

Helmut Kyle  
Gila 11/16/05

IN THE SUPERIOR COURT OF THE STATE OF ARIZONA  
IN AND FOR THE COUNTY OF MARICOPA

FLOOD CONTROL DISTRICT OF  
MARICOPA COUNTY,

Plaintiff,

v.

PALOMA INVESTMENT LIMITED  
PARTNERSHIP, limited  
Partnership, et al.,

Defendants.

CV 97-07081

and related cross-actions.

DEPOSITION OF DOUGLAS R. LITTLEFIELD, Ph.D

Phoenix, Arizona  
May 25, 2001  
9:33 a.m.

COPY



Melissa Gonsalves, RMR  
Arizona CCR No. 50070

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INDEX

<u>TESTIMONY OF DOUGLAS R. LITTLEFIELD</u>	<u>PAGE</u>
Examination by Mr. Helm .....	4

INDEX OF EXHIBITS

<u>EXHIBIT</u>	<u>MARKED</u>
90 - Letter dated 5/24/01 to Helm from McGinnis .....	6
91 - Letter dated 5/07/01 to Helm from Barker .....	12
92 - Report prepared by Douglas R. Littlefield .....	13
93 - Curriculum Vitae of Douglas R. Littlefield .....	23
94 - Document entitled "Index of Documents" .....	35
95 - Document entitled "Documents Referenced in Report but Not Produced" .....	36
96 - Survey plat map of Township 8 south, Range 22 west .....	99

1 THE DEPOSITION OF DOUGLAS R. LITTLEFIELD,  
2 Ph.D, wastaken at 9:33 a.m. on May 25, 2001, at 2801  
3 West Durango, Phoenix, Arizona, before MELISSA  
4 GONSALVES, Arizona CCR No. 50070, a Certified Court  
5 Reporter and Notary Public in and for the County of  
6 Maricopa, State of Arizona, pursuant to the Rules of  
7 Civil Procedure.

8 The Plaintiffs were represented by their  
9 attorneys, Mr. John D. Helm and Patricia L. Barfield.

10 The Defendants were represented by their  
11 attorney, Mr. J. Emery Barker.

12 Also attending the deposition:

13 Winn Hjalmarson

14 Doug Stover

15 Joe Tram

16 Ed Raleigh

17 Julie M. Lemmon, Attorney at Law

18 BE IT REMEMBERED that the witness will read  
19 and sign the deposition, and the notice of filing and  
20 other formalities required by law for the taking and  
21 returning of the said deposition are waived.

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Phoenix, Arizona  
May 25, 2001  
9:33 a.m.

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MR. HELM: We stipulate to advise the court reporter how we want the exhibits numbered at a later date, and you'll change the numbers from the numbers we put on them today to make they correspond with what we advise you.

MR. BARKER: So stipulated.

DOUGLAS R. LITTLEFIELD, Ph.D,  
called as a witness herein, having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. HELM:

Q. State your full name for the record, please.

A. My name is Douglas Robert Littlefield.

Q. Where do you reside, Mr. Littlefield?

A. Live in Oakland, California.

Q. Can you give us an address in Oakland where you can be reached at any time for the next couple of years, if necessary?

A. It would be 6207 Snake Road in Oakland. Zip is 94611.

Q. Mr. Littlefield, have you ever had your deposition taken before?

1 A. Yes, I have.

2 Q. How many times?

3 A. I believe three other times.

4 Q. Okay.

5 So you are somewhat familiar with the process?

6 A. Yes, I am.

7 Q. Have you had an opportunity to talk to  
8 Mr. Barker about how we conduct the process in Arizona?

9 A. Other than that there is a rule regarding the  
10 length of the deposition, but other than that, no.

11 Q. If you don't understand any question that I  
12 ask you, please advise me.

13 A. Okay.

14 Q. It won't trouble me, because, I want to be on  
15 the same wavelength, and I want you to understand my  
16 question, because I'm going to assume if you answer a  
17 question that your answer is responsive to the question  
18 I ask.

19 Is that fair?

20 A. That's fair.

21 Q. You understand you're under oath?

22 A. Yes.

23 Q. And your testimony today would be just like it  
24 would be if you were in a courtroom?

25 A. Yes.

1 Q. Okay.

2 Let me show you Exhibit Number 90, and I'd ask  
3 you to read that letter.

4 (Exhibit 1 was marked for identification and  
5 subsequently remarked as Exhibit 90.)

6 A. Okay.

7 Q. Mr. Littlefield, have you ever been given a  
8 copy of this Exhibit 90 before today?

9 A. Yes, I was faxed a copy of it.

10 Q. Who did you receive a copy of it from?

11 A. Mark McGinnis, the author of the letter.

12 Q. Have you had an opportunity to talk to  
13 Mr. McGinnis regarding the statements contained in that  
14 exhibit?

15 A. Not since the letter was faxed.

16 Q. Are the requirements that he imposes upon you  
17 contained in that letter going to interfere in any way  
18 with your ability to testify in this matter here today?

19 A. I'm not sure I understand what you are asking.

20 Q. Well, let me see if I can clarify it for you.

21 If you note down in the second-to-last  
22 paragraph, Mr. McGinnis states:

23 "Therefore, SRP's position is that any  
24 work performed by Dr. Littlefield under  
25 contract with this firm and any

1 communication between Dr. Littlefield and  
 2 this firm or SRP are covered by the  
 3 attorney-client privilege and the work  
 4 product doctrine."

5 Do you understand that?

6 A. Yes.

7 Q. "SRP will not be represented at the  
 8 deposition only because you object to my  
 9 attendance. SRP does not, however,  
 10 intend to waive any privilege or work  
 11 product that would otherwise apply to  
 12 Dr. Littlefield's work for this firm or  
 13 his communications with SRP or its  
 14 counsel."

15 Now, is the strictures that that puts on you  
 16 going to prohibit you from telling me anything about the  
 17 report that you prepared for SRP and which has been  
 18 submitted in this matter and which you are here to  
 19 testify about today?

20 A. I can comment about the report and the  
 21 contents of the report and also about the documents that  
 22 are cited in the footnotes, and that's pretty much as  
 23 far as my understanding of what this letter means,  
 24 that's pretty much the limit of what I can testify to.

25 Q. Let me give you a "for example."



1           If I ask you to tell me what instructions you  
2 received to prepare that report, what your arrangement  
3 with SRP and what information they told you, are you  
4 going to respond to me in any fashion other than tell me  
5 I can't tell you about that?

6           A.     You are correct. I cannot tell you about  
7 that.

8           Q.     Are you going to be able to tell me about any  
9 documents that SRP furnished you?

10          A.     Other than the ones that are cited in my  
11 footnotes, I cannot tell you about any other documents.

12          Q.     You're not going to tell me about any  
13 information that SRP furnished you to help you prepare  
14 this report?

15          A.     That's correct.

16          Q.     Is there information that you used in the  
17 preparation of your report that was provided by SRP?

18          A.     I believe I've reread the report a couple of  
19 times since I started working on this project. I  
20 believe there is at least one document, if not several  
21 of them, that are cited in the footnotes of the report  
22 as having come from SRP, and they are identified as such  
23 in those footnotes.

24          Q.     And you can't tell me or won't tell me about  
25 anything in those documents at this point?

1           A.     The documents that are cited in the footnotes  
2 have all been provided to you or are readily available  
3 in the university library.

4           Q.     You are not going to tell me about the  
5 documents that you reviewed that SRP provided you but  
6 which you didn't reference in the report?

7           A.     That's correct.

8           Q.     You're not going to tell me about any  
9 conversations you had with anybody working for SRP or an  
10 agent of SRP regarding any instructions on what you were  
11 to do in the preparation of this report?

12          A.     That's correct.

13          Q.     Is Mark McGinnis your lawyer?

14          A.     My personal attorney?

15          Q.     Uh-huh.

16          A.     No.

17          Q.     Do you know what attorney-client privilege he  
18 is referring to, then?

19          A.     I believe my understanding is that the  
20 attorney-client privilege is between his law firm and  
21 SRP.

22          Q.     You have no attorney-client privilege with  
23 Mark McGinnis?

24          A.     Not personally, no.

25          Q.     I take it also as we go through this

1 deposition, any time I ask you a question that might  
2 relate to something that you looked at or considered  
3 that was furnished to you by SRP or told to you by SRP,  
4 you're not going to continue to discuss it with me?

5 A. Other than what's cited in the footnotes or  
6 the text of my report, that's correct.

7 Q. Were you granted permission from SRP to act as  
8 an expert in this matter?

9 A. Yes, I was.

10 Q. At the time they granted that permission to  
11 you, did they tell you that you could not disclose the  
12 documents that you had reviewed that they had provided  
13 you?

14 A. First, let me clarify one thing.

15 It wasn't SRP directly that granted me  
16 permission, it was SRP's outside counsel, Salmon, Lewis  
17 & Weldon.

18 Q. Who did you work for originally that gave rise  
19 to this relationship with SRP or Salmon, Lewis & Weldon?

20 A. John Weldon at Salmon, Lewis & Weldon.

21 Q. That's who you went to to get permission to  
22 act as an expert in this case?

23 A. The process was after Emery Barker called me,  
24 I advised him that I had done this for SRP, and he  
25 communicated with Salmon, Lewis & Weldon.

1 Q. Did you talk to anyone at Salmon, Lewis &  
2 Weldon or did Mr. Barker get permission for you?

3 A. He got permission for me. I subsequently  
4 called John Weldon and discussed the matter with him to  
5 confirm what I could and could not do.

6 Q. What did he tell you?

7 A. He told me that I could discuss the report,  
8 because it was in the public domain, and that they were  
9 willing -- after he had discussed with SRP's counsel,  
10 they were willing to also allow me to provide copies of  
11 the materials that are in the footnotes of the report,  
12 which my understanding is that's been done.

13 Q. And...

14 A. But anything beyond that, he said I was not  
15 free to comment on.

16 Q. Did you advise Mr. Barker at the time you  
17 undertook the representation in this case, that you were  
18 not going to be free to comment on any of the materials  
19 that you had reviewed for preparation of your report  
20 that were not listed in the footnotes in the report?

21 A. That's correct.

22 Q. And he knew that?

23 A. Yes.

24 Q. So at the time he listed you as an expert in  
25 this matter, he knew that you couldn't fully disclose

1 all of the materials you had reviewed to prepare your  
2 report?

3 MR. BARKER: I'm going to object to the form  
4 of the question as misleading.

5 All of the materials that Dr. Littlefield  
6 reviewed are disclosed in the report in the bibliography  
7 of the report.

8 The question is misleading as stated.

9 MR. HELM: That's fine.

10 Answer the question, your Honor --

11 Answer the question, Doctor.

12 THE WITNESS: I'm flattered.

13 All of the materials that I reviewed are cited  
14 in the bibliography of the report. It is a listing of  
15 all files of archival holdings and secondary source  
16 materials that I looked at.

17 (Exhibit 2 was marked for identification and  
18 subsequently remarked as Exhibit 91.)

19 BY MR. HELM:

20 Q. I will show you what's been identified as  
21 Exhibit 91 to this matter.

22 Have you ever seen that letter before?

23 A. (Witness reviews document.)

24 Q. Have you had an opportunity to read the  
25 letter, Doctor?

1 A. Just about.

2 Yes, I've seen this before.

3 Q. Now, in that letter, it notes that you  
4 reviewed many items.

5 In the second paragraph:

6 "He reviewed many items, which he did not  
7 cite in his footnotes, about 25 boxes of  
8 materials..."

9 Is that statement true?

10 A. Yes.

11 Q. So, those 25 boxes of materials that you  
12 reviewed are not listed in your report, are they?

13 A. They are listed in the bibliography. Those  
14 are all of the materials that I looked at. The 25 boxes  
15 are a subset of all of the materials that I looked at.

16 MR. HELM: Let's get this marked.

17 (Exhibit 3 was marked for identification and  
18 subsequently remarked as Exhibit 92.)

19 BY MR. HELM:

20 Q. Okay, Doctor, this is Exhibit 92.

21 It's your report. You've got your own copy in  
22 front of you, I see. If you want to use that, that's  
23 fine with me.

24 Would you show me where the 25 boxes of  
25 materials are listed in your report?

1           A.       Beginning on page 132 is a section entitled  
2 "Appendix A." It is a listing of all of the materials  
3 that I looked at prior to preparing the report.

4           The 25 boxes of materials are materials out of  
5 all of these boxes or out of all of these collections  
6 that I chose to have photocopied for later review  
7 in-depth.

8           Q.       Where are they listed?

9           A.       They are not listed directly as the 25 boxes,  
10 but they are contained within all of these materials.

11          Q.       There's 25 boxes that got stuff in them;  
12 right?

13          A.       Right.

14          Q.       I don't know what the stuff is. If I want to  
15 find that stuff, how am I going to do it?

16          A.       You would need to go through all of the  
17 materials that are listed in the Appendix A.

18          Q.       So give me -- if I just took Appendix A and  
19 put a subpoena on top of it and handed it to SRP, would  
20 I get all of the documents that they provided you?

21          A.       Would you rephrase the question?

22          Q.       Sure.

23                 If I took Exhibit A, hung a subpoena on it and  
24 sent it over to SRP, would they give me all of the  
25 documents that you reviewed that they provided you with?

1           A.     You would be subpoenaing a substantially  
2 longer list of materials than they have possession of.

3           Q.     Okay.

4                     Why don't you go through here and identify for  
5 me on the record each document that was provided by SRP  
6 to you.

7           A.     Each document that was provided to me?

8           Q.     Uh-huh.

9           A.     I believe there is a section here, I'm not  
10 positive, I haven't looked at it in a while, but I  
11 believe there is a section that lists SRP --

12          Q.     Salt River Project archives?

13          A.     Yeah, correct.

14                     I'm not sure where the page might be on that,  
15 but if it is --

16          Q.     That shows documents.

17                     You've got 25 boxes?

18          A.     Which page are you looking at?

19          Q.     Page 135.

20          A.     These items are not individual documents.

21 This is a listing of collections and file titles. So  
22 there may be many documents within those files. It is  
23 not an individual document listing.

24          Q.     Doctor, how am I going to tell what documents  
25 are referenced in the 25 boxes that you reviewed that



1 you're not going to tell me anything about, so that I  
2 can get my hands on those documents to review them by  
3 subpoenaing SRP for them? I'm just trying to find out  
4 how to collect the information that I perceive I'm  
5 entitled to get since you and your client have refused  
6 to provide it to me. And I think I'm entitled to do  
7 that, and I think I'm entitled to have you identify for  
8 me what the material is.

9 A. It is impossible for me to say that in those  
10 25 boxes of material that I chose to have photocopied --  
11 there's no way I would know which of those materials  
12 fall under any one of these headings here. They are  
13 from some of the headings here. All of the materials in  
14 those 25 boxes fall within this Appendix A, but where  
15 they fall, I don't know.

16 Q. How am I going to know what documents you  
17 won't talk to me about?

18 A. I guess you'll have to take --

19 Q. Am I going to have to say did you look at each  
20 one of them?

21 A. I guess you'll have to take it up with Salt  
22 River Project. I've tried to explain this as best I  
23 can. This is a listing of everything I looked at. Some  
24 of which I photocopied and wound up in those 25 boxes.

25 Q. Why, if you photocopied them from other

1 sources, do you consider those to be SRP's proprietary  
2 materials?

3 A. They aren't.

4 You can go to any of these archives and look  
5 at these materials yourself.

6 Q. Okay.

7 Why are you refusing to give me a copy of  
8 them?

9 A. I don't have them. They are in the physical  
10 possession of SRP.

11 Q. These are not documents that SRP gave you,  
12 then?

13 A. Only the ones that are listed, the files that  
14 are listed under Salt River Project archives on page 135  
15 are the materials that I had photocopied from their  
16 archives.

17 Q. The rest of the stuff is stuff you got  
18 somewhere else, when you finished your job, you boxed up  
19 and sent to SRP without keeping a copy of it?

20 A. Everything except for the copies of the  
21 materials that are listed in my footnotes. I did keep  
22 copies of the materials cited in my footnotes and those  
23 have been provided to you.

24 Q. With the exception of the four listings on  
25 page 135, then, none of the documents that SRP has and

1 which you won't talk to me about because you consider  
2 them to be proprietary, actually came from SRP; they  
3 came from you and you gave them to SRP; is that correct?

4 A. The other materials that are listed here came  
5 from the archives that are cited, and to clarify, these  
6 are things that I looked at, but I may or may not have  
7 actually photocopied them. In some cases I did. In  
8 some cases I didn't. I don't remember which things I  
9 had photocopied, which files, and which ones I didn't.

10 But I -- some of them I did have photocopied  
11 and those are what are in the 25 boxes at SRP.

12 Q. I understand, Doctor.

13 We feel that we're entitled to look not only  
14 at the stuff that you cited, obviously, that presumably  
15 supports your position, but we get to look at the stuff  
16 you didn't site that might not support your position and  
17 ask you why you didn't put that in your report, all  
18 right?

19 A. Everything that I looked at is listed in  
20 Appendix A, and you can go to those archives and look at  
21 all of that material.

22 Q. And it is all contained or most of it is  
23 contained in the boxes you gave to SRP; right? To the  
24 extent you had them photocopied?

25 A. No, to the extent I had them photocopied, but

1 I looked at a great deal of material than I had  
2 photocopied. The 25 bankers boxes is a subunit of the  
3 material that's listed in Appendix A.

4 Q. But in any event, all of it is listed in  
5 Appendix A?

6 A. Everything I looked at to the best of my  
7 knowledge. I tried to keep track of it, yes.

8 Q. Okay.

9 Calling your attention to Exhibit 92, if you'd  
10 take a look at this copy, now, I just want you to go  
11 through it to make sure it is a complete copy.

12 If there are things missing from it, please  
13 identify it for us to the best of your ability.

14 MR. BARKER: I have a question for the record.  
15 Did you get page 113?

16 MR. HELM: Yeah, I hope it got put in there.  
17 Did I?

18 MR. BARKER: That was the one that we didn't  
19 have a copy of.

20 MR. HELM: Right.

21 THE WITNESS: How much time do you want me to  
22 spend looking through this? Do you want me to thumb  
23 through it?

24 BY MR. HELM:

25 Q. Enough so that you're comfortable answering

1 the question. If it is going to take you two hours,  
2 we'll note that on the record.

3 MR. BARKER: There's page 113, because there  
4 is the transmittal.

5 THE WITNESS: Yeah.

6 (Witness reviews Exhibit 92.)

7 From a quick review, it would appear that it  
8 is complete.

9 BY MR. HELM:

10 Q. Now, Doctor, besides the 25 boxes, it refers  
11 to databases, Dbase4.

12 Do you recall that?

13 A. That's correct.

14 Q. What are those?

15 A. Those are databases where I organize my  
16 research materials.

17 Q. Do you still have those?

18 A. I have copies of them, yes.

19 Q. And you are refusing to produce those?

20 A. That's correct.

21 Q. So that's where I could look and see how you  
22 perceived things and kind of what your thought processes  
23 were?

24 A. It's notes on the documents that -- it is  
25 abstracts of documents that led, ultimately, to the

1 preparation of the report.

2 Q. It could be your comments on some document you  
3 read, in other words?

4 A. In general it doesn't contain my personal  
5 comments. Generally they are simply abstracts of the  
6 factual material contained in the document.

7 Q. Your abstract of them?

8 A. Right.

9 Q. So if we wanted to see what you thought a  
10 document meant, we would need to look at that abstract?

11 A. I don't know whether you would or would not.  
12 It is what I used to produce the report.

13 Q. Let me give you a "for example."

14 I'm not saying you did it this way, but if you  
15 abstracted something and forgot to put in a "not" or  
16 something like that, when you later looked at it to  
17 write your report, you might come up with a completely  
18 different conclusion than what the document actually  
19 said; correct?

20 A. You could go back and compare the abstracts to  
21 the documents as I prepared the report.

22 Q. So you had all of the documents listed in your  
23 appendix?

24 A. Those are files containing documents, not  
25 individual documents. But the documents themselves are

1 in those files, in the original archive.

2 Q. I understand -- I guess I don't understand,  
3 then.

4 What I thought you said was you abstracted  
5 documents --

6 A. Correct.

7 Q. -- and then when you wrote your report, you  
8 went back with the abstract and checked it against the  
9 original document again?

10 A. Yes.

11 Q. Okay.

12 Did you have every document in your office?

13 A. Yes, I did.

14 Q. Okay.

15 So the ones that you didn't send to Salt  
16 River, you just threw away?

17 A. No, I sent all of it to Salt River but that  
18 took place substantially after I completed the report.

19 Q. Is the description of the four databases  
20 that's contained in Mr. Barker's letter substantially  
21 correct?

22 A. There's actually a fifth database that he  
23 forgot or I didn't tell him about, but it simply  
24 contains a list of contacts of parties that I talked to  
25 as I did my research, names and phone numbers of

1 archivists, an electronic Rolodex. In general the  
2 descriptions that are offered here are correct.

3 Q. Okay.

4 And it is your position that that's the  
5 proprietary material of SRP?

6 A. That's correct.

7 (Exhibit 4 was marked for identification and  
8 subsequently remarked as Exhibit 93.)

9 BY MR. HELM:

10 Q. I'll show you what's marked as Exhibit 93 and  
11 ask you if you recognize that document, Doctor.

12 A. Yes, this is a copy of my resum or vitae.

13 Q. Is it updated or are there any additions or  
14 deletions that need to be made to it?

15 A. Well, of course, the present case that I'm  
16 working on now is not on here and the Gillespie dam  
17 matter.

18 Q. Anything else?

19 A. On page 2, the -- about the middle of the  
20 page, 1995 through present, research historian and  
21 consultant for Nebraska Department of Water Resources,  
22 that case has settled effective at the end of this  
23 month. So I guess you could say 1995 through May of  
24 2001. Otherwise, everything else is correct.

25 Q. Okay, Doctor, looking at your resum, other



1 than the case you worked on for SRP and this case, is  
2 the only case involving issues of navigability that  
3 you've ever worked on the one for the Idaho Coalition or  
4 Idaho AG?

5 A. That's not correct.

6 Q. What other ones have you worked on that  
7 involve issues of navigability?

8 I'm just talking about lawsuits now.

9 A. Right.

10 I'm trying to find it for you.

11 Again, on page 2, the bottom item, research  
12 historian and consultant for Carlsmith, Ball, Wichman,  
13 W-i-c-h-m-a-n, Murray, Case, C-a-s-e, Mukai, M-u-k-a and  
14 Ichiki, I-c-h-i-k-i, for a law firm representing Nickel  
15 Enterprises, regarding a past case of the Kern river,  
16 K-e-r-n. That was a lawsuit involving title to the bed  
17 of the Kern river and navigability.

18 Q. Okay, so you've worked on two other ones,  
19 then?

20 A. And also the very first one chronologically on  
21 page 3, the very last one that's listed, under the 1984  
22 through '86, research historian and consultant for Legal  
23 Counsel, State of New Mexico, involving the history of  
24 the Rio Grande water rights. That also involved  
25 navigability issues.

1 Q. I'm missing that.

2 A. This is page 3, the very last -- right  
3 above --

4 Q. Right, got it.

5 A. Above "other professional experience."

6 Q. What did that involve, then? Whether the  
7 Rio Grande was navigable?

8 A. Some of the historical cases involved in that  
9 involved issues of navigability.

10 Q. Were you called on to testify about the  
11 navigability of the Rio Grande River?

12 A. No.

13 Q. What did you do? You read cases about the  
14 Rio Grande that dealt with --

15 A. I brought a history of the interstate water  
16 dispute between New Mexico and Texas and some of that  
17 history involved issues of navigability.

18 Q. How so?

19 A. Rio Grande Dam and Irrigation Company v. U.S.  
20 cases, there are about three of them that went to the  
21 U.S. Supreme Court, and they hinge to some degree on the  
22 navigability of the Rio Grande in that region of the  
23 American west.

24 Q. So in terms of lawsuits, where you testified  
25 as an expert witness, you have only been involved in

1 one; am I right?

2 A. In terms of lawsuits; that's correct.

3 Q. In terms of other experience regarding issues  
4 of navigability, you've got the Rio Grande stuff --

5 A. There is one other one as well.

6 Q. Which one?

7 A. Let me make sure I get the right one here for  
8 you.

9 On page 2, the third item down from the top,  
10 1996 through 1998, research historian and consultant for  
11 Idaho Attorney General, provided historical research for  
12 use in the Snake River Basin Adjudication.

13 That case involved the Deer Flat National  
14 Wildlife Refuge which includes islands in the Snake  
15 River, and part of the -- part of the matter that was  
16 involved, there was the question of title to various --  
17 to the islands in relation to accretion and avulsion.

18 Q. And what did you do for the Idaho Attorney  
19 General in relationship to navigability issues?

20 A. I provided a written report for the Idaho  
21 Attorney General.

22 Q. On accretion and avulsion?

23 A. No, on the issues that were involved in the  
24 case, which I'm not at liberty to discuss further than  
25 that.

1 Q. But those issues dealt with navigability?

2 A. Some of them did, yes.

3 Q. Okay.

4 Why aren't you at liberty to discuss these?

5 Is it also because you consider that to be the  
6 proprietary interests of the Idaho Attorney General?

7 A. My contract specifies that -- with the Idaho  
8 Attorney General that what I provided to them was  
9 confidential and attorney work product.

10 Q. Can you tell us what you're currently doing  
11 for the Idaho Attorney General?

12 A. Other than what's listed on my resum, I  
13 cannot tell you anything further about it.

14 Q. Is that going to be your position with respect  
15 to any of these listings here that because you work for  
16 private people, you're not going to tell us about what  
17 you're doing for them?

18 A. Other than what's listed on my resum, that's  
19 about the extent of what I can tell you.

20 Q. Have you written books on navigable rivers?

21 A. No, I have not.

22 Q. Have you ever written any articles on  
23 navigable rivers?

24 A. No, I have not.

25 Q. Ever participate in any forums, seminars,

1 things like that, on navigable rivers?

2 A. No, I have not.

3 Q. Or teach a class on navigable rivers?

4 A. No.

5 Q. Ever teach a seminar on navigable rivers?

6 A. No.

7 Q. The contract you have with Salt River Project  
8 provides that you'll keep the information confidential  
9 and privileged?

10 A. Yes, it does.

11 Q. Now, in your education, did any courses that  
12 you took as you related through your three degrees deal  
13 specifically with issues in navigability?

14 A. No, they did not.

15 Q. Any of them have that as a section part of the  
16 course?

17 A. No.

18 Q. Any courses you've taken that were  
19 particularly helpful to you on navigability?

20 A. No.

21 Q. What do you list your current occupation as?

22 A. I didn't hear the question.

23 Q. What do you list your occupation as?

24 A. I'm a historical consultant.

25 Q. Who are you employed by?

1           A.       I'm self-employed.

2           Q.       Are you employed as an individual or do you  
3 have a corporation?

4           A.       I use the form "Littlefield Historical  
5 Research," but I'm not incorporated.

6           Q.       Could you give me a brief history of the -- of  
7 your employment since you got your bachelor's degree?

8           A.       Since my bachelor's degree?

9           Q.       Uh-huh.

10          A.       The first year after I graduated from Brown  
11 University, I taught English in a public school in  
12 Providence, Rhode Island.

13                   I moved to California after that. Because I  
14 had a Rhode Island teaching credential, which California  
15 does not reciprocate on teaching credentials, I was  
16 ineligible to teach at public schools. I wound up  
17 teaching history in a private school in California for  
18 four years.

19                   I subsequently went back to graduate school at  
20 the University of Maryland.

21                   As my resum indicates, I graduated with a  
22 master's degree in 1979, and then went from there to the  
23 University of California at Los Angeles to work on my  
24 Ph.D, and during the time I was at the University of  
25 California, Los Angeles, I was an editorial assistant

1 for the Pacific Historical Review.

2           Toward the end of my graduate program at UCLA,  
3 I was offered an opportunity to do some consulting work  
4 for the New Mexico State Engineer's office. That's  
5 listed on my resum.

6           And the rest of my employment history is  
7 listed on my resum.

8           Q.     Does that mean that since 1984, you've been a  
9 research consultant or a historical consultant?

10          A.     That's correct.

11           I also have taught college level courses  
12 intermittently, which are also listed on my resume. I  
13 don't remember precisely the exact years, but it is on  
14 here anyway.

15          Q.     Has it always been as a self-employed person  
16 since '84?

17          A.     That's correct, except for the college  
18 teaching.

19          Q.     The '91-'95 lecturer at the department of  
20 history?

21          A.     That's correct.

22          Q.     Did any of the jobs you held before becoming a  
23 research consultant in 1984 require you to deal with any  
24 issues of navigability?

25          A.     No, they did not.

1 Q. So the first time you deal with navigability  
2 issues is sometime between '84 and '86 when you were  
3 working for the New Mexico --

4 A. New Mexico State Engineer?

5 Q. Right.

6 A. That's correct.

7 Q. Do you claim to have any specialized areas of  
8 expertise outside of research historian?

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

10 Q. Let me reverse it, then.

11 Do you claim to have any specialized expertise  
12 in the area of professional engineering?

13 A. No, I do not.

14 Q. Hydrology?

15 A. No.

16 Q. Hydraulics?

17 A. No.

18 Q. Geomorphology?

19 A. No.

20 Q. Archaeology?

21 A. No.

22 Q. Water engineering?

23 A. No.

24 Q. Irrigation design and delivery?

25 A. No.



1 Q. Dam construction?

2 A. No.

3 Q. River guide?

4 A. No.

5 Q. Boat builder?

6 A. No.

7 Q. Surveyor?

8 A. No.

9 Q. Assayer?

10 A. No.

11 Q. Have you worked in any capacity in any of  
12 those areas?

13 A. No, I have not.

14 Q. Don't claim to be an expert in them?

15 A. No.

16 Q. Who is your client in this matter?

17 A. My understanding of my client is Emery  
18 Barker's law firm.

19 Q. Do you have a fee agreement with him?

20 A. Yes, I do.

21 Q. Okay.

22 Do you have a copy of it with you?

23 A. No, I do not.

24 MR. HELM: Emery, will you provide that for  
25 me?

1 MR. BARKER: The free agreement is send me a  
2 bill, and I'll pay it.

3 MR. HELM: Do you have a letter?

4 MR. BARKER: Someplace.

5 MR. HELM: Will you send me -- do you have  
6 written evidence of the agreement?

7 THE WITNESS: Yes, I do.

8 MR. HELM: Somebody send it to me, please.

9 MR. BARKER: I'll send it.

10 BY MR. HELM:

11 Q. Outline the terms of it as best you understand  
12 it.

13 A. I'm sorry, I didn't hear the full --

14 Q. Outline the terms of your employment by  
15 Mr. Barker's law firm as best you understand it.

16 A. The best I understand it, I charge an hourly  
17 rate for research and writing, if that's necessary, and  
18 it is \$125 an hour, and for court  
19 preparation/depositions and testimony, I charge \$175 an  
20 hour, plus reasonable expenses associated with travel  
21 and photocopying and the like.

22 Q. Mr. Barker give you any instructions on how  
23 you were to perform your services for him?

24 A. No.

25 Q. Anybody else in his law firm give you any

1 instructions?

2 A. No.

3 Q. What's your understanding of what you were  
4 hired to do in this matter?

5 A. My understanding was that I was hired to  
6 provide an affidavit attesting to the fact that I had  
7 written the --

8 Q. Exhibit 92?

9 A. Exhibit 92.

10 And that the information in and my opinions in  
11 that report are true and correct.

12 Q. Mr. Barker or anybody in his firm provide you  
13 with any documents?

14 A. Yes, they did.

15 Q. Tell me what documents you were provided with.

16 A. I asked for a copy of a land ownership map,  
17 which I believe was provided by Wendy McInnis of his  
18 firm. I believe she misunderstood what I asked for,  
19 because the map that she gave me showed land ownership  
20 below the Gillespie dam, and what I really wanted was  
21 something showing parcels in the vicinity of Gillespie  
22 dam. It was black and white.

23 I also asked for a copy of the Arizona State  
24 Land Department study of the Gila River, which the firm  
25 provided me.

1 I also asked for a copy of the Gila River  
2 Navigability Study Draft Report by ANSAC, and before  
3 they were able to provide it to me, I downloaded it  
4 myself off the Internet.

5 Q. Has that study, the Gila River Navigability  
6 Study, Draft Final Report, been provided to you by  
7 Mr. Barker?

8 A. I told them they didn't need to because I had  
9 downloaded a copy from ANSAC's web page.

10 MR. HELM: Off the record for a second.

11 (Discussion off the record.)

12 MR. HELM: Okay, back on the record.

13 BY MR. HELM:

14 Q. Dr. Littlefield, I'm going to give you a copy  
15 of what I've made.

16 (Exhibit 5 was marked for identification and  
17 subsequently remarked as Exhibit 94.)

18 Q. Hopefully it is an accurate index of this box,  
19 which is documents that Mr. Barker delivered to our firm  
20 a couple days ago, and which are represented to be all  
21 of the documents that you referenced in your footnotes.

22 A. I believe I was called by Wendy McInnis, I  
23 guess it was, yesterday morning, about some of the  
24 documents that were referenced in my footnotes that were  
25 not included in the materials that were provided to your

1 office, and those were not provided because I did not  
2 have copies of them because they are secondary source  
3 material that's readily available in any good university  
4 library.

5 Q. Okay.

6 And we've got a list of that, and we'll get to  
7 that.

8 But first of all, would you look through that  
9 box, comparing it to the list I gave you, to see if  
10 that's an accurate representation of all of the  
11 documents that you've produced to me?

12 Let me ask you a question while you do that.

13 The numbers that were on them correspond to  
14 the footnote number, I take it?

15 A. Yes, that's correct.

16 With a cursory review, they would appear to be  
17 the documents that were -- that I had copies of from my  
18 footnotes.

19 (Exhibit 6 was marked for identification and  
20 subsequently remarked as Exhibit 95.)

21 Q. Let me show you what's been identified as  
22 Exhibit Number 95.

23 That's a list, as best we could compile it, of  
24 documents that were not provided to us by Mr. Barker  
25 that were referenced in your report.

1           Would you review that and see if that's all of  
2 them?

3           A.     As far as I know, I'll take your word for it.

4           Q.     Did you tell Mr. Barker that you were not  
5 providing him with these documents?

6           A.     At the time that I shipped him the box of  
7 copies of my footnotes, I didn't realize that there  
8 weren't copies of these materials in there.

9           Q.     Do you suspect that all of these materials  
10 will be available at the Arizona State University  
11 library?

12           MR. BARKER: Off the record.

13           (Discussion off the record.)

14           THE WITNESS: I would imagine you could go to  
15 the Arizona State University library web page and find  
16 out whether those materials are available.

17           The one exception might be item 115: Gila  
18 115, no title, Arizona Gazette, February 17th, 1881, and  
19 I have no idea why there was not a copy of that provided  
20 to you.

21           It's either in the footnoted materials in  
22 Mr. Barker's office or the copy service didn't copy it  
23 or, alternatively, I don't have a copy of it and I don't  
24 know.

25           Q.     What does "LRA" stand for on that?

1           A.       That stands for the box and file in which a  
2 copy of that document appears in the 25 boxes at Salt  
3 River Project.

4           Q.       What do the initials L --

5           A.       Littlefield Research Associates.

6           Q.       Okay.

7           A.       But I changed the title to Littlefield  
8 Historical Research because I felt it more accurately  
9 reflected what I did.

10          Q.       I take it between those documents and the  
11 appendix, that's everything you looked at?

12          A.       These documents in this box are contained in  
13 everything that's listed in the appendix or a subset of  
14 that.

15          Q.       There is no other document in existence that  
16 you looked at that we don't know about?

17          A.       As far as I know; that's correct.

18                 Let me clarify that. I may have looked at a  
19 lot of other materials, but because it's obvious that it  
20 had no relevancy to what my research was, I would not  
21 have listed that in Appendix A. Appendix A is only  
22 materials that I thought might have relevance to the  
23 subject matter.

24          Q.       Did you keep a list of the stuff that you just  
25 discarded out of hand?

1 A. No, I did not.

2 Q. I'd ask you to go to your report. If you want  
3 to use your copy, I don't have any problem at this  
4 point.

5 Emery is familiar with my drill. I intend to  
6 go through it page by page.

7 MR. BARKER: I told him that you were tedious.

8 MR. HELM: I know.

9 That's like you telling me that I don't need  
10 something and making my objections for me.

11 If you turn to page little Roman numeral vi.

12 A. Okay.

13 Q. The first sentence:

14 "The purpose of this report is to assess  
15 the navigability of the Gila river  
16 between its confluence with the Salt  
17 River downstream to its juncture with the  
18 Colorado river on or before February  
19 14th, 1912, the day Arizona became a  
20 state."

21 Fair enough?

22 A. That's correct.

23 Q. What standard did you use to assess the  
24 navigability?

25 A. I attempted to examine a multitude of



1 historical documents that would shed light on  
2 navigability and because different historical actors  
3 might have defined navigability from their own  
4 perception, I'd simply included what their perception  
5 was or was not regarding navigability.

6 In other words, there may be many standards  
7 that various historical actors employed.

8 Q. The eye-is-the-beholder type of problem?

9 A. Correct.

10 Q. What I'm referring to, and maybe I should have  
11 said, what legal standard did you measure it against?

12 A. I did not measure it against a legal standard.  
13 I simply offered an opinion, an expert opinion, based on  
14 the historical evidence.

15 Q. Okay.

16 So the report, then, should not be taken as an  
17 opinion, for example, that the Gila River, in terms of  
18 the test of navigability recited in the Daniel Ball  
19 case, is not navigable?

20 A. The historical records that I cite here, I did  
21 not compare them to the steamer Daniel Ball. I offered  
22 what the historical record presented and offered my own  
23 conclusions based on that.

24 Q. How do we -- so basically what you're telling  
25 me, if I understand it, is the standard of navigability

1 is your standard, Dr. Littlefield's?

2 A. It is the standard of all of the historical  
3 parties that -- I'm offering a conclusion based on many  
4 other parties' opinions about what the river was like,  
5 and cumulatively, they say to me that no matter what  
6 standard you use, the river was not commercially  
7 navigable.

8 Q. Okay.

9 But you're not opining that in the context,  
10 the legal context, of the federal test for navigability  
11 under which states get or don't get land under the Equal  
12 Footing Doctrine?

13 A. I'm not an attorney nor a judge, so I wouldn't  
14 attempt to do that.

15 Q. Okay.

16 Did you review any case law to try and  
17 familiarize yourself with the standards for navigability  
18 that are used by the federal government?

19 A. When I first did my navigability study for the  
20 Kern River case, the attorneys in that case provided me  
21 with copies of the steamer Daniel Ball and some of the  
22 other court opinions that have subsequently shed light  
23 on navigability, and I read those cases at that time. I  
24 have not read them since then.

25 Q. Let me quote to you from -- let me back up.

1           Have you had an opportunity to read the  
2 Defenders of Wildlife and State of Arizona versus  
3 Governor Jane D. Hull case?

4           A.     No, I haven't.

5           Q.     Let me read you a quote from it:

6           "We hold that, to prove navigability of  
7 an Arizona watercourse under the federal  
8 standard for title purposes, one must  
9 merely demonstrate the following: On  
10 February 14th, 1912, the watercourse, in  
11 its natural and ordinary condition,  
12 either was used or was susceptible to  
13 being used for travel or trade in any  
14 customary mode used on water."

15           Do you understand what I just read?

16           A.     Yes, I do.

17           Q.     Is it fair to say, then, that we shouldn't  
18 look at your report as being a determination of the  
19 navigability of the Gila River under that specific  
20 standard?

21           A.     My report does not draw legal conclusions. My  
22 report draws historical conclusions.

23           Q.     Okay, but these are factual questions.

24           A.     I'm sorry.

25           Q.     Are you familiar that the test for

1 navigability is a factual one?

2 A. Yes.

3 Q. Okay.

4 And so that standard I just read to you is a  
5 standard that is applied to the facts?

6 A. That's correct.

7 Q. And what I'm asking you, is it fair to say  
8 that your report is not an opinion of the facts based on  
9 that standard that I just read you?

10 A. I think my report does address that particular  
11 standard as to whether the river was susceptible of  
12 navigation or was capable -- or was navigated for  
13 commercial purposes as of 1912.

14 Q. That's all I'm asking.

15 I want to know if that's the standard you  
16 attempted to meet in your report.

17 A. The standard that I attempted to meet in my  
18 report, my report was written specifically with  
19 reference to the Arizona Navigable Stream Adjudication  
20 Commission, and it was my understanding that they had  
21 certain standards that were set up under Arizona statute  
22 that define navigability.

23 I did not write my report specifically with  
24 regard to those standards, nor specifically with regard  
25 to the federal test.

1 I wrote my report to offer historical opinions  
2 about what contemporaneous observers felt the river was  
3 like in 1912 or within a few years of that date.

4 Q. Is it fair to say, then, that at least to a  
5 certain -- did you read the framework that ANSAC, the  
6 Arizona Navigable Stream Adjudication Commission, was  
7 operating under as part of your preparation of the  
8 report?

9 A. Yes.

10 Q. And is it fair, then, to say that in your  
11 report, you were trying to present them with information  
12 that those statutes said they were to consider or not  
13 consider?

14 A. I will rephrase what I think you asked me.  
15 I was attempting to provide information that  
16 would help the Arizona Navigable Stream Adjudication  
17 Commission decide whether the Gila river from the Salt  
18 River to the Colorado was commercially navigable  
19 according to the standards listed in the statute, the  
20 Arizona statute.

21 I was not attempting to specifically address  
22 those particular points, but rather to provide  
23 information that would allow the Commission to make its  
24 own judgment about whether it met those conditions or  
25 not.

1 Q. In the last analysis, that was their decision,  
2 wasn't it?

3 A. That's correct.

4 Q. If the Commission standard was different than  
5 the federal standard, should we read your report as a  
6 determination under the federal standard?

7 A. I don't think my report addresses specifically  
8 either the ANSAC standard or the federal standard. It  
9 is simply information to help make a determination under  
10 either standard.

11 Q. But it is information with your opinion  
12 attached to it, isn't it?

13 A. That's correct.

14 Q. And so if information that would be relevant  
15 to the federal standard determination was left out, how  
16 should we view your report?

17 A. If it was left out, it was left out simply  
18 because I didn't find it.

19 Q. When you were doing the Kern River case, what  
20 cases did you review besides Daniel Ball, do you recall?

21 A. Not specifically by title.

22 I remember one of the cases that stands out in  
23 my mind because of the novelty of it. It was a case  
24 that involved Alaska and whether planes that ferry goods  
25 into Alaska and land on lakes and rivers, whether that

1 meant those lakes and rivers were commercially  
2 navigable, but I don't remember the name of it or  
3 anything more than that.

4 Q. Would State of Alaska versus the United States  
5 of America, Donald Hodell (phonetic), Secretary refresh  
6 your memory?

7 A. It could be.

8 Q. Should we view your report as an opinion on  
9 the susceptibility of the Gila River to navigation as  
10 opposed to a report of historical facts that you were  
11 able to unearth?

12 A. It offers a historical opinion as to whether  
13 the river was commercially navigable. As an expert  
14 historian, that is my opinion. It is not a legal  
15 opinion.

16 Q. You are familiar, then, that you assess rivers  
17 for navigability in the natural and ordinary condition;  
18 right?

19 A. They believe that's the legal requirement;  
20 correct.

21 Q. Anywhere in your report, do you assess the  
22 Gila River in its natural and ordinary condition?

23 A. Not as a legal matter, as a historical matter,  
24 I believe some of my report does address that.

25 Q. Okay.

1           Does your report address the Gila River in its  
2 natural condition?

3           A.     My report addresses the Gila River as of 1912.

4           My understanding is there were already in  
5 place a number of dams either on the Gila or its  
6 tributaries that were already in existence at that  
7 particular point. So, in terms of its natural  
8 condition, if you mean without any kind of structures on  
9 the river, clearly, the river was not in its natural  
10 condition as of 1912.

11          Q.     And so your report shouldn't be viewed as  
12 assessing navigability in that natural condition?

13          A.     No, I was told that I was to address what the  
14 river was like as of 1912.

15          Q.     Okay.

16                 Would it be fair to say that it shouldn't be  
17 presumed to determine that your report assesses the  
18 river without any diversions that were also taking place  
19 in the water in the river?

20          A.     That's correct.

21          Q.     So your report hasn't assessed the natural and  
22 ordinary condition of the Gila river as to whether it  
23 was navigable, if there were no diversions and if there  
24 were no manmade obstructions?

25          A.     That's right.



1 Q. Tell me what you mean when you use the terms  
2 "commercially navigable" as opposed to "navigable"?

3 A. My understanding is commercially navigable  
4 means carrying commerce on the river from point A to  
5 point B, the way commerce was conducted at the time of  
6 statehood.

7 Q. So it is a relative issue. If commerce in  
8 Arizona in 1912 was conducted in steamboats, you would  
9 assess it as commerce in steamboats as opposed to  
10 assessing commerce in Connecticut that was conducted in  
11 canoes?

12 A. That's right.

13 Q. And you have assessed it that way in your  
14 report?

15 A. I've offered the opinions of the historical  
16 parties and cumulatively, that has led me to the  
17 conclusion that appears in my report.

18 Q. So, I still guess I don't understand.

19 If I could jump in my bass boat --

20 A. Your what?

21 Q. Bass boat. I'm a bass fisherman.

22 If I could jump in my bass boat, purely  
23 recreational vehicle, and start out at the confluence of  
24 the Salt and the Gila and fish my way to Yuma,  
25 recreating away, that would not meet your definition of

1 commercially navigable; is that fair?

2 A. That's fair.

3 Q. If I could take a 20-foot boat and just cruise  
4 down the Gila for the enjoyment of looking at the  
5 sights, that wouldn't meet your definition of  
6 commercially navigable?

7 A. That's correct.

8 Q. And your report is written with your  
9 definition of commercially navigable as part of your  
10 standard; right?

11 A. That's correct.

12 Q. If it wasn't commercially navigable, then it  
13 wasn't navigable in your opinion?

14 A. That's correct.

15 Q. And --

16 A. Simply because boats were used on the river  
17 does not mean it was commercially navigable.

18 Q. Sure.

19 That's what I'm getting at.

20 As opposed to navigable -- I can navigate --  
21 the two examples I've just given you, taking my bass  
22 boat and going to Yuma fishin' is navigation of that  
23 river, isn't it?

24 A. That's correct.

25 Q. And floating down it in a 20-foot boat is

1 navigation of that river?

2 A. That's right.

3 I believe I offered some examples comparable  
4 to what you're discussing in my report.

5 Q. But neither one of those have a commercial  
6 component?

7 A. That's right.

8 Q. And without that commercial component, in your  
9 mind, it doesn't establish navigability of the river?

10 A. Navigability or susceptible of commercial  
11 navigation.

12 Q. I'm not sure I got an answer. Let me try one  
13 more time.

14 MR. BARKER: Let me object.

15 You've gotten three answers all the same way.  
16 You've rephrased it each time.

17 MR. HELM: You don't know what question I'm  
18 going to ask. What are you objecting to?

19 Tell me the question.

20 MR. BARKER: Ask your next question.

21 BY MR. HELM:

22 Q. I want you to give me your definition of the  
23 difference between commercially navigable and navigable.

24 A. Commercially navigable, my understanding of  
25 it, is carrying commerce on the river from point A to

1 point B, which does not include ferries, because ferries  
2 are a means of avoiding the river at regularly expected  
3 times of the year, or alternately, susceptible of  
4 carrying commerce on the river the way commerce was  
5 carried on at the time of statehood at regularly  
6 expected times of the year.

7 Q. Does it have to be profitable?

8 A. Profitable?

9 Q. Sure, the commerce?

10 A. Like money-losing commerce?

11 Q. In other words, if I carry on commerce on the  
12 river but I lose money on it, it wouldn't qualify?

13 A. No, I would say it would qualify as long as it  
14 is a business venture or a possibility of a business  
15 venture. I don't think a requirement of making money,  
16 being successful at it, is necessary.

17 Q. You found cases where navigation occurred?

18 A. On the Gila?

19 Q. Yes.

20 A. Yes.

21 Q. And you didn't think that they established  
22 that the Gila was navigable, because they weren't for  
23 commerce?

24 A. They did not indicate the susceptibility or  
25 the actual commercial navigation of the river.

1           There's one example where I believe in the  
2 1880s parties set out in some sort of watercraft from  
3 Phoenix intending to float all the way to Yuma, and they  
4 weren't very successful at it, as it turns out, but that  
5 type of -- even if they had been successful and had  
6 simply done it for fun, did not necessarily indicate  
7 that the river was capable of commercial navigation.

8           Q.       Would it indicate that the river was capable  
9 of travel?

10          A.       It would indicate that you could get a boat  
11 down the river, sure.

12          Q.       Okay.

13                   And so if travel is enough, then the river  
14 would be navigable; is that fair?

15          A.       It would be navigable to the extent that there  
16 were craft that had done that.

17          Q.       In that definition that I read to you, I think  
18 we have talked about "natural" condition, but what does  
19 "ordinary" mean to you in that definition?

20          A.       Could you phrase that to include ordinary?

21          Q.       Sure.

22                   In its natural -- the watercourse in its  
23 natural and ordinary condition, either was used or was  
24 susceptible to being used.

25          A.       I really don't know what the word "ordinary"

1 means in that definition.

2 Q. Maybe I'm getting overpicky.

3 I'm trying to wire down that you didn't assess  
4 the river in those terms.

5 A. That's correct; I did not.

6 Q. I take it that if we go to the other phrase in  
7 there "being used for travel or trade," the travel must  
8 have been commercial travel if we had a river bus?

9 A. In order to be defined as commercially  
10 navigable?

11 Q. Right.

12 A. Correct.

13 Q. It is not good enough that John Helm can go  
14 from point A to point B on the Gila River?

15 A. That's correct.

16 Q. The trade must have been some type of  
17 commercial nature?

18 A. And regularly reliable as well.

19 Q. And "customary mode" means how things were  
20 done in 1912?

21 A. Right.

22 Q. I guess in terms of the terminology of your  
23 report, when you use the term "navigable" what we really  
24 should add, then, shouldn't we, is "commercially  
25 navigable"?

1 A. Correct.

2 Q. Can you describe for me from a physical  
3 standpoint what the components of a commercially  
4 navigable stream would be?

5 A. What the components of it would be?

6 Q. Sure.

7 How deep does it have to be?

8 A. It depends on the date of statehood and the  
9 types of watercraft used at that time.

10 Q. How wide does it have to be?

11 Same answer?

12 A. Same answer.

13 Q. How stable does the channel have to be?

14 A. Same answer.

15 Q. I don't understand the "same answer" on that  
16 one.

17 A. The stability of the channel would be one  
18 factor that I would consider in determining whether a  
19 stream was commercially navigable at the time of  
20 statehood. It wouldn't be the only one, but it would be  
21 one.

22 Q. If the sandbars are created or a channel shift  
23 with seasonable flooding, would that disqualify it from  
24 being navigable?

25 A. Not necessarily, but on the other hand it

1 wouldn't make it navigable, either.

2 Q. Mississippi is navigable, we all know that,  
3 and we have sandbars that move around all the time out  
4 there, don't we?

5 A. Right.

6 Q. How far does one have to commercially navigate  
7 up a river to make the river navigable?

8 A. I don't have an answer for that.

9 Q. How do you tell the susceptibility of a  
10 commercially navigable river when commerce has never  
11 taken place on it before?

12 A. You would look at the characteristics of the  
13 river and look at the characteristics of watercraft in  
14 existence at that particular time and reach a conclusion  
15 having studied the historical record about whether those  
16 watercraft could have been placed in that river and used  
17 for commerce.

18 Q. All tied to the time of statehood?

19 A. Or as close to that as one can get.

20 MR. BARKER: Can we take a break?

21 MR. HELM: Oh, sure.

22 (Recess ensued from 10:49 to 10:59.)

23 BY MR. HELM:

24 Q. Could you give me your definition or define  
25 for me what the terminology "susceptible to navigation"



1 means in the context of the Gila River in your report?

2 A. Capable of carrying on commerce the way  
3 commerce was carried on at the time of statehood.

4 Q. Well, what would indicate susceptibility? The  
5 amount of water?

6 A. We don't have commerce.

7 Q. As I understand it, the susceptibility is for  
8 cases where we can't actually go out and look at the  
9 commerce; is that fair?

10 A. Right.

11 Q. So we don't have actual commerce taking place,  
12 so we could actually say it is navigable, look at, there  
13 goes the Queen Mary. So, we got to look at indicia that  
14 would indicate that it might be able to be used for  
15 commerce; right?

16 A. Right.

17 Q. What are the indicia, in your mind, that one  
18 looks at?

19 A. I'm sorry, what word were you using there?

20 Q. Indicia.

21 A. Indicia?

22 Q. Indicators.

23 A. There would be a number of them. There would  
24 be how much water was in the river, how wide the river  
25 was, how regular the flow was, how deep the flow was.

1 That's a number of them, anyway.

2 Q. Okay.

3 Did you do any research on those specific  
4 topics?

5 A. To the extent they appeared in the historical  
6 record, yes.

7 Q. So your research was Captain Jones in his  
8 diary said there was five foot of water for wherever he  
9 was at the time?

10 A. Right.

11 Q. You would then assume there was five foot of  
12 water at that point in time?

13 A. Right.

14 Q. What depth would you need to make it  
15 commercially navigable in 1912?

16 A. Just depth by itself?

17 Q. Sure.

18 A. I believe I discuss at the end of the report  
19 the characteristics of commercial watercraft that were  
20 in use in 1912, and they indicated that, at least with  
21 regard to steamboats, that some of the steamboats that  
22 were being used on the Colorado river around that time  
23 drew, I believe -- my recollection is and I'm not  
24 positive without going back to look at my report -- but  
25 my recollection was that the steamboat drew within a

1 foot and two foot of water. I believe that varied  
2 depending on how much tonnage was on board.

3 Q. It would sink deeper the more you put on it;  
4 right?

5 A. Right.

6 Q. So, is it fair to say, then, in your looking  
7 at the indicia of navigability, we would need at least a  
8 foot and a half to two foot of water?

9 A. That would be one of the characteristics.

10 Q. How wide would it have had to have been in  
11 terms of the commercial indicia that you were evaluating  
12 in 1912?

13 A. Again, I'd refer you to the section of my  
14 report that discusses the watercraft. I don't remember  
15 the widths of those vessels, but...

16 Q. If I can take one of those vessels, whatever  
17 they were, and run it up that river, it'll be  
18 commercially navigable in your mind?

19 A. If it could be done at regularly expected  
20 times of year and for a reasonable period of time, that  
21 would be one of the characteristics I would consider.

22 But, again, this is not a legal opinion, it is  
23 a historical opinion.

24 Q. How about if I go down the river in a canoe?  
25 Is that an indicator of susceptibility?

1 A. Just go down it once?

2 Q. Ten times.

3 A. It would be one of the things I would consider  
4 in making a historical determination of susceptibility  
5 of navigation.

6 Q. You are aware that an entire river doesn't  
7 have to be navigable?

8 A. Yes.

9 Q. In fact, reaches of rivers can be navigable?

10 A. Right, and the further upstream you go,  
11 eventually you'll reach a point of any river where it is  
12 not navigable by anybody's standard.

13 Q. Even the Mississippi is not navigable by any  
14 standard at some point, is it?

15 A. That's correct.

16 Q. How long does a reach have to be?

17 A. That I don't know.

18 Q. When you looked at the Gila River, did you  
19 assess it in terms of whether some portion of the river  
20 might be navigable versus other portions that aren't  
21 navigable?

22 A. I think the particular section of my report  
23 discussing the homestead patents and also the General  
24 Land Office surveyors' field notes indicate that at  
25 least those parties, the parties involved in those

1 transactions, were fairly consistent in their opinion  
2 that none of the Gila between the Salt and the Colorado  
3 was navigable.

4 Q. So, is the answer to my question, no, I didn't  
5 look at any specific reaches of the Colorado to  
6 determine whether they might be navigable?

7 A. You mean the Gila?

8 Q. Yeah, I'm sorry.

9 A. I looked at the entire reach of the river from  
10 the Colorado River to the Salt River.

11 Q. But you didn't look at any individual portions  
12 of that stretch?

13 A. I looked at it all, but not limited to any  
14 portion or stretches.

15 Q. That's what I meant.

16 For example, if you came across some evidence  
17 of a steamboat, for example, plying the lower Gila River  
18 on a regular basis for some period of time, albeit, it  
19 might not have gotten all the way up to the confluence  
20 with the Salt, did you then go and assess that portion  
21 of that river to determine whether it might have been  
22 navigable?

23 A. There was, in fact, a steamboat that did go up  
24 the Gila River from Yuma. I don't know precisely how  
25 far or how many times, but I did not specifically base

1 any opinion on simply the use of the steamboat on that  
2 reach of the river. I cumulatively examined all of the  
3 historical record for the entire river.

4 Q. If you had a steamboat that did it for 7  
5 years, would that meet your regularity test?

6 A. It would meet a regularity test depending on  
7 how regularly it did it, but there would be other  
8 factors that I would use in determining from a  
9 historical point of view whether the river was  
10 susceptible of commercial navigation.

11 Q. On the portion of the river where that  
12 steamboat navigated regularly for 7 years --

13 A. Uh-huh.

14 Q. -- what would disqualify -- and I'm assuming  
15 the steamboat meets your criteria for 1-1/2 to 2 feet --  
16 what criteria would disqualify that river from being  
17 commercially navigable?

18 A. How regularly the steamboat was capable of  
19 doing that, whether it was successful at doing it,  
20 whether there were major obstacles routinely for the  
21 steamboat, also what other parties thought about  
22 navigation, even on that reach of the river, such as  
23 General Land Office surveyors and other parties.

24 Q. You mean -- you mean, you'd allow the fact  
25 that some surveyor looked at the Gila River on a given

1 date, taking into consideration seasonality and  
2 diversions and all of the sorts of things that happen to  
3 rivers, and said it is not navigable, to override a  
4 record of use by a steamboat for 7 years?

5 A. It would be one of the elements I would  
6 consider. I would consider the steamboat. I'd also  
7 consider the surveyors. I would consider homestead  
8 patent files. I'd consider other anecdotes and so  
9 forth.

10 Q. My point is, we know there is a steamboat that  
11 did that, don't we?

12 A. Yes.

13 Q. And did it for 7 years?

14 A. I didn't know the length of time.

15 Q. It is right in your report.

16 A. Oh, all right.

17 Q. And so --

18 A. Does my report say how often it did it?

19 Q. What I would like to know is how you followed  
20 up to determine that that wasn't a successful commercial  
21 venture?

22 A. I don't remember the answer to that.

23 Q. In your mind, something overrode that use for  
24 7 years by the steamboat?

25 A. Yes, it did.

1 Q. And you never made any attempt to determine  
2 how far up the Gila it went?

3 A. No.

4 Q. Or what kinds of commercial cargos it carried?

5 A. No, I didn't.

6 Q. Or what passengers it carried, if any?

7 A. Right.

8 Q. Is it fair to say -- I'm trying to make a  
9 distinction here.

10 It seems to me the more I talk to you, what  
11 you were really doing in this report was looking at uses  
12 of the Gila River --

13 A. Correct.

14 Q. -- during the time frame that you assessed?

15 A. Right.

16 Q. As opposed to whether it was, in fact,  
17 navigable or susceptible of navigation?

18 A. The uses led me to a historical conclusion  
19 about whether it was navigable or commercially  
20 navigable, not only the uses but the observations of  
21 contemporaneous observers.

22 Q. Would you define for me the term "meandering"?

23 A. Meandering, the way I understand it -- you are  
24 talking with reference to surveying?

25 Q. Uh-huh.



1           A.     The way I understand it, meandering, General  
2 Land Office surveyors would -- when they encountered a  
3 river on-line, as they measured township and section  
4 range lines, or subsection lines, when they encountered  
5 a river that they thought was navigable, they were to  
6 plant what was known as a meander post on the bank of  
7 the river and then they were to use degree bearings to  
8 determine the sinuosities of the river going downstream  
9 and planting other meander posts where the stream  
10 changed direction and do that on both banks of the  
11 river.

12           Q.     I'd like you to turn to page 4 of your report,  
13 middle of the first paragraph, you refer to 11  
14 unpublished manuscripts, collections of prominent  
15 citizens.

16           A.     You are talking about the carryover paragraph  
17 from the previous page?

18           Q.     Uh-huh.

19           A.     Okay.

20           Q.     I would like you to identify the 11  
21 unpublished manuscripts for me.

22           A.     I'm trying to find where it is.

23           Q.     About the middle of that carry-over paragraph.  
24 It says:

25                   "The preliminary searches yielded over

1 eleven unpublished manuscript collections  
2 of prominent citizens..."

3 A. I assume they would be listed in the  
4 bibliography under -- this is Arizona State University.

5 Q. How do I find it?

6 A. I believe the archives are listed in  
7 alphabetical order.

8 Q. Arizona State ought to be in the front?

9 A. Yeah, I think so.

10 MR. HELM: My copy of the report seems to be  
11 missing page 133.

12 MR. BARKER: So is mine. That's probably why  
13 yours is missing it.

14 THE WITNESS: They are listed under the  
15 heading "Arizona State University" there.

16 BY MR. HELM:

17 Q. Are you referring to the Joseph and Grace  
18 Alexander papers that's on page 132?

19 A. Starting right under the heading "Arizona  
20 State University," the Hancock family collection,  
21 newspaper index, the Joseph and Grace Alexander papers.

22 Q. They should carry over?

23 A. I would imagine they do.

24 Q. And when Emery gives us the missing pages?

25 MR. BARKER: I don't have it because --

1 THE WITNESS: Are you missing 133?

2 MR. BARKER: I'm missing 133.

3 MR. HELM: Would somebody get me 133?

4 THE WITNESS: I can print one out. I'm sure  
5 ANSAC would like it if you sent them one, too.

6 MR. BARKER: I don't know if you know how they  
7 make their copies.

8 MR. HELM: I don't want to know.

9 MR. BARKER: They send them to the prisoners.

10 THE WITNESS: I'll just print it out and send  
11 it on to you.

12 MR. BARKER: That's why if we find a page  
13 missing, it is missing.

14 BY MR. HELM:

15 Q. At the bottom of that last sentence on that  
16 same paragraph you state:

17 "The manuscript collections also yielded  
18 useful insight on the development of  
19 irrigation systems along the Gila,  
20 including reservoirs, diversion dams and  
21 canals."

22 A. Yes.

23 Q. How do these insights impact on your findings  
24 of non-navigability?

25 A. This was just a general statement as to what

1 the collections contained, the fact that there were  
2 diversion dams and canals and reservoirs in existence at  
3 the time of statehood.

4 Q. Quite a bit of it, wasn't there, by statehood?

5 A. Yes.

6 Q. And I take it that you would agree that the  
7 diversions and canals and dams that existed at statehood  
8 impacted the flow of the Gila River?

9 A. Certainly.

10 Q. Page 6, please, last sentence in the second  
11 paragraph, middle of the page?

12 A. The first full paragraph.

13 Q. Yeah.

14 A. Okay.

15 Q. You have a statement:

16 "... their reports are especially useful  
17 to ascertaining..."

18 And I don't know what reports you are  
19 referring to, so could you identify the reports that you  
20 are referring to that were especially useful?

21 A. Um, that's probably a reference to some of the  
22 published material that was in Exhibit 95.

23 For example Gila footnote 104, Philip  
24 St. George Cooke, Report of Lieutenant Colonel Philip  
25 St. George Cooke of His March from Santa Fe, New Mexico,

1 to San Diego, Upper California, or maybe the Henry Smith  
2 Turner diary, the published reports of various parties  
3 in the area. Those were --

4 Q. Is it just those two or were there others?

5 A. There may have been others, but I don't  
6 recall.

7 The Bancroft Library at the University of  
8 California has a -- not only a lot of manuscripts, but  
9 one of the best collections of published material  
10 dealing with the American west.

11 Q. Okay, referring you to page 7.

12 You state at the bottom of the page:

13 "Federal patents were critical in  
14 determining how the U.S. government  
15 viewed the public lands in Arizona. If  
16 federal officials had considered the Gila  
17 River to be navigable, they would not  
18 have deeded out land lying in the channel  
19 or bed of the river."

20 It goes to the next page.

21 A. I think the phrase to be grammatically correct  
22 should have been, "If federal officials had considered  
23 the Gila River to have been navigable...", at least  
24 that's what I've penciled in here.

25 Q. Okay, well...

1 A. Whatever.

2 Q. I can only deal with what I've got.

3 A. Okay.

4 Q. You don't get to correct your grammar later  
5 on.

6 A. Okay.

7 Q. First question is, how do you know this? This  
8 is just your assumption, isn't it?

9 A. Because I have seen circumstances where  
10 federal surveyors have -- where rivers have been  
11 meandered on both banks and title has been granted by  
12 the U.S. government to parcels adjacent to those  
13 navigable waterways. Title was not granted to the bed  
14 of the river.

15 Q. Have you seen the opposite also?

16 A. Where...

17 Q. Where title was granted?

18 A. I don't remember specifically.

19 Q. Do you think it is possible?

20 A. It's certainly possible.

21 Q. Do you think it could have occurred on the  
22 Gila River?

23 A. It could have occurred on the Gila River.

24 Q. And they didn't accept the land and the river,  
25 even though both sides were meandered?

1 A. That's correct.

2 Q. So, your speculation on federal officials not  
3 conveying land in meandered rivers is just that, isn't  
4 it? Your speculation?

5 A. The federal officials at the time that these  
6 surveys were done, the surveys were never 100% accurate,  
7 and also the General Land Offices that handed out  
8 homestead patents also were not 100% consistent with one  
9 another. So there is a degree of inconsistency that  
10 you'll find anywhere in the American west with regard to  
11 meandering and homestead patents that are adjacent to  
12 either navigable or non-navigable bodies of water. It  
13 is one element that I would consider.

14 Q. There was just -- there was also just the  
15 factor that some of them were never done, even though  
16 they showed up, weren't they?

17 A. Some of what --

18 Q. The surveys.

19 A. I believe all of Gila was surveyed.

20 Q. So some of the surveys were questionable in  
21 the sense that maybe the surveyor never got out on the  
22 land that he claimed to have surveyed?

23 A. Oh, correct. That happened all over the west.

24 Q. Sure.

25 A. Yeah.

1 Q. And did you do anything to see if any of the  
2 surveys that you relied on might have fallen into what  
3 we might call the fraudulent survey category?

4 A. Only to the extent that I examined any  
5 resurveys that had been done of any particular township  
6 or part of a township.

7 Q. We'll get back to that in a minute.

8 Do you think it would be likely that I could  
9 go out and find a federal patent on the Gila River that  
10 would cover the river where it had been meandered on  
11 both sides?

12 A. I don't know if it would be likely. I would  
13 certainly think it would be possible.

14 Q. Wouldn't shock you?

15 A. It wouldn't shock me, no.

16 Q. You state that you reviewed, on page 9, 50  
17 state patents?

18 A. Where on page 9?

19 Q. First paragraph.

20 A. Approximately, 50, yes.

21 Q. Are those listed anywhere?

22 A. I believe they are listed in Appendix A.

23 Q. That's the ones on page 166, 161?

24 A. I'm not sure where you are looking. These all  
25 appear to be federal patents, or State of Arizona -- no,



1 that's not it.

2 Q. Where are they? Lead me. Here we go. Page  
3 186?

4 A. Yes, that's it.

5 Q. That's what what you're referring to?

6 A. Yeah.

7 Q. Okay. Now, on page 15, you talk about the  
8 instructions of the Surveyor General?

9 A. Yes.

10 Q. And you talk about that quite a bit?

11 A. Yes.

12 Q. As they matured from 1851 or whenever it was,  
13 through the course of the surveying; right?

14 A. 1850 to 1902.

15 Q. Okay.

16 First question I would have for you, are you  
17 aware -- and the records I have are 1851, 1855, 1864,  
18 1881, 1890, 1894, 1902 and 1919, all right?

19 A. Right.

20 Q. Those are the various sets of instructions  
21 that came out to surveyors?

22 A. Right, the different manuals.

23 Q. Right.

24 And they changed to a degree over time.

25 A. Right.

1 Q. Fair?

2 And what I want to know is are you aware in  
3 any of those instructions for any of those years, was  
4 the definition of a navigable stream presented?

5 A. My report indicates that it never was  
6 presented specifically, only to the extent that it said  
7 "which under the law are navigable."

8 Q. And that was a specific reference to a  
9 statute, wasn't it?

10 A. It was codified, I believe, yes.

11 Q. And that statute doesn't define it, does it?

12 A. I don't know whether it does or not.

13 Q. You didn't look at that statute?

14 A. No.

15 Q. Let me show you U.S.C. 43-931, and I will avow  
16 to you that that is the statute as we understand it and  
17 as Mr. C.A. White indicates is the statute in question,  
18 and it hasn't been substantially amended.

19 You don't see any definition of "navigable  
20 stream" in there, do you?

21 A. Not the specifics of it, no.

22 Q. So what I'm leading up to is simply that the  
23 determination of what a navigable stream was was in the  
24 discretion of each surveyor that went out there?

25 A. That's correct.

1 Q. And as far as you know, there were never any  
2 standards set out in any of the manuals that told a  
3 surveyor how to determine that a stream was navigable?

4 A. That's what C.A. White explains in his book.

5 Q. You consider that book fairly authoritative?

6 A. Yeah, my recollection of the introduction is  
7 that Mr. White had worked for some time in the Bureau of  
8 Land Management and therefore had some degree of  
9 expertise on surveying instructions when he compiled the  
10 book.

11 Q. There's no definition of a navigable stream in  
12 the book. There is no instructions of how to determine  
13 a navigable stream. There are no examples, either, are  
14 there?

15 A. I don't recall if there are examples. I know  
16 White includes copies of surveyed plats that were given  
17 to the surveyors to illustrate for them how they were to  
18 handle certain situations, but I don't know if  
19 navigability was one specific one or not.

20 Q. But the survey plat when they showed him how  
21 to squiggle the little line wouldn't?

22 A. Right.

23 Q. It wouldn't tell him how to determine that  
24 little line squiggled?

25 A. Right.

1 Q. Safe to say, then, that in terms of a  
2 surveyor's assessment of whether a stream was navigable,  
3 the navigability of the stream was in the eye of the  
4 beholder?

5 A. I think that they had some degree of  
6 professional training in that context, but as far as  
7 your specific question, I think that's correct.

8 Q. What professional training do you think they  
9 had?

10 A. That they were surveyors. They knew how to do  
11 surveying.

12 Q. What you're saying is that you think -- and  
13 I'll be a little facetious, but in course 101 in  
14 surveying, you get a chapter on how to recognize a  
15 navigable stream?

16 A. No, I don't think so.

17 Q. Okay.

18 So what training did they have that you are  
19 referring to that would help them to pick a navigable  
20 stream?

21 A. I don't know the specifics for each individual  
22 surveyor.

23 Q. Well, surveyors in general, as a group?

24 A. I don't know.

25 Q. Okay.

1           Now, I think it was in the 1891 instructions,  
2 but at some point in time, you recall that in addition  
3 to meandering navigable streams, the instructions tell  
4 them to meander streams that are three chains wide.

5           A.     Non-navigable streams that are three chains  
6 and wider.

7           Q.     How long is a chain?

8           A.     You know, at one point I knew. I don't know  
9 right now. I think it is probably in my report,  
10 actually. I just don't recall.

11          Q.     Do you know what a braided river is?

12          A.     It is a river with many channels.

13          Q.     How would a surveyor have applied the chain  
14 rule to a braided river?

15          A.     I don't know.

16          Q.     Is the Gila a braided river?

17          A.     Yes.

18          Q.     Tell me how a -- you recall that in that  
19 three-chain rule there is also a requirement that they  
20 apply to it streams of uniform width? If you want to  
21 look at page 19 of your report, you've got the  
22 instructions set out there.

23                   Do you see that?

24          A.     Uh-huh.

25          Q.     How would you apply the uniform width

1 requirement to a braided river?

2 A. It's not how I would apply it, it is how the  
3 surveyor would apply it.

4 Q. I'm sorry, I stand corrected.

5 How do you perceive that a surveyor would have  
6 applied that to a braided river?

7 A. It would have depended on the surveyor, what  
8 their opinion of the river was like.

9 Q. Do you think that uniform width requirement  
10 would apply to the Gila River?

11 A. Probably not.

12 Q. How about the three-chain rule?

13 A. In certain places, yes.

14 Well, let me correct that. The uniform width  
15 may very well have applied in certain places as much as  
16 the three-chain rule would have applied in some places,  
17 but certainly not everywhere.

18 Q. Now, could you give me your understanding of  
19 what the definition is of "natural arteries of internal  
20 communication" as that's used in that instruction?

21 A. I don't specifically have an answer for that.

22 My assumption would be that it meant that  
23 parties were using the river as a means for roads to  
24 follow along next to them or wagon tracks or things of  
25 that nature, simply as a means of recording where such

1 roads might exist in a river valley.

2 Q. Could they have been traveling up and down the  
3 rivers but not in a commercial fashion?

4 A. I don't know know the answer to that.

5 Q. Is that possible?

6 A. It's possible, sure.

7 Q. Did you do any research to determine what  
8 "natural arteries of internal communication" meant?

9 A. No, I did not, other than what C.A. White had  
10 in his book.

11 Q. There is a lot of meandering that could be  
12 classified as natural arteries of internal communication  
13 on the Gila River, isn't there?

14 A. Yes, there is.

15 Q. So it would be very important for us to  
16 understand what that term meant?

17 A. That's correct.

18 Q. And you agree that it could mean use of a  
19 river to travel up or down it or both, to communicate  
20 with your buddies down river, but not in a commercial  
21 fashion?

22 A. It could mean that, but I think the historical  
23 record indicates that there was really very little  
24 boating done on the Gila River, and so I would assume  
25 what it meant was that it more likely reflected the

1 presence of the Gila trails, such as described by Odie  
2 Faulk, paralleling the river.

3 Q. This is your assumption?

4 A. Yes.

5 Q. Do you believe that if a surveyor meandered a  
6 body of water or a stream that that conclusively  
7 establishes that that stream or body of water is  
8 navigable?

9 A. On one side or both or?

10 Q. Both. Meandered it both sides?

11 A. No, clearly not, because the instructions in  
12 one of the manuals provided that it meander on both  
13 sides if it is more than three chains wide.

14 Q. If your meandering was done on both sides in a  
15 situation where the three-chain rule had not yet come  
16 into existence, would you conclude that it was  
17 navigable?

18 A. I would conclude it was the opinion of the  
19 surveyor that it was navigable, at least in the area  
20 that he surveyed.

21 Q. Is that conclusive?

22 A. No.

23 Q. Is a surveyor invested with the power to  
24 determine the character of the land he surveys?

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



1 Q. Does the surveyor have the power to classify  
2 land under any law?

3 A. To classify in what way?

4 Q. That it's navigable or not navigable?

5 A. No, I don't believe he does.

6 Q. Is the surveyor's meander anything more than a  
7 note and a report on the character of the land as it  
8 appeared to him on the date he viewed it?

9 A. That's correct.

10 Q. Are you aware that the capacity of a stream to  
11 be navigable may be shown by its physical  
12 characteristics and experimentation as well as by actual  
13 use?

14 A. Yes.

15 Q. Did you undertake any experiments or  
16 assessment of the physical characteristics of the Gila  
17 River to determine its navigability?

18 A. As of 1912?

19 Q. Yeah.

20 A. No, obviously not.

21 Are you talking about did I look at it in  
22 1912?

23 Q. Well, one way to do it, for example, would be  
24 to reconstruct the water that was there from the records  
25 of the USGS or the -- do you understand what I mean?

1 A. No, I didn't do that.

2 Q. If you didn't do that, I take it that it is  
3 also safe to assume that you didn't do any experiments  
4 or work -- I call them "experiments" but I don't know  
5 whether that's really -- I know you are not a scientist  
6 with smoke blowing out of little vessels and things like  
7 that -- but to put all of the water back in the Gila  
8 that had been diverted to determine if it would have  
9 been navigable in 1912?

10 A. No, I'm not a hydrologist. That's beyond my  
11 expertise.

12 I would assume if parties were interested in  
13 that type of information, they would hire someone who  
14 has expertise in doing that.

15 Q. Tell me, now, with respect to surveyors, were  
16 all of the contracts standard?

17 A. I don't know the answer to that question.

18 Q. Okay.

19 Were all the instructions that they operated  
20 under standard?

21 A. I do know about contracts that the amounts of  
22 money that they were paid varied from surveyor to  
23 surveyor and year to year, and in general, they were  
24 paid a higher rate per mile for meanders than they were  
25 for surveying straight lines, but beyond that -- I've

1 seen a lot of surveyors' contracts, but I just don't  
2 remember the details of them.

3 Q. What I'm getting at, for example, did all  
4 surveyors operate under the same set of instructions,  
5 you know, the 1891 set or -- for the time frame we're  
6 dealing with?

7 A. I don't know.

8 Q. Are you aware whether any surveyors were given  
9 special instructions?

10 A. Yes, sometimes surveyors were, but I don't  
11 know whether it applied to surveyors in the Gila River  
12 area.

13 Q. You didn't check whether the surveyors in the  
14 Gila River area were either some of them, all of them,  
15 one of them, none of them, given any special  
16 instructions on how to do their surveys?

17 A. No, I did not.

18 Q. In reference to surveyors' field notes, were  
19 they always prepared at the exact time that the survey  
20 of that area was going on?

21 A. The notes?

22 Q. Yeah.

23 A. I believe most of them were. The plats were  
24 subsequently compiled from the notes.

25 Q. Okay.

1 Now, let's go to page 31 of your report.

2 And this references back to our discussion  
3 where we had started to say -- talk about fraudulent  
4 surveys and whether they were really done or not done  
5 and you had testified, I believe, that you didn't do  
6 anything to check that out?

7 A. That's correct.

8 Q. Okay.

9 Well, now, let me call your attention to the  
10 R.C. Powers survey that you refer to on page 31.

11 A. You are talking about under 1883 Interior  
12 Survey, the middle of the page there?

13 Q. Uh-huh, right.

14 A. Yes, R.C. powers.

15 Q. "R.C. Powers undertook...", do you see that?

16 A. Uh-huh.

17 Q. From what I'm advised, he surveyed 92 miles of  
18 interior section line in four days. If it is any  
19 comfort to you, I'll tell you that I've had a surveyor  
20 tell me that.

21 A. Okay, you are talking about all of the  
22 interior section lines?

23 Q. Yeah, that's what he's hired to do.

24 A. Right.

25 Q. That's what he says he did between January

1 11th and January 15th. You understand how he was doing  
2 it?

3 A. Yes.

4 Q. Two-pole chain and a compass?

5 A. Right.

6 Q. Do you think it is possible he could do 92  
7 miles in four days?

8 A. They also had assistants. I don't know  
9 whether he did or not. I would also just offer that  
10 most of the other surveys that I've seen throughout the  
11 west have similar short periods of time for the surveys  
12 that they did.

13 Q. We understand that.

14 So my question to you is, do you think that he  
15 could have done that? He's there with an assistant.  
16 Obviously you can't do it without two guys to hold each  
17 end.

18 A. Usually it was three.

19 Q. But you've got to have that, all right?

20 A. Right.

21 Q. Do you think they can cover 92 miles in four  
22 days?

23 A. The other thing -- I don't know whether they  
24 could or not, but that also could have been a  
25 typographical error or transcription error in his field

1 notes.

2 Q. So -- is it -- I could run through several of  
3 these with you, but am I going to get the same answer to  
4 all of them that you don't have any opinion, and that's  
5 because you don't know how fast they could move or not?

6 A. Right.

7 Q. Okay.

8 And we would need a surveyor to tell us  
9 whether that was possible; right?

10 A. Right.

11 Q. You didn't consult a surveyor to find out  
12 whether somebody could do 92 miles in four days with the  
13 kind of equipment they were using in 1912?

14 A. No, I did not.

15 Q. Referring you to page 21 of your report.

16 A. 21?

17 Q. Yeah.

18 A. Okay.

19 Q. First full paragraph, you talk there about  
20 under the statute, "well-defined natural arteries of  
21 internal communication were to be meandered on one bank  
22 only."

23 Do you see that?

24 A. Uh-huh.

25 Q. Do you know what statute they are referring

1 to?

2 A. They are again referring to the --

3 Q. The one I showed you earlier?

4 A. Yes.

5 Q. Okay.

6 Are you aware of any rivers that are less than  
7 three chains wide that have been declared navigable?

8 A. No, I'm not aware whether they are or not.

9 Q. Do you do any research to determine whether  
10 there was any?

11 A. No.

12 Q. Okay.

13 MR. HELM: Off the record.

14 (Discussion off the record.)

15 BY MR. HELM:

16 Q. Three chains is 66 feet; right?

17 A. I'll take your word for it.

18 MR. HELM: We're talking to several engineers.

19 THE WITNESS: I was trying to skim through  
20 here. I think it is in my report. I haven't been able  
21 to locate it.

22 MR. HELM: Off the record.

23 (Lunch recess ensued from 11:47 a.m. to 1:08  
24 p.m.)

25 MR. HELM: Back on the record.

1 BY MR. HELM:

2 Q. We were talking about chains when we left  
3 here?

4 A. Right.

5 Q. We have ascertained, it is 22 yards or 66  
6 feet.

7 MR. BARKER: Is a chain?

8 MR. HELM: Sixty-six feet.

9 THE WITNESS: Sixty-six yards for three  
10 chains.

11 MR. HELM: Sixty-six yards for three chains.

12 MR. BARKER: Right.

13 MR. HELM: Right.

14 BY MR. HELM:

15 Q. And I think the question was --

16 MR. BARKER: How wide is three chains.

17 BY MR. HELM:

18 Q. I think we've established that. We're all  
19 reasonably in agreement of that.

20 What we were leading up to, are you aware of  
21 any rivers in the United States that is less than 66  
22 yards wide that are navigable?

23 A. No.

24 Q. Are you aware of any portions of navigable  
25 rivers that are less than 66 yards wide that are



1 navigable?

2 A. I'm not aware of them. I'm not saying they  
3 don't exist, I'm just not aware of them.

4 Q. Now, let me refer you to page 27 --

5 A. Of my report?

6 Q. Yeah.

7 And maybe I just -- let me diverge for a  
8 minute, since you just finished reading Defenders;  
9 correct?

10 A. Yes.

11 Q. Is it fair to say that the report that you  
12 wrote doesn't meet the standards or the tests indicated  
13 in the Defenders case for navigability?

14 A. As I indicated earlier, my report isn't an  
15 attempt to be a legal opinion, it is a historical  
16 analysis, and from the point of view as an expert  
17 historian, I'm offering my opinion as to whether the  
18 river was navigable or not. I'm not offering a legal  
19 opinion.

20 Q. But based on the standards that are set out in  
21 that case --

22 A. Uh-huh.

23 Q. -- for example, the idea that the kind of  
24 boat that you determine to use is not tied to the date  
25 of statehood conflicts with the conclusions of your

1 report that it was; right?

2 A. Yes.

3 Q. And so what I'm driving at is your report is  
4 not designed to comply with the standards that are set  
5 out in the Defenders case?

6 A. It is not designed to apply to any particular  
7 legal standard. It is designed to offer an historic  
8 opinion regarding navigability.

9 Q. But that historical opinion is not based on  
10 any standard?

11 A. It is based on my opinion of what consisted of  
12 navigability based on the observations of a lot of  
13 contemporaneous observers.

14 Q. But the observations of the contemporaneous  
15 observers that you are basing it on don't come with an  
16 explanation of the standard that they were using, do  
17 they?

18 A. No.

19 Q. And you don't know what that standard would  
20 be, do you?

21 A. Not unless they said so explicitly.

22 Q. So if some of your contemporaneous observers  
23 thought that a river that was ten feet deep and three  
24 chains wide wasn't navigable, that might be a navigable  
25 river under Defenders?

1 A. It could be.

2 Q. Because canoes could use it, couldn't they?

3 A. It could be.

4 Q. Canoes under Defenders might be a customary  
5 mode of travel used on the water; right?

6 A. I think you are still asking me to offer a  
7 legal opinion, and I've tried to explain what I think my  
8 report attempts to do, and it is not to address any  
9 particular legal standard.

10 Q. I'm not trying to get you to render a legal  
11 opinion.

12 I'm trying to ask you, I guess, as straight as  
13 I can ask you, under the standards enunciated in the  
14 Defenders case, is it your opinion that your report  
15 would still establish that the river was not navigable?

16 A. I still think it calls for a legal conclusion.  
17 I've tried to explain what I think my report does, and  
18 it offers an opinion about navigability from a  
19 historian's perspective.

20 Q. Based on certain judgmental standards that you  
21 impose; correct?

22 A. Based on my analysis of what many  
23 contemporaneous observers opined.

24 Q. Where did you get the impression that you  
25 could only use boats that existed in 1912? That's not

1 an observation of contemporaneous observers, is it?

2 A. No.

3 Q. Where does that come from, then?

4 A. I have always thought, and I could be wrong on  
5 this, but I've always thought the test was commerce, the  
6 way commerce was carried on at the time of statehood.  
7 That's the reason why I have the section in my report  
8 that discusses the types of watercraft in use at the  
9 time of statehood.

10 Q. Defenders would disagree with you.

11 A. Apparently.

12 Q. It says you don't do that, doesn't it?

13 A. It says that.

14 Q. So to the extent -- to that extent your report  
15 does not agree with that case?

16 A. That's correct.

17 Q. And your opinion, however, is based on the  
18 facts contained in your report?

19 A. Correct.

20 Q. Including the facts about commerce in 1912?

21 A. Correct.

22 Q. Referring you to page 27 at this point, at the  
23 last sentence in the first paragraph, it adds the last  
24 clause:

25 "... all surveyors indicated in their

1 field notes and plats that they did not  
2 consider the Gila River to be navigable."  
3 Now, they didn't specifically say that, did  
4 they?

5 A. No, they did not.

6 They indicated from the way they described it,  
7 they indicated that they didn't think it was navigable.

8 Q. That's your interpretation of either their  
9 field notes or the actual maps that they prepared?

10 A. That's correct.

11 That's my interpretation as a historian.

12 Q. In fact, of all of the field notes you went  
13 through, is there any of them that specifically say, "I  
14 don't think the Gila River is navigable"?

15 A. If there were instances of that, I certainly  
16 would have put them in my report. I don't remember  
17 whether there were or not.

18 Q. You don't recall anything that comes to mind  
19 immediately?

20 A. Not immediately, but I know I would have put  
21 it in the report if there was a direct statement.

22 Q. I'm sure you would.

23 A. Well, I did on other documents, as I'm sure  
24 you probably have seen.

25 Q. Let me refer you to page 29, bottom of the

1 page, last sentence:

2 "He made a similar observation about the  
3 river on the line between sections 34 and  
4 35, but again set no meander corners.

5 Finally on the line between sections 26  
6 and 35, he set no meander corners, but  
7 offered the description that the stream  
8 there had deep water and low banks."

9 Now, what do you take the "deep water" to  
10 mean?

11 A. I have no idea. It was a surveyor's opinion.

12 Q. Do you think "deep water" meant deeper than  
13 two feet?

14 A. It could be.

15 Q. So, from your depth conclusions, he would have  
16 been in the ballpark on depth of water?

17 A. I have no idea what he meant by "deep water."

18 Q. I understand that, but you are assuming it is  
19 deeper than two feet?

20 A. I really don't know whether he was meaning two  
21 feet or six feet or ten feet or one foot. I just don't  
22 know.

23 Q. How does a road become evidence that a river  
24 is not navigable?

25 A. It would suggest to me that if there was a

1 road next to a river, and there are indications by  
2 historical figures that the river was not used to carry  
3 commerce, I think it would be a logical conclusion to  
4 assume that commerce was carried on over land.

5 Q. Does that mean that the river is not  
6 susceptible to being used for navigation?

7 A. That would be my conclusion, yes.

8 Odie Faulk, the historian of the Gila Trail,  
9 makes the same conclusion as well.

10 Q. Judge Patterson made a different conclusion,  
11 didn't he?

12 A. Yes.

13 Q. Referring you to page 34, first line of the  
14 first full paragraph, you say that surveys were done  
15 under the instructions contained in the 1964 -- or the  
16 1864 survey manual. Do you see that?

17 A. No, I've not totally found it.

18 You are on page 34?

19 Q. 33, I'm sorry.

20 A. Okay.

21 Yes, I see it.

22 Q. How do you know that? Does it say anywhere  
23 that that's the case?

24 A. I'm making that assumption from the dates  
25 under which the surveys were done.

1 Q. Okay.

2 Where were these manuals written?

3 A. I assume they were written in Washington D.C.  
4 and forwarded to the field.

5 Q. Did we have rapid transfers of goods,  
6 documents, manuals, what have you, in the 1860s from  
7 Washington to the hinterlands of Arizona?

8 A. If the point you are making is the manual may  
9 not have been there in time, I think I've addressed that  
10 at least in relation to one of the surveyors here where  
11 I indicate there was some degree of uncertainty from my  
12 historical understanding as to whether he had received  
13 the new manual or was still working under the old one.

14 Q. Do any of the surveys that you reviewed  
15 specifically state what manual they were being done  
16 under?

17 A. No.

18 Q. So your conclusions regarding what manual was  
19 being used are exactly that, your assumptions?

20 A. Yes.

21 Q. On page 33, further on down, you talk in  
22 parentheses, you say, "... which flow in several  
23 channels in this township."

24 Do you see that?

25 A. Uh-huh.



1 Q. How do you know this?

2 A. My -- I don't recollect directly.

3 My guess is I looked at the survey plat and  
4 saw that there were several channels or maybe the field  
5 notes talked about crossing more than one channel.

6 Q. What's the inconsistency that you're referring  
7 to in Foreman's treatment of the Gila River?

8 A. Starting in the first full paragraph, line 11,  
9 I write "for example, in part of township 4 south...".

10 Q. Okay.

11 A. "For example, in part of township  
12 4 south, range 4 east, Foreman  
13 set meander corners on the outermost  
14 banks of the Gila which flowed in  
15 several channels in this township.  
16 Nevertheless, he set no meander corners  
17 in the sections through which the stream  
18 flowed in the southern part of the  
19 township."

20 The inconsistency is that he set some meander  
21 corners in part of the township and no meander corners  
22 in another part of the township.

23 Q. What does that lead us to conclude? He was  
24 lazy?

25 A. I don't know what -- I don't know why he did

1 that. I think I indicated in the report in the very  
2 next paragraph my attempts to explain what his opinion  
3 was of the river.

4 Q. Well, does that mean that we should discount  
5 the meander corners he did set?

6 A. Not necessarily.

7 Q. Referring you to page 33, in the middle  
8 paragraph it starts "for example," do you see that?

9 A. Uh-huh.

10 Q. "In part of township 4 south, range 4 east,  
11 Foreman set..." blah, blah, blah.

12 Do you see that?

13 A. Yes.

14 Q. Are you aware that township 4 south, range 4  
15 east is upstream of the confluence of the Salt and the  
16 Gila?

17 A. No, I'm not aware of that.

18 Q. Would you have used that example if you had  
19 known that?

20 A. Probably not.

21 (Witness reviews document.)

22 I think I could probably correct that for you  
23 right now.

24 That's a typographical error, I believe.

25 The heading that it is under indicates that it

1 is the Interior Survey of Township 4 south, Range 4  
2 west, and I evidently changed it to 4 east in my report.  
3 I don't even know if 4 south, 4 east is on the Gila or  
4 not.

5 Q. In the middle of the paragraph of the first  
6 not-full paragraph -- there isn't any full paragraph on  
7 page 35 -- you state:

8 "... Foreman explained in the meander  
9 section of the field notes for this  
10 township that 'the reason for selecting  
11 the left bank for meanders is that all  
12 the lands of value are on the left  
13 bank.' "

14 A. Yes.

15 Q. How does that explain the misuse of meander  
16 lines?

17 A. I have no idea why Foreman did that.

18 Q. That doesn't mean we should necessarily  
19 disregard his meander lines vis- -vis navigable, does  
20 it?

21 A. There is a one-bank meander line. There are  
22 no instructions in any of the manuals instructing  
23 surveyors to meander only one bank of navigable rivers.  
24 This was an instruction specifically reference to  
25 non-navigable rivers.

1 Q. Well, non-navigable rivers in the opinion of  
2 the surveyor; right?

3 A. Right.

4 Q. And his reference points, we don't know what  
5 they are?

6 A. Right.

7 Q. But meander lines do tell us something about  
8 the physical characteristics of the river that is being  
9 meandered, even if only on one side, doesn't it?

10 A. It tells you the sinuosity of the river.

11 Q. It tells you it is an important internal line  
12 of communication, whatever that means?

13 A. Correct.

14 Q. It may tell you its -- I forget some of the  
15 other ones, it's a uniform river; it has some other  
16 physical indications to it?

17 A. That's correct.

18 Q. Okay.

19 And the fact that he made this comment about  
20 lands on the left being valueless doesn't affect our  
21 conclusions as to his meander lines in terms of their  
22 use for defining physical characteristics?

23 A. No.

24 (Exhibit 7 was marked for identification and  
25 subsequently remarked as Exhibit 96.)

1 Q. Let me show you what's been identified as  
2 Exhibit 96.

3 And what I'm interested in is, do you  
4 recognize what that is?

5 A. Yes, this is a survey plat of Township 8  
6 south, Range 22 west.

7 Q. Of the Gila River; right?

8 A. Yes.

9 Q. And it is kind of funny looking in the since  
10 it has a lot of straight lines on the river portion,  
11 doesn't it?

12 A. That's correct.

13 Q. What do those straight lines indicate?

14 A. The right-hand margin of the plat indicates  
15 that those are degree bearings for the meandering of the  
16 river.

17 Q. Okay.

18 So when you look at one of the these maps and  
19 you see a bunch of straight lines, what does that tell  
20 you?

21 A. It usually would mean those are meanders on  
22 both sides of the river or if it is on one side, on one  
23 side of the river.

24 Q. For the most part, those indicate there are  
25 some two-sides and one side; right? On the Gila?

1 A. Correct.

2 Q. Now, if you look up there in the corner, you'd  
3 see some straight lines too, wouldn't you?

4 A. In the left corner?

5 Q. That other strange river up there.

6 A. In the -- yes.

7 Q. So that river was being treated the same as  
8 the Gila, wasn't it?

9 A. They were both meandered on both banks; that  
10 is correct.

11 Q. On both banks or one bank?

12 A. From this map, I can't tell if the Colorado is  
13 being meandered on the right bank as you go down the  
14 stream. It would appear it was meandered on left bank,  
15 but I can't tell from the right bank and the copy of the  
16 meander data in the right-hand margin is pretty much  
17 illegible in terms of whether it's -- I can't tell if it  
18 is Colorado's notes or not.

19 Q. If it was only meandered on that one bank,  
20 what would be the significance of that in terms of  
21 navigability?

22 A. I don't know. It also is probably complicated  
23 by the fact that the Colorado River forms the border  
24 between California and Arizona.

25 Q. Is there some rule that says -- you ought to

1 know this one -- that when rivers form borders between  
2 one state and another, you only meander one side of the  
3 river?

4 A. I don't know.

5 It's possible, for example, that if this is in  
6 fact California on the other side, that the meander data  
7 for that side might be in the California surveys. I  
8 just don't know.

9 Q. You do agree that straight lines on these  
10 kinds of maps indicate meander sides of a bank?

11 A. Yes.

12 Q. And if that is a straight line meander only on  
13 one side, and it turns out that it is not meandered on  
14 the other side, on the Colorado section, then we have a  
15 navigable river with only a meander line on one side of  
16 it; is that fair?

17 A. Yes, but I would be willing to guess that the  
18 meander data for the Colorado River are going to be  
19 found on the California surveys.

20 Q. Fair guess. We can check that.

21 Referring you to page 37, bottom of the first  
22 full paragraph, you say:

23 "The presence of the old bank suggested  
24 that the stream had recently changed  
25 channel, suggesting its unreliability for

1 commercial transport."

2 You aren't making a general statement, are  
3 you, that just because streams change channels, they're  
4 not reliable for commercial transport?

5 A. No, this is just one of many possibilities.

6 Q. So this is just more speculation on your  
7 behalf?

8 A. It's more -- it's -- I'm indicating that it is  
9 one possibility.

10 Q. Referring you to page 38, the middle of the  
11 page, right above the footnote 36, you say:

12 "... the Gila River flowing through the  
13 center of the township contains an  
14 abundance of water..."

15 Do you see that?

16 A. Yes, that's part-of-a quotation.

17 Q. In a number of places in this report, you  
18 quote anecdotal or other information that seems to  
19 indicate that there's lots of water in the Gila River.

20 A. In places. In places.

21 Q. And you look at that for the most part as not  
22 being an indicia that it was navigable?

23 A. I'm trying to, when I present this  
24 information, to present as an objective view of the  
25 river as possible, and I felt it was my obligation to



1 report on what was said on both pro-navigability as well  
2 as counter-navigability, and when I considered the  
3 entire overall picture that was presented, while there  
4 were indications by some parties that in places and at  
5 some times of year there may have been considerable  
6 quantities of water in the Gila, the overall picture  
7 that was painted to me was that the Gila River in my  
8 opinion, and not a legal opinion, was not navigable.

9 Q. Does that opinion require it to be navigable  
10 all year long?

11 A. No.

12 Q. So if we had an abundance of water in the Gila  
13 River, for three months, that -- would that be a  
14 sufficient amount of water for you, using your  
15 standards, to determine that it was commercially  
16 navigable?

17 A. As I indicated in the section where I discuss  
18 the governmental reports, there are quite a few of those  
19 governmental reports that do indicate that there were  
20 reaches of the river that at certain times of year,  
21 either at the same time of year or at differing times of  
22 year, did contain substantial quantities of water, and  
23 in other parts of the river, that water sank into the  
24 underflow of the river.

25 Again, I thought I ought to present as

1 objective a view of what contemporaneous observers  
2 thought about the river, and when I considered it as a  
3 whole, that was my opinion, that the river was not  
4 commercially navigable.

5 Q. But you are considering it as a whole, aren't  
6 you?

7 A. Yes.

8 Q. So if we had 40 miles of river with an  
9 abundance of water in it that didn't sink into the  
10 ground, but we have another 40 where it sinks into the  
11 ground, because you are considering it as a whole, that  
12 makes the 40 that had a lot of water and could have been  
13 navigated, non-navigable under your assessment?

14 A. I don't think any of the documents that I  
15 looked at said that there were stretches of 40 miles  
16 where there was a lot of water in the river  
17 consistently.

18 Q. Do you agree with my interpretation of what  
19 you're saying, though?

20 In other words, what you did was you said, I'm  
21 going to look at this river as a whole, and if part of  
22 it is not suitable for navigation, and some part of it  
23 might have been, that part is destroyed by the  
24 non-navigable part?

25 A. I looked -- correct.

1 I looked at the whole of the river, but I  
2 think your example of a 40-mile reach, there are no  
3 documents that go anywhere near that length of the river  
4 talking about ample quantities of water.

5 Q. I don't -- that's just an example.

6 A. Okay.

7 Q. You didn't make any determination about  
8 lengths of the river that had ample quantities of water,  
9 did you?

10 A. No.

11 Q. We talked about a steamboat going up the Gila  
12 River for some distance for seven years.

13 A. Correct.

14 Q. That's a specific reference out of your  
15 report?

16 A. Right.

17 Q. One would conclude for that steamboat to get  
18 up that river, there must have been ample quantities of  
19 water for the steamboat to steam?

20 A. Correct.

21 Q. All right.

22 And that might indicate that even though other  
23 parts of the river weren't navigable, that part was;  
24 right?

25 A. It would be one factor that I would consider.

1 Q. Okay.

2 But because you factored that into the  
3 non-navigability of the whole river, that  
4 non-navigability of the whole river overrode the  
5 navigability of a portion in your conclusion?

6 A. No, that's not correct.

7 I also considered other documents and other  
8 evidence with regard to that seven-mile reach of the  
9 river.

10 In other words, I did not base my judgment on  
11 whether that part of the river was not navigable or  
12 navigable solely on the steamboat.

13 I looked at surveyor notes. I looked at  
14 homestead patents. I looked at newspaper reports. I  
15 looked at a variety of other documents. And  
16 cumulatively, once I looked at the overall picture for  
17 that reach of the river, as well as for the entire  
18 river, my conclusion was was that it was not  
19 commercially navigable.

20 Q. Would it be your testimony that in all of the  
21 various indicia that you looked at, where there was  
22 indications of substantial water, whether we've used the  
23 terminology "abundance" or another word -- some guy uses  
24 10 feet -- but there are lots of references to large  
25 quantities of water, you didn't do anything to determine

1 how big the stretch of the river was where those large  
2 amounts of water were present?

3 A. That's correct.

4 Q. Would it be fair to say that you made no  
5 particular assessments of those areas to determine  
6 whether they were, in fact, a navigable reach of the  
7 river?

8 A. I don't understand your question.

9 Q. We've got, as in the case of page 38, an  
10 indication that there is a large abundance of water at a  
11 portion of the Gila River.

12 You didn't go, then, say, I'm going to set  
13 this portion aside, and I'm going to do a more  
14 particularized review of this portion to make a  
15 determination whether there is a reach of that river in  
16 the area where they say there is an abundance of water,  
17 to determine whether that portion of the Gila River  
18 could be navigable?

19 A. No.

20 Q. No, you didn't make any of those kinds of  
21 determinations?

22 A. That's right.

23 Q. This may be a specific question, but are you  
24 aware of any river that is at least 110 yards wide and  
25 deeper than a man could walk across, that is not

1 navigable in the United States?

2 A. I'm not aware or unaware. I just don't know  
3 the answer to the question.

4 Q. Could you point out to me on page 39 the  
5 specific statements that Martineau made that you are  
6 referring to where he says, notwithstanding me setting  
7 meander corners on both sides of the river, it's not  
8 navigable?

9 It is at the bottom of the page.

10 A. Well, he explained that it was the setting of  
11 the meander corners that were consistent with the new  
12 January 1890 instructions for non-navigable bodies of  
13 water if on average they were more than three chains  
14 wide.

15 Q. But doesn't that also tell you the same thing  
16 for navigable waters or non-navigable?

17 A. I would have to look at the field notes.

18 Q. Does Martineau phrase it the way you say it?

19 A. You have those notes in your copy of footnote  
20 38.

21 Q. There you go.

22 A. (Witness reviews document.)

23 I can't find it in here right now. It's in  
24 the notes somewhere. I don't know whether it is in this  
25 particular part of it or if it is in the field notes in

1 the general description of the township which is not on  
2 this particular document.

3 Q. What copy of what document would it be?

4 A. It would be in this document.

5 You don't have the complete set of it, just  
6 the pages that I cited in my footnote, and I may have  
7 taken the explanation from the general description of  
8 the township which is the last page of the -- usually  
9 the last page of the field notes.

10 Q. Okay.

11 So are you telling me now that I didn't get  
12 all of the documents?

13 A. You got everything that I have in the  
14 footnotes.

15 Q. But I'm trying to find out where something is,  
16 and you're telling me it might be in something that I  
17 don't have.

18 A. It may be in other pages of the footnotes for  
19 this particular survey.

20 Q. And did you have those other pages?

21 A. I did, but I sent them all back to Salt River  
22 Project.

23 Q. Okay.

24 So based on a document that you gave me, we  
25 can't confirm that statement, can you?

1 A. No.

2 Q. And the document is Gila 38-L for the record.

3 Doctor, is this the stuff -- this is document  
4 39 that you gave us, and it would appear to be -- give  
5 me back 38. It would appear to be what immediately  
6 follows 38.

7 A. Yes.

8 Q. So, is that where you ought to be able to find  
9 it? That's the end of Martineau's work; right?

10 A. (Witness reviews document.)

11 It's not in there either. I wouldn't have put  
12 it in if it is not there somewhere. I don't know where  
13 it is.

14 Q. You just can't find it now, huh?

15 A. That's right.

16 Q. And the documents that might disclose where it  
17 would be are now in the possession of the Salt River  
18 Project; right?

19 A. I would assume it is in the field notes and if  
20 that's the complete set of field notes for Martineau,  
21 then it is probably in there somewhere.

22 Q. This is what you gave me. That's all I know.

23 A. I don't know whether it is a complete set of  
24 the field notes or not. It is the stuff cited in my  
25 footnotes, but that's --



1 Q. Well, if it is not in here, and you've looked,  
2 right?

3 A. Quickly, yes.

4 Q. Take your time.

5 A. (Witness reviews document.)

6 I can't find it now.

7 I know there was a reason I put that in there.  
8 I'm not sure where the information is from.

9 Q. Doctor, it is not in his field notes, is it?

10 A. Apparently not.

11 Q. You said it was.

12 A. I don't --

13 Q. You're wrong.

14 A. I guess I made a mistake.

15 Q. Do you know where you found that information?

16 A. No, I don't, not right now.

17 Q. Do you suspect it is in the boxes that you  
18 sent to SRP?

19 A. It could be, I don't know.

20 Q. If you can't find the backup to that  
21 statement, what does that do to your conclusion that  
22 Martineau considered the river to be non-navigable,  
23 albeit he meandered both banks?

24 A. I wouldn't have put the statement in if it  
25 didn't exist in some historical document.

1 Q. Answer my question.

2 If you can't find the backup to that, what  
3 does that do to your conclusion?

4 A. It makes it less certain.

5 Q. So then it's just trust me, I must have seen  
6 it somewhere?

7 A. That's what I'm telling you right now.

8 Q. You go on to say on page 40:

9 "Confirming the lack of navigability of  
10 the Gila, Martineau also noted the  
11 presence of the road from Yuma to Gila  
12 City and the Southern Pacific Railroad,  
13 both of which paralleled the stream"?

14 A. That's correct.

15 Q. Martineau doesn't say anywhere in his notes  
16 that those led him to a conclusion that the Gila River  
17 was not navigable, does he?

18 A. That's my conclusion.

19 Q. That's your conclusion?

20 A. That's right.

21 Q. But you didn't tell anybody that was your  
22 conclusion, did you?

23 A. The confirming the lack of navigability of the  
24 Gila, that's my statement, and then I'm going on to  
25 point out what Martineau --

1 Q. Martineau also noted?

2 A. Right, he also noted these things, but the  
3 portion of the sentence that reads "Confirming the lack  
4 of navigability of the Gila...", that's my opinion.

5 Q. You didn't tell anybody that was your opinion?

6 A. Well, I'm sorry I didn't write that clearly  
7 enough.

8 Q. That opinion that you hold about roads and  
9 railroads confirming non-navigability is not in  
10 accordance with the Defenders opinion, is it?

11 A. The Defenders opinion?

12 Q. The case that you just read.

13 A. No, it's not.

14 Q. At the bottom of page 40, going over to page  
15 41 you state:

16 "Moreover, meander lines were apparent on  
17 the plat itself. In addition,  
18 immediately below the plat was the  
19 notation that the water surface area  
20 amounted to 368.58 acres."

21 What does that tell us about navigability?

22 A. That there were meander lines done on both  
23 sides of the river and there was a certain amount of  
24 acreage encompassed within those meander lines.

25 Q. That doesn't tell us anything about whether it

1 is navigable or not, does it?

2 A. No.

3 Q. You go on to state on that same page:

4 "The field notes of the 1874 survey of  
5 the next township downstream, Township 8  
6 south, Range 22 west, corroborate that  
7 Martineau's meanders of the Gila had been  
8 done because the stream was non-navigable  
9 and over three chains wide."

10 How do they make such corroboration?

11 A. I explain it in the next paragraph that he  
12 meandered the Gila River under the terms of the 1864  
13 manual that called for meandering of only one bank of  
14 non-navigable streams, and that's what he did.

15 Q. But Martineau didn't use the 1860 manual, did  
16 he?

17 A. No, he used the newer manual.

18 Q. So because White only meandered one bank and  
19 Martineau meandered two banks, you're assuming that it  
20 had to be the three-chain standard because the  
21 three-chain standard wasn't in existence in 19 -- or in  
22 1864?

23 A. Yes.

24 And as I indicated, I'm certain I put in the  
25 statement about relying on the 1890 manual for a reason,

1 I just don't know where that information is located  
2 right now.

3 Q. We should be able to find it in this stuff  
4 that you've given us?

5 A. I don't know. I know there is a reason I put  
6 it in there. I don't know where it is right now.

7 Q. I understand, but understand my problem.

8 A. Yes, I do.

9 Q. I've got to find this stuff.

10 A. Uh-huh.

11 Q. And your erstwhile friend next to you has told  
12 me I've got everything I need, and now I can't find  
13 things and you can't find things.

14 MR. BARKER: That's not what your erstwhile  
15 friend said. Your erstwhile friend said you have  
16 everything we have.

17 BY MR. HELM:

18 Q. Could the difference between White and  
19 Martineau simply be in the eyes of the beholder?

20 A. Certainly.

21 Q. And the problem that we have earlier since  
22 there wasn't any standard on what's navigable and not  
23 navigable, Martineau could be convinced the river was  
24 navigable under his standard?

25 A. He could have been convinced of that.

1 Q. And White could have been convinced it wasn't?

2 A. That's correct.

3 Q. And they both could be right under government  
4 standards; right?

5 A. And they both could be wrong.

6 Q. True.

7 Referring you now to the bottom of page 42,  
8 top of page 43 of your report:

9 "The survey field notes and plats of the  
10 sample areas discussed above clearly  
11 indicate that multiple surveyors --  
12 undertaking their surveys in different  
13 years and at disparate times of year --  
14 all reached the same conclusion that the  
15 Gila River was not navigable."

16 None of those field notes specifically say  
17 that, do they?

18 A. No, they all are consistent with the  
19 instructions of how to handle non-navigable bodies of  
20 water.

21 Q. And some of those field notes indicate that  
22 they meandered both sides of the river?

23 A. That's correct.

24 Q. Which is consistent with a navigable river?

25 A. Except that I believe I explained that there

1 is a reason why I put the statement in there, that  
2 Martineau explained that he was doing it under the  
3 instructions for bodies of water three -- what is it? --  
4 three chains and wider.

5 Q. We just can't find that statement at this  
6 point?

7 A. That's right.

8 Q. What you reviewed is not all of the Gila  
9 River, is it?

10 A. In terms of what?

11 Q. Of surveying?

12 A. I reviewed the entire river.

13 Q. Of the stuff we got, it is not the whole  
14 thing?

15 A. No, all you have is what's in my footnotes.

16 Q. Right.

17 And there are lots of other portions of the  
18 Gila River that are meandered, aren't there?

19 A. Yes, there are.

20 Q. And those meanders, do they indicate  
21 navigability?

22 A. None of them do.

23 Q. Okay.

24 And for the same reasons that you've espoused  
25 here?

1 A. Yes.

2 Q. Okay.

3 And if we go through every set of field notes  
4 that are out there, are we going to find statements that  
5 say, "I'm meandering both sides because it is three  
6 chains wide"?

7 A. I don't remember.

8 Q. How did you come to the conclusion that all of  
9 the other areas that were meandered were not navigable?

10 A. Because the treatment by the surveyors was  
11 consistent with whatever instructions they were provided  
12 for dealing with navigable or non-navigable pods of  
13 water. It was consistent with an opinion that the river  
14 was not navigable.

15 Q. They weren't given any instructions. We've  
16 already decided that. They told them determination of  
17 whether it was navigable was in their own eyes. How can  
18 Martineau's eyes be the same eyes that White's got?

19 A. They wouldn't necessarily be.

20 They were told to meander what was navigable,  
21 quote, under the statute, unquote.

22 Q. And we know that the statute doesn't define  
23 what navigability was, don't we?

24 A. That's correct.

25 Q. So it is in the eyes of the beholder; correct?



1 A. That's correct.

2 Q. So the consistency is that it was  
3 inconsistent?

4 A. The consistency is no one meandered the river  
5 for reasons of navigability. All of the meanders done  
6 of the river were consistent for instructions of how to  
7 deal with non-navigable bodies of water under various  
8 circumstances. There was never an instance of  
9 meandering the river that I'm aware of where they  
10 meandered both banks for reasons that suggested clearly  
11 navigability.

12 Q. Doctor, you could have before 1890 --

13 A. Uh-huh.

14 Q. -- any survey done before 1890, meandered on  
15 both sides, and that would be consistent with  
16 navigability, wouldn't it?

17 A. I believe so, yes.

18 Q. So how did you explain those surveys away?

19 A. There weren't any as far as I know. They were  
20 three chains or less where they were meandered on both  
21 banks.

22 Q. But that wasn't a requirement before 1891, was  
23 it?

24 A. I looked at every single set of field notes.  
25 There were no field notes on the entire Gila River

1 between the Salt and Colorado River where the field  
2 notes indicated on the basis of meanders that the river  
3 was navigable.

4 Q. I want to get this perfectly clear.

5 What you're telling me is that there were no  
6 surveys done prior to the 1891 instructions when the  
7 three chains came into being, that meandered both banks  
8 of the Colorado River?

9 A. To the best of my knowledge.

10 MR. BARKER: Objection to the form of the  
11 question.

12 We're not talking about the Colorado River.

13 MR. HELM: You're right.

14 The Gila River.

15 THE WITNESS: To the best of my knowledge,  
16 that's correct.

17 BY MR. HELM:

18 Q. If there were you didn't discover them or deal  
19 with them?

20 A. If there were, I would have put them in the  
21 report and then addressed it in some way or other. I  
22 would have said this is what they did, I don't know why  
23 they did it this way, but this was their opinion. But  
24 if there are others out there, then I haven't seen them.

25 Q. At this point, Martineau's survey qualifies as

1 one of those, doesn't it?

2 A. It may, except to the extent that I have that  
3 statement in there that he did it under the instruction  
4 of the 1891 manual.

5 Q. If you can't prove that up, then we've got the  
6 exact situation I'm talking about, don't we?

7 A. I suppose so.

8 Q. I'll refer you to page 46, because I'm trying  
9 to get your chapter and verse on this.

10 Start of the second paragraph:

11 "Federal government surveyors were  
12 specifically charged with the task of  
13 identifying navigable streams as part of  
14 their surveying duties, and the manuals  
15 and instructions under which they carried  
16 out their work were very precise about  
17 how navigable bodies of water were to be  
18 distinguished from non-navigable ones."

19 All right?

20 A. Uh-huh.

21 Q. We've got all of the manuals right here.

22 A. Uh-huh.

23 Q. Can you show me where that precise language  
24 is?

25 A. The sentence is probably poorly phrased.

1           What I meant was they were very precise about  
2 what the surveyors were to do, if in their opinion the  
3 rivers were navigable.

4           Q.     And they were very imprecise about how you  
5 determine what a navigable river was, weren't they?

6           A.     That's correct.

7           Q.     On the bottom of page 57, you state:

8           "However, the patents which appear on  
9           these exhibits are representative of  
10           settlement patterns throughout the  
11           basin."

12           How did you determine the representativeness  
13 of the settlement pattern?

14           A.     I obtained all of the patents that either  
15 touched or were near to the historically mapped channels  
16 of the Gila River, and I also obtained all of the patent  
17 files, and since it would have been essentially  
18 impossible to do a manageable discussion of every single  
19 patent down the river, I selected ones where there were  
20 heavier settlement so there would be more patents to  
21 discuss.

22           Q.     Okay.

23           On page 59 and 60, you talk about, once again,  
24 federal officials would have removed the lands if they  
25 thought it was navigable.

1 Do you see that?

2 A. Uh-huh.

3 Q. Now, this whole discussion presupposes they  
4 know it was navigable; right?

5 A. Yes.

6 Q. Are you aware that there have been bodies of  
7 water, streams, what have you, that have been determined  
8 navigable after statehood?

9 A. If there are, I'll take your word for it.

10 Q. Well, are you aware of Great Salt Lake?

11 A. Yes.

12 Q. Are you aware of the Utah case?

13 A. No.

14 Q. To the extent that there have been bodies of  
15 water determined to be navigable after statehood, these  
16 statements about what federal officials would have done  
17 are not operative, are they?

18 A. It's cumulative. It is many officials all  
19 saying the same thing, that not one case did any parcel  
20 that was granted overlying the Gila River have lands  
21 removed from it on the grounds that that part of the  
22 river was navigable.

23 Q. Okay, because those officials thought it was  
24 non-navigable; right? That's your conclusion?

25 A. That's right.

1 Q. You wouldn't expect them to have removed it  
2 under those circumstances; right?

3 A. If they thought it was non-navigable, right.

4 Q. The point I'm making, if it is subsequently  
5 determined to be navigable after statehood, there  
6 would -- there would have been no reason for those  
7 officials to have removed it, would there?

8 A. That's right.

9 Q. Because they wouldn't have known to?

10 A. That's right.

11 Q. All right.

12 So the conclusions that you have in this part  
13 of your report presuppose a knowledge of navigability,  
14 don't they?

15 A. Yes.

16 Q. If federal officials didn't think it was  
17 navigable, then you can't possibly have expected to find  
18 a patent that had a reservation in it, could you?

19 A. That's correct.

20 That's the whole point of the section that's  
21 written.

22 Q. I understand.

23 And if they are wrong --

24 A. Then it is a whole lot of people that were  
25 wrong.

1 Q. There have been rivers declared non-navigable  
2 after statehood, haven't there?

3 A. Non-navigable?

4 Q. Navigable, I'm sorry. In lots of the states  
5 of the United States.

6 A. Yes, from what I understand.

7 Q. You are aware of one in Alaska, aren't you?

8 A. Yes.

9 Q. Do you think maybe there will be some patents  
10 up on those lands that don't have reservations on it?

11 A. Could be.

12 Q. Because it wasn't done until 1970 or whenever  
13 it was?

14 A. There could be.

15 Q. All of your discussions of no land reserved,  
16 no land reserved and no land reserved, all have that  
17 presupposition, don't they?

18 A. Yes.

19 Q. Page 64, you start talking about land disputes  
20 in 1931?

21 What significance is a land dispute over water  
22 in 1931 have to do with a navigability determination in  
23 1912?

24 A. Simply that the parcel of land involved  
25 included the bed of the Gila River and that the same

1 assumptions that were being made for patents prior to  
2 1912 were still being made as of 1931.

3 Q. And maybe even more so, wouldn't you agree?  
4 Because whatever diversions had taken place between 1912  
5 and 1931 had even lessened the amount of water flowing  
6 in the river?

7 A. Yes.

8 Q. Are you aware of any lands in Arizona that  
9 might have been reserved under the Equal Footing  
10 Doctrine?

11 A. I'm not aware or unaware. I don't know. I'm  
12 not aware of any such lands, but that doesn't mean they  
13 don't exist.

14 Q. Are you aware of any river declared navigable  
15 after statehood where sovereign lands were withheld at  
16 statehood?

17 A. The same answer as to the last question.

18 Q. You are not aware of any?

19 A. No.

20 Q. You draw some conclusions regarding the  
21 non-navigability of the river based on floods that occur  
22 on the river?

23 A. That's correct.

24 Q. How were the floods that occur on the Gila  
25 River in its kind of unregulated state in 1860 or



1 whatever early time you want to use, any different than  
2 the floods that occurred on the Mississippi river in its  
3 unregulated state in 1800?

4 A. I don't know the answer to that question.

5 Q. Do you perceive a difference?

6 A. My understanding is that the floods in Arizona  
7 in general, tend to be more seasonal and precipitous due  
8 to thunderstorms, whereas flooding in the Mississippi  
9 river area in the Midwest is -- can be brought about for  
10 other reasons.

11 Q. Isn't the Mississippi flooding fairly  
12 seasonal?

13 A. Yes.

14 Q. So to the extent that the Mississippi is  
15 seasonal and the Gila is seasonal, we have seasonal  
16 flooding, maybe different seasons, but seasonal  
17 flooding?

18 A. The Gila is subject to flooding from flash  
19 floods from huge thunderstorms and the like which you  
20 are not going to find on the Mississippi. A large  
21 thunderstorm is not going to cause a flood on the  
22 Mississippi.

23 Q. Do those floods occur because there is no  
24 water in the Gila, that's why we call it a flash flood?

25 A. I don't know how to answer your question.

1 Q. Do you know if we really have those kinds of  
2 flash floods in 1840 when there was all kinds of water  
3 in the Gila River because there hadn't been any  
4 divergence?

5 A. I don't know whether there was or not. I'm  
6 basing my answer to that on the reports of parties in  
7 the 19th century who visited the area and recorded their  
8 impressions of what the river was like.

9 Q. What causes a river channel to change?

10 A. It can be a flood. It can be by a slow  
11 eroding away of the bank of a river.

12 Q. You talk on page 70 --

13 A. I'm sorry, what was the page numbers?

14 Q. Pages 70 and 71 talk about "the vivid  
15 descriptions of a violent and erratic river."

16 I take it those are references to the flood  
17 descriptions in your report?

18 A. Correct.

19 Q. Are, once again, those any more different than  
20 what you would find from a settler on the Missouri river  
21 in 1812 or something?

22 A. I think they would be. I think the river  
23 would rise much more quickly in response to a  
24 thunderstorm and perhaps fall back much more quickly as  
25 well, once the storm had abated.

1 Q. Desert Land Act, are you aware of any lands  
2 that were patented under that Act where it was  
3 subsequently determined that the water used to patent  
4 the land came from a navigable river?

5 A. I'm not aware or unaware. I just don't know  
6 the answer.

7 Q. Page 72 at the top of the page, you talk about  
8 20 patents that were issued.

9 Were those patents issued after diversions had  
10 already started on the Gila River?

11 A. No, I would assume they were. I don't know  
12 the specific dates. The patents themselves or at least  
13 some of them are discussed in the sections that follow.

14 Q. Descriptions of the patents and things that  
15 you keep in here, for example, you talk about Iragstad  
16 on 73 and Hefley and stuff like that, those are all  
17 descriptions about the Gila or the land at the time they  
18 filed that document, weren't they?

19 A. Yes.

20 Q. They are not descriptions of how the Gila  
21 would have been if there hadn't been any diversions?

22 A. That's right.

23 Q. Or any manmade structures or anything like  
24 that?

25 A. Right.

1 MR. BARKER: Those of us with one kidney would  
2 like to request a break.

3 (Discussion off the record.)

4 (Recess ensued from 2:45 p.m. to 2:54 p.m.)

5 BY MR. HELM:

6 Q. Is it safe to say you're not aware of any time  
7 prior to a river's having been declared navigable where  
8 lands were reserved for sovereign rights?

9 A. I'm not aware or unaware. I just don't know.

10 Q. You're not a -- to the extent you are aware,  
11 you are not aware?

12 A. Right.

13 Q. On page 78, and in several other places in  
14 your report, you refer to "contemporaneous observers."

15 Fair to say they are not observing the normal  
16 and ordinary or the natural and ordinary flow of the  
17 Gila River unless you found somebody who was there  
18 before 1840?

19 A. I don't understand your question.

20 Q. Well, if your contemporaneous observer is  
21 somebody as in the case of James Forest in 1925, a whole  
22 lot of water of the Gila River had already been  
23 diverted; right?

24 A. That's right.

25 Q. So, to the extent that that diversion no

1 longer depicts or results in a depiction that's no  
2 longer the natural and ordinary flow of the Gila River,  
3 those observers are not observing the river in its  
4 natural and ordinary condition, as that terminology is  
5 used, when we try to find whether a river is factually  
6 navigable or not?

7 A. That's correct.

8 Q. Page 79, you talk about the State's not making  
9 any in-lieu selections of water?

10 A. Of water?

11 Q. Not of water, of land, as a result of the loss  
12 of lands in the designated sections because of the  
13 navigability of something; right?

14 A. Yes.

15 Q. That's significant only to the extent that it  
16 indicates the state at the time didn't think it owned  
17 any navigable rivers; right?

18 A. That's correct.

19 Q. And if it turned out they did, well, oops,  
20 that was just a mistake?

21 A. That's correct.

22 Q. And you go on and you talk about state  
23 patents.

24 A. Yes.

25 Q. Did you ever find any instance in any of your

1 research or reviewing where the officials of the State  
2 of Arizona in issuing a patent went back and  
3 reconstructed the flow of the river in its natural and  
4 ordinary condition to determine whether it was navigable  
5 before issuing the patent?

6 A. Are you talking about on the Gila?

7 Q. Right.

8 A. No, I never saw that type of information.

9 Q. And to the best of your knowledge, that was  
10 never done; isn't that right?

11 A. I never saw it.

12 Q. How did you treat diversions on the Gila River  
13 that occurred after statehood?

14 A. What do you mean, how did I treat them?

15 Q. Well, you talk about patents and things, and  
16 you're up to as far as up 1950s and things like that,  
17 all right?

18 A. Uh-huh.

19 Q. Well, that's significantly after the date of  
20 statehood?

21 A. Correct.

22 Q. So you would have to make some adjustments to  
23 the eyes of the beholder for the diversions that took  
24 place between statehood and whenever the patent was  
25 issued; right?

1 A. To do what?

2 Q. To put more water back in the river.

3 A. I just took the statement of the observer at  
4 face value and recounted this is what they said. I  
5 didn't feel that I needed to try and reconstruct the  
6 historical river on behalf of the historical observer.

7 Q. Page 82, you say:

8 "State patents in Section 32, support the  
9 conclusion that the Gila River was not  
10 considered navigable."

11 How?

12 A. Because the state patented out lands to  
13 parties through which part of the river flowed, and at  
14 the time those state officials who were patenting out  
15 that land evidently did not consider the riverbed to be  
16 the state sovereign land.

17 Q. Do you know the first time any state officials  
18 ever considered any land or any river, other than the  
19 Colorado in the State of Colorado, navigable and when  
20 was it?

21 A. My understanding was that was the whole thing  
22 that preceded the ANSAC proceedings on the Verde River,  
23 which was the '80s or '90s, I'm not sure which, 1980s or  
24 1990s.

25 Q. Let me see if -- let me ask you another

1 question about that.

2 Why would the state -- the state is trying to  
3 sell this land; right? That you're talking about to  
4 raise money?

5 A. Uh-huh.

6 Q. Why would they want to reserve land from land  
7 they were trying to sell?

8 A. I only have the very foggiest understanding of  
9 what precipitated the creation of ANSAC, but my  
10 understanding was that it was a dispute with a gravel  
11 mining company in -- that was mining gravel and sand in  
12 the bed of the Verde River, and the state, for reasons  
13 that I don't know, didn't like the way that this was  
14 being conducted and wanted to stop it and get the gravel  
15 mining company out, so they then asserted that the Verde  
16 River was navigable in order to force the mining company  
17 out of the bed of the river.

18 Q. That's not my point.

19 You draw conclusions from the fact that on  
20 state patents, the state didn't reserve land out from  
21 those patents to opine that the river is not navigable;  
22 fair?

23 A. Right.

24 Q. The question I have for you, the state is  
25 trying to sell land; right?



1 A. Right.

2 Q. They want money. They don't need land; right?

3 A. Uh-huh.

4 Q. Explain for me that rationale. How does that  
5 work? The state is trying to sell land, but you want it  
6 not to sell land.

7 A. Let me put it this way:

8 I never saw any indication in the State Land  
9 Department records that I looked at where there was any  
10 hesitancy on the part of the state or where any state  
11 official would have said, wait a minute, we may not be  
12 able to sell this land because it is sovereign land in  
13 the bed of the Gila River.

14 Q. Why can't they sell it? Can't you sell  
15 sovereign land as long as you get fair market value for  
16 it?

17 A. I don't know the answer.

18 Q. Assume you can sell it.

19 MR. BARKER: Objection to the form of the  
20 question.

21 Assumes a legal conclusion.

22 BY MR. HELM:

23 Q. I'm only asking for his opinion.

24 Assume you could sell land. Why would they  
25 bother to reserve it?

1           A.     I guess if they could sell it, I guess they  
2 wouldn't.

3           Q.     I can understand the feds reserving land  
4 because they are reserving it for the state; right?  
5 But the rationale that you're using in this part of your  
6 report is the state reserving lands for itself --

7           A.     Uh-huh.

8           Q.     -- not for some third party --

9           A.     Right.

10          Q.     -- when they are trying to sell that land.

11          A.     But as I indicated, there was never any  
12 suggestion on the part of the state that they might have  
13 some problem in selling it because these were sovereign  
14 lands as opposed to just simple title lands.

15          Q.     But rationally speaking, I don't understand  
16 the rationale. I'm not saying there might be a problem  
17 or might not be a problem.

18                 Assuming that they can sell any land they own,  
19 all right, jump through whatever hoops they've got to  
20 jump through, you know, publish it, get fair market  
21 value, get an appraisal, lots of requirements that  
22 states have to get fair market value for it, but  
23 assuming they could sell it, your rationale is they  
24 wouldn't have sold that land and that that would  
25 therefore -- and because they did that, that means it is

1 not navigable, and I don't follow that. It is just land  
2 the state owned. I don't understand your reasoning. I  
3 want you to explain it to me.

4 A. Well, I may be wrong in this, but I was under  
5 the impression at the time that I wrote this that the  
6 state might not be able to sell sovereign lands, that  
7 these were somehow or other, lands that were held in the  
8 public trust, and therefore, they would not have been  
9 able to have sold them.

10 Q. If they can sell them, your conclusion would  
11 change, then?

12 A. Yes.

13 Q. We were talking about diversions a few minutes  
14 ago and adjusting for those diversions to take into  
15 account the historical time that your observer was  
16 looking at the river; okay?

17 A. Uh-huh.

18 Q. And you testified that you didn't make any  
19 such adjustment.

20 Doesn't that make those observations  
21 inconsistent?

22 I mean, you've got a guy in 1950 making one  
23 observation, and a guy in 1870 making another  
24 observation. How do I put those two together?

25 A. You put them together in the overall

1 cumulative picture that all of the observers create.

2           You are correct in that you can't compare the  
3 1890 observation with the 1950 observation because they  
4 are two different times, probably two different seasons,  
5 two different water years, it's just one more element of  
6 what's painting a bigger picture of the Gila River.

7           Q.     Did you look at any of the USGS or other water  
8 maps in making your conclusions?

9           A.     The water maps themselves?

10          Q.     Yes.

11          A.     No, I did not.

12          Q.     Never tried to reconstruct the flows?

13          A.     No, I looked at a lot of the USGS papers, but  
14 not the maps.

15          Q.     Do you accept the USGS records establishing  
16 the amount of water in the Gila as accurate and  
17 authoritative?

18          A.     All of them?

19          Q.     Uh-huh.

20          A.     You mean the water supply papers or?--

21          Q.     Water supply papers, the water maps.

22          A.     I didn't look at the maps.

23          Q.     Do you accept the USGS maps as --

24          A.     To the extent that the parties who created  
25 them believed they were accurate, I would accept them as

1 accurate, yes.

2 Q. As accurate as any other stuff you've looked  
3 at; right?

4 A. Probably more accurate than, say, individual  
5 farmers observations.

6 Q. Do you accept the records of the Bureau of  
7 Reclamation as being authoritative and accurate also?

8 A. Yes.

9 Q. I apologize, it's been a while.  
10 Did you testify that you had a copy of the  
11 Gila River Navigability Study when you wrote your  
12 report?

13 A. The ANSAC study?

14 Q. Yeah.

15 A. The draft report?

16 Q. That little hummer right there (indicating).

17 A. No, I did not have it when I wrote the report.

18 Q. Okay.

19 A. In fact, I believe that was written after I  
20 had presented my report to ANSAC.

21 Q. That's 1994, if you remember.

22 A. Yes, because I believe there are quite a few  
23 sentences in that report virtually verbatim taken out of  
24 my report.

25 Q. Referring you to page 92 of your report, you

1 talk about Wheeler and you indicate Wheeler's pessimism  
2 and you are using this as part of your evidence.

3 We know the Colorado is a navigable river;  
4 right?

5 A. Yes.

6 Q. If Wheeler was pessimistic about the Colorado  
7 River as a navigable river, why should we pay much  
8 attention to him about his thoughts on the Gila? Isn't  
9 he just wrong?

10 A. Well, I guess the way I could phrase this is  
11 that if he was pessimistic, albeit wrong, about the  
12 Colorado, a stream of even lesser flow would be even  
13 less likely to be navigable.

14 Q. I guess that's one wrong makes a right?

15 A. Well, two wrongs, one of them a greater degree  
16 than the other.

17 Q. Would you agree that a flood doesn't  
18 disqualify a river from being navigable?

19 A. Yes.

20 Q. On page 95, there's a reference to the  
21 Destructive Floods in the United States report?

22 A. Yes.

23 Q. That report or that study and the descriptions  
24 that are contained therein are all with water diversions  
25 in place and artificial structures in place; right?

1 A. As of that date; correct.

2 Q. Are you aware of any study that would tell us  
3 what the floods would be like if the water from the  
4 diversions had been put back in the rivers?

5 A. No, I'm not aware of any such studies,  
6 although they may exist.

7 Q. You quote at the bottom of page 95, total  
8 runoff for the five months is 2,957,400 acre-feet?

9 A. Yes.

10 Q. That's after diversions; correct?

11 A. Yes.

12 Q. You talk about instability in channel.

13 Could any of the instability of the channel of  
14 the Gila River have been caused by the diversions?

15 A. I don't have an answer for that. I don't  
16 know.

17 Q. Same question with regard to the obstructions,  
18 manmade?

19 A. Yes, I don't know.

20 Q. Do you know if channel shifting is a function  
21 of the amount of water present in the river?

22 A. It could be.

23 Q. Middle of page 96, you refer to the Gila River  
24 as dramatic fluctuation in flow.

25 Could some or all of this dramatic fluctuation

1 been caused by the fact that much, if not all, water of  
2 the Gila was being diverted?

3 A. I do not know the answer to the question.

4 Q. If you've got zero because it is all diverted  
5 and you have a storm, it's going to be more dramatic  
6 than if you had x-amount of water in the river and you  
7 had a storm; fair?

8 A. Yes.

9 Q. I take it you didn't do any study that would  
10 determine whether these great fluctuations would even  
11 out if diversions were restored and the manmade  
12 obstructions removed?

13 A. No, I did not do those types of studies.

14 Q. And just because you've got a flood that might  
15 make a river not navigable for some period of time,  
16 doesn't necessarily mean that that disqualifies a river  
17 from being navigable; right?

18 A. That's correct.

19 Q. How do the fluctuations that take place on the  
20 Gila compare to the fluctuations on the Colorado when  
21 they were in their same kind of regulatory state?

22 A. When both were in their regulatory state?

23 Q. Either unregulated -- in other words, at  
24 comparable times and the amount of dams they had in  
25 front of them, because I know today they are pretty well



1 dammed up.

2 A. All I can say to that is I know that in  
3 general in the Colorado, it -- the flow is very  
4 significant depending on the season of the year prior to  
5 the dams being built on the river.

6 Q. Colorado had dramatic fluctuations too, didn't  
7 it?

8 A. Yes.

9 Q. On page 97, you have a quote:  
10 "There are three streams whose  
11 navigability gives them more or less  
12 importance as commercial lines, namely:  
13 the Columbia, the Sacramento and the  
14 Colorado rivers."

15 Are you aware of any other river in the west  
16 that's been declared navigable other than those three  
17 rivers?

18 A. Have been declared by whom?

19 Q. Anybody, federal government, the state  
20 government, any court, any --

21 A. I don't know whether even the Colorado has  
22 been officially declared navigable by someone.

23 I have seen documents that suggest large  
24 numbers of individuals thought the San Joaquin River,  
25 for example, was navigable; Columbia, Sacramento and the

1 San Joaquin.

2 Q. At the top of page 98, you talk about  
3 conflicts over rights of way for canal companies?

4 A. Yes.

5 Q. What does that have to do with the  
6 navigability of the Gila River?

7 A. It's only that the document addressing the  
8 issue of conflicts over rights of way contains a  
9 description of how much water was in the Gila. It's not  
10 the rights of way itself that was an issue; it's just  
11 simply a description that was contained in that  
12 document.

13 Q. Okay.

14 There's a quote in the middle of that page;  
15 see that?

16 A. Yes.

17 Q. Does that quote support the concept that the  
18 diversions that were taking place in the Gila were  
19 drying it up?

20 A. Yes.

21 Q. Do you have a feel for when a flood doesn't  
22 become a flood any longer but becomes a river with a  
23 flow in it that can be used for navigation?

24 A. No, I don't have a specific opinion when it  
25 happens.

1 Q. Understand in the southwest, in Arizona, we  
2 call things floods that in other part of the country  
3 they would look at you like you grew horns?

4 A. Uh-huh, correct.

5 Q. Because we tend to call anything that puts  
6 water in a river, a flood; right?

7 A. Correct.

8 Q. Well, in some cases, our floods last for three  
9 or four months; fair?

10 A. If you say so.

11 Q. If you could use a river during that period of  
12 time to navigate it, or to commercially navigate it,  
13 would that qualify to declare a river navigable?

14 A. It would be one of the factors I would  
15 consider.

16 Q. But would it be a positive factor?

17 A. Yes.

18 Q. On page 102, you refer to the First Annual  
19 Report of the Reclamation Service.

20 Would that be an acknowledgment that by 1902  
21 virtually all of the water of the Gila River was now  
22 being diverted?

23 A. Yes.

24 Q. I take it you agree that navigable -- use of a  
25 river for only part of a year would suffice to have it

1 declared navigable?

2 A. If it is regularly reliable at regularly  
3 understood times of year, yes.

4 Q. You state on page 106:

5 "Moreover, his statement that the  
6 Southern Pacific Railroad ran south of  
7 the Gila River additionally indicates the  
8 Forbes did not think the Gila was  
9 navigable."

10 How do you come to that conclusion? Is that  
11 just your assumption again?

12 A. Well, it is not an assumption. He  
13 specifically noted in the quote that precedes the  
14 statement you made that there were steamboats utilizing  
15 the Colorado River, and I took it that his statement  
16 about the railroad running next to the Gila River, if  
17 anything, underscored its lack of navigability, because  
18 he made no similar reference to transportation on the  
19 river, whereas he did note the transportation by  
20 railroad next to the river.

21 Q. You're reading his mind?

22 A. I think it is a fair conclusion.

23 Q. Are Forbes' comments basically to be taken as  
24 of the date he published them?

25 A. Yes.

1 Q. To put it in the historical context?

2 A. Yes, but the date he published them is very  
3 close to statehood.

4 Q. 1911?

5 A. Yes.

6 MR. BARKER: I new Dr. Forbes.

7 MR. HELM: You are old.

8 BY MR. HELM:

9 Q. Are you aware that maybe even as we speak, but  
10 at least in modern times, the portions of the Gila River  
11 are used for flow trips?

12 A. No, I wasn't aware of that.

13 Q. Modern uses of the Gila River didn't play a  
14 part in consideration of your report?

15 A. No, the way I structured what I looked at was  
16 that I tried to focus as closely around the time of  
17 statehood as possible, and as the years grew further and  
18 further away from statehood, either prior to or after, I  
19 did less work in those areas.

20 Q. Faulk's observations are not that of an  
21 observer contemporaneous to statehood?

22 A. Where are you in my report, now?

23 Q. 109.

24 A. You are talking about Odie Faulk.

25 That's O-d-i-e, and the last name is

1 F-a-u-l-k.

2 Now what was your question again?

3 Q. His are not contemporaneous to statehood?

4 A. No, he is a historian discussing the  
5 historical uses of transportation along the river. He's  
6 talking about historical events, not what is happening  
7 at the time he published his work.

8 Q. He is getting it, just like you, from other  
9 documents?

10 A. Yes.

11 Q. You put in here a reference to Colonel Phillip  
12 St. George Cooke and the floating of his wagons?

13 A. Yes.

14 Q. Clearly that would indicate that a wagon  
15 with -- I'm not sure of the size -- but with two  
16 pontoons hung on it could float down the Colorado;  
17 right?

18 A. The Colorado?

19 Q. I'm sorry, the Gila.

20 A. As I indicated in the report, they had great  
21 difficulty in doing so, but it does indicate that they  
22 were capable -- it was capable of being done.

23 Q. Do we know what kind of wagons and things  
24 we're talking about when we talk about St. George and  
25 his stuff and the next page when you're talking about

1 Jones?

2 A. I don't recall any descriptions of the wagons  
3 themselves other than what appears in my report.

4 Q. Understand, I can perceive a covered wagon  
5 from the last John Wayne movie I saw that would draw  
6 what, 10 foot of water maybe?

7 A. Right.

8 Q. And in fact, might have made a lousy boat.

9 A. My conception, which is probably like yours,  
10 drawn from movies, is probably more what they were using  
11 here is something like a buckboard that if they took the  
12 wheels off would have created, in essence, a flat boat,  
13 that type of vessel. But there isn't anything that  
14 specifically describes these wagons that I'm aware of.

15 Q. One could presuppose that they probably drew  
16 more water than a flat boat or a canoe?

17 A. It's pure speculation. I couldn't say.

18 Q. Have you ever seen the government statistics  
19 that indicate what their recreational numbers are for  
20 how much depth you need for a canoe and a flat boat  
21 and --

22 A. No, I've never seen those numbers.

23 Q. When you look at the quote on page 111 from  
24 Turner, that would make the river navigable under your  
25 1912 boating standard, wouldn't it? Give them a couple

1 extra feet?

2 A. That was Turner's opinion --

3 Q. Uh-huh.

4 A. -- as to what the river was like at the time.

5 Q. Contemporaneous observation?

6 A. Yes.

7 Q. The difference between that and statehood  
8 might be attributed to diversions?

9 A. Yes.

10 Q. Do you know where the area of the river is  
11 located where Gillespie dam is?

12 A. Only from maps. I have a general idea it is  
13 upstream from Gila Bend.

14 A. About how far?

15 Q. I pulled out my maps here and looked at the  
16 townships and ranges and sections when I was rereading  
17 the report, but I don't recall precisely.

18 Q. Not too far?

19 A. No, not too far.

20 Q. You talk about Emory and his, I guess I'd have  
21 to say, early conclusion that it would be navigable and  
22 9-years later that it might not be navigable; right?

23 A. Correct.

24 Q. And that second conclusion was made when he  
25 was working as part of the Boundary Commission for the



1 United States and Mexico?

2 A. Right, to draw the new boundary after the  
3 United States had acquired the Gadsden Purchase.

4 Q. Right.

5 And did you bother to read the Treaty of  
6 Guadalupe Hidalgo?

7 A. No, I didn't.

8 Q. One of those famous documents that we all get  
9 at some point in --

10 A. Probably read it a long time ago, but I  
11 haven't read it recently.

12 Q. Are you aware it talks about the Gila River?

13 A. No.

14 Q. Let me show you that portion of it. I've  
15 taken the opportunity to yellow it, if you would just  
16 like to read that.

17 A. (Witness reviews document.)

18 Q. Reasonably historic document?

19 A. Yes.

20 Q. What do you make of the statements about  
21 navigation on the Gila contained in that article of the  
22 Treaty of Guadalupe Hidalgo?

23 A. I don't think the document says the river was  
24 navigable. It says, if you read the second page, it  
25 says when taken together, I take that to mean that the

1 parties that drafted the treaty thought that it might be  
2 navigable, and if improvements were needed to make it  
3 such, that the taxation for doing that would go to the  
4 citizens of both countries, but I don't think it makes a  
5 direct statement that it is definitely navigable.

6 Q. Why would they bother stating that navigation  
7 on the Gila would be, quote, free and common to the  
8 vessels and citizens of both countries, if it wasn't in  
9 their opinion navigable?

10 A. Because that's modified by the statement on  
11 the second page, if I can read that.

12 It says:

13 "If, for the purpose of making the said  
14 rivers navigable, or for maintaining them  
15 in such state, it should be necessary or  
16 advantageous to establish any tax or  
17 contribution, this shall not be done  
18 without the consent of both governments."

19 So I take those two things together to say the  
20 parties weren't sure whether it was navigable or not,  
21 but if it was navigable, and it took additional work to  
22 make the Gila navigable, then both governments had to  
23 agree to it.

24 Q. Which would make it susceptible, wouldn't it?

25 A. But they are not saying that it is susceptible

1 of navigation in its existing state.

2 Q. Did they do a useless thing?

3 Why were they talking about the Gila River and  
4 navigation, if it wasn't and didn't have any possibility  
5 of being navigable?

6 A. I think susceptible of navigation means in its  
7 existing state. But susceptible the way you are using  
8 it here means susceptible of being improved to reach a  
9 state of navigability.

10 Q. Okay.

11 If navigability means I can make some  
12 improvements, then would you agree that this might  
13 indicate susceptibility?

14 A. The parties that wrote it thought that it at  
15 least had the possibility, if improvements were made to  
16 it.

17 Q. Otherwise, they would have been doing a  
18 useless act?

19 A. Right.

20 Q. And we wouldn't attribute to two great nations  
21 a useless act, would we?

22 A. Right, never.

23 MR. BARKER: Or hardly ever.

24 THE WITNESS: I could add one further  
25 clarifying note on that, if I might.

1           The document was addressing the two rivers  
2 that form the boundaries between the two countries, one  
3 being the Gila and the other being the Rio Grande, and  
4 the Rio Grande was certainly far more capable of  
5 commercial navigation or was capable of it more readily  
6 than the Gila, in my opinion, and I think probably what  
7 they were doing here was simply drafting language that  
8 would have covered both of them.

9 BY MR. HELM:

10           Q.       Do you believe that channel excavation and  
11 bank stabilization are part of a maintaining a navigable  
12 river?

13           A.       I don't have any knowledge of that or opinion.

14           Q.       Do you think the change in opinion of Emory  
15 could have been as a result of diversions?

16           A.       It could have been. I don't know.

17           Q.       In your opinion does difficulty of navigation  
18 disqualify a river from being navigable?

19           A.       No.

20           Q.       Then why is that an important consideration in  
21 determining its navigability?

22           A.       It's one of many elements that needs to be  
23 examined, but in and of itself, it does not disqualify  
24 navigation.

25           Q.       Referring you to Emory on page 115 -- I guess

1 really Lt. Mowry. You refer to a speech he gave?

2 A. Yes, I see that.

3 Q. Had he ever seen the Colorado River?

4 MR. BARKER: Objection to the form.

5 You mean the Gila?

6 MR. HELM: No, I mean the Colorado.

7 MR. BARKER: Okay.

8 MR. HELM: I'll make it a compound question,  
9 if you want.

10 And the Gila.

11 THE WITNESS: I don't know that he had seen  
12 the Colorado or not.

13 BY MR. HELM:

14 Q. Do you know if he had seen the Gila?

15 A. I don't know. I assume he had, and I would  
16 say I assumed he had seen both of them, but without  
17 looking at the complete -- his complete article, which I  
18 have long since forgotten, I don't know whether he had  
19 seen them or not.

20 Q. He is giving a speech back in Washington D.C.;  
21 right?

22 A. Right.

23 Q. And he could be getting his impressions from  
24 any number of sources; right?

25 A. That's correct.

1 Q. Just like politicians today do?

2 A. That's correct.

3 Q. We don't know whether Mowry is shooting from  
4 the hip or not, do we, at this point?

5 A. Well, he was a lieutenant, and my recollection  
6 is most material that I got from descriptions of these  
7 rivers were from parties who had explored the region,  
8 so, again, just working from memory, I would imagine  
9 that Mowry had probably gone into the area to gather  
10 statistics and information, and he was simply describing  
11 what he had seen.

12 Q. Is his speech in your -- how do we determine  
13 that? Is his speech in your bibliography?

14 A. It's cited in the footnote at 113.

15 Q. Page 117, first full paragraph, talking about  
16 nonmilitary boating trips being reported in the press,  
17 and you state:

18 "...it was reported in the press, more  
19 for its novelty than for being  
20 practicable on a regular basis."

21 How do you know that?

22 A. From looking through a large number of the  
23 Arizona historical newspapers.

24 Q. Did they say that we are reporting this  
25 because it is novel?

1           A.       You could tell from the tone of the title of  
2 the articles, for example, one of them was something to  
3 the effect of -- well, one of the expeditions was called  
4 something like the "Yuma or Bust" trip, in the headline  
5 of the article that reported on it, which conveyed the  
6 information that the boats that had been used to attempt  
7 to float from Phoenix to Yuma, the parties in those  
8 boats, in fact, had to wade most of the time and push  
9 the boats through sandbars and the title of the article  
10 was something to the effect of, "The Yuma or Bust  
11 Busted."

12                   And likewise, my terminology of "novelty" is a  
13 reflection of the fact that there were very few articles  
14 that discuss any kind of consistent boating, if any.  
15 The only articles that appeared were ones that described  
16 these somewhat novel attempts to float down the river.

17           Q.       The characterization is yours?

18           A.       Yes.

19           Q.       Page 118, you talk about the Yuma-or-bust  
20 statement in that paragraph:

21                   "He noted that transportation within  
22 Arizona had long gone overland and not by  
23 boat on the Gila."

24                   I'd like you to point out to me where the Gila  
25 is mentioned in the quote.

1           A.     It's the use of the all inclusive term "all".  
2                    "All freight for the interior was  
3                    transmitted in bull trains."

4                    I would take that to mean that none was  
5 transported on the Gila.

6           Q.     How does that stack up with the other  
7 information you have that there were steamboats on the  
8 lower Gila, that there were...

9           A.     Again, it is one of the elements that I took  
10 into consideration in reaching an ultimate conclusion.

11                   None of these parties were omniscient in  
12 knowing everything that took place about the river.  
13 They all offered their own opinions, and I considered it  
14 all together.

15          Q.     Okay.

16                   And turning to the next page, 119, is where  
17 you'll find your 7-year steamboat.

18                   You state:

19                   "Ultimately, he observed, the boat was  
20 unable to navigate the Gila on a regular  
21 basis."

22                   Where does he say that in the quote?

23          A.     I think the correct way of understanding this  
24 quote is not to read the phrase regarding the ship  
25 Explorer as running on the Colorado and Gila rivers



1 until 1864. I don't believe that phrase means that it  
2 was run on both rivers consistently until 1864.

3 What I was saying was that it was run on one  
4 or the other or both at various times between 1857 and  
5 1864.

6 Q. That's putting your spin on his statement,  
7 isn't it?

8 A. That's right.

9 Q. All right.

10 It's not what his statement says, is it?

11 A. Not in this quote.

12 Q. And where in the quote does it say that it was  
13 unable to navigate on the Gila on a regular basis?

14 A. It doesn't.

15 Q. Okay.

16 That's just a misstatement, isn't it?

17 A. Well, it says that --

18 Q. Or have we got another piece of document  
19 somewhere?

20 A. No, it says in the quote (as read):

21 "... when she, [the Explorer], became  
22 unmanageable, as she came out of the Gila  
23 River, up which she had been after a load  
24 of wood. The current of the river  
25 carried her down to Pilot Knob where she

1           was made fast to a tree on the bank. The  
2           bank caved in..."

3           Q.     Where does that say that the boat was able to  
4     navigate on the Gila River? That says the Colorado  
5     River got it, doesn't it?

6           A.     Yes.

7           Q.     It is a misstatement, isn't it?

8           A.     Yes, although not a deliberate one.

9           Q.     I didn't say it was.

10           In fact, wouldn't you agree that if you look  
11     at that statement and take it at face value, you've got  
12     the Explorer running on the Gila River for 7 years,  
13     approximately?

14           A.     I'd have to look at the rest of the document  
15     to see what other comments were made in order to be able  
16     to place it in a greater context.

17           Q.     But based on that statement, would you agree  
18     with what I just said?

19           A.     As I said, I don't believe that it says  
20     directly that it was run consistently for 7 years. I  
21     could also read that statement to mean that it was run  
22     on the Colorado or the Gila at various times between  
23     1857 and 1864.

24           Q.     But it doesn't say that, does it?

25                    It says: "... and run on the Colorado

1           and Gila rivers until 1864...?"

2           A.     Right, but I think you can interpret that to  
3 mean that it was run on both of them either together or  
4 one then the other or --

5           Q.     I'll stipulate with you that it can't be in  
6 two places at once.

7           A.     Right.

8           Q.     So it had to be run on the Gila at one point  
9 and the Colorado at another point and it could never  
10 occupy the same point in time on both rivers.

11          A.     Right.

12          Q.     But doesn't this indicate that it regularly  
13 navigated both of those rivers for 7 years,  
14 approximately?

15          A.     I think one could also make the argument that  
16 it went up the Colorado many times and went up the Gila  
17 only two or three, or one could make the statement it  
18 went up the Gila many times and up the Colorado only two  
19 or three.

20          Q.     Page 120, you indicate that the boating that  
21 occurred on the Gila was only noteworthy for its  
22 novelty.

23                   Do you see that?

24                   Your summary conclusion, last line.

25          A.     Yes.

1 Q. Can we agree that boating on the Gila  
2 indicates that the Gila was susceptible to navigation?  
3 Not commercial navigation, as you use the term, but just  
4 the navigation?

5 A. At times, yes.

6 Q. You'd agree with me that the diversions in the  
7 water in the Gila increased over time?

8 A. Yes.

9 Q. Started small and snowballed?

10 A. Yes.

11 Q. You read the Defenders case?

12 A. Yes.

13 Q. Based on that case, are there certain portions  
14 of your report that don't comply with the standards set  
15 out in that case?

16 A. You mean the descriptions of the  
17 contemporaneous observers?

18 Q. Well, for example, the idea of having to have  
19 the use of the river be of a commercial nature measured  
20 by the nature of the watercraft in use in 1912 or  
21 thereabouts?

22 A. Yes, that's correct.

23 Q. To the extent that you used that to conclude  
24 that it was not navigable, your report doesn't meet the  
25 standard enunciated in that case, does it?

1           A.       I prefer to think of it in the context that  
2 the standard enunciated in the case does not agree with  
3 my report.

4           Q.       I'm sure good Judge Patterson would be pleased  
5 to know that, but we've got the picture, I think; right?

6           A.       Yes.

7           Q.       Do trade and travel have to go both up and  
8 down the stream?

9           A.       I don't believe so.

10          Q.       Downstream would be enough?

11          A.       I believe so.

12          Q.       Does regulation by the United States, under  
13 the Rivers and Harbors Act, of a river determine its  
14 navigability as of statehood?

15          A.       It is one of the elements that I would  
16 consider.

17          Q.       Why?

18          A.       Because my understanding was that the 1899 law  
19 required anyone -- and it's been a long time since I  
20 looked at that law -- but required anyone who wanted to  
21 put an obstacle into a river, such as a dam or a wharf  
22 or other obstacle, needed to clear it with the War  
23 Department to make sure that they were not obstructing a  
24 navigable waterway.

25          Q.       Did you consider that in your report?

1 A. I didn't address it in this report.

2 Q. The Gila River Navigability Study, you've  
3 subsequently had an opportunity to read that; right?

4 A. Yes, I read it last week or the week before.

5 Q. Have any major disagreements with the  
6 statements contained in it?

7 A. I don't remember anything specific that I  
8 agree or disagree with.

9 Q. On section iv-22 of that report, the author  
10 states: A review of the survey plats indicate that the  
11 Gila has moved periodically, considerably in some  
12 locations and negligibly in other locations.

13 Do you agree with that statement?

14 A. In general, yes.

15 Q. Do you have an opinion whether the Gila would  
16 be navigable for any part of the year if the manmade  
17 obstructions were removed and the diversions of water  
18 stopped?

19 A. I don't have an opinion on that particular  
20 point.

21 I am aware that there were more flows in the  
22 river prior to diversions and manmade obstructions.

23 Q. How come all of the surveyor manuals, all of  
24 those different years, how come they were always being  
25 rewritten so frequently? Is it just because they were

1 providing inadequate methodologies to survey as America  
2 moved westward?

3 A. I think the revisions were in response to  
4 differing circumstances that emerged over time.

5 The reason for the original survey manual in  
6 1851 or 1850, was that California, due to the gold rush,  
7 and Oregon, due to settlers moving there was -- and also  
8 obtaining California at the end of the Mexican war, made  
9 it necessary for the U.S. government to set up some sort  
10 of orderly means of transferring the public domain out.  
11 So they attempted to standardized what they had done  
12 individually through letters and contracts earlier, and  
13 I think as they discovered manuals had problems in  
14 certain areas, they attempted to address those problems  
15 with corrections and revisions.

16 Q. And the fact that we had all of these  
17 revisions indicates that there were problems?

18 A. Right, one specific one that comes to mind  
19 with regard to meanders is the 1902 manual where the  
20 instructions pointed out that surveyors had been  
21 meandering things in some cases that shouldn't have been  
22 meandered, such as I believe it was Indian reservation  
23 boundaries, and they wanted to be more precise in  
24 spelling out what should and should not be meandered.  
25 But I think the revisions in the other manuals may have

1 had to do with areas that had nothing at all to do with  
2 rivers or navigability.

3 Q. But there were just inadequacies in the  
4 instructions on some topic?

5 A. Yeah.

6 Q. Do you have any feel for what size of a  
7 diversion it would take to affect the navigability of  
8 the Gila River?

9 A. No, none whatsoever.

10 Q. So you couldn't tell me whether 4 or 40 CFS  
11 would make a difference or not?

12 A. No.

13 Q. Or 90 million CFS for that matter?

14 Did you know of any way to determine the  
15 amount of flow at the Gila River at the time of each of  
16 the land surveys that you've used in your report?

17 A. I'm not aware of any way to do that now.

18 Q. At least in the later time frame, there would  
19 have been USGS records, wouldn't there?

20 A. Yes.

21 Q. Did you make any attempt to get the USGS  
22 records or flow records and compare them to the  
23 decisions that were made by the surveyors?

24 A. No, I did not.

25 Q. Can you define for me how much water we would



1 have needed to have in the Gila River in 1912 to make it  
2 commercially navigable?

3 A. No, I can't.

4 Q. Can you define for me how much water we would  
5 have had to have in the Gila River in 1912 to just make  
6 it navigable?

7 A. No, I can't.

8 (Discussion off the record.)

9 (Recess ensued beginning at 4:10 p.m.)

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1 have needed to have in the Gila River in 1912 to make it  
2 commercially navigable?

3 A. No, I can't.

4 Q. Can you define for me how much water we would  
5 have had to have in the Gila River in 1912 to just make  
6 it navigable?

7 A. No, I can't.

8 (Discussion off the record.)

9 (Recess ensued beginning at 4:10 p.m.)

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Douglas R. Littlefield, Ph.D

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1 STATE OF ARIZONA )  
 2 COUNTY OF MARICOPA ) SS.

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I, Melissa Gonsalves, Arizona CCR 50070,  
 Certified Court Reporter, do hereby certify:

That I am the reporter, duly appointed and  
 sworn, who reported the above and foregoing proceedings  
 at the time and place therein stated;

That I reported the said proceedings; and  
 that the foregoing pages are a full, true, complete and  
 correct transcript of my shorthand notes taken at said  
 time and place to the best of my ability.

Dated this 29<sup>th</sup> day of May, 2001.

Melissa Gonsalves  
 Melissa Gonsalves, RMR  
 Arizona CCR No. 50070

# **EXHIBIT 90**

Riney B. Salmon II, P.C.  
John B. Weldon, Jr.  
Lisa M. McKnight  
James R. Huntwork  
Richard N. Morrison  
Ronnie P. Hawks

4444 North 32nd Street, Suite 200  
Phoenix, Arizona 85018  
Telephone 602-801-9060  
Facsimile 602-801-9070

M. Byron Lewis  
Stephen E. Crofton  
Mark A. McGinnis  
Karen S. Gaylord  
Brenda W. Burman

Writer's Direct Line  
(602) 801-9066

May 24, 2001

Writer's Internet Address  
maw@slwplc.com

Via facsimile; original by mail

John D. Helm, Esq.  
Helm & Kyle  
1619 E. Guadalupe, Suite 1  
Tempe, AZ 85283-3970

Re: Deposition of Dr. Douglas Littlefield in Gillespie Dam Case

Dear John:

This letter is to confirm our telephone conversation this afternoon regarding your deposition of Dr. Douglas Littlefield on Friday, May 25, in the Gillespie Dam case. My client, the Salt River Project, is not a party to that litigation. SRP has, however, retained Dr. Littlefield as a consulting expert in other judicial, administrative, and legislative proceedings relating to the navigability of the Gila River. It is my understanding that the report prepared on this issue for SRP by Dr. Littlefield (or portions thereof) has been or may be used as an exhibit in your case.

During our conversation this afternoon, I indicated my desire to attend Dr. Littlefield's deposition in your case. You objected to my presence and requested that I not attend.

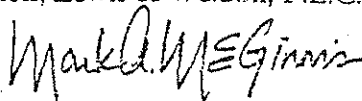
I intend to honor your objection and not attend the deposition. It is important that you are aware, however, that this firm, as counsel for SRP, has retained Dr. Littlefield as a consultant under Rule 26(b) of the Arizona Rules of Civil Procedure and has not designated him as a testifying expert in any litigation. Therefore, SRP's position is that any work performed by Dr. Littlefield under contract with this firm and any communications between Dr. Littlefield and this firm or SRP are covered by the attorney-client privilege and the work product doctrine. SRP will not be represented at the deposition only because you objected to my attendance. SRP does not, however, intend to waive any privilege or work product that would otherwise apply to Dr. Littlefield's work for this firm or his communications with SRP or its counsel.

If you reconsider your objection to my attendance at the deposition, please let me know as soon as possible.

Very truly yours,

Salmon, Lewis & Weldon, P.L.C.

By



Mark A. McGinnis

**EXHIBIT**

90 Littlefield  
5/25/01

# **EXHIBIT 91**

Mesch, Clark & Rothschild, P.C.  
ATTORNEYS AT LAW

259 N. Meyer Ave. • Tucson AZ 85701-1090 • 520-624-8886 • Fax 520-798-1037 • www.mcraizlaw.com • E-mail:jbarker@mcraizlaw.com

Our File # 43002-286

May 7, 2001

*VIA FAX AND REGULAR MAIL*

John Helm  
Roberta S. Livesay  
Patricia L. Barfield  
Helm & Kyle, Ltd.  
1619 E. Guadalupe, Ste. One  
Tempe, AZ 85283

Re: *Your Request Concerning the Deposition of Douglas Littlefield, Ph.D.*

Dear John, Roberta & Patricia:

There is no way that we can produce all of the documents that you described in your notice. Dr. Littlefield's report refers to all of the documents which he specifically relied on in writing the report, but he reviewed many others. The items contained in his footnotes (other than the published materials which are found in any good university library) are in about 3 boxes of materials which he has and can produce.

He reviewed many items which he did not cite in his footnotes (about 25 boxes of materials) and when the project was completed, sent those boxes to the Salt River Project that paid for his report. The request for surveyor instructions were all published in book by C. Albert White "History of the Rectangular Survey System", published in 1983 by the government printing office for the Department of the Interior.

He does not have a "working file" and does not know what you mean. He has 4 databases in Dbase4 which are "Research" where he puts his thoughts down and organizes the information search, "Archives" where he stored anything even remotely connected with his inquiry and consists mainly of file names of the files he reviewed, "Abstracting" which contains information from any files he thought might be significant, even though not all were used and "Secondary source" which contains published source material similar to the Archives file.

We do not have access to the SRP files. SRP agreed that I could use Dr. Littlefield and his report in this matter. Let me know if you want him to reproduce the 3 boxes of materials and his electronic files.

---

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Jonathan Rothschild • Melvin C. Cohen • Richard Davis • Michael McGrath • Scott H. Gan  
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John K. Mesch (of counsel) • Tom R. Clark (1944-2001)

**EXHIBIT**

D.E. Littlefield

91


5/25/01

Roberta S. Livesay  
Patricia L. Barfield  
Page 2  
May 7, 2001

In addition, I notice that you are talking about having the deposition start on May 25 and continuing thereafter from day to day. I believe that is excessive. I have told Dr. Littlefield it may take all day. As you know, the rule calls for four hours. While I have not insisted on it with the engineering experts, I will agree that Dr. Littlefield will appear at 9:30 a.m. at your offices for the deposition and that the deposition will conclude at 5:00 p.m. If we are going to have anything beyond that, we're going to have to argue about it.

Please let me know specifically what you would like Dr. Littlefield to bring and we will make every effort to accommodate you.

Very truly yours,



J. Emery Barker

dkh

c: Douglas Littlefield, Ph.D.  
143055



# **EXHIBIT 92**

SEPARATE NOTEBOOK  
IS  
REPORT PREPARED BY  
DOUGLAS LITTLEFIELD

# **EXHIBIT 93**

Douglas R. Littlefield  
Littlefield Historical Research  
6207 Snake Road  
Oakland, California 94611  
Telephone: (510) 339-1017

**EDUCATION:**

- Ph.D. American history. University of California, Los Angeles, 1987. Dissertation: "Interstate Water Conflicts, Compromises, and Compacts: The Rio Grande, 1880-1938." Fields: history of California and the American West, business history, legal history, environmental history.
- M.A. American history. University of Maryland, College Park, 1979. Master's thesis: "A History of the Potomac Company and Its Colonial Predecessors." Fields: business history, colonial, early republic, trans-Appalachian West, British history.
- B.A. English literature. Brown University, 1972.

**CONSULTING AND EXPERT WITNESS EXPERIENCE:**

- 1999 - Present: Research historian and consultant for the Idaho Attorney General. Providing historical research and report on whether the Salmon River and selected tributaries were commercially navigable in 1890 when Idaho became a state.
- 1998 - 1999: Research historian and consultant for the Idaho Coalition (land owners' group). Provided research and report on the impacts of various dams in the Snake River watershed on anadromous fish for use in Snake River Basin Adjudication (*In Re the General Adjudication of Rights to the Use of Water From the Snake River Drainage Basin Water System, State of Idaho v. United States; State of Idaho; and all unknown claimants to the use of water from the Snake River Drainage Basin Water System*, Case No. 39576, in the District Court of the Fifth Judicial District of the State of Idaho, County of Twin Falls).
- 1998 - 2000: Research historian and consultant for Alden, Aronovsky, & Sax, attorneys representing Sacramento Municipal Utility District. Providing research and report on land site history for use in *Sacramento Municipal Utility District v. California Department of Transportation, Sacramento Housing and Redevelopment Agency, et al.*, Sacramento County (California) Superior Court Case No. 96AS04149 (litigation over toxic waste clean up).
- 1997 - Present: Research historian and consultant for City of Las Cruces, New Mexico. Providing history of the water rights for use in *State of New Mexico v. Elephant Butte Irrigation District*.

- 1997 - Present: Research historian and consultant for Fort Hall Water Users' Association (Idaho). Providing historical research and report on the Association's water rights.
- 1997 - 1998: Research historian and consultant for Kern Delta Water District. Provided historical research and report for use in *North Kern Water Storage District v. Kern Delta Water District, et al.*, Tulare County (California) Superior Court No. 96-172919. Testified in that case as an expert witness historian for ten days.
- 1996 - 1998: Research historian and consultant for Idaho Attorney General. Provided historical research for use in Snake River Basin Adjudication (*In Re the General Adjudication of Rights to the Use of Water From the Snake River Drainage Basin Water System, State of Idaho v. United States; State of Idaho; and all unknown claimants to the use of water from the Snake River Drainage Basin Water System*, Case No. 39576, in the District Court of the Fifth Judicial District of the State of Idaho, County of Twin Falls).
- 1995 - Present: Research historian and consultant for U.S. Department of Justice. Providing historical documentation and report on the history of water use and control on the Santa Margarita River at U.S. Marine Corps Base, Camp Pendleton, in southern California.
- 1995 - Present: Research historian and consultant for the Salt River Project (Arizona). Providing historical documentation and report on the commercial navigability of the Salt, Gila, and Verde rivers in 1912. Testified in 1997 and 1998 before the Arizona Navigable Stream Adjudication Commission regarding the navigability of the Salt, Verde, and Gila rivers. Testified in 1998 and 1999 before the Arizona State Legislature.
- 1995 - Present: Research historian and consultant for Nebraska Department of Water Resources. Providing historical documentation and report on the history of *Nebraska v. Wyoming*, 325 U.S. 589 (1945), for use in present litigation between Nebraska and Wyoming over the apportionment of the waters of the North Platte River.
- 1993 - 1994: Research historian and consultant for Simms and Stein, attorneys specializing in water law in Santa Fe, New Mexico. Provided historical documentation and affidavit testimony for use in *In re: the General Adjudication of All Rights to Use Water in the Big Horn River System and All Other Sources, State of Wyoming*.
- 1991 - Present: Research historian and consultant for Legal Counsel, Division of Water Resources, Kansas State Board of Agriculture. Providing historical documentation and report on water rights and history of apportionment of Republican River among Kansas, Nebraska, and Colorado.
- 1991 - 1993: Research historian and consultant for Carlsmith, Ball, Wichman, Murray, Case, Mukai & Ichiki, in Long Beach, California. Provided historical documentation and report for use in *Nickel Enterprises v. State of California*, Kern County (California) Superior Court, Case No.

199557, regarding past uses of Kern River. Testified as an expert witness historian in this case for eleven days.

1989 - 1990: Research historian for Pacific Enterprises, Los Angeles, California. Directed historical research for and coauthored a corporate history of this southern California holding company entitled *The Spirit of Enterprise: A History of Pacific Enterprises, 1867-1989* (1990).

1988 - 1989: Research historian and consultant for Water Defense Association, Roswell, New Mexico. Provided historical documentation on the history of water rights claims along the Bonito, Hondo, and Ruidoso rivers in southeastern New Mexico for use in *State v. Lewis*, Chaves County (New Mexico) Cause Nos. 20294 & 22600, Consolidated.

1986 - 1990: Research historian and consultant for Legal Counsel, Division of Water Resources, Kansas State Board of Agriculture. Provided historical documentation and report on water rights and interstate apportionment of the Arkansas River between Kansas and Colorado for use in U.S. Supreme Court case, *Kansas v. Colorado*, October Term 1985, Original No. 105. Testified as an expert witness historian for twelve days.

1986 - 1989: Research historian and consultant for Legal Counsel, State Engineer Office, State of New Mexico. Provided historical documentation and report on water rights in the Carlsbad Irrigation District in southeastern New Mexico for use in *State v. Lewis*, Chaves County (New Mexico) Cause Nos. 20294 & 22600, Consolidated.

1986 - 1987: Historical consultant for *National Geographic Magazine*. Advised editors on June 1987 article, "George Washington's Patowmack Canal."

1984 - 1986: Research historian and consultant for Legal Counsel, State Engineer Office, State of New Mexico. Provided historical documentation and report on the history of Rio Grande water rights and interstate apportionment disputes between New Mexico and Texas for use in *El Paso v. Reynolds*, U.S.D.C. Civ. No. 80-730-HB.

#### OTHER PROFESSIONAL EXPERIENCE:

January 1992 - 1994: Member of Board of Editors of *Western Historical Quarterly*.

1991 - 1995: Lecturer, Department of History, California State University, Hayward. Taught survey courses on American history and California history.

1980 - 1984: Editorial Assistant, *Pacific Historical Review*. Edited scholarly articles and book reviews.

## PUBLICATIONS:

### Books:

*The Spirit of Enterprise: A History of Pacific Enterprises, 1867-1989* (coauthor, 1990).

### Articles:

"The History of the Rio Grande Compact of 1938," in Catherine T. Ortega Klett, ed., *44th Annual New Mexico Water Conference – Proceedings – The Rio Grande Compact: It's the Law* (Las Cruces: New Mexico Water Resources Research Institute, 2000).

"The Forensic Historian: Clio in Court," *Western Historical Quarterly* (1994).

"The Rio Grande Compact of 1929: A Truce in an Interstate River Apportionment War," *Pacific Historical Review* (1991).

"Eighteenth Century Plans to Clear the Potomac River: Technology, Expertise, and Labor in a Developing Nation," *Virginia Magazine of History and Biography* (1985).

"The Potomac Company: A Misadventure in Financing an Early American Internal Improvement Project," *Business History Review* (1984).

"Water Rights During the California Gold Rush: Conflicts over Economic Points of View," *Western Historical Quarterly* (1983).

"Maryland Sectionalism and the Development of the Potomac Route to the West, 1768-1826," *Maryland Historian* (1983).

### Book Reviews:

Sarah S. Elkind, *Bay Cities and Water Politics: The Battle for Resources in Boston and Oakland* (Lawrence: University Press of Kansas, 1998), in *Environmental History* (2000).

David C. Frederick, *Rugged Justice: The Ninth Circuit Court of Appeals and the American West, 1891-1941* (Berkeley: University of California Press, 1994), in *Pacific Historical Review* (1995).

Daniel Tyler, *The Last Water Hole in the West: The Colorado - Big Thompson Project and the Northern Colorado Water Conservancy District* (Niwot, Colorado: University Press of Colorado, 1992), in *Montana: The Magazine of Western History* (1994).

Lloyd Burton, *American Indian Water Rights and the Limits of Law* (Lawrence: University Press of Kansas, 1991), in *Journal of the West* (1994).

Zachary A. Smith, ed., *Water and the Future of the Southwest* (Albuquerque: University of New Mexico Press, 1989), in *Western Historical Quarterly* (1991).

F. Lee Brown and Helen Ingram, *Water and Poverty in the Southwest* (Tucson: University of Arizona Press, 1987), in *The Public Historian* (1990).

David J. Eaton and Michael Andersen, *The State of the Rio Grande/Rio Bravo: A Study of Water Resource Issues Along the Texas/Mexico Border* (Tucson: University of Arizona Press, 1987), in *New Mexico Historical Review* (1988).

Pat Kelley, *River of Lost Dreams: Navigation on the Rio Grande* (Lincoln: University of Nebraska Press, 1986), in *Pacific Historical Review* (1988).

Marc Reisner, *Cadillac Desert: The American West and Its Disappearing Water* (New York: Viking Penguin, Inc., 1986), in *Environmental Review* (1987).

Thomas F. Hahn, *The Chesapeake and Ohio Canal: Pathway to the Nation's Capitol* (Metuchen, N.J.: Scarecrow Press, Inc., 1984), in *Business History Review* (1987).

#### PROFESSIONAL AFFILIATIONS:

American Historical Association, American Society for Environmental History, California Committee for the Promotion of History, California Historical Society, National Council on Public History, Ninth Judicial Circuit Court Historical Society, Organization of American Historians, Western History Association, Western Council on Legal History.



# **EXHIBIT 94**

LITTLEFIELD DEPOSITION:

INDEX OF DOCUMENTS

- GILA 2 Instructions to the Surveyor General of Oregon, 1851; reprinted in C. Albert White's A History of the Rectangular Survey System on pages 443-456 [26 pages]
- GILA 3 C. Albert White, A History of the Rectangular Survey System (Washington, D.C.: U.S. Department of the Interior, 1983), pp. 137, 147 [4 pages]
- GILA 4 Instructions to the Surveyor General of Oregon; Being a Manual for Field Operations (1851), reprinted in C. Albert White, A History of the Rectangular Survey System (Washington, D.C.: U.S. Department Of the Interior, 1983), p. 438 [3 pages]
- GILA 5 Instructions to the Surveyor General of Oregon; Being a Manual for Field Operations (1851), reprinted in C. Albert White, A History of the Rectangular Survey System (Washington, D.C.: U.S. Department Of the Interior, 1983), p. 439. On the federal legislation mandating meanders of navigable bodies of water, see White, A History of the Rectangular Survey System, p. 30 [4 pages]
- GILA 6 Instructions to the Surveyor General of Oregon; Being a Manual for Field Operations (1851), reprinted in C. Albert White, A History of the Rectangular Survey System (Washington, D.C.: U.S. Department Of the Interior, 1983), p. 444 [3 pages]
- GILA 7 Instructions to the Surveyor General of Oregon; Being a Manual for Field Operations (1851), reprinted in C. Albert White, A History of the Rectangular Survey System (Washington, D.C.: U.S. Department Of the Interior, 1983), p. 442 [3 pages]
- GILA 8 C. Albert White, A History of the Rectangular Survey System (Washington, D.C.: U.S. Department of the Interior, 1983), passim. [3 pages]

**EXHIBIT**

D.E. Littlefield  
94 5/25/01

- GILA 9 Instructions to the Surveyors General of Public Lands of the United States, For Those Surveying Districts Established in and Since the Year 1850; Containing Also, a Manual of Instructions to Regulate the Field Operations Of Deputy Surveyors, Illustrated by Diagrams (1855), reprinted in C. Albert White, A History of the Rectangular Survey System (Washington, D.C.: U.W. Department of the Interior, 1983), pp. 458, 461, 464-465 [6 pages]
- GILA 10 Instructions to the Surveyors General of the United States, Relating to Their Duties and to the Field Operations of Deputy Surveyors (1864), reprinted in C. Albert White, A History of the Rectangular Survey System (Washington, D.C.: U.S. Department of the Interior, 1983) p. 504 [3 pages]
- GILA 11 Instructions of the Commissioner of the General Land Office to the Surveyors General of the United States Relative to the Survey of the Public Lands and Private Claims (1881), reprinted in C. Albert White, A History of the Rectangular Survey System (Washington, D.C.: U.S. Department of the Interior, 1983), p. 516 [3 pages]
- GILA 12 Instructions of the Commissioner of the General Land Office to the Surveyor General of the United States Relative to the Survey of the Public Lands and Private Claims (1881), reprinted in C. Albert white, A History of the Rectangular Survey System (Washington, D.C.: U.S. Department of the Interior, 1983), pp. 516-517 [4 pages]
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- GILA 14 Manual of Surveying Instructions for the Survey of the Public Lands of The United States and Private Land Claims (1890), reprinted in C. Albert White, A History of the Rectangular Survey (Washington, D.C.: U.S. Department of the Interior, 1983), p. 560 [3 pages]
- GILA 15 Manual of Surveying Instruction for the Survey of the Public Lands of the United States and Private Land Claims (1890), reprinted in C. Albert White, A History of the Rectangular Survey System

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- GILA 21 Survey Plat of Township 1 North, Range 1 West, 1868, Gila and Salt River Meridian, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 35/13] [1 page]
- GILA 22 "Survey Field Notes of Township 1 North, Range 2 West, Gila and Salt River Meridian," 1883, vol. R1006, pp. 7, 22-24, 92, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 35/14] [10 pages]

- GILA 23. Survey Plat of Township 1 North, Range 2 West, Gila and Salt River Meridian, 1883, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 35/14] [1 page]
- GILA 24 Excerpt from "Resurvey Field Notes of Township 1 North, Range 2 West, Gila and Salt River Meridian," 1907, vol. R2055, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 35/14] [7 pages]
- GILA 25 Resurvey Plat of Township 1 North, Range 2 West, Gila and Salt River Meridian, 1907, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 35/14] [1 page]
- GILA 26 Excerpt from "Field Notes of the Survey of Subdivision Lines of Township 1 South, Range 2 West, Gila and Salt River Meridian," 1883, vol. R1166, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 19/1] [49 pages]
- GILA 27 Survey Plat of Township 1 South, Range 2 West, Gila and Salt River Meridian, 1883, U.S. Bureau of Land Management, Phoenix [LRA Box./File: 19/1] [1 page]
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- GILA 29 Excerpt from "Field Notes of the Survey of the Sub-division Lines in Township No. 4 South, Range No. 4 West, of Gila and Salt River Meridian," 1871, vol. 1161, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 19/7] [39 pages]
- GILA 30 Survey Plat of Township 4 South, Range 4 West, Gila and Salt River Meridian, 1871, U.S. Bureau of Land Management, Phoenix ([LRA Box/File: 19/7] [1 page]
- GILA 31 Excerpt from "Field Notes of the Survey of the Sub-division Lines in Township No. 4 South, Range No. 4 West, of Gila and Salt River

Meridian," 1871, vol. 1161, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 19/7] [1 page]

- GILA 32 Excerpt from "Field Notes of the Survey of the Subdivision Lines of Township 5 S., Range 4 W., Gila and Salt River Meridian," 1871, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 20/4] [39 pages]
- GILA 33 Survey Plat of Township 5 South, Range 4 West, Gila and Salt River Meridian, 1871, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 20/4] [1 page]
- GILA 34 Excerpt from "Field Notes of the Subdivision Lines of Township 8 South, Range 16 West, Gila and Salt River Meridian," 1878, vol. 1171, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 21/7] [41 pages]
- GILA 35 Survey Plat of Township 8 South, Range 16 West, Gila and Salt River Meridian, 1878, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 21/7] [1 page]
- GILA 36 Excerpt from "Field Notes of the Subdivision Lines of Township 8 South, Range 17 West, Gila and Salt River Meridian," 1878, vol. 1172, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 21/8] [33 pages]
- GILA 37 Survey Plat of Township 8 South, Range 17 West, Gila and Salt River Meridian, 1878, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 21/8] [1 page]
- GILA 38 Excerpt from "Field Notes of the Subdivision Lines and Meanders of Township 8 South, Range 21 West, Gila and Salt River Meridian" 1980, vol. 1213, vol. 1214, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 22/2] [33 pages]
- GILA 39 Excerpt from "Field Notes of the Subdivision Lines and Meanders of Township 8 South, Range 21 West, Gila and Salt River Meridian," 1980, vol. 1214, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 22/2] [25 pages]

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- GILA 46 Excerpt from "Field Notes of the Survey of the Subdivision Lines of Township 5 South, Range 6 West, Gila and Salt River Meridian," 1871, vol. 1156, U.S. Bureau of Land Management, Phoenix [LRA Box/File: 20/6] [37 pages]
- GILA 47 Excerpt from "Field Notes of the Survey of the Subdivision Lines of Township 5 South, Range 8 West," 1911, vol. 2233, U.S. Bureau of Land Management, Phoenix, 04/12/1911) [LRA Box/File: 20/8] [10 pages]
- GILA 49 Instructions to the Surveyor General of Oregon: Being a Manual for Field Operations (Washington, D.C.: gideon and co., 1851), reprinted in C. Albert White, A History of the Rectangular Survey System (Washington, D.C., U.S. Department of the Interior, 1983); pp. 434, 436-437. Instructions To Deputy Surveyors of the United States for

the District of Illinois And Missouri, (St. Louis: N.p. 1856) reprinted in *ibid*, pp. 425, 430 [9 pages]

- GILA 50 Homestead Entry Patent File for 1070902, 1929, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File: 28/19]
- GILA 51 Homestead Entry Patent File for 762971, 1918, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File: 28/26]
- GILA 52 Homestead Entry Patent File for 814694, 1919, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File: 28/27]
- GILA 53 Homestead Entry Patent File for 1071855, 1926, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File: 25/15]
- GILA 54 Homestead Entry Patent File for 1071855, 1926, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File:25/15]
- GILA 55 Homestead Entry Patent File for 1066811, 1929, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File: 28/18]
- GILA 56 Public Sale Patent File for 1140493, 1952, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File: 25/2]
- GILA 57 Homestead Entry Patent File for 1073385, 1928, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File: 28/20]
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- GILA 62 Homestead Entry Patent File for 1034203, 1903, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File: 28/21]
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- GILA 65 Desert Land Entry Patent File for 1134685, 1945, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File 25/1]
- GILA 66 Desert Land Entry Patent file for 1134685, 1945, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File 25/1]
- GILA 67 Desert Land Entry Patent File for 1141999, 1953, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File 25/3]
- GILA 68 Desert Land Entry Patent File for 1001597, 1920, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File 28/33]

- GILA 69 Desert Land Entry Patent File for 987760, 1925, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File 28/2]
- GILA 70 Desert Land Entry Patent File for 1028040, 1924, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File 28/13]
- GILA 71 Desert Land Entry Patent File for 1009161, 1924, Serial Land Patents, Record Group 49, U.S. General Land Office, U.S. National Archives, Washington D.C. [LRA Box/File 28/38]
- GILA 72 State Patent 986, 1926; State Patent 1124, 1927; State Patent 2739, 1943, Arizona State Lands Department, Phoenix, Arizona
- GILA 73 State Patent 2946, 1944; State Patent 3166, 1944; State Patent 6980, 1984; State Patent 6981, 1984; Arizona State Lands Department, Phoenix, Arizona
- GILA 74 State Patent 1514, 1929; State Patent 1513, 1929; State Patent 54-98972-01, 1991, Arizona State Lands Department, Phoenix, Arizona
- GILA 75 State Patent 219, 1918; State Patent 6353, 1976, Arizona State Lands Department, Phoenix, Arizona
- GILA 76 State Patent 6566, 1978, Arizona State Lands Department, Phoenix, Arizona
- GILA 77 George M. Wheeler, Report on Exploration of the Public Domain in Nevada and Arizona, H. Ex. Doc. 65, 42<sup>nd</sup> Cong. 2 sess, (Washington, D.C.: U.S. Government Printing Office, 1872), pp. 17-19, 53 [LRA Box./File: 8/18]
- GILA 78 Eleventh Annual Report of the United States Geological Survey to the Secretary of the Interior, 1889-1890, Part II-Irrigation, (Washington D.C.: U.S. Government Printing Office, 1891) [LRA Box/File: 9/9]
- GILA 79 Twelfth Annual Report of the United States Geological Survey to the

- Secretary of the Interior, 1890-91, Part II-Irrigation, (Washington D.C.: U.S. Government Printing Office, 1891) [LRA Box/File: 9/9]
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- GILA 84 W.B. Freeman, et al., Surface Water Supply of the U.S. – Colorado River Basin, U.S. Geological Survey Water Supply Paper No. 289 (Washington D.C.: U.S. Government Printing Office, 1912) [LRA Box/File: 26/26]
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- GILA 87 Department of the Interior, General Land Office, Affirming R & R Decision, Feb. 24, 1912, "37-A-5 Straights, Preliminary Investigations-Sentinel Project 37-A-5", General Correspondence file (Straights) #37-A, Record Group 115, U.S. Bureau of Reclamation, National Archives-Rocky Mountain Region, Denver, Colorado [LRA Box/File: 12/1]
- GILA 88 E.C. Murphy, "Water Power Utilization in Arizona", April 1915, Introduction, Salt River Project Archives, Phoenix, Arizona [LRA Box/File: 6/4]
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- GILA 112 William H. Emory, Report on the United States and Mexican Boundary Survey (reprinted., Austin: Texas State Historical Association, 1987), [LRA Box/File: 18/18]
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- GILA 118 Stanton P. Allen, "After the Indians," Capitol Magazine, Aug. 1, 1891 (Stanton P. Allen) [LRA Box/File: 25/48]
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- GILA 123 J.C. Ives, "Report Upon Navigable Portion of Colorado River, March 23, 1858," Box 2, Entry 726, Records of the Office of Explorations and Surveys, Miscellaneous Records, Records of the Office of the Secretary of the Interior, Record Group 48, U.S. National Archives II, College Park, Maryland [LRA Box/File: 18/14]
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- GILA 126 Report of the Commissioner of Corporations on Transportation by Water In the United States, General Conditions of Transportation by Water, (Washington D.C.: U.S. Government Printing Office, 1909), [LRA Box/File: 18/10]
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GILA 129 Donald H. Bufkin and C.L. Sonnichsen, "Steamboat Through Hell:  
River Traffic on Colorado of the West," Water Trails West, (Garden  
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# **EXHIBIT 95**

LITTLEFIELD DEPOSITION:

DOCUMENTS REFERENCED IN REPORT  
BUT NOT PRODUCED

- GILA 48 "An Act to Secure Homesteads to actual Settlers on The Public Domain" 37<sup>th</sup> Cong., 2<sup>nd</sup> Sess., ch. 75 (1862), i.e, The Homestead Act.
- GILA 102 Francisco Garces, On the Trail of a Spanish Pioneer: The Diary and Itinerary of Francisco Garces, Elliot Coues, trans. (New York: Francis P. Harper, 1900), p. 145
- GILA 103 Odie B. Faulk, Destiny Road: The Gila Trail and the Opening of the Southwest, (New York: Oxford University Press, 1973), p. viii
- GILA 104 Philip St. George Cooke, Report of Lieutenant Colonel Philip St. George Cooke of His March from Santa Fe, New Mexico, to San Diego, Upper California, H. Ex. Doc. 41, 30 Cong., 1 sess. (Washington D.C.: U.S. Government Printing Office, 1848), p. 558
- GILA 106 Henry Smith Turner, The Original Journal of Henry Smith Turner with Stephan Watts Kearny To New York and California, 1846-47, H.S. Turner and D.L. Clarke, eds., (Norman: Oklahoma University Press, 1966), p. 115
- GILA 115 [No title] Arizona Gazette, Feb. 17, 1881 [LRA Box/File: 5/10]
- GILA 122 Wallace Stegner, Beyond the Hundredth Meridian: John Wesley Powell and the Second Opening of the West (Boston: Houghton-Mifflin, 1954)
- GILA 125 Report of the Commissioner of Corporations on Transportation by Water In the United States, Water-Borne Traffic, (Washington D.C.: U.S. Government Printing Office, 1909), pp. 370-371 [LRA Box/File: 18/10]

**EXHIBIT**

95

D. E. Littlefield

5/25/01

# **EXHIBIT 96**





IN THE SUPERIOR COURT OF THE STATE OF ARIZONA

IN AND FOR THE COUNTY OF MARICOPA

FLOOD CONTROL DISTRICT OF  
MARICOPA COUNTY,

Plaintiff,

vs.

PALOMA INVESTMENT LIMITED  
PARTNERSHIP, a limited partnership;  
et al.,

Defendants.

No. CV97-07081

PALOMA INVESTMENT LIMITED  
PARTNERSHIP, a limited partnership;  
et al.,

Plaintiffs,

vs.

FLOOD CONTROL DISTRICT OF  
MARICOPA COUNTY,

Defendants.

DEPOSITION OF DOUGLAS R. LITTLEFIELD, Ph.D.

VOLUME II

Phoenix, Arizona  
May 25, 2001  
4:15 p.m.

COPY



Rebecca Beck, #50317  
Certified Court Reporter

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WITNESSES

DOUGLAS R. LITTLEFIELD

Examination by Mr. Helm

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E X H I B I T S

Number	Description	Page
9	None Marked	



1 DEPOSITION OF Douglas R. Littlefield, Ph.D.  
2 taken at 4:15 p.m. on May 25, 2001, at the offices of  
3 Flood Control District of Maricopa, 2801 West Durango,  
4 Phoenix, Arizona, before REBECCA L. BECK, a Court Reporter  
5 and Notary Public in and for the County of Maricopa, State  
6 of Arizona, pursuant to the Rules of Civil Procedure.

7 The Plaintiffs/Counterdefendants were  
8 represented by their attorneys, Helm & Kyle, by Mr. John  
9 D. Helm and Patricia L. Barfield.

10 The Defendants/Counterclaimants were  
11 represented by their attorneys, Mesch, Clark & Rothschild,  
12 by Mr. J. Emery Barker.

13 BE IT REMEMBERED that the witness will read  
14 and sign the deposition, and notice of filing and other  
15 formalities required by law for the taking and returning  
16 of the said deposition are waived.

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1 Douglas R. Littlefield, Ph.D.,  
2 called as a witness herein, having first been duly sworn,  
3 was examined and testified as follows:  
4

5 EXAMINATION

6 BY MR. HELM:

7 Q On the patents that you reviewed and used --

8 A Yes.

9 Q -- did you have any consistent methodology  
10 for the date that you selected to denominate the patent?  
11 Do you understand what I mean? In other words, you said  
12 this patent was given in 1904. There is a date of  
13 application --

14 A I know that --

15 Q Do you remember what -- I mean, --

16 A It's usually --

17 Q Light years apart?

18 A Usually it's just two or three for homestead  
19 patents.

20 Q Which did you use?

21 A I had both the patent file which contained  
22 the application and the supporting documentation and the  
23 patent itself. I got the patent from the BLM offices in  
24 Phoenix and then I pinged the patent file from the  
25 National Archives in Washington D.C.. When I talk about

1 the date of the patent I'm talking about the date of  
2 award, the date of the final patent transferring title to  
3 the individuals.

4 Q And that's to the best of your recollection  
5 how you consistently used those dates, it would be the  
6 date the patent was awarded?

7 A Unless it's identified in some other manner  
8 in the report. By and large, they were all the date they  
9 were awarded.

10 Q Referring you back to Page 41 and 42.

11 In that paragraph you are talking about White  
12 meandering the Gila River and how he did the right bank  
13 and switched to the left bank and you state that he  
14 indicates in his notes that he shifted from the one bank  
15 to the other as the survey instructions provided because  
16 of the difficulty in finishing the one bank.

17 Could you show us in his notes where he said  
18 that?

19 A This is a really difficult copy to read.  
20 This is about a fourth-generation photocopy.

21 Q That's what you gave me.

22 A I don't know where it is in his notes and I'm  
23 not going to be able to find it in this copy because the  
24 quality of the copy is so poor.

25 Q Would you like to review your copy -

1 A Yes.

2 Q -- and advise me by writing where it's  
3 located?

4 A Yes, I will do that.

5 Q Okay.

6 A I'll pass it onto Emery and he can pass it on  
7 to you.

8 Q That's fine.

9 MR. HELM: Okay. I guess I'm done until I  
10 get my hands on the rest of the documents --

11 THE WITNESS: Okay.

12 MR. HELM: -- and determine whether I have  
13 any other questions, and I can't do that until I have a  
14 fight with Salt River Project, I guess.

15 THE WITNESS: Okay.

16 MR. HELM: Or whoever else I need to have one  
17 with.

18 Maybe they will go quietly. So I take it as  
19 of this -- hold on.

20 Q BY MR. HELM: Was flooding of the Gila River  
21 around the time of statehood unusual?

22 A What's the question again?

23 Q Was flooding of the Gila River around the  
24 time of statehood unusual?

25 A I don't know the answer to that question.

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MR. HELM: Now I guess adjourn.

MR. BARKER: Now we're done?

MR. HELM: Yes. I'm reserving the right to call you up if SRP sees the errors of their ways or you see the errors of your ways.

(Discussion off the record.)

(Whereupon the Deposition was concluded at 4:25 p.m.)

Douglas R. Littlefield, Ph.D.

C E R T I F I C A T E

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STATE OF ARIZONA  
County of Maricopa

BE IT KNOWN that the foregoing deposition was taken before me, REBECCA L. BECK, a Notary Public in and for the County of Maricopa, State of Arizona; that the witness before testifying was duly sworn by me to testify to the whole truth; that the questions propounded to the witness and the answers of the witness thereto were taken down by me in shorthand and thereafter reduced to typewriting under my direction; that the foregoing 07 pages are a true and correct transcript of all proceedings had upon the taking of said deposition, all to the best of my skill and ability.

I FURTHER CERTIFY that I am in no way related to any of the parties hereto nor am I in any wise interested in the outcome hereof.

DATED at Tempe, Arizona, this 29th day of May, 2001.

Rebecca L. Beck, #50317  
Certified Court Reporter