to men in the eastern United States  
15:12:30 10 during the 1850s. So there had been rivers that provided  
11 the natural highways for pioneering. These, in turn, had  
12 carried and produced flat boats, keelboats, steamboats,  
13 and along their banks, men had planted their farms and  
14 built their cities.

15 Faulk continued that in the arid region of  
16 the American southwest, however, no such water route was  
17 available and a road such as the Gila River became the  
18 route of exploration, conquest, transportation, and  
19 communication. We have heard the accounts of Cooke and the  
15:13:05 20 Mormon battalion, William Emory. I will forego that. I  
21 have several newspaper accounts, selections, and of course  
22 we have heard discussion of the Buckey O'Neill and the  
23 guys that went down in the "Yuma or Bust" expedition, left  
24 Phoenix for the purpose of exploring the Salt and Gila,  
13:26 25 only 12 miles from here all wading and mud, and I think

1 the mud turtle reference was that they were as happy as  
2 mud turtles. But I think the point is that the  
3 overwhelming evidence suggests that since modern  
4 settlement began in Arizona in the mid-19th century, the  
15:13:45 5 Gila River was a non-navigable stream. I think the  
6 documentary evidence is daunting in its scope and its size  
7 from unpublished and published sources, federal, state,  
8 territorial reference, diaries, newspapers, journals, and  
9 a variety of other archival sources that are irrefutable.

15:14:08 10 On record at the Arizona Historical Foundation we have  
11 remarkable selections documenting the history of Arizona  
12 and just dipping into our archival holdings randomly.  
13 This is evident as well.

14 So I think I'll conclude here by that, taken  
15:14:23 15 together -- I think this multitude of variety of sources,  
16 voluminous in extent in covering a variety of disciplines  
17 and perspectives, add further credence to the only  
18 plausible conclusion I could reach, at least that the Gila  
19 was not navigable or susceptible to navigation on or  
15:14:42 20 before February 14th, 1912, when our great state entered  
21 the union.

22 So I think that was brief and to point.

23 Any questions?

24 (Dr. August is answering questions.)

14:53 25 BY COMMISSIONER BRASHEAR:

1 Q. You had a reference earlier in the testimony  
2 today about boat travel up to a place called -- was it  
3 Dome?

4 A. Dome, yeah.

15:15:05 5 Q. And you didn't mention that.

6 A. I don't know if I mentioned it in this or not,  
7 but we discussed it, and I think that --

8 Q. But I wondered if -- do you contend that that  
9 experience with what happened there is no evidence of  
10 navigability on that section of the river?

11 A. I think that may have been an episode as opposed  
12 to the idea of susceptibility for navigation for commerce.

13 Q. Do you know how long it ran or how many trips  
14 were made up and down the thing or what?

15:15:34 15 A. It's my understanding, one -- if anyone can  
16 correct me that knows about the Dome experience up the  
17 Gila I think it's 18 or 20 miles, if I'm not mistaken. I  
18 go to Yuma quite a bit, and I almost have every mile down.

19 Q. Was it used over a period of time or just  
15:15:54 20 one year or one trip?

21 A. I think one trip, from any understanding, but I  
22 would have to, you know -- I would have to -- I would be  
23 glad to further research it. I'm kind of curious myself.

24 COMMISSIONER BRASHEAR: Okay. Thank you.

16:06 25 CHAIRMAN EISENHOWER: Mr. Jennings?

1 COMMISSION COUNSEL JENNINGS: Dr. August?

2 DR. AUGUST: Yes.

3 COMMISSION COUNSEL JENNINGS: Your opinion  
4 of the non-navigability covers the entire Gila River from  
5 the New Mexico border to confluence of the Colorado?

6 DR. AUGUST: For the most part, I'm  
7 focussing on the areas -- I focused this report on Buckeye  
8 and Paloma, from really Buckeye on down to the confluence.  
9 But from what I can tell, with other references, I would  
10 also conclude that it was not navigable at the time of  
11 statehood. All reaches of it at this time.

12 CHAIRMAN EISENHOWER: Is there anybody in  
13 the audience that has any questions for Dr. August?

14 MR. HELM: Probably.

15 First of all, it is my understanding that  
16 Dr. August's report was just filed today.

17 CHAIRMAN EISENHOWER: Yes.

18 MR. HELM: We request at least 30 days to  
19 file a factual response to Dr. August's report. Obviously  
20 I haven't even had an opportunity to read it here. So I  
21 think I can cross-examine him --

22 COMMISSIONER ECHEVERRIA: What have you been  
23 doing all afternoon?

24 MR. HELM: Talking too much, clearly. We  
25 haven't had a chance to read it. Obviously our experts

1 haven't had a chance to read it, and so I don't -- you  
2 know, I don't know what's in it, even.

3 CHAIRMAN EISENHOWER: Under the rules, you  
4 have 30 days for a post-hearing.

15:17:40 5 MR. HELM: I'm asking for an additional  
6 30 days because this is historical research. The good  
7 doctor has cited any number of books that if I have to  
8 read them and write a thing, I know I'm not going to make  
9 it to 30 days. I'm kind of a slow reader. And we need to  
10 allow our expert historians to do their job. This is  
11 supposed to be a factual report on navigability, this  
12 isn't legal argument which, from what I understood, those  
13 responses were for.

14 CHAIRMAN EISENHOWER: Tell you what we'll  
15 do, Mr. Helm, we'll take that under consideration and get  
16 back to you on the time.

17 MR. HELM: Okay.

18 MS. COPELAND: Mr. Chairman, I want to at  
19 least get on the record that we would object to any  
15:18:18 20 modification of the rules. It was my original  
21 understanding that what he was requesting was 30 days,  
22 which would be provided in the rules under the briefing  
23 schedule. But it sounds like this is a completely  
24 different request, and we will object to that.

18:28 25 CHAIRMAN EISENHOWER: That's why we're



1 taking it under consideration.

2 MR. HELM: And if we need a little argument,  
3 obviously due process requires a fair opportunity to  
4 respond, and when you get it today -- I'll ask the same  
15:18:39 5 question as to Dr. Littlefield's report, which we got  
6 yesterday, which is 218 pages long.

7 MR. MCGINNIS: Mark McGinnis on behalf of  
8 SRP; I'm responding to his -- talking about Dr.  
9 Littlefield's report -- most of Dr. Littlefield's report  
15:19:07 10 was filed a long time ago. He did do a recent update  
11 which we tried to file last Thursday but the commission  
12 office was locked and closed on Friday. We didn't  
13 actually get it there until Monday. But your rules, I  
14 think, contemplate that people can bring to stuff to the  
15:19:20 15 hearing. I have never personally done that, but that is  
16 the way your rules are set up.

17 CHAIRMAN EISENHOWER: That is the way the  
18 rules are, that's correct.

19 MR. MCGINNIS: If we start adding additional  
15:19:29 20 time, it's just going to go on and on, so we would object  
21 to any additional time after the hearing is closed.

22 MR. WOODFORD: I would also like to object  
23 to 60 days for them to enter into factual evidence on the  
24 report here. I mean, that's what this hearing was for  
19:48 25 today. Mr. Helm keeps alluding to his expert, and I don't

1 know if his expert is here to testify or not.

2 MR. HELM: He's sitting over there in the  
3 corner, Brad.

4 MR. WOODFORD: Fine. Then he can testify,  
15:20:02 5 just like Mr. August did. We're certainly not going to  
6 ask for another 60 days after his factual evidence is  
7 submitted. I think this hearing is for the factual  
8 evidence, the 30 days is for the legal argument.

9 CHAIRMAN EISENHOWER: This hearing is to  
15:20:17 10 bring evidence to the commission. That's what we're here  
11 for.

12 MR. HELM: I understand that. But due  
13 process guaranteed to us by the Constitution provides that  
14 everybody has a chance to respond and to reasonably  
15:20:34 15 examine the witness. When you're not given a chance to  
16 prepare to do that, by every case law that's every been  
17 had, that's not due process. I understand why Brad  
18 doesn't want me to have that time. It's his witness.  
19 It's his sandbagging laid on us, the same for the Buckeye  
15:20:50 20 people, and I understand to the extent that Mark did it  
21 yesterday, it's a convenient -- we didn't play that game.

22 CHAIRMAN EISENHOWER: We've all had the  
23 chance to bring evidence -- on cross-examination evidence.  
24 So if you want to bring evidence, fine, that's what we're  
21:09 25 here for. We want to hear it.

1 MR. HELM: My point is that I don't have a  
2 chance to bring any evidence to rebut this report when I  
3 just got it less than a half hour ago.

4 CHAIRMAN EISENHOWER: You have 30 days.

15:21:22 5 MR. HELM: It's my understanding that 30  
6 days is for the legal --

7 CHAIRMAN EISENHOWER: Post-hearing  
8 memorandum. Anything that's said in here.

9 MR. HELM: You'll accept new evidence?

15:21:30 10 CHAIRMAN EISENHOWER: Whatever you hear  
11 here, you can respond to, and you heard Dr. August's  
12 testimony.

13 MR. HELM: I can respond to it with new  
14 evidence that's not here. That's perfectly fine with me.  
15:21:41 15 That's all I was asking.

16 CHAIRMAN EISENHOWER: That's not what I  
17 said. I said you can respond to evidence that you heard  
18 hear.

19 MR. HELM: By submitting other evidence?

15:21:48 20 CHAIRMAN EISENHOWER: But you can submit  
21 evidence today.

22 MR. HELM: If I've got it here, I would be  
23 happy --

24 CHAIRMAN EISENHOWER: At the end of today,  
21:53 25 the evidentiary hearing of the Gila River is going to be

1 closed. There will be no evidence, just response  
2 memorandum.

3 MR. HELM: Okay. If that's your position --

4 CHAIRMAN EISENHOWER: That's what the rules  
5 say.

6 MR. HELM: I'll tell you right now, it's my  
7 position that's unconstitutional, deprivation, and  
8 violates due process. And I'll live with it. I have to  
9 live within your rules. But I'm going to tell you right  
10 now it will be an issue that will come down the line  
11 because you're not allowing us to respond to this evidence  
12 you accepted today.

13 CHAIRMAN EISENHOWER: You can respond right  
14 now.

15 MR. HELM: I'm not a qualified historian.  
16 You want me to testify that everything that Dr. August  
17 said was hooey. And that will have no bearing because  
18 I -- I got a history degree in undergraduate school, but I  
19 really don't have one in ancient and near western  
20 civilization, so I don't think any court would pay a lot  
21 of attention to me if that's the route we're going to  
22 take. I'll live with that. We'll deal with it when it  
23 gets to court, not a problem. But I have to make it on  
24 the record that I think you're denying us the fair  
25 opportunity to present our position by denying us the

1 right to rebut the facts that are brought out on the day  
2 of the hearing.

3 COMMISSION COUNSEL JENNINGS: Mr. Chairman,  
4 it should be noted for the record that the gentleman just  
15:23:15 5 filed today two and a half boxes of, I presume, evidence,  
6 his own that he brought in which the other side is not  
7 going have an opportunity to submit any adverse or  
8 evidence contrary thereto. They can file briefs, and  
9 we've been pretty liberal in our briefs, as the chairman  
15:23:38 10 knows, in allowing it to lapse over into some factual,  
11 some legal. We don't hold with the appellate rules of  
12 strictly legal matters. And I assume that the opponents  
13 to your position will be commenting on the stuff that you  
14 filed, assuming that you introduce it today. You  
15:23:59 15 certainly furnished it to the commission.

16 MR. HELM: I will be amazed if they will  
17 curtsy. I guess you didn't look at it because those are  
18 the surveys that Dr. Littlefield is relying on. They have  
19 been referenced in Dr. Littlefield's report, at least as  
15:24:14 20 far as I know for, four or five years. That's not new  
21 evidence, that's just bringing it down so you can have it.

22 COMMISSION COUNSEL JENNINGS: I didn't know  
23 what it was because we -- you just filed it today.

24 MR. HELM: I just -- does it matter? It's  
24:30 25 the Littlefield survey.

1 COMMISSION COUNSEL JENNINGS: The same rules  
2 should apply to you that apply to the other witness.

3 MR. HELM: I think that's absolutely true.

4 COMMISSION COUNSEL JENNINGS: The rules --

15:24:39

5 MR. HELM: If I bring something new to the  
6 table, I think that anybody here ought to have a  
7 reasonable time to respond to it and present evidence if  
8 they've got any that contradicts it. That's what's called  
9 due process where I grew up.

15:24:52

10 COMMISSION COUNSEL JENNINGS: And then you  
11 would have time to rebut their response, and then we have  
12 a surrebutter and so forth -- we would never conclude a  
13 hearing.

14 MR. HELM: I disagree with you. I realize  
15 that you could say "I'm not into that," but we're not here  
16 asking for that. We're just asking to give an initial  
17 response. I don't even know if I'm going to because I  
18 haven't had an opportunity to read it. But to protect the  
19 interests of my client, it's necessary to make that point

15:25:19

20 on the record that this was brand new, never heard about  
21 it before today, never heard about the conquistadors or  
22 anything like that. We checked your website and  
23 everything, almost daily basis. It's not there. This is  
24 brand new as far as I know. And I'm not going to have any  
25 opportunity to see if it's -- see if we agree with it, see

25:37

1 if we don't disagree with it, see if there is evidence to  
2 rebut it because you've just told me this is it. I'm  
3 taking it because they can bring it in today, but tough  
4 luck to me. Well, I just don't think that comports with  
15:25:56 5 our rules of fair play. I can't do anything about it  
6 until we get to the next level, but that's fair enough.

7 CHAIRMAN EISENHOWER: That's what the  
8 post-hearing memorandum are all about.

9 MR. HELM: Well, I'm confused then.

15:26:10 10 CHAIRMAN EISENHOWER: Well, what do you  
11 think the post-hearing memorandum is supposed to be?

12 MR. HELM: What you just told me was not to  
13 submit any new evidence that could rebut this. It was for  
14 me to write about to say, "This is baloney." I can say  
15:26:23 15 this is baloney and I can -- but I can't say, "And it's  
16 contradicted by Joe Smith, a noted historian, who wrote 15  
17 books on the time topic and here is that evidence." I  
18 can't give you that. You just told me that.

19 CHAIRMAN EISENHOWER: No, you can. But  
15:26:36 20 you've got to put it in your post-hearing memorandum.

21 MR. HELM: I want to be able to put the  
22 new -- if there is any evidence to contradict that, I want  
23 to get it in. If I have to put it in my post-hearing  
24 memorandum, there is no objection to doing that. I'm more  
26:50 25 than happy to do that.

1 CHAIRMAN EISENHOWER: That's what it's there  
2 for.

3 MR. HELM: So I can put new evidence in?

4 CHAIRMAN EISENHOWER: If that's your  
5 response.

6 MR. HELM: Which is it?

7 COMMISSIONER ECHEVERRIA: Would a response  
8 in opposition supported by specific references, would that  
9 be considered new evidence?

10 MR. MCGINNIS: Mark McGinnis on behalf of  
11 SRP. I think the idea of putting new evidence a  
12 post-hearing memorandum -- which is really traditionally  
13 the legal briefs -- is problematic because then you have  
14 evidence submitted 30 days from now and then you're going  
15 to have the same problem. Because whoever was doing it  
16 is going to put in new evidence and the other side is  
17 going to stay, "Oh, we just got this new evidence. We  
18 need more time to do it." I mean, it's just the idea --  
19 if you're going to give him 30 days, give him 30 days and  
20 then we'll start the briefs from there, but don't  
21 incorporate the new evidence into the post-hearing  
22 memorandum.

23 MR. HELM: I don't have any problem. I'm  
24 just staying that when you get sandbagged, you ought to  
25 have a right to respond to it. That's the way we play the



1 years. The rules have been, you show up with your  
2 evidence at the hearing; if you want to do it beforehand,  
3 you do. That's what we've always done. A little bit less  
4 than normal this time because of the three days you were  
15:29:24 5 closed. But you have had that report, John, for  
6 four years except for the new stuff that you got a couple  
7 of days ago. So that's just the way the rules are.

8 COMMISSION COUNSEL JENNINGS: Mr. Chairman,  
9 more than anything, I don't appreciate the being  
15:29:38 10 sandbagged idea. This gentleman took Mr. Littlefield's  
11 deposition some years ago and submitted it as a piece of  
12 evidence. If he wanted to, he could have taken Jack  
13 August's deposition, noticed it, and he would then have  
14 been fully informed as to what his evidence was.

15:29:59 15 MR. HELM: I move we adjourn, and I'll go  
16 and take it right now. I just found out about it.

17 Curtis, I am not a mind reader. I didn't  
18 know who Jack August was or that he was going to testify  
19 here today until Buckeye called him up to the table. How  
15:30:10 20 could I take his deposition? That's what I'm griping  
21 about. It is a sandbag.

22 (An off-the-record discussion ensued.)

23 MR. STAUDENMAIER: Bill Staudenmaier, I  
24 represent Phelps Dodge in these proceedings. Not my  
30:30 25 witness here. I don't have a witness to present today,

1 but the accusation of sandbagging is nonsense, and it  
2 works in both directions. Mr. Helm has just told you that  
3 he has a witness here. I don't even know his name, much  
4 less what he is going to testify to. And I have no more  
15:30:45 5 right than he does to suspend these proceedings for  
6 another month so that I can adequately prepare a  
7 cross-examination of his witness, whose name I don't know.  
8 So sandbagging isn't -- it's just not a valid accusation.

9 MR. HELM: If he had read the record, he'd  
15:31:01 10 have found out that his name is Wynn Hjalmarson because  
11 his report has been on file with your commission for some  
12 four or five years.

13 MS. COPELAND: Kirsten Copeland for  
14 Buckeye -- Buckeye entities. I just want to follow up  
15:31:17 15 real quick. Our witness, Jack August, is here for  
16 cross-examination. He's available for any questions that  
17 anyone may have about either the testimony he gave here or  
18 his report. And I believe that that satisfies exactly  
19 what the commission's rules required and that have been in  
15:31:33 20 place for a number of years.

21 CHAIRMAN EISENHOWER: Correct.

22 MS. COPELAND: And that's the end.

23 MR. HELM: I have no problem. I'm just  
24 making on the record that --

31:43 25 CHAIRMAN EISENHOWER: Are you going to

1 cross-examine Dr. August?

2 MR. HELM: I'm absolutely going to do it to  
3 the best of my ability right now, but I want it on the  
4 record that this report is brand new, and we haven't had a  
15:31:51 5 chance to rebut. And I'm not going to be allowed to have  
6 the chance by the presentation of any evidence. And I'll  
7 be happy to ask a few questions I can come up with for  
8 Dr. August off the top of my head.

9 (An off-the-record discussion ensued.)

10 CHAIRMAN EISENHOWER: Okay. Shall we  
11 continue?

12 Mr. Helm.

13 MR. HELM: Thank you.

14 (Dr. August is answering questions.)

15:34:08 15 BY MR. HELM:

16 Q. Dr. August, you're a historian by profession?

17 A. Yes.

18 Q. You don't claim any expertise as a hydrologist,  
19 geologist, geomorphologist, surveyor, assayer, any of  
15:34:22 20 those related fields?

21 A. No.

22 Q. And your report that you have given to the  
23 commission today is from a historian's perspective?

24 A. Very much so.

34:36 25 Q. Okay. One of the things that I heard you talk

1 about in that report was that the river didn't have any  
2 water in it in a number of -- I'm not sure --

3 A. Snapshots.

4 Q. Snapshots. But they were related to a time  
15:34:56 5 period back when the Spanish were here, that sort of  
6 thing.

7 Now, as far as I know -- and I'd be willing  
8 to stand corrected -- but I think of all of the -- what I  
9 will call hydrologists, geomorphologists, et cetera, group  
15:35:13 10 has opined that prior to sometime before statehood, the  
11 Gila River was a perennial river, i.e., had water in it  
12 all time. How do you reconcile the historic, "We got no  
13 river," and the scientific, "You got a river and water in  
14 it"?

15:35:34 15 A. Well, all I could do is depend upon the  
16 documents. And one thing about the Spaniards, one of the  
17 first things that I think a master student marked  
18 particularly in the Western Reporter Land History it was  
19 called, and still is in many cases, is that the Spaniards  
15:35:52 20 were really quite good, they did things in duplicate,  
21 triplicate, quadruplicate. You could find a report in  
22 Chihuahua City which was also the same report copied in  
23 Mexico City and Seville. They were pretty darn good  
24 recordkeepers. We know that a guy named E.G. Bolen that  
36:09 25 went down there. So I don't think that they were making

1 this stuff up. The diarists, most Spanish colonization,  
2 that person was contract, really pretty much a very  
3 legalistic process and so those reports and the diarist  
4 that went along with them oftentimes got the conquistador,  
15:36:31 5 like Coronado, in trouble. So we do know that they kept  
6 diaries and so these reports are stuff I just did to  
7 basically supplement what was already here, because I  
8 didn't want to go over and repeat what we have already  
9 done. The report covers the Anglo period as well. What  
15:36:47 10 the evidence tells me, and with the reports, is that there  
11 seems to be some continuity rather than change. This  
12 river seemed to be in flood and then there would be  
13 drought. So it would be dry some times of the year and  
14 then sometimes it would flooded.

15:37:06 15 Q. How many days would you estimate, back when the  
16 conquistadors were roaring and burning across the  
17 Southwest, did they view the Gila River?

18 A. I would say, from what I have seen in my  
19 research, 70 percent dry, 30 percent some kind of stream  
15:37:27 20 flow.

21 Q. What I'm saying is they just passed through, for  
22 example, they didn't stay on the -- they camped on the  
23 Gila for three years?

24 A. Right.

37:38 25 Q. So that's their snapshot of a day crossing the

1 Gila River or two days crossing the Gila, correct?

2 A. Right. And I think the various expeditions --  
3 Onate was mentioned -- his base was Santa Fe and he went  
4 out looking for the Pacific Ocean and a variety of things.  
15:37:59 5 Onate was referenced in 1598 to around 1607, he goes down  
6 there and they follow the Gila River, but it's a highway,  
7 not a waterway. So that's an example. But almost every  
8 Spanish expedition is documented, and we know who went  
9 where, how many people with them, how many cattle they  
10 took, et cetera.

11 Q. And we're talking over, what, 200 years, 300  
12 years?

13 A. 1598 to roughly 1821, so the revolution is over.

14 Q. About 300 years, give or take. We don't have to  
15:38:32 15 be that accurate.

16 A. Few centuries.

17 Q. And in that 300 years, how many days would you  
18 estimate the Spanish were on the Gila River?

19 A. How many days? I would say maybe -- out of  
15:38:48 20 200-plus years, probably toward the end of that period,  
21 more often, but I would say 50 years worth. I mean, they  
22 somehow had contact with it or knew about it.

23 Q. Well, knowing about it -- I can know about it and  
24 never see it, right?

39:06 25 A. Yeah.

1 Q. I'm talking about eyeball-to-eyeball contact with  
2 the Gila River, being able to see it, judge how much water  
3 it has in it. How many days would you --

4 A. How many expeditions were there, probably -- let  
15:39:18 5 me just deduce this. I think from the number of  
6 expeditions, probably 15 to 20.

7 Q. 15 to 20 days?

8 A. Expeditions that were on it -- they could  
9 extrapolate it.

15:39:34 10 Q. Spent how many days?

11 A. Maybe weeks at a time. So several weeks  
12 altogether, maybe two to three years if you're trying to  
13 add a number of days, again just deducing.

14 Q. So their opinions would be based on that time  
15:39:43 15 frame?

16 A. Their time frame, and their accounts -- their  
17 diarists' accounts.

18 Q. You couldn't use those opinions to give you a  
19 total history of the Gila River for that 300 years?

15:39:57 20 A. Snapshot -- this snapshot -- what the accounts  
21 reveal.

22 Q. Now, you mentioned something -- I just missed it,  
23 I'm sorry -- that in the report that you had dealt with an  
24 area from the Buckeye canal, did you say?

40:14 25 A. Yeah. This is just a reference for the

1 Buckeye --

2 Q. And then I thought you said the confluence or  
3 something.

4 MS. COPELAND: Excuse me. You guys are  
5 going to kill the court reporter talking over each other.

6 BY MR. HELM:

7 Q. Did you say to the confluence? We're trying to  
8 get the geographic area that is related to it?

9 A. Pretty much that area down through Paloma Farms.  
10 I paid special attention to that in the report.

11 Q. But basically --

12 A. Beyond Gila Bend, Arizona, maybe 15, 20 miles.

13 Q. Painted Rock Dam?

14 A. Yeah. That's not specifically mentioned in the  
15 report though.

16 CHAIRMAN EISENHOWER: Just a minute. Joe?

17 MR. SPARKS: I would like to ask the Chair  
18 to require the -- Mr. Helm to ask a question and then Mr.  
19 August to have an opportunity to answer it before Mr. Helm  
20 starts another one. And then I want to make a point of  
21 personal observation. Mr. Helm is so old that he knows  
22 what a knife was doing because we both there. So I think  
23 we ought to put him on the stand because we're both four  
24 or five hundred years old and we went along. So then he  
25 can't remember because the tequila is another issue.



1 But the first part of my objection was  
2 serious.

3 CHAIRMAN EISENHOWER: Because we're trying  
4 to get an accurate verbal record.

15:41:45 5 MR. HELM: Sure.

6 CHAIRMAN EISENHOWER: Question, answer.  
7 Question, answer. Don't override, please.

8 Okay. Continue.

9 (Dr. August is answering questions.)

15:41:50 10 BY MR. HELM:

11 Q. You testified about -- I'm not sure whether it  
12 was correspondence or something from a Mr. Reed to  
13 Mr. Hill --

14 A. Yes.

15:42:09 15 Q. -- in 1913, indicating that there was a 103 -- is  
16 it CFS flowing in the river?

17 A. Yes.

18 Q. On whatever day they were referring to?

19 A. Yes.

15:42:21 20 Q. Well, one, you agreed that establishes that there  
21 was water flowing in the river?

22 A. Yes. Not the dam issues.

23 Q. Okay. And two, would you agree in 1913 that the  
24 river had, number one, been appropriated beyond its water  
42:39 25 availability?

1 A. Appropriated to users?

2 Q. Yes.

3 A. I would think so.

4 Q. Would you agree that it had been, if not totally  
15:42:50 5 diverted by that time, virtually total diverted?

6 A. Yes.

7 (An off-the-record discussion ensued.)

8 (Dr. August is answering questions.)

9 BY MR. HELM:

15:43:11 10 Q. So to the extent that you talk about this kind of  
11 evidence, you're not talking about the Gila River in its  
12 natural and ordinary condition, are you?

13 A. At that point in history, no. Spanish reference,  
14 obviously yes.

15:43:27 15 Q. Let's talk a minute about the standard that you  
16 used to determine what navigability is, all right? Do you  
17 understand what I mean?

18 A. Sure.

19 Q. Is your report done to the federal test set out  
15:43:45 20 in Daniel Ball to determine navigability?

21 A. I would think, as I watched Dr. Littlefield  
22 testify, the fact would be -- I want to say yes, I  
23 understand the case. Commercial navigation, thinking  
24 about those things. But in terms of knowing the legal  
44:02 25 definition and how it's argued amongst the attorneys here,

1 I'm not that concerned with what I read here this morning.

2 Q. What you did was not -- you didn't specifically  
3 write it to meet the definition in Daniel Ball?

4 A. I had no conclusion preordained when I went about  
5 it. I just went through the term.

6 Q. You didn't write it to mean the tests set out in  
7 the Defenders of Wildlife versus Hull lawsuit?

8 A. No. I'm aware of those suits, but no.

9 Q. You didn't have any particular standard to  
10 determine navigability, then?

11 A. I know of the discussion -- the legal discussion,  
12 and I was aware of it. I wouldn't say that I did not, but  
13 I did not go about writing this report with some notion of  
14 navigability versus non-navigability in my conclusions.

15 Q. You opined that it's not navigable?

16 A. Yes.

17 Q. In order to say something is not navigable, you  
18 must know what navigable means, right?

19 A. Yes. And I'm aware of footing doctrine, all the  
20 issues that are involved. In fact, that is written in  
21 introduction of this.

22 Q. Tell me your definition of navigability.

23 A. My definition of navigability. In commerce, if  
24 you can float a log down and somehow conduct commerce,  
25 float down it, that would be navigable.

1 Q. It's your opinion that you have to have commerce  
2 in order make it navigable?

3 A. Not necessarily.

4 Q. Could I establish navigability if I could float a  
15:45:42 5 reasonably large boat down a river even though it was for  
6 a non-commercial purpose?

7 MS. COPELAND: I'd like to object. I know  
8 the commission really hates objections here, but Mr. Helm  
9 is really trying to solicit a legal opinion out of someone  
15:45:56 10 who is not here to provide that testimony.

11 DR. AUGUST: I try to stay away from that.

12 MS. COPELAND: I know you guys hate that,  
13 but I got to do it.

14 CHAIRMAN EISENHOWER: Point well taken.

15 MR. HELM: If we don't know the standard he  
15:46:06 16 used to determine his conclusion that river was not  
17 navigable, then it's absolutely meaningless, his entire  
18 report, his testimony. So I don't think it's worth it.  
19 If you don't want me to go that route, I won't. But it  
15:46:22 20 will be on the record.

21 CHAIRMAN EISENHOWER: Mr. Helm, he is not a  
22 lawyer. He's a historian. He wrote it from a historical  
23 viewpoint.

24 MR. HELM: And understand this -- and I'll  
46:35 25 put it on the record right now -- every question I ask

1 him, I'm not asking him for a legal opinion. I'm asking  
2 him as a historian what he thought the standard was that  
3 he was to measure the evidence he found against to  
4 determine whether a river was navigable or not.

15:46:58 5 CHAIRMAN EISENHOWER: All right. You've  
6 asked the question.

7 MR. HELM: That's the question I asked him.

8 CHAIRMAN EISENHOWER: You've asked him that.

9 MR. HELM: I had an objection. Does his  
10 answer stand?

11 MS. COPELAND: He can answer the question.  
12 I wanted to get that on the record. He can answer to the  
13 best of his ability given his background.

14 MR. HELM: That is all the question is  
15 implied to be.

16 DR. AUGUST: I answered.

17 (Dr. August is answering questions.)

18 BY MR. HELM:

19 Q. Now, you testified here that you affirm the  
15:47:23 20 report that Dr. Littlefield rendered in this matter,  
21 correct?

22 A. Yes. I have the report that you had four years  
23 ago. I based -- looked at it, footnotes, analyzed it and  
24 really, I have no objection or do not disagree with the  
47:45 25 conclusions set up in Dr. Littlefield's report.

1 Q. And you haven't seen his new one?

2 A. I have not.

3 Q. So your report --

4 A. I wrote that earlier, yes.

15:47:53 5 Q. You're affirming his older one?

6 A. I'm affirming his older one, yes.

7 Q. Will you affirm the answers that he gives on  
8 cross-examination about what he did?

9 A. I don't know how I'm going to be here. I may be  
15:48:09 10 dead. I would have to read the record.

11 Q. Are all your authorities that you are relying on  
12 for your testimony here set out in your report?

13 A. Are they here?

14 Q. Just --

15:48:21 15 A. Yes.

16 Q. Footnoted?

17 A. Yes. I followed all the attributions, yes.

18 Q. Did you do any specific historical research to  
19 find out the amounts of water that were carried by the  
15:48:42 20 Gila River at any time?

21 A. No, not specific amounts. Whenever they came up  
22 in any kind of documents, of course I did those, but to do  
23 that --

24 Q. You did know one, you talked about a sergeant  
48:59 25 swimming?

1 A. Yes -- wading across the river.

2 Q. Swimming or wading?

3 A. He was wading, kind of walked across.

4 Q. You also mentioned the treaty of Guadalupe

15:49:14

5 Hidalgo. And I haven't read your report, but did you

6 discuss in your report the provisions in the treaty of

7 Guadalupe Hidalgo dealing with the navigability of the

8 river Gila River?

9 A. Article five and six, I believe, are dealing with

15:49:29

10 them, yes.

11 Q. That's off the top of my head.

12 A. I'm familiar with them.

13 Q. Did you discuss them in your report?

14 A. No, I didn't discuss them specifically. I

15:49:37

15 discussed them in detail on the Santa Cruz. But for this

16 report, I included that provision and well, that's

17 mentioned, I think, that was Article 6. It's nice in

18 theory, but in practice, I don't --

19 Q. Can you imagine why two governments would have

15:50:00

20 negotiated a treaty that stated that a river was navigable

21 and that it would be maintained navigable -- I forget, for

22 the birds fly?

23 A. When I read that, I just thought they were people

24 that negotiated the treaty that were east of the

50:18

25 Mississippi River and had never been west of it, and --

1 someone from Mexico City?

2 Q. Do you think the people who had never been west  
3 of the Mississippi had governmental reports from people  
4 who had been west of the Mississippi, who might have told  
15:50:35 5 them that it was navigable?

6 A. I'm sure there was impressionistic knowledge that  
7 it was neither navigable or non-navigable, but I don't  
8 think that was in the forefront of any kind of analysis.  
9 I read it and I note in theory what the negotiators had in  
15:50:57 10 mind.

11 Q. Now, you're in agreement that the diversions that  
12 took place in the Gila River, either through dams or other  
13 means, from the time that western settlements started out  
14 here drastically affected the flow of the Gila River and  
15:51:19 15 watercourse, et cetera?

16 A. Certainly.

17 Q. That's a yes?

18 A. Yes.

19 Q. Okay. You have a section in your report dealing  
15:51:28 20 with surveys, right?

21 A. Yes.

22 Q. Okay. If the chairman doesn't mind, I'm told he  
23 has section involving surveys, and as I explained to you  
24 earlier, my expert on surveys is Ms. Livesay, so if you  
51:45 25 don't mind I'll let her finish up with whatever



1 examination questions she would like to ask

2 Dr. Littlefield on surveys.

3 CHAIRMAN EISENHOWER: That's fine.

4 (An off-the-record discussion ensued.)

15:52:30

5 MS. LIVESAY: Mr. Chairman, members of the  
6 panel, my name is Roberta Livesay and along with Mr. Helm  
7 representing Maricopa County.

8 (Dr. August is answering questions.)

9 BY MS. LIVESAY:

15:52:41

10 Q. I have one general question for you first,  
11 Dr. August. The section where you discuss the surveys,  
12 did you actually go and look at all of the surveys that  
13 had been of the Gila River in a historical context?

15:52:58

14 A. No, I did not look at the primary sources on many  
15 of those. I did rely on secondary sources.

16 Q. And were the secondary sources you relied on  
17 basically Dr. Littlefield's work?

18 A. Yes. I did check many of those, and many of  
19 those are available online, summary sources.

15:53:13

20 Q. What other sources did you look at if you didn't  
21 look at the surveys themselves? Besides Dr. Littlefield.  
22 What other sources?

23 A. Oh, boy. Suter and Fairfax, I looked at the  
24 state lands, which is cited there. I looked at the  
53:31 25 manuals, they're available almost anywhere.

1 Q. Maybe I can shorten this up real quick.

2 Dr. August, if you didn't look at the  
3 surveys and the notes themselves, would be, then, in a  
4 position to further --

15:53:59 5 CHAIRMAN EISENHOWER: Excuse me, could you  
6 speak to microphone, please?

7 MS. LIVESAY: I'm sorry.

8 (Dr. August is answering questions.)

9 BY MS. LIVESAY:

15:54:02 10 Q. Since you didn't look at the surveys and the  
11 notes directly, would you be willing to rely on  
12 Dr. Littlefield's answers with regard to the surveys and  
13 the notes?

14 A. Absolutely.

15:54:14 15 Q. In that case, Mr. Chairman, I think that we can  
16 defer our questions on this section to Dr. Littlefield,  
17 and we will just rely on his answers.

18 CHAIRMAN EISENHOWER: Okay. Thank you.

19 MS. COPELAND: If nobody else has  
15:54:37 20 anything -- Kirsten Copeland -- I have one follow up  
21 question for Mr. August.

22 CHAIRMAN EISENHOWER: Okay.

23 MS. COPELAND: Mr. August --

24 MS. HACHTEL: I would like to ask a few  
55:00 25 questions when you're finished.

1 MS. COPELAND: I would prefer to wait.

2 CHAIRMAN EISENHOWER: Okay.

3 MS. HACHTEL: Well, as long as you're up  
4 there, if you want to go ahead and ask, that's fine.

15:55:03

5 (Dr. August is answering questions.)

6 BY MS. HACHTEL:

7 Q. I just have a couple of questions, the best that  
8 I could do.

9 A. Sure.

15:55:08

10 Q. I just want to try to get a few clarifications.  
11 Laurie Hachtel, again with the Attorney General's Office  
12 for the State Land Department.

13 Mr. August, in the scope of your report --  
14 of your study on the Gila River, did you examine the river  
15 upstream of the Salt River confluence?

15:55:26

16 A. "Upstream" meaning towards Safford?

17 Q. Correct. Upstream of the Salt River.

18 A. Yeah, yeah, sure. A little. But it wasn't  
19 really, really pertinent to what I wanted to discuss here  
20 because of the Buckeye and Paloma so --

15:55:43

21 Q. Just to understand what you just said, so you did  
22 examine it?

23 A. I examined it in terms of the literature. The  
24 general secondary source journal article literature  
25 pertaining to the Gila, yes.

55:59

1 Q. And what --

2 A. Well, I wrote in my book "Vision in the Desert,"  
3 chapter 3 is called "Carl Hayden's 'Indian Card,'" and I  
4 have written extensively on the Coolidge Dam issue and  
15:56:14 5 issues of that nature, so I have written on that and  
6 published on that rather extensively. As it -- I think I  
7 referenced it in this report, but it wasn't really germane  
8 to the stretch of the river that I was concerned with.

9 Q. Okay. And the book that you're referring to was  
15:56:31 10 on -- was on the Gila, the Carl Hayden book?

11 A. No. It was a general political biography of Carl  
12 Hayden and water resources development from the end of the  
13 19th century to -- toward the end of this century, so  
14 about a hundred-year period. That was one chapter of the  
15:56:49 15 book. And it's -- also, I have written several articles  
16 on it.

17 Q. Yes, you mentioned that.

18 On the part of the river, did you look  
19 upstream of Florence on the Gila?

15:57:02 20 A. No.

21 Q. How about upstream of Safford?

22 A. No.

23 Q. And then did you consider any systematic stream  
24 flow records in forming your opinion regarding  
57:15 25 navigability?

1 A. No, but I was aware of them. Where I -- I did  
2 not analyze them, per se, no.

3 Q. Okay.

4 A. It wasn't --

15:57:21 5 Q. It wasn't part of your report?

6 A. No.

7 Q. And I think you stated that the Gila River was  
8 normally dry and -- was it ephemeral? Is that correct?

9 A. Ephemeral, dryness was the description quoted,

15:57:36 10 whether they were the Spaniards, Anglo-Americans,  
11 surveyors, oral histories, documentaries, evidence, any of  
12 that material I tried to quote in relation to that.

13 Q. Well, in regard to that, can you point out which  
14 portions, then, are you referring to specifically in  
15:57:54 15 characterizing it that way?

16 A. For the most part, the area pertaining to from  
17 the Salt River down to Painted Rock Dam.

18 Q. And can you tell me why there would be irrigation  
19 diversions on a dry river?

15:58:12 20 A. Irrigation versus the course of the water, where  
21 I referenced that, to the 1880s to 1890s and certainly the  
22 Gila River is --

23 Q. So in that regard, in the 1890s, then, it was  
24 your opinion that there was water in the river and that's  
15:58:30 25 why the -- there was irrigation diversions, or what are

1 you saying?

2 A. I think there was -- there was probably water and  
3 I think there's accounts of it. So in 1950 photographs of  
4 the floods -- of course there are some during floods, but  
15:58:41 5 there are diversions in the river upstream, yes.

6 Q. And a couple of other questions, Mr. August. I  
7 wanted to get one clarification. In your opinion, is it  
8 unreasonable when the -- I'm looking at page 25 of your  
9 report. You discuss the railroad systems -- is it  
15:59:14 10 unreasonable in your opinion for settlers or people in the  
11 Valley at that time to have used the railroads when they  
12 were available rather than the river?

13 A. Let me find -- where are we here?

14 Q. I said page 25.

15:59:30 15 A. Sure.

16 Q. I only had a brief period of time to look at it.  
17 But based on that, I'm just saying, if there is  
18 alternative transportation available other than the river  
19 itself, do you think it unreasonable that people would  
15:59:45 20 have used that who lived there rather than the river to  
21 get from point A to point B?

22 A. I think the railroads were the preferred mode of  
23 transportation at that time, particularly in the mining  
24 districts, to get you in and out.

00:00 25 Q. Just give me a second. One other thing.

1                   On page 20 of your report, footnote 32, you  
2 reference a table. I didn't see -- at least the copy I  
3 have doesn't have any table list attached to it that you  
4 reference it, it's in your footnote. Was it your  
16:00:30 5 intention to attach the table to it?

6           A.    It was my intention, yes.

7           Q.    Are there other exhibits or other information you  
8 were intending to attach that aren't supplied?

9           A.    I think some tables and photographs, yes.

16:00:40 10          Q.    Are those going to be made available or are we  
11 just going to limit it to what's in the report as is  
12 stated or -- I just would like clarification on that.

13          A.    I think we're going to submit --

14                   MS. COPELAND: Your Honor -- Mr. Chairman --  
16:01:01 15 Kirsten Copeland. I don't want to reopen that whole can  
16 of worms. If the commission is going to take the position  
17 that that would be new evidence, that would be excluded  
18 and we'll leave the report as it stands.

19                   CHAIRMAN EISENHOWER: Yes.

16:01:12 20          MS. COPELAND: The table was inadvertently  
21 omitted. But we'll leave that up to the commission to  
22 take it up.

23                   MS. HACHTEL: I just wanted to state that it  
24 wasn't there and wanted to know whether to expect it or  
01:25 25 not.

1 DR. AUGUST: There was that discussion  
2 earlier.

3 MS. HACHTEL: So I'll leave that to you.  
4 I'm not -- I think that has been plenty of discussion on  
16:01:33 5 that for you guys to decide, but that is the extent of my  
6 questions.

7 CHAIRMAN EISENHOWER: Okay. Thank you.

8 MS. COPELAND: Kirsten Copeland again with  
9 my still one question.

16:01:47 10 Mr. Helm made the comment in his examination  
11 that what you were dealing with over a period of time he  
12 characterized as snapshots, and as I recall, you agreed  
13 that that was probably a pretty accurate description of  
14 what this was. Did any of these snapshots that you  
16:02:05 15 reviewed in the course of your investigation -- did any of  
16 those snapshots give any indication that the Gila was in  
17 fact navigable?

18 DR. AUGUST: Navigable or perennial, no.

19 MS. COPELAND: That's it.

16:02:18 20 CHAIRMAN EISENHOWER: Thank you.

21 We have a bunch of other people, but there  
22 was one gentleman who made of point of wanting to  
23 come before us, and I assume his presentation will be  
24 short. He's a senior biologist with the Arizona Game and  
02:50 25 Fish Department. Mr. Dave Weedman, if you would come



1 forward right now and make your presentation.

2 MR. WEEDMAN: Thank you, Mr. Chairman, board  
3 commissioners. You're stretching it by saying senior  
4 biologist. I am a biologist for the department. I have  
16:03:08 5 been there 14 years. My training and experience has been  
6 as a fishery biologist stationed out of our Mesa regional  
7 office in central Arizona.

8 I have had the opportunity over the years to  
9 work on lot of rivers around the state. But I'm here  
16:03:23 10 mostly to discuss the Verde -- and I know this is not the  
11 Verde hearing, that will come later -- but I do have a  
12 couple of things I do want to say also about the Gila  
13 River. And I do have, in my training and experience, some  
14 familiarity with the history of the fish community of Gila  
16:03:39 15 River. I want to talk a little bit about that and then --  
16 a lot of what I say about the Gila also extends up to the  
17 Verde through most of the historic time, the fish present  
18 in parts of the Gila had access to and occupied the Verde  
19 river, so my comments, I hope it's possible to take them  
16:03:57 20 into account on both.

21 CHAIRMAN EISENHOWER: Okay.

22 MR. WEEDMAN: The Gila River historically  
23 was occupied by a large body native species of fish,  
24 primarily Colorado pikeminnow, also called the salmon in  
04:12 25 old terms; razorback sucker, also known as a buffalo fish,

1 and several large species of other named suckers, many of  
2 which reach five, six pounds. Pikeminnow have the  
3 potential to reach up to a hundred pounds in larger  
4 habitats such as the lower Gila. So there were fish  
16:04:32 5 present historically in the river that were available, and  
6 I think in a lot of the reports -- it's documented that  
7 they were used by Native Americans as protein sources.  
8 That being said, I've had the opportunity to boat, not  
9 only the Gila River below San Carlos during fishery  
16:04:49 10 surveys, but also the Verde River. I haven't done any  
11 firsthand on the lower Gila from, say, below Painted Rock  
12 down to the Colorado River, but I know it has been done  
13 recently.

14 In preparing for this day, I did a little  
16:05:05 15 bit of research -- and I say a little bit. One thing I do  
16 want to say is I looked at the history of beaver trapping  
17 along the Salt, the Verde, and the lower Gila. And  
18 there's a fair amount of history there of frontiersmen  
19 coming through in the mid-1800s -- and this is based on a  
16:05:23 20 book by Goode P. Davis, Mr. August may be aware of it. I  
21 found it really interesting to read. But in that book, he  
22 talks about James Ohio Pattie and some of his excursions  
23 out here and some others and canoeing the Gila River,  
24 trapping beavers, and having to build additional dug out  
05:46 25 canoes to load those beavers into, the skins, to try and

1 transport them down to Yuma.

2 In reading the book, it's interesting they

3 ran into a problem with Native Americans and also the

4 Mexican government and they wound up having to bury their

16:06:03 5 beaver pelts prior to finishing their journey, so they

6 never got those things to market. But the history of

7 beaver trapping was a commercial activity in the mid- to

8 late 1800s. The fallout -- or the decline of that

9 commercial activity was mostly related to markets in the

16:06:21 10 east. It wasn't that the river became unboatable, it

11 wasn't that beavers disappeared, it was the fact that it

12 was no long profitable to trap beavers and ship them back

13 east; the price had crashed. And that I -- I present

14 secondhand information, I know, but I provide a citation

16:06:42 15 in the book. Over the years I've done probably no less

16 than at least 11, possibly 12 canoe trips down the Verde

17 River doing fishery surveys. I have a personal question,

18 and I don't know if this is not a place to have it

19 answered, but the definition of navigability, there is a

16:07:00 20 wide range of things that aren't discussed in the

21 definition that's provided in the reports and that you

22 guys are working from. And that is a period of time and

23 whether or not it was navigable at that time of statehood

24 under those conditions or current boating standards. Had

07:18 25 they been applied and those equipment available at that

1 time. That's just an unknown that I have, and not being a  
2 lawyer, that's just a question I have. But to me, I  
3 boated the Verde River in probably the lowest flows, 75 to  
4 80 cubic feet per second, in the dead of summer. When  
16:07:41 5 most people would assume it's not boatable, but with a  
6 canoe and a little bit of effort, it certainly is. So the  
7 chairman said I would be brief and that's about all I have  
8 to say at this point. I do appreciate the opportunity to  
9 come and -- poorly, admittedly -- represent the Game and  
16:07:59 10 Fish Department. I wish I had days and weeks to prepare  
11 and develop evidence and bring it, but unfortunately I  
12 didn't.

13 At this point, I would be happy to answer  
14 any questions anybody might have regarding historic  
16:08:15 15 department activities I may have information to or fish.

16 (Mr. Weedman is answering questions.)

17 BY COMMISSIONER BRASHEAR:

18 Q. Is beaver trapping in that operation were they  
19 skinned the thing and they took them -- what time period  
16:08:26 20 did that occur in and where on the river?

21 A. As I was reading this book, I should have wrote  
22 the dates down. It was approximately 1840 to 1860, give  
23 or take 10 years on either side. Mr. August might be able  
24 to provide accurate dates or maybe another historian could  
08:44 25 provide those. I asked several of our older and more

1 senior game biologists in our department that deal with  
2 beaver and they weren't aware of written reports within  
3 our department records on beaver trapping. Most of you  
4 are aware that department didn't really come into  
16:09:02 5 existence until after the -- statehood, so they had mostly  
6 no --

7 Q. You reported to us this place; where did you  
8 learn of this?

9 A. In a book that I was reviewing. It was a  
16:09:14 10 historical account of wildlife populations in the Arizona  
11 territories prior to statehood. And the author of the  
12 book is Goode P. Davis, and apologize again, I don't know  
13 the title of the book, but it was a master's work, I  
14 believe, out of ASU.

16:09:37 15 CHAIRMAN EISENHOWER: Mr. Jennings?

16 (Mr. Weedman is answering questions.)

17 BY COMMISSION COUNSEL JENNINGS:

18 Q. One quick question.

19 In your research and just generally being  
16:09:43 20 familiar with the Verde, the Gila, and the other rivers of  
21 Arizona, are you aware of any commercial fishing activity  
22 or endeavor that took place near statehood, around 1912,  
23 that is where fish would be caught for commercial purposes  
24 and sold to either processors or restaurants or thing of  
10:05 25 that nature?

1 A. There's references of harvested fish and  
2 transport to mining towns near San Pedro, Tombstone; in  
3 that area of large body, fish become harvested out of the  
4 river and transported to feed the miners. In Tombstone  
16:10:34 5 and that area, and those would have been harvested out of  
6 San Pedro.

7 Q. That would have been around Tombstone, 1880 to  
8 1888?

9 A. Correct.

16:10:45 10 Q. But that's the only one that you know of?

11 A. The only one prior to statehood. There has been  
12 reports or studies done on susceptibility of commercial  
13 fisheries being established on some of our now current  
14 reservoirs, but those, of course, were post-dated  
16:11:04 15 statehood.

16 COMMISSION COUNSEL JENNINGS: Thank you.

17 MR. WEEDMAN: Thank you.

18 CHAIRMAN EISENHOWER: Is there anybody in  
19 the audience that would like to ask questions of  
16:11:10 20 Mr. Weedman?

21 Yes, Mr. Sparks.

22 (Mr. Weedman is answering questions.)

23 BY MR. SPARKS:

24 Q. Mr. Chairman, members of the commission, my name  
11:25 25 is Joe Sparks. On this part of the report, I'm going to

1 ask questions on the behalf of Yavapai Apache Nation and  
2 San Carlos Apache tribe.

3 In your reading of the beaver trappings,  
4 what portion of the Gila River were you referring to  
16:11:37 5 specifically?

6 A. The portion that James Ohio Pattie traversed on  
7 several occasions, several different trapping excursions,  
8 was approximately the area from Safford all the way to the  
9 confluence of the Colorado.

16:11:55 10 Q. And what period of time would that have been?

11 A. It would have been the mid- to late 1800s, 1840,  
12 1850 to about 1860 or 1870.

13 Q. So that would be have been before Geronimo was  
14 captured and during Mangus-Colorado and the Chiricahua  
16:12:10 15 Apaches while they were active and in their homelands?

16 A. My limited understanding of history, I would have  
17 known all this back in high school. I'm an Arizona  
18 resident.

19 Q. Is the answer you don't know?

16:12:23 20 A. I don't know. I suspect that they were still  
21 active at that time.

22 Q. So you think it's likely that they would have  
23 been making regular trips into Apache country and trapping  
24 beavers during that period?

12:38 25 A. I think it's possible.

1 Q. I'm not asking you to speculate. I'm asking you  
2 if you know.

3 A. No, sir, I don't know.

4 Q. The second question I would like to ask you is,  
16:12:47 5 when you have, yourself, experienced boating on the Verde  
6 River, what portion of the Verde did you use your canoe  
7 on?

8 A. I have canoed from the Childs powerplant down to  
9 an area called Sheep Bridge just above Horseshoe  
16:13:04 10 Reservoir, 11 or 12 times. I also canoed from Beasley  
11 Flats down to Childs twice.

12 Q. And the Sheep Bridge is at Rock Creek -- Red  
13 Creek in the Verde?

14 A. Red Creek is about 10 miles above Sheep Bridge;  
16:13:23 15 Tangle Creek would be a closer confluence to the Verde.

16 Q. And then the area you began on the Verde was at  
17 the base of what is known as the Verde Valley or Camp  
18 Verde is located?

19 A. A few miles below, yes.

16:13:34 20 Q. But not upstream from that?

21 A. Not upstream from the town of Camp Verde.

22 MR. SPARKS: Thank you.

23 CHAIRMAN EISENHOWER: Anybody else have  
24 questions?

13:43 25 MR. HELM: John Helm for Maricopa County.



1 Members of the commission.

2 (Mr. Weedman is answering questions.)

3 BY MR. HELM:

4 Q. Mr. Weedman, you talk about large-bodied fish,  
16:13:58 5 can you give a sense of what we're talking about in terms  
6 of size?

7 A. The term large-bodied fish is a fish that is able  
8 to grow larger than 12 to 18 inches.

9 Q. How big do these things grow?

16:14:10 10 A. Pikeminnow, up to 6 feet long potentially in  
11 suitable habitats, and weighing a hundred pounds. And  
12 then razorback sucker, approaching 36 inches and weighing  
13 up to about 10 pounds.

14 Q. Okay.

16:14:27 15 A. Heather sucker, eight to ten pounds.

16 Q. How much water would a fish that is a hundred  
17 pounds need to survive in a normal habitat? Like -- what  
18 did you call it?

19 A. Pikeminnow?

16:14:44 20 Q. Pikeminnow.

21 A. To reach that size, he's going to need a habitat  
22 with large pools similar to the mainstem Colorado River.  
23 The Colorado pikeminnow got its name -- it was commonly  
24 called salmon, historically it was a white salmon, and  
15:02 25 they're known to migrate hundreds of miles, and it would

1 not have been unusual for a large-bodied fish to migrate  
2 out of the Colorado River where it spends part of its time  
3 upstream into the Gila or spawning activity in the  
4 springtime. That's also historically the time when the  
16:15:18 5 rivers have the most water from snow melt and would be  
6 connected on good years.

7 Q. Would they get by in six inches of water?

8 A. They could, yes, sir.

9 Q. For long periods of time?

16:15:29 10 A. They can traverse areas of six inches of water if  
11 they were landlocked; trapped in area of six inches of  
12 water, especially in the desert areas, I suspect they  
13 would have died either due to heat, stress, or have been  
14 preyed upon by other animals.

16:15:44 15 Q. In terms of depth, what would be the ideal but  
16 normal depth, ordinary depth that you find those  
17 pikeminnows in?

18 A. I would say deeper than three feet. Certainly if  
19 they traverse shallower areas, find an area below a dam.

16:16:07 20 Q. Did you testify -- I thought you did -- that you  
21 have also boated on the Gila?

22 A. Yes, sir. Once had an opportunity to go from the  
23 base of San Carlos reservoir down to Winkleman doing a  
24 fish survey.

16:25 25 Q. Would the same kinds of CFS to canoe on the Verde

1 apply to the Gila River? In other words, would 70 or  
2 80 feet per second be enough for you to canoe on the Gila?

3 A. It depends on the channel morphology. In that  
4 area of the Gila, because it's in a narrowly-defined  
16:16:49 5 channel, I would say yes, that would be enough. I  
6 wouldn't be able go continuously, I would have to stop and  
7 drag my canoe over sandbars and other obstacles, but I can  
8 certainly go downstream.

9 Now, in those areas of the Gila where the  
16:17:02 10 floodplain is wider and is more spread out, I would say  
11 it's probably not an enviable proposition.

12 Q. Would you estimate in those areas you would need  
13 to carry on or don't you know?

14 A. I don't even want to speculate.

16:17:16 15 MR. HELM: That's all I have. Thank you.

16 CHAIRMAN EISENHOWER: Is there anybody else  
17 that has any questions for Mr. Weedman?

18 Hearing none, thank you, Mr. Weedman, for  
19 coming in, appreciate it.

16:17:37 20 MS. HACHTEL: Mr. Chairman, I just want to  
21 follow up on one thing based on Mr. Weedman's testimony.  
22 From I understand, he's not available tomorrow so is his  
23 testimony as well for the Verde? Is there some  
24 arrangement we can make as far as having this transcript  
17:52 25 on the Gila designated to include that in the Verde

1 evidence, as far as his testimony?

2 CHAIRMAN EISENHOWER: We can duplicate his  
3 responses for both rivers.

4 MS. HACHTEL: Thank you.

16:18:09

5 EXECUTIVE DIRECTOR MEHNERT: Mr. Chairman, I  
6 suspect we're going to have a single transcript, aren't  
7 we, or are we going to do different transcripts?

8 (An off-the-record discussion ensued.)

16:18:37

9 CHAIRMAN EISENHOWER: What I am trying to do  
10 is sort through some of these to get out of the way.

11 I have several speaker requests here, and  
12 not knowing who some of those people may be, I will call  
13 your name, and if you're with somebody else or are an  
14 expert witness for somebody, please let me know because it  
15 doesn't say on my request form.

16:19:45

16 Donald C. Jackson?

17 MR. JACKSON: Yes, sir.

18 CHAIRMAN EISENHOWER: Yes.

19 MR. JACKSON: For Maricopa County.

16:19:52

20 CHAIRMAN EISENHOWER: Okay.

21 MR. JACKSON: I thought I noted that.

22 CHAIRMAN EISENHOWER: No, you didn't. Thank  
23 you very much.

24 Jim Fuller?

20:07

25 MR. FULLER: John Fuller.

1 CHAIRMAN EISENHOWER: We know who you are.

2 MR. FULLER: No, I don't want to testify.

3 CHAIRMAN EISENHOWER: Bill Staudenmaier?

4 MR. STAUDENMAIER: Mr. Chairman, I did not

16:20:24 5 plan to speak or present a witness. I just submitted a

6 card in case I needed to cross-examine someone.

7 CHAIRMAN EISENHOWER: Thank you.

8 Mr. Helm, you said Wynn Hjalmarson --

9 MR. HELM: That's correct.

16:20:36 10 CHAIRMAN EISENHOWER: -- is one of your

11 expert witnesses?

12 MR. HELM: We call him Wynn.

13 CHAIRMAN EISENHOWER: Okay. I think I've

14 covered everybody who is associated with somebody except

16:20:49 15 Mr. Allen Gookin.

16 MR. GOOKIN: Gila River Indian Reservation.

17 CHAIRMAN EISENHOWER: Would you come

18 forward, please?

19 MR. GOOKIN: Certainly.

16:21:04 20 My name is Allen Gookin, I'm a civil

21 engineer, professional hydrologist and the land surveyor.

22 I work for the Gila River Indian Reservation, and god, I

23 hope I'm being paid.

24 I have a prewritten presentation that I

21:20 25 pretty much presented before, and so I just thought I

1 would hand that out and save you having to listen to it.  
2 But some issues have come out in this hearing that I would  
3 like to talk about, because I do think I have a unique  
4 background to contribute.

16:21:35 5 My firm has worked with the Gila River  
6 Indians since 1968, and I was just a senior in high school  
7 then. So I personally haven't done it, but that was my  
8 first job on joining my father's firm and I've worked  
9 pretty much with him off and on every since. As such, I  
16:21:53 10 know a lot of history of the Gila River Indian  
11 Reservation. I worked with Hank Dobbins, Richard Atkins,  
12 and other historians in learning what's happened where,  
13 when, and why. There are a couple of points I want to  
14 make.

16:22:07 15 First, regarding the ownership of the  
16 riverbed -- and I'm primarily talking about the river on  
17 the reservation, that's what we're worried about. The  
18 federal government, prior to 1912, gave that ownership to  
19 the Gila River Indian Reservation, or we prefer to say  
16:22:28 20 they acknowledged the Pima Maricopa's prior ownership. We  
21 have submitted into the record the executive orders that  
22 talk about it going -- it happened in two stages, there  
23 was a -- if you're looking downstream, a right side and a  
24 left side. The right side occurred in 1879 and it took  
25 the border to the middle the Gila River. The left side  
22:48

1 occurred in 1882 and it took the border to middle of the  
2 Gila River. If you come to the middle from both sides,  
3 you're pretty much there, and so we believe that the  
4 ownership of that bed was given prior to statehood.

16:23:08 5 The Pima Maricopa confederation occupied  
6 this area for quite a while. It depends on who you ask,  
7 Maricopa comes up with 1700, the Pimas were there from at  
8 least the 1600s and probably are the descendants of the  
9 Hohokam, depends on who you ask. There's a lot of

16:23:34 10 scholarly debate concerning that subject. I know the  
11 Pimas believe they are the descendants.

12 The Pimas used the river for their own  
13 purposes, and that purpose was primarily irrigation and  
14 drinking water. And they took advantage of the geology of  
16:23:51 15 the river, and I want to talk a little bit about that.

16 It's been mentioned in passing before, but  
17 as the river comes down, it seeps into the riverbed in  
18 spots where the riverbed is wide feet and then comes back  
19 and narrows where the bedrocks narrow and it's kind of  
16:24:09 20 like it's trying to go through a funnel, and it's got a  
21 little spot it can pop out and it will pop out at that  
22 point. Now, my attorney screwed it all up in the  
23 cross-examination, but you all know John Hestand so I  
24 think you understand that. When he asked Mr. Huckleberry  
24:19 25 about the Shoshone, well, he hasn't learned that Shoshone

1 is plural and he was asking about one Shone. In Pima,  
2 they repeat the first syllable in order to make a word  
3 plural. That's why the Hohokam is people rather than  
4 person. Hohokam is a Pima word, by the way.

16:24:47 5 The Shoshone -- and there are a bunch on the  
6 reservation -- created the river coming up, and that's  
7 where they put their primary diversion points because that  
8 was where the water was dependable. Other areas, you  
9 might only get a little bit at a time or you would get a  
16:25:05 10 lot.

11 Now, the historians have talked a lot about  
12 the absence of evidence is not evidence of absence. And  
13 that is a phrase I have had historians tell me all through  
14 my professional life. But one thing that should be  
16:25:21 15 recognized here, that phrase usually refers some place  
16 where people haven't been to find out and make evidence.  
17 For example, the question that has been debated in my  
18 professional life, were people up on the Salt River before  
19 the non-Indians came. You could care less, I know, but to  
16:25:41 20 some people that's important. And the Salt River, the  
21 explorers all went down the Gila and then over. So nobody  
22 went up there. In that case, the absence of evidence --  
23 because nobody went there -- is not evidence of absence.  
24 We don't know what was going on the Salt in prehistoric  
26:00 25 time. We do know what was going with the Gila. There



1 were military expeditions, Jesuits, conquistadors.  
2 Mr. August had made a pretty detailed description of a lot  
3 of them -- I won't go through them -- but one thing he did  
4 mention, these people were bored, and they wrote extensive  
16:26:23 5 diaries, incredible detail, because, I guess, they had  
6 nothing better to do. I don't know why. Probably because  
7 they were trying to put messages back to the eastern  
8 people, what it was really like out here. They talked  
9 about how they farmed, where the canals were, how the  
16:26:42 10 women would carry the loads of driftwood by having two  
11 stakes on their back, and they would be bent over and they  
12 have all the wood and a Pima man would just be sitting  
13 there talking about how lazy the women were. They had a  
14 good system, by the way.

16:27:01 15 Sorry.

16 COMMISSIONER ECHEVERRIA: The more things  
17 change, the more they stay the same.

18 MR. GOOKIN: The point is that when you have  
19 this level of detail of reporting, none of them mention  
16:27:14 20 boats, none of them mention canoes. The Akimel Au-Authm  
21 are the river people. They live on the river. They are  
22 also big traders. And they had a confederation of Pimas  
23 lived up kind of where the reservation is now, the  
24 Maricopas lived down where the Buckeye, Arlington  
27:36 25 irrigation districts are now and they traded, but they

1 didn't do it on the river. They took their goods and they  
2 ran to each other.

3 Now, I'm a softie, I admit it. But if I had  
4 a choice between a boat ride going down river to take the  
16:27:55 5 stuff or running in July with a bale of wheat on my back,  
6 it would be a real quick pick for me, and they didn't do  
7 it.

8 Now, we know that the Pimas were  
9 technologically advanced for the time. You saw the  
16:28:11 10 picture of how the Sacaton Dam had washed out, the brush  
11 dam, and they were rebuilding. They knew how to work  
12 wood. They would cut the cottonwoods and they would stick  
13 them into the soil. They would take the mesquite trees  
14 and they'd cut the branches and they would interweave them  
16:28:30 15 to make the brush diversion dams. They had lots of  
16 mesquite that grew much higher than mesquite does today  
17 because they had a good groundwater source. They had  
18 beautiful cottonwoods until the BIA made them tear them  
19 out. They could -- they had wood available to build boats  
16:28:50 20 or rafts, they knew how to work with wood, and yet they  
21 didn't bother to make boats. To me, that tells me a lot.

22 But in addition to the non-Indian  
23 transcripts, as it were, the Indians kept records also.  
24 The Pimas did. They did what were called calendar sticks.  
29:14 25 Frank Russell did an extensive study on the Pima Indians

1 in which he interviewed a lot of the elders. This is back  
2 in about 1910 -- 1900 when he was interviewing the old  
3 Indians then and went through the calendar sticks with  
4 them, and he makes no mention about boats. He talks about  
16:29:33 5 the tools. He talks about what they ate. He talks about  
6 their holidays. He talks about their drinking. They  
7 would drink once a year -- I don't know how they got away  
8 with that -- but they went through excruciating detail on  
9 all their lifestyle, no boats. I don't think the absence  
16:29:53 10 of evidence in this case is the same thing as what's being  
11 talked about.

12 Now historically, moving to the more modern  
13 period, there are a couple of things that I would like to  
14 point out. One, in the State Land Department report, they  
16:30:10 15 have presented studies on the depth of water at river  
16 gauges. And I'm sure they're done properly, but one thing  
17 to be aware of a river gauge -- a river gauge is  
18 deliberately selected to be at a point where the river is  
19 narrow and carefully defined. Because the way you measure  
16:30:29 20 a river is you just have something that measures the depth  
21 of the water. From that depth of water, you have to be  
22 able to determine what the flow was, which means you want  
23 a stable channel that's well-defined.

24 You won't put it out where the braiding --  
30:44 25 it may flow here one day, here the next, here the third.

1 So the gauges are a deliberately -- unrelated to this  
2 hearing -- distorted sample of what was going on in the  
3 river as far as depths of water go.

4           Second, in the list of trips, I would like  
16:31:03 5 to point out that with one expectation of the 1909 trip,  
6 which we know very little about, none of them went through  
7 the Gila River Indian Reservation. They went down to  
8 Sacaton, they picked up their boats, and they went  
9 cross-country up to the Salt River. That would be a long  
16:31:20 10 hike with a boat on your back. They started at Maricopa  
11 Wells, that's down at the confluence of the Salt and Gila,  
12 and they went downstream from there, whether or not they  
13 made it kind of verify.

14           The third point I would like to make, that  
16:31:37 15 Mr. Fuller, I believe, pointed out, but I would like to  
16 emphasize it, and that is there is a big difference  
17 between mean average flow and the median flow. For  
18 example, in one of his charts, he showed the gauge at  
19 Laveen. The median flow for the gauge at Laveen -- that  
16:31:53 20 means 50 percent of the time it's more, 50 percent of the  
21 time it's less, was zero CFS. It has an average flow that  
22 is greater than zero CFS. Average in hydrology is so  
23 badly distorted by flood flows that it's kind of like Bill  
24 Gates walking in this room and our average income  
32:16 25 immediately triples because he's rich. Well, the same

1 thing with the water. You've got to look at the median  
2 flows to get anything resembling a typical flow.

3 On the dams that are -- that were built back  
4 then -- there has been a lot of discussion about

16:32:35 5 diversions and the effect of flows. During low flows, the  
6 non-Indian diversions and the Indian diversions did take  
7 all the water during low tides. During the floods, they  
8 washed out. The dams that were there in 1912 and prior  
9 were not like the dams that are there today. Now they're

16:32:57 10 concrete, and they are built to stay year-round. Back  
11 then, they didn't have the concrete structures. Instead  
12 they built brush dams. The non-Indians learned how to do  
13 it from the Pimas who figured it out. And during a flood,

14 just like that picture showed, they would be running out

16:33:14 15 there in floodwater building the dam as fast as they can  
16 so they could get more water onto their fields during the  
17 flood. So in terms of the geomorphology, the dams would

18 not have had much impact because they didn't really impact  
19 the flood flows much. They did impact the low flows. And

16:33:34 20 I thought that was something that should be brought up.

21 Finally, we know that the Gila was dry in  
22 several reaches on the reservation by 1912. We know that

23 from 1896 to 1905 there's a period called the starving  
24 decade, where the Pimas were literally dying from famine

34:04 25 because there was no water for them to divert to put on

1 their fields. The history of the reservation -- and we  
2 have introduced evidence on this effect -- was primarily  
3 driven by the federal government's attempt to get more  
4 water for the Pimas. They kept expanding the reservation  
16:34:19 5 to pick up the Shones or occasionally the Shoshones and  
6 get additional water supplies. So we know that the Gila  
7 River had dry spots throughout. And that's about all I  
8 have to add.

9 (Mr. Gookin is answering questions.)

16:34:41 10 BY COMMISSIONER BRASHEAR:

11 Q. One of the things is your observation about Bill  
12 Gates. I think if he walked in here, is that you must  
13 have a tremendous, lofty schedule, because I think that  
14 would be worth about a billion dollars to each of us, 39  
16:34:55 15 billion I think is his worth. But in any event, you've  
16 made two arguments. One is that the river was not  
17 navigable. But then you made the argument that even if it  
18 was or is, if it was the Mississippi flowing through  
19 there, it would -- the State of Arizona would have no  
16:35:10 20 claim to it because that land had been assigned to the  
21 tribe and it would not be navigable even if you could sail  
22 a Nimitz-class cruiser down the --

23 A. Quite right. We believe that the title was  
24 explicitly passed by the federal government to the Gila  
16:35:29 25 River Indian reservation. We also believe -- I'm sorry,

1 John, I know you're getting upset when I say it that  
2 way -- but the government confirmed our title that we had  
3 since time and aboriginal, and then there's quite a bit of  
4 difference that lawyers can have a lot. But the  
16:35:44 5 descriptions clearly, in both cases, went to the middle of  
6 the Gila River from opposite sides.

7 Q. So the reason I'm asking is our counsel has  
8 discussed several times about the case on that. The  
9 Custer battlefield, the road -- it goes -- go through  
16:36:06 10 there and that was deemed navigable, and the Indian tribe  
11 lost on that one.

12 MR. HESTAND: With the commission's  
13 permission. I got caught flatfooted -- and I apologize --  
14 during your Pima County/Pinal County hearing and I was  
16:36:22 15 asked about Montana versus United States. And I hadn't  
16 looked at Montana versus United States for months. And I  
17 was thinking of going, "Okay, I know it doesn't apply,"  
18 but I was a little vague on why it doesn't apply. So I  
19 immediately went back to my office and checked and  
16:36:36 20 determined that indeed it does not apply in this  
21 particular case.

22 Montana versus United States involved an  
23 Indian reservation in which the Indians were nomadic  
24 hunters and had never relied upon the river. They hadn't  
:36:53 25 used it for fishing, they hadn't used it for farming, they

1 hadn't used it for any reason. And in that study, the  
2 United States Supreme Court said that when their  
3 reservation was created, that the federal government had  
4 not intended to transfer to them the underlying riverbed.

16:37:16 5 Now, we have a distinction there -- a  
6 tremendous distinction that the U.S. Supreme Court really,  
7 really nailed down, 20 years later, in Idaho versus United  
8 States; the cite for it is 533 U.S. 260. 533 U.S. 260 and  
9 was in 2001. And this case involved an Indian reservation

16:37:41 10 in which the Indians had relied upon fish as a major part  
11 of their sustenance. Now, as is the case with Indian  
12 reservations, they were given a big reservation and it  
13 was -- parts of it were taken away, and parts of it were  
14 taken, parts of it were taken away until finally they had

16:37:59 15 a third of a lake and part of the river. In their  
16 original reservation, they had all the lake and most of  
17 the river. But the United States Supreme Court determined  
18 that for that part that they had still had, they, not the  
19 State, owned the bed of the lake or the portion of the

16:38:23 20 reservation and the bed of the river that was on the  
21 reservation. And because that was in essence part of the  
22 function of the reservation, that that went to them and  
23 was not held for the state for statehood. And as -- even  
24 Mr. Helm has acknowledged clearly the federal government

16:38:50 25 can make the decision to take land that it was going to



1 hold for the state and use it for its own purposes. And  
2 that can be for any public purpose. Well, in the case of  
3 the Gila River Indian community, the Gila River Indian  
4 Reservation, we have two different reasons that the State  
16:39:09 5 of Arizona has no ownership interest in this land in any  
6 way, shape, or form.

7 The first is the principle of Idaho versus  
8 United States.

9 COMMISSIONER ECHEVERRIA: Is that the  
16:39:22 10 Owagee?

11 MR. HESTAND: Beg your pardon?

12 COMMISSIONER ECHEVERRIA: The Owagee River?

13 MR. HESTAND: I will check and see.

14 St. John River -- or St. Joe River. In the  
16:39:35 15 case of the Gila River Indian community, the Gila -- the  
16 Pima Maricopa confederation were pastoral

17 agriculturalists. They lived in a set area. Now the  
18 aboriginal territory was quite large, about 20 times  
19 larger than the current reservation. But they lived along  
16:39:58 20 the river where they farmed. And they used the river.

21 They would block a 100 percent of the flow of river at  
22 low-flow, as Mr. Gookin testified. Then allow the water  
23 to flow back into the river with their tail water. They  
24 used these dams in the river to get the water to their  
:40:25 25 crops. Clearly they had to own the river bed in order to

1 live and the United States government intended for them to  
2 continue their agrarian lifestyle. And that can only be  
3 done if they owned that land, because if the State owned  
4 that land, the State could go, "You can't build a  
16:40:48 5 diversion facility there." And then they couldn't do what  
6 the federal government intended for them to do.

7           And it's important to recognize that when  
8 you're dealing with the Pima Maricopa Indian community,  
9 that you take all the cases about the fact that you're  
16:41:04 10 supposed to interpret things in favor of Indians,  
11 treaties, and things of that nature, you to multiply that  
12 by 20 because the Pima Maricopas were never the enemies of  
13 the United States. They never fought with the United  
14 States. As a matter of fact, they took a great deal of  
16:41:22 15 pride that they did not know the color of a white man's  
16 blood. Instead they defended the Euro-American settlers  
17 when they came in from other Indian tribes that were  
18 hostile. They had joint military operations with the  
19 United States Army. And one of the things for all the  
16:41:40 20 expansions of the reservation, they talked about how loyal  
21 these Indians were, how dedicated they were to the United  
22 States government. And their intent clearly was to give  
23 them everything that was once theirs.

24           Now having said that, we go to a separate,  
:42:01 25 distinct, and independent issue, is our title says we own

1 it. Setting aside the United States Supreme Court, when  
2 the United States set aside the reservation confirming the  
3 average territory of the Pima Maricopa, the deed said "to  
4 the middle of the river -- to the middle of the river."

16:42:22 5 This was done before statehood and clearly the federal  
6 government could do that for their purposes. So from that  
7 standpoint, no matter what you decide on navigability --  
8 and I suspect from the evidence you're going to determine  
9 it was non-navigable -- but even if you determine that  
16:42:40 10 that stretch was navigable, it can have no impact on the  
11 ownership of the stream bed.

12 Thank you for being so patient with me. Are  
13 there any questions I could answer?

14 MR. GOOKIN: And I think you learn the  
16:43:01 15 problem with that is asking a question for an attorney.

16 I would say -- like to point out one thing  
17 that he mentioned. Mr. Brashear, you talked about the  
18 surveys that were done back -- The surveys on the middle  
19 Gila and on the lower Gila, the upper portions of it, like  
16:43:15 20 Painted Rock Dam and so forth, wouldn't have been done  
21 under the protection of the Pima Maricopas, who did assert  
22 military sovereignty over the area and did protect the  
23 white man in the area. So that -- whether or not they  
24 defrauded the government for personal reasons, fear of the  
16:43:33 25 Indians wasn't one of them.

1 CHAIRMAN EISENHOWER: Is there any questions  
2 for Mr. Gookin?

3 (An off-the-record discussion ensued.)

4 (Mr. Gookin is answering questions.)

16:44:02

5 BY MS. HACHTEL:

6 Q. Laurie Hachtel for the Arizona State Land  
7 Department. Mr. Gookin, I have a couple of questions for  
8 you.

16:44:13

9 You opined earlier in your testimony that  
10 the land department rating curve -- USGS rating curves  
11 cross-sections weren't representative, and I just wanted  
12 to find out, do you have any cross-sections of your own  
13 that you're offering here today?

14 A. No.

16:44:28

15 Q. And also you noted that the gauge data at the  
16 USGS gauge at Laveen, that had a marked difference between  
17 the average and median flow rate?

18 A. I believe so, yes.

16:44:43

19 Q. And then, can you tell me what time period was  
20 represented by the data?

21 A. It wasn't up there long enough for me to say, I'm  
22 sorry. I got the median. I got the mean. And I thought,  
23 "That's a good example."

:45:01

24 Q. And -- okay. And would you say that that data  
25 was affected by diversions?

1 A. Yes.

2 Q. And dams, to that extent?

3 A. Probably.

4 Q. And just a couple of other quick questions. Are  
16:45:12 5 you a geomorphologist?

6 A. No.

7 Q. And do you have any expertise in geomorphology?

8 A. Yes.

9 Q. And what would that be?

16:45:22 10 A. I've worked on river movement cases historically  
11 on numerous occasions and that involves the geomorphology  
12 of the river. Part of being a hydrologist is you've got  
13 to learn something about it.

14 Q. In those cases, were you retained as a  
16:45:34 15 hydrologist or to do geomorphology?

16 A. I was retained to testify concerning river  
17 movement, so it would be both.

18 Q. But have you had any -- have you had any special  
19 training in geomorphology?

16:45:49 20 A. I did take a 2-week class up at the University of  
21 Colorado and that's it, plus what my father taught me.

22 Q. And when was that class that you took?

23 A. 1980, give or take.

24 Q. And what is the basis of your opinion that  
46:08 25 diversions would have no impact on channel conditions?

1 A. I said "little impact."

2 Q. "Little"?

3 A. The fact is that the diversion at that time,  
4 that's a critical difference, if the dam is going to  
16:46:19 5 sustain itself through the flood, in order to -- if you're  
6 talking about a storage dam, like Coolidge or something,  
7 then it can have a big impact. But if dam is going to  
8 wash out during the flood flow, then -- like brush dams  
9 did. And that was well-known back in that period that  
16:46:37 10 this was going to happen. It was expected and they would  
11 get right out there and rebuild it. There was a lot of  
12 documentation to that effect that that's what they did.  
13 Then they're not going to have a big impact because they  
14 are not there during the flood. And as Mr. Huckleberry, I  
16:46:55 15 believe, testified -- and I agree -- probably the most  
16 important things to change in river channels and so forth  
17 is the flood flows. That's creating the big movements or  
18 changes in characteristics. Otherwise, you get more of  
19 the off -- the slow and free-type movements that have  
16:47:12 20 different legal ownership.

21 Q. But after floods, generally, Mr. Gookin, don't  
22 rivers tend to get back to some type of ordinary condition  
23 or preflood condition?

24 A. They get back to a new ordinary position.

47:28 25 Q. But they do resume something, whether it's that

1 existing channel or a different channel, they do get back  
2 into some nonflood arrangement?

3 A. Yes.

4 MS. HACHTEL: No more questions. Thank you.

16:47:42 5 CHAIRMAN EISENHOWER: Thank you.

6 Are there any further questions?

7 MR. HELM: I think I'm dealing with two  
8 witnesses. Mr. Upton in the middle of the presentation --

9 MR. HESTAND: Hestand.

16:48:04 10 MR. HELM: I'm sorry. Hestand. I thought  
11 it was Upton, I apologize.

12 You gave a dissertation on the navigability  
13 of prestatehood streams as it relates to Indian law.

14 MR. HESTAND: Actually, I object. I did not  
16:48:25 15 talk about that. I talked about ownership.

16 CHAIRMAN EISENHOWER: Would you come up to  
17 the podium, please?

18 MR. HESTAND: Yes.

19 That misstates my statement. My statement  
16:48:32 20 was not testimony. My statement was legal argument in  
21 response to a very legitimate question that the commission  
22 had. And it dealt with not navigability. Because on that  
23 issue, quite frankly, we don't give a darn. Navigable,  
24 non-navigable, it doesn't matter. Because before it  
48:55 25 became the State of Arizona, the United States government

1 confirmed that that riverbed belonged to the Pima Maricopa  
2 Indian community. And so I wasn't testifying about  
3 navigability because it doesn't matter.

4 (Mr. Gookin is answering questions.)

16:49:11 5 BY MR. HELM:

6 Q. I couldn't have said it any better. He's laid  
7 the whole premise for what I wanted to tell you in  
8 response to what he said. And that was to commend to you  
9 the cases in the Cherokee-Choctaw series that ends up with  
16:49:31 10 one in the Supreme Court. You've got a 10th Circuit case  
11 and the Supreme Court reversing the 10th Circuit on the  
12 basis that they disagreed with the facts, not that they  
13 disagreed with the 10th Circuit's decision on the law.

14 And the 10th Circuit said that there had to be a specific  
16:49:48 15 intent evidenced to transfer the lands, and in fact, said  
16 that just a metes and bounds description wouldn't do it.

17 I'm not here to take issue with whether they  
18 did -- "they" being the federal government -- transfer  
19 lands to this Indian tribe. I just like to see that it's  
16:50:11 20 done under the correct standard, and if they meet the  
21 standard and show that there is a particularized intent to  
22 transfer done by the federal government before statehood I  
23 think that statement is absolutely right. If they just  
24 got a deed that says, "Here's a metes and bounds  
50:29 25 description. You get it." You need more than that and



1 the Cherokee case establishes that, and that's my only  
2 point that you made in response to Mr. Hestand.

3 With respect to your testimony -- first of  
4 all, you testified, I believe, that you're engineer, a  
16:50:49 5 hydrologists, and a surveyor.

6 A. That's correct.

7 Q. Are you a registered surveyor?

8 A. Yes.

9 Q. In the State of Arizona?

16:50:54 10 A. Yes.

11 Q. And a registered civil engineer in the State of  
12 Arizona?

13 A. Yes.

14 Q. What society are you with in terms of hydrology?

16:51:04 15 A. The American Institute of Hydrologists.

16 Q. Have you been trained -- classically trained,  
17 whatever you want to call it, as a historian?

18 A. No.

19 Q. You don't claim to be a historian?

16:51:19 20 A. I believe that I have become a historian by basis  
21 of 30 years' experience for this area, yes.

22 Q. So what you were testifying as it relates to  
23 history was not in terms of a formal historian but what  
24 you learned in the on-the-job training that you had over  
51:36 25 30 years?

1 A. That's correct. I consider myself, at this point  
2 in my life, to be a hydrologic historian.

3 Q. Have you published anything?

4 A. Yes, I have.

16:51:47 5 Q. On history?

6 A. Let me think. Subflow, some of it concerned --  
7 yes. I just made a presentation concerning flows in the  
8 Safford Valley during the 1940s and using the current  
9 studies to create some new formula I'm relating to  
16:52:12 10 surface-groundwater interactions.

11 Q. Is that a peer-reviewed periodical?

12 A. I don't think so. I don't think it's actually  
13 published yet. I'm created -- no, I'm sorry, wait. They  
14 gave me a copy, so it was published. I don't believe it  
16:52:29 15 was peer reviewed.

16 Q. Okay. Have you ever written any books?

17 A. Not published -- I have written books.

18 Q. For you own amusement?

19 A. God, no. They would be expert reports.

16:52:45 20 Q. Now, the evidence that you present in terms of  
21 the ownership of the portion of the Gila River that  
22 relates to your Indian heritage, is that limited simply to  
23 what you have filed with this commission? There isn't  
24 anything else that is going to go into the record or  
53:11 25 anything else that you are relying on?

1 A. And I wanted to amplify on that, thank you. We  
2 have filed a pile of documents -- I didn't understand why  
3 my attorney wanted me to talk or file excerpts out of my  
4 report that I once prepared on the purpose of the Gila  
16:53:28 5 River Indian Reservation. But he wanted it, so it's in  
6 there. And yes, I do discuss -- and I will be happy to  
7 discuss, ad nauseam, that it was the clear purpose of the  
8 federal government and the military to expand the  
9 reservation for irrigation purposes.

16:53:44 10 Q. If we were in courtroom, I would ask the judge to  
11 instruct to you to be responsive to my question. What I  
12 asked you was, is the evidence that you filed with the  
13 commission all that you are relying on to support your  
14 claim that the federal government transferred the portion  
16:54:03 15 of the river flowing through your reservation to that  
16 tribe prestatehood?

17 A. Yes.

18 Q. In your profession as a hydrologist slash  
19 engineer, are the gauging records of the USGS and Bureau  
16:54:31 20 of Reclamation generally accepted as being accurate?

21 A. No. You can't measure water accurately.

22 Q. I said within your profession, standard in the  
23 community?

24 A. I'm sorry, I misunderstood.

54:44 25 Yes, they are the standard, that's what we

1 use, and that's what we've got.

2 Q. What you design to?

3 A. It's what we design to, yes.

4 Q. You made a comment earlier about at -- or at  
16:55:01 5 least I thought you did. I don't want to put words in  
6 your mouth -- that around statehood, the Gila River in  
7 your reservations area was dry?

8 A. Portions of the Gila River, yes.

9 Q. Do you know the cause for the drought?

16:55:17 10 A. Yes.

11 Q. Could it have been because of diversions  
12 upstream?

13 A. Yes.

14 Q. Would that be the principal cause?

16:55:25 15 A. Yes.

16 Q. There was no cataclysmic geologic event or  
17 anything that diverted the river off the reservation, or  
18 anything like that?

19 A. There was a drought at the period right at the  
20 turn of the century that brought the matter to a head.  
21 The change in conditions other than the normal climatic  
22 fluctuations was the diversions upstream.

23 Q. If you had -- if you hadn't had those diversions,  
24 would you perceive that the water would have flowed  
55:56 25 through your reservation?

1 A. I think it would have.

2 Q. Okay. At the time we're talking about, there had  
3 been significant diversions of the Gila River taking  
4 place?

16:56:08 5 A. Yes.

6 MR. HELM: I don't have any further  
7 questions.

8 MR. GOOKIN: Let me clarify that. I assumed  
9 the time you were talking about was 1912.

16:56:19 10 MR. HELM: Yes, when it was dry.

11 MR. GOOKIN: Yes.

12 CHAIRMAN EISENHOWER: Are there any other  
13 questions for Mr. Gookin?

14 If not, then we thank Mr. Gookin for coming  
16:56:37 15 forward.

16 MR. GOOKIN: Thank you.

17 CHAIRMAN EISENHOWER: I want to do just a  
18 brief bit of housekeeping here. And as the hour is  
19 getting late, it's almost 5 o'clock, it's very obvious  
16:56:46 20 that we are going to have to continue tomorrow. But I  
21 want to double-check my speaker sheets. And there's three  
22 major groups of people here that -- other than specific  
23 individuals. Mr. Helm, you have Roberta Livesay, Wynn  
24 Hjalmarson, and Donald Jackson. Is that correct?

57:20 25 MR. HELM: Yes. Roberta Livesay is not a

1 witness. She's an attorney.

2 CHAIRMAN EISENHOWER: But she's a speaker?

3 MR. HELM: Just as cross-examination is  
4 needed from her. She won't be for making a presentation.

16:57:34

5 CHAIRMAN EISENHOWER: But that's part of  
6 your team, correct?

7 MR. HELM: Yes. She's an attorney just like  
8 I am, does the same stuff I do.

16:57:46

9 CHAIRMAN EISENHOWER: Okay. And for the  
10 State, John, you have three -- John Fuller -- you have  
11 yourself, Gary Huckleberry, and Barbara Tellman?

12 MR. FULLER: We've said all we need -- we're  
13 going to stay on the Gila River.

16:58:02

14 CHAIRMAN EISENHOWER: And you've said  
15 everything that you have to say. But you will be  
16 available tomorrow for the Verde?

17 MR. FULLER: Yes.

18 CHAIRMAN EISENHOWER: Okay, thank you.

16:58:14

19 Mark, you have some people here, Roberta  
20 Goldberg, yourself, Dr. Littlefield, and Dr. Schumm. Is  
21 that correct?

22 MR. MCGINNIS: Yeah.

23 CHAIRMAN EISENHOWER: Anybody else?

24 MR. MCGINNIS: Roberta Goldberg is just like  
25 Ms. Livesay, I think. We're just here to ask questions.

58:23

1 And Dr. Littlefield's direct is done. We have this two-  
2 or three-hour cross, I guess, from Mr. Helm, and then  
3 Dr. Schumm, whatever that takes.

4 CHAIRMAN EISENHOWER: Okay. Now, I've got  
16:58:38 5 some other individuals here. I will go through these and  
6 please tell me if you're going to be associated with any  
7 of these three groups that I just spelled out or if you  
8 represent somebody else.

9 Allen Gookin and John Hestand, I know you  
16:58:55 10 represent the Pimas.

11 Joy?

12 MS. HERR-CARDILLO: Here.

13 CHAIRMAN EISENHOWER: Okay. You're by  
14 yourself, so to speak.

16:59:04 15 MS. HERR-CARDILLO: So to speak.

16 CHAIRMAN EISENHOWER: John, you have two.  
17 Bill Staudenmaier, you're an observer  
18 status?

19 MR. STAUDENMAIER: Correct.

16:59:12 20 CHAIRMAN EISENHOWER: Gotcha.

21 Joe?

22 MR. SPARKS: Only for purposes of clarifying  
23 and asking questions of the witnesses. But I did have a  
24 housekeeping matter I want to present to the chair -- the  
59:21 25 commission.

1 CHAIRMAN EISENHOWER: Okay. Please keep it  
2 short because we're running out of time.

3 MR. SPARKS: In fairness to the State,  
4 before they completely close their case, in the report on  
16:59:37 5 the Verde --

6 CHAIRMAN EISENHOWER: We're going to do the  
7 Verde tomorrow, Joe.

8 MR. SPARKS: I know, but I just want to make  
9 a comparison.

16:59:43 10 CHAIRMAN EISENHOWER: Okay.

11 MR. SPARKS: Compared to the report on the  
12 Salt -- on the Gila, in their appendices, they gave  
13 examples of what they were reciting to in the report.  
14 However, in their appendices on the Gila, they did not.  
17:00:01 15 And so there's no way for us to look at their report.

16 There's -- I'll give you an example of Appendices D of the  
17 2003 report. That's from navigability of the Colorado  
18 River to Safford, just as an example. The oral history is  
19 on file with the Arizona State Land Department Draining  
17:00:30 20 and Engineering section. That's no information

21 whatsoever. It didn't say what oral history is not  
22 included. In the Verde, they did include it. And that is  
23 true all the way through their appendices, so the question  
24 I have for the chair and the commission is, are these  
00:46 25 appendices considered evidence, and if so, then, it seems



1 to me that they would -- should be with some specificity  
2 if not, in fact, included in the report physically. I  
3 would think that they would be included in the report per  
4 se if they were going to be evidence before the  
17:01:03 5 commission. However, if they are going to be included  
6 only by the adoption of reference, it should have adequate  
7 specificity for us to go to the State Land Department and  
8 know which ones they're talking about. They do not do  
9 that in any one of their appendices of their report dated  
17:01:22 10 2003.

11 CHAIRMAN EISENHOWER: Well, we accept the  
12 report in total. And so if they submitted it, that's the  
13 way it is as far as our evidence is concerned. I will ask  
14 Mr. Fuller why the discrepancy, if he knows why the  
17:01:38 15 discrepancy.

16 MR. FULLER: I'm John Fuller, JE Fuller  
17 Hydrology & Geomorphology. In the revision of the 2003  
18 revision of the report, there was no change stated of the  
19 information that was in the appendices from the original  
17:01:51 20 report. The original report, I believe -- George Mehnert  
21 can answer this question -- should still be on file with  
22 the commission and so all the appendices information is on  
23 file; it has already been filed; it's been filed,  
24 actually, for 10 years now. So that information is  
02:05 25 available from ANSAC.

1 MR. SPARKS: So in the -- I am referring to  
2 the 2003 for the one from the '90s, then when I look at  
3 appendices D, I will find the oral histories in back here?

4 MR. FULLER: Yes, you will. I'm not sure  
17:02:25 5 they're bound in the same volume, but all of the volumes  
6 and the appendices -- we just did it to save a few trees.  
7 There's no changes to it and it is on file with ANSAC.

8 MR. SPARKS: By expending this one tree, you  
9 could have expended enough more ink on it to tell me what  
17:02:40 10 histories were involved; however, it isn't there, and it's  
11 not there in any one of the references of the appendices,  
12 so we'll look at the previous report for that information.

13 CHAIRMAN EISENHOWER: Yeah. If you have any  
14 questions, get ahold of Mr. Mehnert and he can provide --

17:02:56 15 MR. SPARKS: I just wanted to clarify what  
16 was in the record for this purpose.

17 CHAIRMAN EISENHOWER: Okay.

18 MR. SPARKS: Thank you.

19 CHAIRMAN EISENHOWER: I'll need -- State  
17:03:10 20 Land Department, Cheryl, this Dave Weedman, he will not be  
21 back. Is that correct?

22 MS. DOYLE: Yes, that's correct. He won't  
23 be back.

24 CHAIRMAN EISENHOWER: Dr. August, will you  
03:22 25 be returning tomorrow?

1                   Okay. So I only lose one.

2                   MS. DOYLE: I'm sorry, for clarification, he  
3 won't be here -- he will be here, but not to testify.

4                   CHAIRMAN EISENHOWER: Well, that's all I'm  
17:03:37 5 worried -- if he becomes a speaker in one form or another,  
6 I've got his request, that's all.

7                   Since we are past 5 o'clock, I don't want to  
8 get started in another long dissertation so I will adjourn  
9 this meeting to recess until tomorrow morning.

17:03:55 10                   MR. MEHNERT: Mr. Chairman?

11                   CHAIRMAN EISENHOWER: Yes?

12                   MR. MEHNERT: Would you ask that the  
13 commissioners state and sign the Pima report before they  
14 leave today?

17:04:06 15                   CHAIRMAN EISENHOWER: Yes. We'll get that  
16 done today. So we can get -- we won't be toting that  
17 around. So we will recess tonight. Let me check with my  
18 two long-distance witnesses.

19                   (An off-the-record discussion ensued.)

17:04:39 20                   CHAIRMAN EISENHOWER: We will recess until  
21 9 o'clock tomorrow morning, same place, same faces.

22                   (The hearing was concluded 5:04 p.m.)

23

24

25

1 STATE OF ARIZONA )

2 COUNTY OF MARICOPA )

3 BE IT KNOWN the foregoing proceeding was  
 4 taken by me pursuant to stipulation of counsel; that I was  
 5 then and there a Certified Reporter of the State of  
 6 Arizona. That the questions propounded and the answers  
 7 given were taken down by me in shorthand and thereafter  
 8 transcribed into typewriting under my direction; that the  
 9 foregoing pages are a full, true, and accurate transcript  
 10 of said proceeding, all to the best of my skill and  
 11 ability.

12 I FURTHER CERTIFY that I am in no way  
 13 related to nor employed by any parties hereto nor am I in  
 14 any way interested in the outcome hereof.

15 DATED at Phoenix, Arizona, this \_\_\_\_ day of  
 16 \_\_\_\_\_, 2005.

17  
 18 \_\_\_\_\_  
 19 Gerard T. Coash, RMR  
 Certified Reporter #50503

17:04:49

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